Headache history

This section provides a detailed, foundational masterclass on the **Structured Approach to Headache History Taking** for the AMC exam. The tutor emphasizes that a robust differential diagnosis list and a systematic history-taking plan are essential for passing, regardless of the specific recall.

Here's the organized breakdown:

**AMC Approach: Headache Cases - Structure & Differentials**

**I. Introduction & Philosophy:**

- **Headache is a very common medicine case** in the AMC exam.
- Most headache cases are based on repeated recalls, but passing requires a **structured approach**, not just memorizing the final diagnosis.
- **Three Pillars to Pass Any Case:**
    1. **A good list of Differentials:** Specific, comprehensive, and well-organized.
    2. **A solid Structure:** A step-by-step plan for the consultation.
    3. **Knowing the Key Points:** Case-specific crucial questions or findings.
- **The Goal:** Build one strong, universal structure for all headache cases (acute and chronic) that can be adapted with minor changes based on the case context (e.g., patient's age).

**II. Step 1: Building a Comprehensive Differential Diagnosis List for Headache:**

- **Categorization is Key (Murtagh's approach: Probable, Serious/Red Flag, Pitfalls):**
- **Tutor's Recommended List for OSCEs (Organized by Category):**
    1. **Top of the List (MUST Screen For):**
        - **Brain Tumour / Space-Occupying Lesion (SOL).** (Tutor: "If you don't ask questions for this and don't mention it, I'm never going to pass you.")
    2. **Primary Headaches (Common):**
        - Migraine.
        - Tension-Type Headache.
        - Cluster Headache.
    3. **Neurological Differentials:**
        - Trigeminal Neuralgia.
        - **Intracranial Haemorrhage (ICH), especially Subarachnoid Haemorrhage (SAH).**
        - Benign Intracranial Hypertension (BIH) / Idiopathic Intracranial Hypertension (IIH) / Pseudotumour Cerebri.
    4. **Infections:**
        - **Meningitis / Encephalitis.**
        - Dental Infections.
        - Sinusitis.
    5. **Referred Pain & MSK:**
        - **Cervicogenic Headache** (from the neck).
        - **Glaucoma** (from the eye).
        - Temporomandibular Joint (TMJ) Dysfunction.
    6. **Vascular / Inflammatory:**
        - **Temporal Arteritis / Giant Cell Arteritis (GCA)** (if patient is > 50 years old).
    7. **Other:**
        - **Medication Overuse Headache.**
        - (Shingles/Herpes Zoster can also present with head/facial pain).
- **Tutor's Note on the List:** This list is comprehensive but manageable for an OSCE. The goal is a long, specific, and well-categorized list. Vague terms like "infections" are not sufficient.

**III. Step 2: Structured History Taking for Headache (The 4 Big Steps):**

- **Big Step 1: Introduction**
    1. **Haemodynamic Stability (Do this FIRST in a face-to-face exam):**
        - Before starting, ask the examiner: *"Examiner, I want to check the patient's hemodynamic stability. Can you please tell me the vital signs? I'd like to know the **blood pressure, pulse rate, and temperature**."*
        - (Rationale: Headaches can be caused by life-threatening conditions like SAH or meningitis).
        - (Tutor notes 99% of AMC cases will have stable vitals to allow the history to proceed).
    2. **Good Open-Ended Question:**
        - *"Hello [Patient's Name], my name is Dr. [Your Name]. **How can I help you today?"*** or *"What brings you in today?"*
        - This allows the patient to give their **opening statement**, which provides crucial context (e.g., "My brother has a brain tumour, and I'm worried my headache is the same thing").
    3. **Address the Patient's Concern (Empathy):**
        - Acknowledge their worry: *"I understand why this is concerning for you, especially with what's happened with your brother."*
        - Provide reassurance and set a plan: *"Let me ask you a few questions, and I will examine you. We will find the cause together and make the best management plan. How does that sound?"*
    4. **(Optional/Low-Yield): Offer Painkillers.**
        - Tutor's strong opinion: This is a low-yield step. You don't know the cause yet.
        - If you must, ask: *"Are you in any pain right now?"* Most of the time, the patient will say no or that they've already taken something. Don't get bogged down here.
- **Big Step 2: Explore the Presenting Complaint (Pain) - "SICORA" Mnemonic**
    - **Tutor's Emphasis:** You must explore the pain *completely* before moving to differentials. By the end of SICORA, you should have a provisional diagnosis in most cases.
    - **S - Site:** "Can you show me the site of the pain?" -> **Key Follow-up:** *"Is the pain on **one side or both sides** (unilateral or bilateral)?"*
    - **I - Intensity:** "From a scale of 1 to 10, with 10 being the worst pain you've ever had, how bad is your pain?"
    - **C - Character/Quality:** "About the quality of the pain, is it a **throbbing/pulsating** pain, or is it a **dull or sharp** pain?" (Throbbing=migraine; Tightening=tension).
    - **O - Onset & Timing:** "How long have you had the pain for (since when)? Are your headaches **on and off, or are they continuous**? Are they **gradually getting worse**?"
    - **R - Radiation:** "Does your pain travel or radiate anywhere?" (e.g., to the neck).
    - **A - Alleviating & Aggravating Factors:**
        1. General Q: "Does anything make your headaches better or worse?"
        2. Specifics (if general Q is unhelpful): Ask about relation to activity/rest, position, breathing (less relevant for headache), food.
    - **A - Affect on Life (for chronic headaches):** "How is this headache affecting your life?"
- **Big Step 3: Screen for Differentials (Systematic, using Associated Symptoms)**
    - **Tutor's Golden Rule:** Rule out differentials one by one using targeted screening questions. Do not just ask a random list of head-to-toe symptoms.
    - **Start with your Provisional Diagnosis (from SICORA), then Brain Tumour Red Flags.**
    3. **Provisional Diagnosis Key Points (e.g., if Migraine is suspected):**
        - **Nausea/Vomiting:** "Do you have any nausea or vomiting when you have your headaches?"
        - **Photophobia/Phonophobia:** "Are you **light and noise sensitive** when you have the headaches?"
        - **Aura:** "Do you see any **flashing or sparkling lights** before or during the headaches?"
        - **Triggers:** "Does drinking **alcohol** trigger your headache? Any specific **foods** like cheese or chocolate? (For women) Are you on **contraception pills**? Is there a link to your menstrual cycle?"
        - **Family History:** "Any family history of migraine?"
    4. **Brain Tumour (Red Flags - ask ALL of them):**
        - General Cancer Screen: "Have you lost any weight? Lost your appetite? Noticed any lumps or bumps? Feeling unusually tired?"
        - Timing Red Flags: "Does your pain **wake you up at night**? Do you have **early morning headaches and vomiting**?"
        - Neurological Deficits: "Any **blurring of your vision**? Any **weakness** in your body? Any **numbness or pins and needles** in your arms or legs? Any **problems with walking or balance**?"
        - Aggravating Factors (for raised ICP): "Is the headache worse with **coughing, sneezing, or bending forward**?"
    5. **Screening Questions for Other Differentials (1-2 key questions for each):**

- **Tension Headache:** "Can you describe your home situation for me? Do you have any stress at home? What do you do for work? Any stress at work?"
- **Temporal Arteritis (if >50):** "Have you noticed a painful cord on the side of your head (temporal artery)? Is your headache worse on chewing or combing your hair? Any blurring of vision? Any shoulder and hip pain or stiffness (for PMR)?"
- **Meningitis:** "Any fever or chills? Sore neck? Any rash? Are you sensitive to light (photophobia)?"
- **Trigeminal Neuralgia:** "Is the pain triggered by sudden movements of your face, like talking, smiling, or even touching your face?"
- **Subarachnoid Haemorrhage (SAH):** "Did your pain start **suddenly**? Is this the **worst headache of your life**?"
- **Benign Intracranial Hypertension (BIH):** "Are you using any medication, particularly for acne (tetracyclines, vitamin A) or the oral contraceptive pill?"
- **Medication Overuse Headache:** "Are you using any painkillers regularly? If yes, how often?"
- **Sinusitis:** "Do you have any secretions dripping down the back of your throat (post-nasal drip)?"
- **Dental Infections:** "Any toothaches? Is the pain worse on chewing?"
- **Cluster Headache:** "Do you get watery eyes or a runny nose when you have the headaches?"
- **ICH/Trauma:** "Any recent trauma or injuries to your head? Any falls?"
- **Glaucoma:** "Do you have a red eye?"
- **Cervicogenic/TMJ/MSK:** "Any neck pain? Is the pain worse on moving your neck? Any jaw pain on chewing? Any rashes on your head/face (for shingles)?"

- **Big Step 4: Good Closure (SADMA)**
  - Most key SADMA points (meds, alcohol, key PMHx/FMHx) are already integrated.
  - If you have extra time, you can ask more broadly about illicit drugs, allergies, and other past medical/family history.
  - Tutor's view: A superficial SADMA at the end is less important than a deeply integrated, clinically relevant history.

**IV. Key Learning Points for Headache Cases:**

- **A single, robust structure** works for both acute and chronic headaches.
- **Differentials are the foundation.** Have a long, specific, categorized list ready.
- **Complete SICORA** before moving on. It will give you your provisional diagnosis.
- **Red Flags for Brain Tumour** are a non-negotiable part of the history.
- **Probing vs. Screening:** Go deep on your provisional diagnosis and red flags (probing). Use 1-2 high-yield questions for other differentials (screening).
- **Cardiovascular Risk Factors** are a key point for chest pain, not as central for headache unless suspecting vascular causes like dissection, but good general history.
- By following this systematic approach, you can confidently navigate any headache OSCE, demonstrate a safe and thorough process, and arrive at a well-reasoned diagnosis.

PEFE

This section provides a detailed masterclass on how to perform the **Physical Examination from Examiner (PFEE)** task in a face-to-face AMC OSCE, using the **Headache** case as the primary example. The tutor emphasizes structure, specificity, and time management.

Here's the organized breakdown:

**AMC Approach: Physical Examination from Examiner (PFEE) - The Headache Case**

**I. Introduction to the PFEE Task:**

- **Common Format:** A 4-minute history is often followed by a PFEE task and then diagnosis/differentials, all within a total of 4 minutes after the history bell.
- **Time Management is CRITICAL:** You must allocate your time wisely. A reasonable split is **2 minutes for PFEE** and 2 minutes for diagnosis/differentials. Practice with a timer.
- **Specificity is Key:** The examiner will only provide findings for specific things you ask for. Vague requests like "I want to do a neurological examination" will be met with "What are you looking for?"

- **Structure is Your Safety Net:** A consistent plan prevents you from getting lost under pressure and ensures you cover essential areas.

**II. The Basic 5-Step PFEE Structure (Applicable to most cases):**

1. **General Appearance:**
2. **Vital Signs:**
3. **Core System 1 (e.g., Cardiovascular):**
4. **Core System 2 (e.g., Respiratory):**
5. **Core System 3 (e.g., Abdomen):**

- **Tutor's Note:** This basic framework is then adapted. For cases where systems are less relevant (e.g., CVS/Resp/Abdo in a headache case), they are screened quickly. For headache, the "add-on" systems of **Neurology and ENT** become the new core focus.

**III. Building the Specific PFEE Structure for a Headache Case:**

- **Core Examination Systems for Headache: Neurological Exam** and **ENT Exam.**
- **The Detailed Plan:**
    1. **General Appearance (3-4 relevant points, quickly):**
        - *"Examiner, on general appearance, I want to know:"*
        - *"What is the patient's **level of consciousness**? Is he alert or drowsy?"*
        - *"Is there any **rash**?"* (For meningitis, shingles).
        - *"Is there any **ptosis** (drooping eyelid)?"* (Neurological sign).
        - (If >50): "Can I see any prominent or tender temporal arteries?"
    2. **Vital Signs (Ask if not done at start, or confirm "same as before"):**
        - *"Examiner, I want to know the vital signs: **blood pressure, pulse rate, and temperature** are critical."*
    3. **CORE SYSTEM 1: Neurological Examination (Full & Detailed):**
        - **Cranial Nerves:**
            - *"Examiner, I would like to do a neurological examination, starting with the cranial nerves."* (Examiner will likely say "Normal").
            - **If prompted ("What are you looking for?"):** *"I want to check the **pupils** (are they symmetric with a normal light reflex?), the **eye movements**, the **sensation of the face** (trigeminal), and the **facial movements**."*
            - **Fundoscopy (Ask Separately - CRITICAL):** *"I would like to do a **fundoscopy**. Do I have **papilloedema**?"*
        - **Upper & Lower Limbs:**
            - *"Examiner, I'd like to do an upper limb and lower limb neurological examination."* (Examiner will likely say "Normal").
            - **If prompted ("What are you looking for?"):** *"I want to check the **power** in the myotomes, the **sensation** in the dermatomes, and the **reflexes**."* (Coordination is a good 4th point if time allows).
    4. **CORE SYSTEM 2: ENT Examination (Focused):**
        - *"Examiner, I would like to do an ENT examination."*
        - **Dental:** *"I want to do a **dental examination**. Are there any obvious **dental caries** or any **redness and swelling in the gums**?"*
        - **Throat/Sinuses:** *"Can I see any **post-nasal drip**? I want to check for **sinus tenderness**."*
    5. **Specific Examination of the Neck:**
        - *"Examiner, I would like to examine the neck."*
        - **Cervicogenic Source:** *"Is there any **tenderness on the spinous processes or the paraspinal muscles**? Are the **neck movements painful**?"*
        - **Meningism:** *"Is there any **neck stiffness**?"*
    6. **Add Key Points based on Provisional Diagnosis (Show refined clinical reasoning):**
        - **If Meningitis is suspected (from fever, photophobia, neck stiffness):**
            - *"Examiner, is **Kernig's sign** positive? Is **Brudzinski's sign** positive?"*
        - **If Temporal Arteritis is suspected (from age >50, jaw claudication, visual changes):**

- *"Examiner, is there any **tenderness on the temporal region**?"*
- *"I'd like to check for **proximal myopathy** (for co-existing Polymyalgia Rheumatica)."*

7. **Quick Screen of Other Systems (Time-Efficient):**
   - **Respiratory:** *"Examiner, quickly for the respiratory system, is the **air entry equal**? Are there any **added sounds**?"*
   - **Cardiovascular:** *"For cardiovascular, are **S1 and S2 normal**? Are there any **murmurs or added sounds**?"*
   - **Abdomen (Optional):** *"Quickly for the abdomen, any swelling or redness? Any tenderness or masses?"* (Tutor: Can be skipped if short on time).
8. **Office Tests:**
   - None are directly relevant for a headache PFEE. (Tutor: "I don't really have any relevant office tests"). Do not ask for BSL/Urine Dipstick just for the sake of it.

**IV. Rationale & Key Takeaways:**

- **Why this structure?** It prioritizes the most relevant systems (Neuro, ENT, Neck) for a headache presentation, ensuring key pathologies are assessed. It also demonstrates a complete, head-to-toe approach by briefly screening other systems.
- **Time Efficiency:** The use of "quick screening" questions for less relevant systems saves crucial time for the detailed core examination and for the diagnosis/differentials task that follows.
- **Probing vs. Screening:** The structure allows you to "probe" deep into relevant areas (e.g., asking for specific signs like Kernig's if meningitis is suspected) while quickly "screening" others.
- **"Prickle D.A.CH." is a Bad Habit:** The tutor strongly advises against rattling off a generic list of general appearance findings. Instead, choose 3-4 findings that are *relevant* to your list of headache differentials (e.g., level of consciousness, rash, ptosis).
- **One Structure for All Histories:** The tutor reminds that a 4-minute history uses the same structure as a 6-minute one; you just get less far down your list of differentials. You should still cover the intro, pain exploration, and your top-tier life-threatening differentials.
- This structured, specific, and time-managed approach to PFEE is essential for demonstrating competence and safety in the AMC clinical exam.

DX and DDX

This section is a masterclass on the final and arguably most crucial step of an AMC OSCE history station: **Explaining the Diagnosis and Differentials.** Using the Headache cluster as a framework, the tutor emphasizes a specific, time-efficient structure designed to maximize marks by prioritizing what the examiners are looking for.

Here's the organized breakdown:

**AMC Approach: Explaining Diagnosis & Differentials (Headache Case)**

**I. The Problem & Why Candidates Fail This Task:**

- **Failure is Common:** The tutor stresses that many candidates fail at this final step, even if they have a good history.
- **Reason 1: Lack of a Comprehensive Differential List:** If you don't have a long, specific list of differentials memorized and ready, you will falter under pressure. Vague answers ("infections") won't score.
- **Reason 2: Poor Time Management & Structure:** The time available is extremely short (often 90 seconds or less). Without a clear plan, candidates either waste time over-explaining the primary diagnosis or fail to list enough differentials.
- **Reason 3: Not Asking Key Point Questions:** Candidates arrive at the diagnosis/differential stage without having asked the critical "key point" questions during the history (e.g., aura/photophobia for migraine, red flags for brain tumour). This means they cannot *reason* their diagnosis and are just guessing based on a recall.

**II. The Structured Approach to Diagnosis & Differentials (The "Pass" Formula):**

- **Assume you have < 90 seconds.** Your structure must be fast and efficient.
- **Step 1: State the Most Likely Diagnosis (Quickly & Clearly):**
  - Start with the phrase: *"Most likely, you have a condition called [Your Diagnosis, e.g., Migraine]."*
  - **Provide a SUPER BRIEF Explanation (5 seconds max):** Give a one-sentence, simple, layman's explanation.

        - **Example (Migraine):** *"This is a type of headache that happens because of the dilation of blood tubes in your brain."*
    - **Provide the REASONS for your diagnosis (MOST IMPORTANT PART):**
        - This is where you demonstrate your clinical reasoning by linking back to the positive "key point" findings from your history.
        - **Example (Migraine):** *"The reasons I'm making this diagnosis are because your headache is on one side, it's throbbing, you have nausea with it, you are sensitive to light and noise, you see flashing lights beforehand (aura), and you have a family history of migraine."*
- **Step 2: Address the Patient's Primary Concern (If Applicable):**
    - If the patient started the consultation with a specific fear (e.g., "I'm worried I have a brain tumour because my brother has one"), you MUST address this directly.
    - **Example (Brain Tumour Concern):**
        - *"I also want to address your concern. In your case, having a **brain tumour is unlikely**."*
        - **Provide the REASONS (using your negative red flag screen):** *"This is because you don't have headaches that wake you up at night, you haven't lost any weight, you don't have any blurring of vision or weakness in your body, and the headache is not worse with coughing or sneezing."*
- **Step 3: List & Rule Out Your Differentials (Fast & Efficiently):**
    - **The Goal:** Deliver as many differentials as possible before the bell rings.
    - **The Safe & Efficient Method:**
        1. **State, Briefly Explain, & Briefly Reason the first 2-3 differentials.**
        2. **Then, simply LIST the remaining differentials rapidly.**
    - **Example Dialogue:**
        - *"I was also thinking about other conditions. I was considering a **tension headache**, which is a stress-related headache, but that's not so likely in your case because you told me you don't have any major stress."*
        - *"I was also thinking about **sinusitis**, which is an infection in the cavities in your skull, but that's not so likely because you don't have any secretions dripping down the back of your throat."*
        - *"I was also thinking about a **subarachnoid haemorrhage**, which is a bleed in the brain, but you didn't have a sudden, 'worst headache of your life'."*
        - **--- SWITCH TO LISTING ---**
        - *"And I was also thinking about temporal mandibular joint dysfunction, dental infections, cluster headache, temporal arteritis, meningitis, glaucoma, and cervicogenic headache."* (Keep listing until the bell rings).
- **Tutor's Final Advice on this structure:** Prioritize reasoning your main diagnosis first. Then, prioritize delivering a long list of differentials. Detailed explanations for every single differential are impossible and will cause you to fail due to lack of breadth.

**III. Brief, Simple Explanations for Common Headache Differentials (For Patient Counseling):**

- **Migraine:** "This happens because of the dilation or widening of the blood tubes in your brain."
- **Tension Headache:** "This is a stress-related headache that happens because of contraction or spasming of the muscles in your neck."
- **Meningitis:** "This is an infection and inflammation in the covering of your brain."
- **Temporal Arteritis (GCA):** "In this condition, there is an inflammation in a blood tube on the side of your head."
- **Sinusitis:** "This is an infection in the air-filled cavities in your skull."
- **Benign Intracranial Hypertension (BIH):** "This is when there is a high pressure of the fluid inside your brain."

**IV. Common OSCE Traps & Role Player Instructions:**

- **Vague Answers:** If you ask a broad, open-ended question after the initial one (e.g., "Is there anything else I should know?"), the role player is often instructed to say "No," "I don't know," or "I'm not sure." You must ask specific, direct questions to get specific answers.
- **"Could it be anything else?":** If you only give one diagnosis, the examiner/role player might prompt you for differentials. Be prepared with your list.
- **"What will they do in the hospital?":** If you recommend hospital admission, be prepared to briefly explain what will happen there (e.g., "They will do further tests like a CT scan and give you stronger medication").

**V. Key Learning Points for Diagnosis & Differentials Task:**

- **Memorization & Speed are Key:** You must have your differential list memorized so well that you can recite it quickly under pressure.
- **Reasoning > Explanation:** Spend your limited time explaining *why* you made your diagnosis (reasoning), not giving a lengthy lecture on what the disease is (explanation).
- **Prioritize Breadth:** A long list of relevant differentials is more important than a detailed explanation of just two or three.
- **Address the Patient's Concern:** This is a crucial communication and empathy skill that is directly assessed.
- **Follow the Structure:** The tutor's 3-step process (Diagnosis+Reasons -> Address Concern -> List Differentials) is a reliable and time-efficient formula for success in this challenging task.

Migraine

This section provides a masterclass in applying the **Structured Headache History Taking Approach** to a classic AMC recall: **Migraine**. The tutor role-plays the consultation, demonstrating how to systematically move through the steps, identify a provisional diagnosis from the pain history (SICORA), and then conduct a thorough differential diagnosis by asking key point (probing) questions for migraine and brain tumour red flags, followed by rapid screening questions for other differentials.

Here's the organized breakdown:

**AMC Recalls: Migraine Case (Applying the Headache Structure)**

**I. Case 53: 30 y.o. Lady, GP, Complaining of Headache**

- **Stem Summary:** Very simple, open-ended stem.
  - 30-year-old lady, GP.
  - Complaint: Headache.
- **Tasks:**
  1. Take a complete history (6 mins).
  2. Explain your diagnosis with reasons and your differentials to the patient.
- **Tutor's Note:** The predominant assessment area is **history taking**. A correct diagnosis without a good, structured history will not pass.

**II. The "Two-Minute Reading Time" Brainstorming Process:**

- Before starting, mentally rehearse your plan.
- **Differentials:** Have your long, specific, categorized list ready (Brain Tumour, Migraine, Tension, Cluster, SAH, GCA, Sinusitis, etc.).
- **Structure:** Mentally walk through your 4 big steps: Intro -> Explore Pain (SICORA) -> Rule out Differentials -> Closure.
- **Key Points:** Remind yourself of the key points for the most likely differentials (e.g., aura/photophobia for migraine, red flags for brain tumour, stress for tension headache).

**III. The Structured History Taking (Role-play Walkthrough):**

- **Big Step 1: Introduction**
  1. **Haemodynamic Stability (Face-to-Face):**
     - *"Examiner, can you please tell me the vital signs first? I'd like to know the blood pressure, pulse rate, temperature, and respiratory rate."* (Examiner gives normal vitals).
     - (Tutor notes: If the examiner is in a bad mood and says "Stick to your task," just smile and proceed. It saves you time).
  2. **Open-Ended Question:**
     - *"Hi Samantha, my name is Dr. [Your Name]. How can I help you today?"*
  3. **Address Concern (from patient's opening statement):**

        - Patient: *"Doctor, I've been having these headaches for the last six months... I get them once or twice a week, and I'm starting to get worried there's something wrong with me."*
        - **Reassuring Statement:** *"I understand your concern, Samantha. It can be very worrying to have headaches like this. Let's work together. I'll ask you a few questions, we'll find the cause of your headaches and make the best management plan for you. Is that okay with you?"*
        - (Ask "Are you in pain now?" -> Patient says "No").
- **Big Step 2: Explore the Pain (SICORA)**
    - **S**ite: *"Can you tell me where you feel the headache?"* (Side of my head). -> *"Is it on **one side or both sides**?"* (Always on one side).
    - **I**ntensity: *"From a scale of 1 to 10... how bad is your pain?"* (About a 7 or 8).
    - **C**haracter: *"Can you describe the quality of the pain? Is it a **throbbing**, sharp, or dull pain?"* (A throbbing, pounding, pulsating type of pain).
    - **O**nset & Timing: *"How long have you had the headaches for?"* (6 months). *"Are they **on and off** or constantly there?"* (On and off, once a week or fortnight). *"Are they gradually getting worse?"* (No, staying the same).
    - **R**adiation: *"Does your pain travel or radiate anywhere?"* (No, just in my head).
    - **A**lleviating/Aggravating Factors & **A**ffect on Life:
        - *"Have you noticed anything making your pain better or worse?"* (Yes, whenever I have the headache, I just **go in a dark, quiet room and sleep, and it gets better**).
        - *"How has this headache been affecting your life in the last six months?"* (I have to take one or two days off work/it's interfering with my studying).
    - **Provisional Diagnosis from SICORA:** The combination of unilateral, throbbing pain, relieved by rest in a dark room, is classic for **MIGRAINE**.
- **Big Step 3: Screen for Differentials (Probing Migraine & Brain Tumour first, then Screening others)**
    - **Tutor's Note:** Now that you have a provisional diagnosis, you "probe" it with all its key questions. Then, you MUST rule out the most serious differential (Brain Tumour) with all its red flag questions.
    2. **Migraine (Probing Questions / Key Points):**
        - **Nausea/Vomiting:** *"Do you have any nausea or vomiting when you have the headache?"* (Yes, I have nausea).
        - **Photophobia/Phonophobia:** *"Are you **light or noise sensitive** when you have the headaches?"* (Yes, I have to go in a dark room).
        - **Aura:** *"Do you see any **flashing or sparkling lights** before or during the headaches?"* (Yes, I see flashing lights before I get the headache).
        - **Triggers:**
            - *"Does drinking **alcohol**, like wine, trigger your headache?"* (Yes, whenever I drink wine).
            - *"Have you noticed any **food** triggers, like cheese or chocolate?"* (No).
            - *"Are you taking any **oral contraceptive pills**?"* (Yes, I am).
        - **Family History:** *"Do you have any **family history of migraine**?"* (Yes, my mother has migraine).
    3. **Brain Tumour (Probing Red Flags - ask ALL of them):**
        - General: *"Have you lost any weight lately? Any loss of appetite? Any lumps or bumps in your body? Feeling unusually tired?"* (No to all).
        - Timing: *"Has the headache ever **woken you up at night**? Do you get **early morning headaches and vomiting**?"* (No).
        - Neurological Deficits: *"Any **blurring of your vision**? Any **weakness** in your body? Any **pins and needles or numbness**? Any **problems with your balance or walking**?"* (No to all).
        - ICP Aggravators: *"Have you noticed your headache gets worse with **coughing, sneezing, or bending forward**?"* (No).
    4. **Other Differentials (Switch to Screening Mode - 1-2 questions each):**
        - **Tension Headache:** *"Do you have any stress at home lately? What is your occupation? Any stress at work?"* (No).
        - **Cluster Headache:** *"Do you get a runny nose or watery eye when you have the headaches?"* (No).
        - **Meningitis:** *"Any fever? Any sore neck?"*
        - **Sinusitis:** *"Any secretions dripping down your throat?"*
        - **Dental Infections:** *"Any toothache or pain on chewing?"*
        - **Trigeminal Neuralgia:** *"Is the pain triggered by sudden movements of your face like talking or touching your skin?"*
        - **TMJ Dysfunction:** (Pain on chewing already asked).
        - (Temporal Arteritis is skipped due to age - 30 y.o.).
        - **Glaucoma:** *"Any red eyes?"*

        - **Cervicogenic Headache:** *"Any neck pain?"*
        - **Trauma/ICH:** *"Any recent trauma or injuries to your head?"*
        - **Medication Overuse Headache:** *"Are you using any regular painkillers for the headache? If yes, how often?"*
- **Big Step 4: Good Closure (SADMA - if time allows):** (Most key points already covered).

**IV. Explaining Diagnosis and Differentials to the Patient:**

1. **State the Most Likely Diagnosis:**
    - *"Samantha, most likely you have a condition called **migraine**."*
2. **Provide a Brief Explanation:**
    - *"Migraine happens because of a **dilation of the blood tubes in your brain**."*
3. **Provide the REASONS for your diagnosis (CRITICAL):**
    - *"The reasons I'm making this diagnosis are because your pain is on **one side** and is **throbbing** in quality. You also get **nausea**, you are **light and noise sensitive**, you see **flashing lights** before the headache, you have a **family history**, and you've noticed that **wine can trigger it**."*
4. **Address the Implied Concern (Brain Tumour - if relevant from stem):**
    - *"I was also thinking about other causes, particularly the possibility of a **brain tumour**, especially as that might have been a concern for you. However, this is **not likely** because you haven't lost weight, the pain doesn't wake you up at night, you don't have any blurring of vision or weakness, and it's not made worse by coughing or sneezing."*
5. **List & Rule Out Differentials (Fast & Efficiently):**
    - **Reason the top 2-3:**
        - *"I was also thinking about a **tension headache**. This is a stress-related headache, but it's not so likely in your case because you told me you don't have any major stress."*
        - *"I also thought about **sinusitis**, which is an infection in the cavities in your skull, but this is unlikely as you don't have any secretions behind your throat."*
        - *(Can add another, e.g., "I was also thinking about subarachnoid haemorrhage...")*
    - **LIST the rest:**
        - *"...And I was also thinking about cluster headaches, cervicogenic headaches, dental infections, meningitis, temporomandibular joint dysfunction, and trigeminal neuralgia."* (List until the bell).

**V. Key Learning Points for the Migraine Case:**

- **Provisional Diagnosis from SICORA:** The history of the pain itself is usually sufficient to point towards migraine.
- **Key Points are Non-Negotiable:** You must ask the specific key point questions for migraine (nausea/vomiting, photo/phonophobia, aura, triggers, family history) to confirm your diagnosis and pass the station.
- **Systematic Differential Diagnosis is Still Required:** Even if migraine seems obvious, you must demonstrate a safe and comprehensive approach by systematically ruling out other serious and common causes.
- **Red Flags First:** After confirming your provisional diagnosis, always screen for brain tumour red flags.
- **The "Probing vs. Screening" Technique:** Use deep, multi-question "probing" for your top 1-2 differentials (migraine, brain tumour) and fast, single-question "screening" for the rest to manage time effectively.
- The diagnosis and differential explanation must be structured, logical, and time-efficient, prioritizing breadth of knowledge.

Manage Migraine

This section covers a specific variation of the **Migraine** case, one that emphasizes **management counseling** rather than a full diagnostic workup. The tutor explains how to adapt the history-taking structure for a shorter timeframe and then outlines a comprehensive management plan for migraine.

Here's the organized breakdown:

**AMC Recalls: Migraine Management Counseling**

**I. Case 54: 35 y.o. Lady, Recurrent Headaches (6 months), worse lately, with Photophobia & Nausea, on OCP, Normal MRI**

- **Stem Summary:**
  - 35-year-old lady, GP.
  - Recurrent headaches for 6 months, accompanied by photophobia and nausea, getting worse lately.
  - A colleague has already performed an **MRI, which is normal** (ruling out brain tumour).
  - Patient is otherwise healthy but is taking a **Combined Oral Contraceptive Pill (OCP).**
- **Tasks:**
  1. Take a history (only 3 minutes).
  2. Explain your diagnosis (NO differentials required in this version).
  3. Explain your immediate and long-term management plan.
- **Tutor's Note on Short History Task:** A very short history (2-3 mins) in a case with a lot of information already in the stem is an indirect instruction to **focus only on the key points** of the likely diagnosis. You do not have time for a full differential diagnosis screen.

**II. Focused History Taking (3-minute "Key Points Only" Approach):**

1. **Opening & Intro:** (Quick intro, open-ended question, address concern - standard but fast).
2. **Brief Pain Assessment (SICORA - essentials only):**
   - **Site:** "Is the pain on **one side or both sides**?" (One-sided).
   - **Character:** "Is it a **throbbing** pain?" (Yes).
   - **Alleviating Factors:** "Does anything make it better?" (Yes, sleeping in a **dark, quiet room**).
   - *(Intensity, Onset, Radiation can be skipped if time is short, as they are less specific than the above features for migraine).*
3. **Key Point Questions for Migraine (This is the CORE of the 3-min history):**
   - (Nausea and photophobia are in the stem, so no need to ask).
   - **Aura:** *"Do you see any **flashing or sparkling lights** before or during the headaches?"* (Yes).
   - **Triggers:**
     - *"Does drinking **alcohol**, like wine, trigger your headache?"* (Yes).
     - (OCP is already in the stem, so you know it's a trigger).
   - **Family History:** *"Do you have a **family history of migraine**?"* (Yes).

- **Conclusion of History:** At this point, you have confirmed all the classic features of migraine with aura. You can stop the history.

**III. Explaining the Diagnosis (Brief, as per task):**

- *"Most likely, Jane, you have a condition called **migraine**."*
- *"This happens because of a dilation of the blood tubes in your brain."*
- **Reasons (link to key points):** *"The reasons I say this are because your headache is one-sided and throbbing, you have nausea and are light-sensitive, you see flashing lights beforehand, wine is a trigger, and you have a family history. Also, we can be reassured as your recent MRI has ruled out a brain tumour."*
- **Tutor's Note on Differentials:** The task says "no differentials." As a safety net, you can add a 10-second line: *"While migraine is the clear diagnosis, we were also thinking about brain tumours, which your MRI has ruled out, and other headaches like tension headaches, but your symptoms don't fit."*

**IV. Explaining the Management Plan (Comprehensive, as this is a key task):**

- **1. Address the OCP Trigger FIRST (CRITICAL POINT):**
  - *"The first and most important step in your management is that we need to **stop your combined oral contraceptive pill**. The hormones in this pill, especially estrogen, are a well-known trigger for migraines, particularly migraine with aura, and continuing it can also increase your risk of stroke. We can discuss other contraceptive options for you later."*
  - **Tutor's Joke:** *"You either stop the OCPs or you stop doing the case."* - Emphasizes how critical this point is for passing.
- **2. Immediate/Acute Management (For when a migraine attack occurs):**
  - **Pharmacological (Stepped Approach):**
    - **Step 1 (Simple Analgesia + Antiemetic):** *"For when you get a headache, the first step is to take simple painkillers like **Paracetamol or Ibuprofen**. It's also important to take an **anti-nausea medication** at the same time,*

*like **Metoclopramide or Ondansetron**, as this helps with the nausea and also helps your stomach absorb the painkiller more effectively."*
        - **Step 2 (Specific Migraine Medication - Triptans):** *"If the simple painkillers are not working, we have a special group of medications for migraine called **Triptans**. An example is **Sumatriptan**. These come in tablets, wafers that dissolve on your tongue, or even nasal sprays for faster relief."*
    - **Non-Pharmacological (Lifestyle measures during an attack):**
        - *"When you have a headache, I want you to go and **rest or sleep in a dark, quiet room**."*
        - *"You can also try some **gentle neck stretching exercises** or place an **ice pack on your forehead**."*
- **3. Long-Term Management (Preventing future attacks):**
    - **Identify & Avoid Triggers (Migraine Diary):**
        - *"To manage this long-term, the key is to identify and avoid your personal triggers. I want you to keep a **migraine diary**."*
        - *"In this diary, I want you to write down what you were doing or what you had eaten on the day you get a migraine headache. This will help us find your specific triggers."*
        - **Discuss Common Triggers:** *"Common triggers we know about include certain **foods** (like coffee, cheese, chocolate), **drinks** (like the **alcohol/wine** you mentioned), **dehydration** (so drink plenty of water), **stress**, **lack of sleep**, and **missing meals** (so try to have a regular schedule for sleeping and eating)."*
    - **Support Groups:**
        - *"I can also refer you to a support group like **Migraine Australia**, where you can get more information and connect with other people."*
    - **Prophylactic (Preventative) Management (Offer this as a future option):**
        - *"If you find that you are still having frequent headaches, for example **more than 2 to 4 headaches per month**, you can come back to see me. We can then discuss starting you on a daily medication that can help **prevent** the migraines from happening. Options for this include medications like **Propranolol, Pizotifen, or Amitriptyline**."*
- **4. Red Flags & Safety Netting (Crucial for any chronic condition):**
    - *"Finally, it's important to know when to come back urgently. Although we believe this is migraine, if your headache pattern **changes significantly**, if the headache becomes **much worse** than usual, if you start **losing weight**, or if you develop any **new neurological symptoms like persistent blurring of vision, weakness, or numbness**, you need to come back to see me, as we might need to reconsider things and perhaps repeat your MRI scan."*

**V. Key Learning Points for the Migraine Management Case:**

- **Adapt to the Task:** Recognize when a short history task means you should focus only on "key point" questions for the most likely diagnosis.
- **OCP is a Critical Trigger:** For migraine with aura, stopping the combined OCP is a non-negotiable management step due to both triggering the migraine and increasing stroke risk.
- **Comprehensive Management:** The plan must cover acute (abortive) treatment, long-term (preventive) strategies, and non-pharmacological approaches.
- **The Migraine Diary:** This is a key tool for empowering the patient to identify their personal triggers.
- **Prophylactic Therapy:** Know the indication (e.g., >2-4 attacks/month) and be able to name one or two common prophylactic medications.
- **Safety Netting:** Always provide clear red flags for when a patient with a chronic headache condition should seek urgent review.
- This case tests detailed knowledge of migraine management guidelines and the ability to structure a comprehensive counseling session that addresses both acute and long-term needs.

Tension headache

This section provides a masterclass on applying the structured headache approach to another classic AMC recall: **Tension-Type Headache**. The tutor role-plays the consultation, demonstrating how to navigate a shorter history task (4 minutes), perform a time-efficient but thorough Physical Examination from Examiner (PFEE), and deliver a well-reasoned diagnosis and differential list, with a special focus on addressing the patient's primary concern (brain tumour).

Here's the organized breakdown:

**AMC Recalls: Tension-Type Headache Case (Brother has Brain Tumour)**

**I. Case 55: 45 y.o. Male, Headache, Brother recently diagnosed with a Brain Tumour**

- **Stem Summary:**
  - 45-year-old male, GP.
  - Complaint: Headache.
  - **Patient's Primary Concern:** His brother was recently diagnosed with a brain tumour, and he is worried his headache is the same thing.
- **Tasks:**
  1. Take a history (4 minutes - shorter time).
  2. Ask Physical Examination from Examiner (PFEE).
  3. Explain diagnosis with reasons and differentials to the patient.
- **Tutor's Note on Short History:** A 4-minute history means you must be efficient. You will likely run out of time towards the end of your differential list. The priority is to cover the intro, a full pain assessment (SICORA), your provisional diagnosis key points, and the critical red flag screen.

**II. The Structured History Taking (4-Minute Version Walkthrough):**

- **Big Step 1: Introduction**
  1. **Haemodynamic Stability:** (Ask examiner for vitals before starting).
  2. **Open-Ended Question & Address Concern:**
     - *"Hi Jacob, my name is Dr. [Your Name]. How can I help you today?"*
     - Patient: *"Doctor, I've been having headaches... but my brother was just diagnosed with a brain tumour, and I'm very worried that I might have the same thing."*
     - **Empathy & Reassurance:** *"I'm so sorry to hear about your brother. I understand this is very concerning for you. Let me ask you a few questions, and we will find the cause of your headaches and make the best management plan. Does that sound okay?"*
- **Big Step 2: Explore the Pain (SICORA)**
  - **S**ite: "All over my head." -> "Is it on one side or **both sides**?" (Both sides).
  - **I**ntensity: "Usually a 4 or 5 out of 10."
  - **C**haracter: "It's usually a **dull, vague ache**" or "a tightening, non-pulsating pain."
  - **O**nset & Timing: "Started six months ago. It's on and off, maybe once a week. Not getting worse."
  - **R**adiation: "**Yes, it radiates to my neck.**"
  - **A**lleviating/Aggravating Factors: "When I take Panadol (paracetamol), it gets better."
  - **A**ffect on Life: (Patient will likely reiterate his worry about the brain tumour).
  - **Provisional Diagnosis from SICORA:** The bilateral, dull/tightening, non-pulsating nature radiating to the neck is classic for **TENSION-TYPE HEADACHE.**
- **Big Step 3: Screen for Differentials (Probing Tension Headache & Brain Tumour first)**
  1. **Tension Headache (Probing Questions / Key Points):**
     - *"Can you describe your home situation for me? Do you have any **stress at home** lately?"*
     - *"What is your occupation?"* (I'm an accountant). *"Do you have any **stress at work**?"* (Yes, it's the financial year, very stressful, understaffed...).
     - *(Tutor notes another recall version mentions bullying at work as the stressor).*
     - **Mood Question:** *"How has your mood been lately?"*
  2. **Brain Tumour (Probing Red Flags - CRITICAL, as this is the patient's main concern):**
     - (Ask all the red flag questions as detailed in the general headache structure: weight loss, appetite change, lumps, tiredness, nocturnal awakening, early morning headache/vomiting, neurological deficits like blurred vision/weakness/numbness, and headache worse with coughing/sneezing). (All will be negative).
  3. **Other Differentials (Switch to Screening Mode - Fast, 1-2 questions each):**
     - **Migraine:** *"Any nausea or vomiting? Are you sensitive to light or noise when you have the headaches? See any flashing lights?"* (No to all).
     - **Infections:**
       - Meningitis: *"Any fever or sore neck?"*
       - Sinusitis: *"Any secretions dripping down your throat?"*

        - Dental: *"Any toothache or pain on chewing?"*
    - **Cluster Headache:** *"Runny nose or watery eyes with the headaches?"*
    - **--- BELL RINGS FOR HISTORY ---**
    - *(Tutor's point: It's okay to run out of time here. You've covered the most important differentials. You won't get to TMJ, GCA, etc., and that's expected in 4 minutes).*

**III. Physical Examination from Examiner (PFEE) - 2-Minute Drill:**

1. **Transition:** *"Jacob, I'll be back in a second."* (Turn to examiner).
2. **General Appearance:** "Examiner, on general appearance: level of consciousness? Any ptosis? Any rashes?" (All normal).
3. **Vital Signs:** ("Same as before").
4. **CORE SYSTEM 1: Neurological Examination:**
    - "Cranial nerve examination?" (Normal).
    - "Fundoscopy for papilloedema?" (No papilloedema).
    - "Upper and lower limb neurological examination?" (Normal).
5. **CORE SYSTEM 2: ENT Examination:**
    - "Dental examination for caries or gum swelling?" (No).
    - "Any post-nasal drip? Any sinus tenderness?" (No).
6. **Neck Examination:**
    - "Any tenderness on the paraspinal muscles or spinous processes?" (No).
    - "Any pain on neck movements?" (No).
    - "Any neck stiffness?" (No).
7. **Quick Screen of Other Systems (15 seconds total):**
    - "Cardiovascular: S1, S2 normal? Any murmurs?" (Normal).
    - "Respiratory: Air entry equal? Any added sounds?" (Normal).
8. **Stop.** (2 minutes are up).

**IV. Explaining Diagnosis and Differentials to the Patient:**

1. **State Most Likely Diagnosis:**
    - *"Jacob, most likely you have a condition called a **tension headache**."*
2. **Provide a Brief Explanation:**
    - *"This is a **stress-related headache** that happens because of the contraction of the muscles in your neck."*
3. **Provide the REASONS for your diagnosis:**
    - *"The reasons I'm making this diagnosis are because your pain is on **both sides of your head**, it's a **dull/tightening ache**, it **radiates to your neck**, and I found that you have a lot of **stress at work**, which is a common trigger for this type of headache."*
4. **Address the Patient's Primary Concern (Brain Tumour) DIRECTLY:**
    - *"Now, I understand you were very concerned about a **brain tumour**, especially because of your brother."*
    - *"However, it is **not so likely** in your case. This is because you are not losing weight, the pain doesn't wake you up at night, it's not worse with coughing or sneezing, and you don't have any weakness, numbness, or blurring of vision. Also, your physical examination was completely normal. Because of all these reasons, I am concluding there is a very low possibility of you having a brain tumour."*
5. **List & Rule Out Differentials (Fast & Efficiently):**
    - **Reason the top few based on your screening questions:**
        - *"I was also thinking about **migraines**, but this is not likely because you are not light-sensitive and you don't have nausea."*
        - *"I considered infections like **sinusitis**, but that's unlikely as you don't have any secretions behind your throat."*
        - *"I was also thinking about eye problems like **glaucoma**, but that's unlikely as you don't have a red eye."*
        - *"And I thought about **temporomandibular joint dysfunction**, but that's not likely as you don't have pain on chewing."*
    - **LIST the rest:**
        - *"I was also thinking about other conditions like cluster headache, cervicogenic headache, and dental infections, but these are less likely."*

**V. Tutor's Note on "Hypertension Headache":**

- Some recalls mention the examiner providing a BP of 140/90 mmHg.
- **This is NOT a hypertension headache.** True hypertensive headache only occurs in severe or malignant hypertension (e.g., BP >180/110 mmHg).
- A mildly elevated BP during a painful or stressful event is a normal physiological response. Analgesia is the treatment, not antihypertensives. Do not be distracted by this finding.

**VI. Key Learning Points for the Tension Headache Case:**

- **Provisional Diagnosis from SICORA:** The bilateral, dull/tightening, non-pulsating nature is key.
- **Stress is the Key Point:** The core of the diagnosis is linking the headache to psychosocial stressors.
- **Addressing the Brain Tumour Fear is CRITICAL:** This is the central agenda of the case. You must explicitly address and reassure the patient, using your negative red flag screen as evidence.
- **Time Management in 4-Minute History:** Prioritize SICORA, key points for your provisional diagnosis, and the brain tumour red flag screen. You will not have time to screen every single differential.
- **Efficient PFEE:** Focus on the core systems (Neuro, ENT, Neck) and screen the rest very quickly.
- This case is a test of structured history taking, clinical reasoning, and, most importantly, empathetic communication and the ability to manage a patient's significant health anxiety.

Temporal arteritis

This section covers a difficult and less common, but high-stakes, recall: **Temporal Arteritis (also known as Giant Cell Arteritis - GCA)**. The tutor emphasizes that this case is often missed because its presentation in the OSCE is subtle, with the key diagnostic clue being the associated symptoms of Polymyalgia Rheumatica (PMR), rather than the classic textbook features of temporal arteritis itself.

Here's the organized breakdown:

**AMC Recalls: Temporal Arteritis / GCA Case (Presenting as Headache)**

**I. Case 56: 67 y.o. Lady, GP, Complaining of Headache**

- **Stem Summary:**
  - 67-year-old lady, GP.
  - Complaint: Headache. (Very short, non-specific stem).
- **Tasks:**
  1. Take a complete history (6 mins - long time).
  2. Ask Physical Examination from Examiner (PFEE).
  3. Explain diagnosis with reasons and differentials.
- **Tutor's Note:** This is a difficult case with a high failure rate. The key is recognizing the subtle clues for GCA/PMR in an elderly patient and having a robust history structure that screens for it.

**II. The "Two-Minute Reading Time" Brainstorming Process for this Case:**

- **Initial Differentials (for a 67 y.o. lady with headache):**
  - **Top Tier (High-Risk/Serious):**
    1. **Brain Tumour / Space-Occupying Lesion.**
    2. **Temporal Arteritis / GCA.**
    3. Subarachnoid Haemorrhage / Intracranial Haemorrhage (especially if acute).
    4. Stroke.
  - **Then consider primary headaches (Migraine, Tension) and other causes.**
- **History Plan:**
  - Standard 4-step structure: Intro -> Explore Pain (SICORA) -> Rule out Differentials -> Closure.

- **Key points to remember to ask:** Red flags for brain tumour AND the specific key point questions for Temporal Arteritis.

**III. The Structured History Taking (Walkthrough of the GCA Case):**

- **Big Step 1: Introduction**
  - (Haemodynamic stability, open-ended question, address concern - standard approach).
- **Big Step 2: Explore the Pain (SICORA)**
  - **Findings in the GCA Recall Case (often non-specific, this is the trap):**
    - **S**ite: "It's always on the **right side**." (Unilateral is a clue).
    - **I**ntensity: "4 out of 10." (Not severe).
    - **C**haracter: "A dull, vague ache." (Not classic "throbbing" or "tightening").
    - **O**nset & Timing: "Been having it for a couple of months."
    - **R**adiation: "No radiation."
    - **A**lleviating/Aggravating Factors: **"Nothing makes it better or worse."** (This is a major diagnostic challenge - it doesn't fit neatly into other headache patterns).
  - **Conclusion from SICORA:** The pain history is atypical and doesn't point to a clear diagnosis. **This is your 10% case where SICORA doesn't give you a provisional diagnosis.** You must rely on your systematic differential screening.
- **Big Step 3: Screen for Differentials (Systematic & Thorough)**
  - Since there's no clear provisional diagnosis, you start with the highest-risk differentials for this age group.
  2. **Brain Tumour (Top of the list):**
     - **Probe with ALL the red flag questions:** Weight loss, appetite change, lumps, tiredness, nocturnal awakening, early morning headache/vomiting, neurological deficits (blurred vision, weakness, numbness), headache worse with coughing/sneezing. (All will be negative in this recall).
  3. **Temporal Arteritis / GCA (Second on the list):**
     - **Key Point Questions for GCA/PMR:**
       - *"Have you noticed a **painful cord on the side of your head**?"* (Tender, thickened temporal artery). (Answer: No).
       - *"Is your headache worse on **chewing (jaw claudication)** or **combing your hair**?"* (Answer: No).
       - *(Blurred vision was already asked under brain tumour red flags - assume negative).*
       - **THE KEY QUESTION for this OSCE:** *"Do you have any **shoulder and hip pain or stiffness**?"* (Answer: **"Oh yes, doctor, I've been having this weird shoulder aches and pain in my shoulders for a few months."**).
       - **This single positive finding (PMR symptoms) is the key to the diagnosis.**
  4. **Other Differentials (Continue Screening to demonstrate thoroughness):**
     - **Tension Headache:** "Any stress at home or at your occupation?"
     - **Migraine:** "Any nausea/vomiting? Light/noise sensitivity? Flashing lights (aura)?"
     - **Infections (Meningitis, Sinusitis, Dental):** "Fever? Sore neck? Post-nasal drip? Toothache?"
     - **Trauma/ICH:** "Any recent falls, trauma, or injuries to your head? Are you on any blood thinners?"
     - (List others as time permits: cluster, glaucoma, TMJ, etc.).

**IV. Background Knowledge on Temporal Arteritis (GCA) & Polymyalgia Rheumatica (PMR):**

- **What is GCA?** A vasculitis (inflammation of blood vessels) affecting large and medium-sized arteries, classically the temporal artery.
- **Age:** Almost always occurs in patients **> 50 years old**.
- **What is PMR?** An inflammatory condition causing pain and stiffness in the shoulder and hip girdles.
- **The Link:** GCA and PMR are closely related and often co-exist. About 50% of patients with GCA have PMR, and about 15-20% of patients with PMR will develop GCA.
- **Key Symptoms:**
  - GCA: New-onset headache (often unilateral, temporal), scalp tenderness, jaw claudication, visual symptoms (amaurosis fugax, diplopia).
  - PMR: Symmetrical aching and morning stiffness in shoulders, neck, and hips.
- **CRITICAL COMPLICATION: Irreversible blindness** due to ischemic optic neuropathy if treatment is delayed. This makes GCA a medical emergency.

- **Diagnosis:**
  - Clinical suspicion is key.
  - **Elevated inflammatory markers (ESR, CRP)** are characteristic (ESR often > 50).
  - **Definitive Diagnosis:** Temporal artery biopsy.
- **Management:**
  - **IMMEDIATE high-dose corticosteroids (Prednisolone)** should be started as soon as GCA is suspected. **DO NOT wait for biopsy results.**
  - If visual symptoms are present, patient needs emergency admission for IV steroids.
  - Aspirin is often added.
  - Long-term steroid-sparing agents like Methotrexate may be needed.

**V. Explaining Diagnosis and Differentials to the Patient:**

1. **State Most Likely Diagnosis:**
   - *"Mrs. [Patient's Name], most likely you have a condition called **temporal arteritis**."*
2. **Provide a Brief Explanation:**
   - *"This is an **autoimmune condition** where your immune system attacks a **blood tube (artery) on the side of your head**, and this causes inflammation and pain."*
3. **Provide the REASONS for your diagnosis:**
   - *"The reasons I think this is the cause are because you have a **one-sided headache** that is always on the right side."*
   - *"And very importantly, you also told me that you have **shoulder and hip pain and stiffness**. This is because of a related condition we call **Polymyalgia Rheumatica**, which often happens together with temporal arteritis."*
4. **Address the Implied Concern (Brain Tumour):**
   - *"I know we were also thinking about other serious conditions. The most important one was a **brain tumour**. However, this is not so likely because I asked you all the red flag questions – you are not losing weight, the pain doesn't wake you up at night, and you don't have any weakness or numbness – and your neurological examination was normal."*
5. **List & Rule Out Other Differentials (Fast & Efficiently):**
   - *"I was also thinking about a **tension headache**, a stress-related headache, but that's not so likely because you don't have any major stress."*
   - *"I considered **migraine**, but this is unlikely as you are not light-sensitive and don't have nausea."*
   - *"I also thought about infections like **sinusitis**, but you don't have any secretions behind your throat."*
   - **--- SWITCH TO LISTING ---**
   - *"And I was also thinking about other things like dental infections, TMJ dysfunction, trigeminal neuralgia, cervicogenic headache, and glaucoma, but these are less likely."*

**VI. Key Learning Points for the Temporal Arteritis Case:**

- **High Index of Suspicion in Elderly:** For any new-onset headache in a patient >50, GCA must be on your differential list.
- **The PMR Clue is Key:** The OSCE case is designed so that the diagnosis hinges on eliciting the associated symptoms of polymyalgia rheumatica (shoulder/hip pain and stiffness).
- **Atypical Headache History:** Be prepared for a non-specific pain history in the GCA case. Your systematic differential screen is what will lead you to the diagnosis.
- **Urgency:** GCA is a medical emergency due to the risk of blindness. Although this is a counseling station, showing you understand this urgency is important.
- **Red Flags are Still Essential:** Even though the final diagnosis is GCA, you must demonstrate a safe practice by thoroughly ruling out a brain tumour first.
- This is a challenging case that tests deep clinical reasoning and the ability to diagnose a serious condition based on a single, subtle, but pathognomonic historical clue.

Headache

This section details a challenging but important case: **a patient presenting with headache who is ultimately diagnosed with a brain tumour**, likely metastatic melanoma. The tutor emphasizes the importance of a thorough red flag screen, recognizing key historical clues, interpreting a CT scan, and sensitively delivering a serious diagnosis.

Here's the organized breakdown:

**AMC Recalls: Brain Tumour / Metastasis Presenting as Headache**

**I. Case 57: 45 y.o. Male, Headache, recent Twitching in Sleep, History of Melanoma**

- **Stem Summary:**
  - 45-year-old male.
  - Concerned about recent headaches.
  - Wife reports he has been **twitching in his sleep.**
- **Tasks:**
  1. Take history (5 minutes).
  2. **Request Investigations** from the examiner.
  3. Examiner provides an investigation result (CT Scan).
  4. Explain your diagnosis with reasons to the patient.
- **Tutor's Note:** This is a rare but high-stakes case. The "request investigations" task is a key differentiator from other headache cases. Knowing that this case will likely involve imaging should prime you to conduct a very thorough red flag screen.

**II. Structured History Taking (Walkthrough):**

1. **Opening & Intro:**
   - (Haemodynamic stability, open-ended question, address concern - standard approach).
   - Patient: "Having headaches for a few months... wife says I'm twitching in my sleep... getting worried."
2. **Explore Pain (SICORA):**
   - **Findings in this recall:**
     - Site: "All over my head." (Non-specific).
     - Character: "Throbbing sensation."
     - Onset/Timing: "For three months, and it is **getting worse**." (Progressive nature is a red flag).
     - (Radiation, Alleviating/Aggravating factors may be non-specific).
3. **Screening for Differentials (Systematic, but BRAIN TUMOUR is the provisional diagnosis):**
   - **Provisional Diagnosis -> Brain Tumour (Probe with ALL red flag questions):**
     - General Cancer Screen: "Lost any weight? Appetite changes? Lumps/bumps? Tiredness?" (No).
     - **Timing Red Flags:**
       - "Does the pain wake you up at night?" (No).
       - *"Do you have **early morning headaches and vomiting**?"* (Patient: **"Yes"** - This is a major red flag for raised intracranial pressure).
     - **Neurological Deficits:**
       - "Any blurring of vision? Weakness? Numbness? Problems with walking?" (No to all).
       - (The "twitching in sleep" is a seizure-like activity, a key neurological sign).
     - Aggravating Factors (Raised ICP): "Headache worse with coughing/sneezing?" (No).
   - **Explore Past Medical History (CRITICAL Clue):**
     - *"Any previous history of cancers?"* (Patient: **"Yes, doctor, I had a melanoma six months ago."**).
     - **Follow-up questions for the Melanoma (shows good history taking):**
       - "What treatment did you receive for the melanoma?"
       - "Are you having your regular follow-ups with your GP and your skin specialist?"
       - "Have you noticed any other new skin lesions or moles that are changing in size or color?"
   - **Screen Other Differentials (Quickly, to show breadth, as you have time):**
     - Migraine, Tension Headache, Cluster Headache.
     - Infections (Meningitis, Sinusitis, Dental).
     - Trigeminal Neuralgia.

- Trauma/ICH.
- Glaucoma.
- TMJ dysfunction.

**III. Requesting Investigations:**

- After the history, the bell rings. The task is to request investigations.
- **Your Request to the Examiner:**
  - *"Examiner, based on the multiple red flags in the history – the progressive headache, early morning vomiting, twitching in sleep, and especially the history of melanoma – I am very concerned about an intracranial lesion. I want to request **brain imaging**."*
  - *"Specifically, I would like both a **CT scan of the brain and an MRI of the brain**."* (Tutor: Ask for both, MRI is more sensitive but CT is often the first-line in an acute setting).

**IV. Interpreting the CT Scan:**

- The examiner provides a CT scan image.
- **What to look for and say:**
  1. **Identify the Lesion:** *"Examiner, on this CT scan, I can see a large **space-occupying lesion** (or you can say mass/tumour) in the [e.g., right frontal] lobe."* (No need to be an expert radiologist, just identify the obvious abnormality).
  2. **Assess for Mass Effect (CRITICAL):** *"I am also looking for a **midline shift**. I can see that the mass is pushing the midline structures of the brain over to the left. So, there **is a significant midline shift**."*

**V. Explaining the Diagnosis to the Patient (Sensitive Communication):**

- **Tutor's Note:** This is NOT a full Breaking Bad News station, as you have very little time. It requires sensitive but direct communication.
- **The Diagnostic Dilemma:** You cannot definitively tell from a CT scan whether the lesion is a **primary brain tumour** (e.g., glioblastoma) or a **metastasis from the melanoma**. Both are possibilities. A good candidate will mention both.

1. **State the Serious Concern Clearly and Sensitively:**
   - *"Mark, based on our discussion and the results of your scan, I am concerned about the findings. The scan shows there is a **brain tumour**, which is a growth in your brain. This could either be a new tumour that started in the brain, or it could be a **spread of your previous melanoma to your brain**."*
2. **Check in with the Patient:**
   - *"How are you feeling after hearing this news?"* (This gives a moment for the patient to react. The role player is usually instructed not to have a major emotional breakdown to allow the case to proceed).
3. **Provide the REASONS for your diagnosis (Link to History & Scan):**
   - *"I'm so sorry to be giving you this news, Mark. Is it okay if I explain more about why I think this is the case?"* (Yes).
   - *"The reasons I was concerned and ordered the scan were because you have a headache that was gradually getting worse, you had the twitching which is a type of seizure, and you had the early morning vomiting and headaches. These are all 'red flag' signs."*
   - *"And because of these red flags, we did the scan of your brain, and on that scan, I can see a mass, or a tumour, or a lump in your brain. This is why I have made this diagnosis."*
4. **Briefly Mention Other Differentials (as a safety net, if time allows):**
   - *"While I was taking your history, I was also thinking about other less serious causes like migraine or tension headaches, but given the scan results, those are not the cause."*

**VI. Key Learning Points for the Brain Tumour Case:**

- **Thorough Red Flag Screen is Non-Negotiable:** A headache history *must* include a comprehensive screen for red flags.
- **Recognize Key Historical Clues:** Progressive headache, early morning headache/vomiting, new neurological signs (seizures/twitching), and a history of a cancer with a high metastatic potential (like melanoma) are all major clues.

- **Appropriate Investigation Request:** Asking for brain imaging (CT and MRI) is the correct and expected next step.
- **Basic CT Interpretation:** Be able to identify a large, obvious space-occupying lesion and comment on the presence or absence of midline shift.
- **Sensitive Delivery of Bad News:** While not a full BBN station, the diagnosis must be delivered with empathy and clarity.
- **Acknowledge Diagnostic Uncertainty:** Correctly state that the lesion could be a primary tumour or a metastasis, as you cannot differentiate on CT alone.
- This case tests the ability to conduct a safe and thorough history for a high-risk presentation, request appropriate investigations, perform basic image interpretation, and handle a difficult communication task.

SAH

This section covers a high-stakes, acute presentation: **Subarachnoid Haemorrhage (SAH) presenting as a severe, sudden-onset headache.** The tutor contrasts this with a chronic headache presentation, emphasizing how the history structure remains the same, but the *order and focus* of differential questioning shifts dramatically based on the acute and severe nature of the complaint.

Here's the organized breakdown:

**AMC Recalls: Subarachnoid Haemorrhage (SAH) Presenting as Acute Headache**

**I. Case 58: 52 y.o. Male, GP, Severe Headache started this morning (9/10 intensity)**

- **Stem Summary:**
  - 52-year-old male, GP setting.
  - **Complaint:** Very severe headache, started this morning.
  - **Intensity:** 9/10.
- **Tasks (Typical Variations):**
  1. Take history.
  2. Physical Examination provided on a card or elicited from the examiner.
  3. Explain diagnosis and differentials.
- **Tutor's Key Point:** A severe headache of sudden onset is **Subarachnoid Haemorrhage (SAH) until proven otherwise.** This must be your top differential, and failure to prioritize it is a critical error.

**II. Background Knowledge on Subarachnoid Haemorrhage (SAH):**

- **What is it?** Bleeding into the subarachnoid space, the area between the brain and its covering membranes (meninges).
- **Classic Symptom:** A **"thunderclap headache"** - an explosive, severe headache that reaches maximum intensity within seconds to a minute. Often described as the **"worst headache of my life."**
- **Other Features:**
  - Pain often starts in the **occipital region** (back of the head) and can spread to the entire head and neck.
  - **Neck stiffness and pain** are common due to meningeal irritation (can mimic meningitis).
  - Vomiting, confusion, seizures, and loss of consciousness can occur.
  - **Kernig's sign** may be positive (similar to meningitis).
- **Diagnosis:**
  1. **Urgent non-contrast CT scan of the brain.**
  2. If CT is negative but clinical suspicion remains high (especially if >6-12 hours from onset), a **lumbar puncture (LP)** is performed to look for xanthochromia (yellowish CSF from old blood) or red blood cells.

**III. The Structured History Taking (Applying the Headache Structure with a Shift in Priority):**

- **Tutor's Note:** The 4-step structure (Intro, Explore Pain, Differentials, Closure) does not change. What changes is the *order* in which you rule out your differentials.

1. **Introduction:**

- **Haemodynamic Stability:** Critical in this case. Ask the examiner for full vitals at the start. (Tutor notes for OSCE purposes, vitals are often stable initially to allow history to proceed).
- **Open-Ended Question:** "Bill, how can I help you today?"
- **Patient's Opening Statement:** *"Doctor, this morning I started having a headache that is the **worst headache I've had in my life**. I have a history of migraine, but this is much more severe. I'm scared."*
- **Address Concern:** (Standard empathetic, reassuring statement).
- **Offer Painkillers:** (Patient is in severe pain. You can offer, but they will likely say "no, I want to know the cause").

2. **Explore the Pain (SICORA):**
   - **S**ite: "It's on the **back of my head** (occipital) and has spread to my whole head and neck."
   - **I**ntensity: "10 out of 10, the worst I've had."
   - **C**haracter: (Can be variable, often explosive).
   - **O**nset & Timing: "Started this morning. It has been **constantly there** since it started."
   - (Radiation and Alleviating/Aggravating factors may be less specific, but explore).
3. **Screening for Differentials (REORDERED for Acute, Severe Presentation):**
   - **Provisional Diagnosis -> Subarachnoid Haemorrhage (SAH) (Probe First):**
     - **Key Question 1 (Sudden Onset):** *"Did the headache **start suddenly**?"*
     - **Key Question 2 (Severity):** *"Is this the **worst headache that you have ever had** in your life?"*
     - **Key Question 3 (Spread):** *"Did the pain **spread** to your entire head and neck after it started?"*
   - **Next Top Differentials (Other Life-Threatening Causes):**
     - **Meningitis:**
       - *"Do you have any **fever**? Any **sore neck**? Any **vomiting**? Are you **sensitive to light**? Do you have any **rashes on your body**?"*
     - **Brain Tumour:**
       - (Ask all the red flag questions: weight loss, appetite change, nocturnal awakening, early morning vomiting, neurological deficits - weakness, numbness, vision changes, gait problems, headache worse with coughing/sneezing, previous cancer Hx). Neurological deficit questions are particularly important here.
     - **Other Intracranial Haemorrhages:**
       - *"Have you had any recent **trauma or injuries to your head**, or any falls?"*
   - **Other Differentials (Screening Mode):**
     - **Cluster Headache (can be severe and sudden):** *"Do you have a runny nose or watery eyes with the headache?"*
     - **Glaucoma:** *"Do you have a red eye?"*
     - **Migraine:** (Patient already has this history, but you can briefly confirm this episode feels different).
     - (List others as time permits: Tension, Cervicogenic, Sinusitis, Dental, TMJ, Shingles, etc.).

**IV. Physical Examination (If Tasked):**

- The structure is the same as the general headache PFEE.
- **Key Positive Findings to Look For in SAH:**
  - **General Appearance:** May be drowsy, in distress.
  - **Vitals:** May have hypertension (reactive or causative).
  - **Neurological Exam:**
    - **Neck Stiffness:** This is a key sign of meningism.
    - **Kernig's Sign & Brudzinski's Sign:** May be positive.
    - Fundoscopy: May show papilloedema or subhyaloid haemorrhages.
    - Focal neurological deficits may be present.
- **Example Findings from Online Exam Recall:**
  - High Blood Pressure (e.g., 170/100). (Tutor: This is likely a *consequence* of the severe pain and intracranial event, not the *cause* of the headache).
  - Neurological exam is NORMAL, no neck stiffness.
  - **Tutor's Interpretation:** An examiner might give a normal exam to test your clinical judgment. A normal exam does **NOT** rule out SAH. You must still act on the high-suspicion history.

**V. Explaining Diagnosis and Differentials to the Patient:**

1. **State the Serious Concern (Provisional Diagnosis):**
    - *"Bill, based on your symptoms, I am concerned about the possibility of a condition called a **subarachnoid haemorrhage**."*
2. **Provide a Brief, Simple Explanation:**
    - *"This is a type of **bleeding that happens in the space between the brain and its thin coverings**."*
3. **Provide the REASONS for your diagnosis (Link to history):**
    - *"The reasons I am concerned about this are because you've described a **sudden onset headache**, it is **very severe – the worst headache of your life** – and it started at the **back of your head** before spreading. These are all classic features that make us think of this condition first."*
4. **Acknowledge Uncertainty but Emphasize Need for Action:**
    - *"We have to make sure that you don't have this condition first before we think about anything else."*
5. **List & Rule Out Other Differentials (Prioritize Serious Causes):**
    - *"I was also thinking about other serious causes like **meningitis**, which is an infection in the brain's covering, but you don't have a fever."*
    - *"I also considered an **intracranial haemorrhage** from a trauma, but you haven't had any head injuries."*
    - *"A **brain tumour** is another possibility, but [mention negative red flags]."*
    - *"I also thought about a **cluster headache**, but you don't have a watery eye or runny nose."*
    - **--- SWITCH TO LISTING ---**
    - *"And I was also thinking about a severe migraine, glaucoma, and other causes, but given the severity, subarachnoid haemorrhage is my main concern that we must rule out immediately."*
6. **(Implicit Management Step):** The entire conversation implies the next step is an urgent transfer to the hospital for a CT scan.

**VI. Key Learning Points for the SAH Case:**

- **"Worst Headache of Life" = SAH until proven otherwise.** This must be your immediate top differential.
- **Reorder Your Differentials:** In an acute, severe presentation, your differential screening must start with the most life-threatening possibilities (SAH, Meningitis, ICH, Brain Tumour) before moving to more benign causes.
- **The History Structure Remains the Same:** The 4-step plan is constant, but the *content and order* of Step 3 (Differentials) is adapted to the clinical context.
- **A Normal Exam Does NOT Exclude SAH:** The diagnosis is often made on the history alone, with a CT scan confirming it. Do not be falsely reassured by a normal examination.
- **Know the Key Questions for SAH:** Sudden onset? Worst headache of life? Started in occiput and spread?
- This case tests your ability to recognize a medical emergency from the history, prioritize life-threatening differentials, and communicate the seriousness of the situation.

Meningitis

This section covers a high-stakes, acute presentation: **Meningitis**. The tutor focuses on how to handle this case within the constraints of a fast-paced OSCE with multiple tasks, emphasizing time management, recognizing the key clinical features, performing a focused physical examination from the examiner (PFEE), and outlining an urgent but appropriate management plan.

Here's the organized breakdown:

**AMC Recalls: Meningitis Case**

**I. Case 59: 25 y.o. Lady, GP, Complaining of Headache, wants a medical certificate**

- **Stem Summary:**
    - 25-year-old lady, GP.
    - Complaint: Headache, started this morning (acute).
    - **Patient's Agenda:** In a rush, just wants a medical certificate.
- **Tasks (This is a 4-task station, requiring speed and efficiency):**
    1. Take a history.
    2. Ask Physical Examination from Examiner (PFEE).
    3. Explain your diagnosis and differentials to the patient.

4. Explain your management plan.

- **Tutor's Critical Point:** A 4-task station is a **time management challenge**. You must be concise and deliver information in bullet points, especially for the later tasks. Do not get bogged down in lengthy explanations.

**II. The Structured History Taking (Adapting to Patient's Agenda & Acute Presentation):**

1. **Opening & Intro:**
    - (Haemodynamic stability check with examiner before starting).
    - Open-ended Q: *"Hello Amanda, how can I help you today?"*
    - Patient: *"Doctor, I've had this headache since this morning. I'm in a rush, I just need a medical certificate for work."*
    - **Acknowledge & Take Control:** *"I understand you're in a rush, but a new headache is something we need to take seriously. Is it okay if I ask you a few quick questions to get a better idea about your headache before we discuss the certificate?"*
2. **Explore the Pain (SICORA - performed quickly):**
    - **Findings in this recall:**
        - Site: "All over my head."
        - Intensity: "8 out of 10." (Severe).
        - Character: "Dull ache."
        - Onset: "Started this morning." (Acute). Constant, not getting worse (at the moment).
        - (Radiation & Alleviating/Aggravating factors often non-specific in this recall).
3. **Screening for Differentials (REORDERED for Acute, Severe Headache + Fever):**
    - **Tutor's Note:** The structure is the same, but the order of differentials you screen for changes based on the acute context.
    2. **Subarachnoid Haemorrhage (SAH) (Top Differential for acute severe headache):**
        - *"Did the headache start **suddenly**?"* (No).
        - *"Is this the **worst headache of your life**?"* (No).
    3. **Meningitis (Becomes High Suspicion after SAH is less likely):**
        - **Key Question:** *"Have you had any **fever**?"* (Patient: **"Yes, I've been feeling hot."**).
        - **Other Key Symptoms:**
            - *"Any **nausea or vomiting**?"* (Yes, nausea).
            - *"Are you **sensitive to light** (photophobia)?"* (Yes).
            - **THE KEY QUESTION:** *"Do you have a **sore neck**?"* (Yes).
    4. **Brain Tumour (Red Flags):** (Quickly screen, but less likely in this acute presentation).
    5. **Other Intracranial Haemorrhages:** "Any recent trauma or falls?"
    6. **Other Differentials (Quickly screen as time allows):** Migraine, tension headache, cluster, sinusitis, dental, shingles (rash?), etc.

**III. Physical Examination from Examiner (PFEE) - Focused & Fast:**

- **Key points to ask for meningitis:** Neck stiffness, Kernig's, Brudzinski's, and Fundoscopy.

1. **General Appearance:** Alert? Any rashes? Any ptosis?
2. **Vital Signs:** (Confirm with examiner - will likely show a **fever**, e.g., 39°C).
3. **Neurological Examination (CORE):**
    - "Cranial nerve examination?" (Normal).
    - **"Fundoscopy for papilloedema?"** (No papilloedema).
    - "Upper and lower limb neurological examination?" (Normal).
4. **Neck Examination (KEY):**
    - **"Is there any neck stiffness?"** (Examiner: "Yes").
    - **"Is Kernig's sign positive?"** (Examiner: "Yes").
    - **"Is Brudzinski's sign positive?"** (Examiner: "Yes").
5. **ENT Examination (Brief):** (Check for dental source, sinusitis, post-nasal drip).
6. **Quick Screen of Other Systems (if time):** CVS, Respiratory.

**IV. Explaining Diagnosis and Differentials (Fast & to the point):**

1. **Diagnosis:**
    - *"Julia, most likely you have a condition called **meningitis**."*
2. **Brief Explanation:**
    - *"This is an **infection and inflammation of the covering of your brain**."*
3. **Reasons for Diagnosis:**
    - *"The reasons I think this is the case are because you have a **fever**, a **sore neck**, **nausea**, and you are **sensitive to light**. On examination, you also had clear signs of neck stiffness."*
4. **Differentials (Briefly List, Do NOT Explain in detail):**
    - *"I was also thinking about other possibilities. My main other concerns were a **subarachnoid haemorrhage** (a bleed in the brain), other **intracranial haemorrhages**, and a **brain tumour**. I also considered migraine, tension headache, and infections like sinusitis and dental infections, but meningitis is the most likely cause."*
    - **Tutor's advice:** In a 4-task station, you do not have time to explain and reason every differential. State the main ones and then list the rest quickly.

**V. Explaining the Management Plan (Urgent, Bullet Points):**

- **Tutor's Critical Point:** The management for suspected bacterial meningitis is URGENT. You must convey this. Your management plan should be a list of actions.

1. **URGENT Hospital Transfer:**
    - *"Julia, meningitis is a serious condition that needs urgent treatment in a hospital. I am going to **call an ambulance right now** to take you to the **emergency department**."*
2. **Key Investigations (in the hospital):**
    - *"In the hospital, we will need to do two key investigations."*
    - *"First is a **lumbar puncture**, where we take a small sample of the fluid from around your spine to confirm the infection."*
    - *"We will also do a **CT scan of your brain**."*
    - *(Do not explain the procedures in detail, just name them).*
3. **Treatment (in the hospital):**
    - *"Once in hospital, we will start you on **intravenous (IV) antibiotics** immediately."*
    - *"We will also give you **painkillers** for the headache."*
    - *"And we will give you **IV fluids** to keep you hydrated."*
    - *"We might also give you **steroids** depending on the situation."*

- **Tutor's Note:** The entire management explanation should be delivered quickly, in bullet points, before the bell rings.

**VI. The Antibiotics Dilemma: To Give in GP Clinic or Not?**

- **The Question:** Should you give the first dose of IV/IM antibiotics in the GP clinic before the ambulance arrives?
- **The Nuance (Crucial for passing):**
    - **Bacterial MENINGITIS: NO.** Do NOT give antibiotics before the lumbar puncture if the patient can get to a hospital quickly for an LP. Giving antibiotics can sterilize the CSF and make the LP results difficult to interpret.
        - **Exception:** If there will be a **significant delay** in getting to hospital/LP (e.g., you are in a very remote/rural setting hours away from a hospital), then you would give antibiotics.
    - **MENINGOCOCCAL SEPTICAEMIA: YES.** This is a different and more rapidly fatal condition. If meningitis is suspected **AND** the patient has a non-blanching purpuric rash (petechiae/purpura), this suggests meningococcaemia. In this specific case, you **MUST** give an immediate dose of IM/IV antibiotic (e.g., Ceftriaxone or Benzylpenicillin) *before* transfer, as the patient can die within minutes to hours. The need to save the patient's life outweighs the risk of affecting the LP result.
- **Conclusion for this OSCE case:** As it's presented as meningitis without a rash, the correct answer is **NO antibiotics in the clinic**. The management plan is Call Ambulance -> Hospital for LP/CT -> IV Antibiotics in hospital.

**VII. Key Learning Points for the Meningitis Case:**

- **Time Management is Everything:** In a 4-task station, be extremely concise.

- **Recognize the Clinical Syndrome:** Headache + Fever + Neck Stiffness + Photophobia = Meningitis until proven otherwise.
- **Prioritize Differentials:** For an acute, febrile headache, SAH and Meningitis are the top two differentials.
- **Focused PFEE:** Know the key signs to elicit for meningism (neck stiffness, Kernig's, Brudzinski's) and raised ICP (papilloedema).
- **Urgent Management Plan:** The plan must reflect the urgency: Ambulance, Hospital, LP/CT, IV Antibiotics.
- **Know the "Antibiotics Before LP" Rule:** Understand the critical difference in pre-hospital antibiotic administration between suspected meningitis and suspected meningococcaemia.
- This case tests your ability to recognize a medical emergency, manage time effectively under pressure, and outline a safe and urgent management plan.

Encephalitis

This is a walkthrough of a complex neurological case: **Encephalitis**. The tutor explains how to differentiate it from meningitis, interpret the investigation findings (especially the LP results), explain the diagnosis and its serious implications to a concerned parent, and outline the management plan.

Here's the organized breakdown:

**AMC Recalls: Encephalitis Case (Presenting with Acute Change in Behaviour)**

**I. Case 60: 23 y.o. Male, brought by Father due to Acute Change in Behaviour, Headache, Fever, and Seizure**

- **Stem Summary:**
  - 23-year-old male, ED.
  - Brought in by father due to **acute change in behaviour.**
  - History: Headache and fever since yesterday.
  - This morning: Became **confused**, started **saying inappropriate words**.
  - Then had a **fit/seizure** and was brought in by ambulance.
- **Provided Information:**
  - **Physical Exam:** Mild temperature. **CRUCIALLY: NO neck stiffness.**
  - **Bloods:** Increased White Cell Count (WCC), increased ESR/CRP (inflammatory markers). BSL and other bloods normal.
  - **Brain CT Scan: Normal.** (Rules out large space-occupying lesions like tumour or abscess).
  - **Lumbar Puncture (LP) / CSF Results:**
    - WCC: Increased, **lymphocyte dominant** (90% lymphocytes).
    - Glucose: Normal.
    - Protein: Mildly elevated.
- **Tasks:**
  1. Talk to the father.
  2. Explain the physical examination and investigation findings.
  3. Explain the diagnosis and your differentials.
  4. Explain the implications of this condition.
- **Tutor's Note:** The diagnosis here is **Encephalitis**. The case tests the ability to differentiate it from meningitis and communicate a serious diagnosis and its potential long-term consequences to a distressed relative.

**II. Background Knowledge on Encephalitis vs. Meningitis:**

- **Meningitis:** Inflammation of the **meninges (covering of the brain)**. Hallmark features are headache, fever, **neck stiffness (meningism)**, and photophobia. Cerebral function is usually normal.
- **Encephalitis:** Inflammation of the **brain parenchyma (the brain tissue itself)**.
- **Key Differentiating Feature:** Encephalitis is characterized by **abnormal brain function**.
  - This manifests as: **Altered mental state (confusion, drowsiness), abnormal behaviour, personality changes, speech or movement disorders, and seizures.**
  - Meningeal irritation signs (neck stiffness, photophobia) are often **absent** in pure encephalitis.
- **Causes of Encephalitis:**

- Most commonly **viral**.
- **Herpes Simplex Virus (HSV)** is the most common and most important treatable cause.
- Other viruses: Varicella-Zoster Virus (VZV), enteroviruses, arboviruses (e.g., Japanese Encephalitis).

- **LP Findings in Viral Encephalitis:**
  - High WCC, **lymphocyte dominant.**
  - Normal glucose.
  - Mildly elevated protein.
  - (Contrast with bacterial meningitis: High WCC, *neutrophil* dominant, *low* glucose, high protein).

**III. Structured OSCE Approach (Talking to the Father):**

- **A. Opening, Consent, and Empathy:**
  1. **Introduce Self & Set Stage:** *"Hello Mr. [Father's Name], my name is Dr. [Your Name]. I'll be one of the doctors taking care of your son today."*
  2. **Consent:** *"Just before we start, I just want to make sure you have consent to talk about your son's condition."* (Yes).
  3. **Open-Ended Question (to get his story & build rapport):** *"Can you tell me what has happened so far from your perspective?"*
  4. **Acknowledge Distress & Reassure:**
     - (Father will explain the distressing events: confusion, inappropriate words, seizure).
     - *"I understand this is a very distressing situation for you and your family. I would like to reassure you that we will be providing the best possible care for your son. He is in safe hands."*
     - *"Is it okay if I start by explaining what we've found so far from our examination and tests?"*
- **B. Explain Examination & Investigation Findings:**
  1. **Physical Examination:**
     - *"When we examined your son, he had a **mild fever**. Importantly, when we checked his neck, he has **no pain or stiffness**, and when we checked the back of his eyes with a special light (fundoscopy), it was also normal."*
  2. **Brain CT Scan (Reassure about what has been ruled out):**
     - *"We have done a brain CT scan, which is an imaging scan of the brain, and it has come back **normal**. This is reassuring as it means there are **no structural problems in the brain, such as a tumour or an abscess**."*
  3. **Lumbar Puncture (LP) & CSF Results (Explain simply):**
     - *"We have done a test called a **lumbar puncture**. In this test, we take a small sample of the fluid that circulates around the spine. As this fluid also circulates around the brain, it can give us important information about a possible brain infection."*
     - *"In the fluid, we found a **high white blood cell count**. White blood cells are part of the immune system, and their number increases when there is an infection in the brain."*
     - *"We also checked the protein level, which was **mildly elevated**."*
     - *"Crucially, we found that a special type of white blood cell, called **lymphocytes**, was very high. This usually happens in **viral infections** of the brain."*
  4. **Blood Tests:**
     - *"In his blood tests, we also found that his **white blood cells are high**, which again suggests there is an infection in his body. We also checked for some **inflammatory markers** (ESR and CRP), and these were also elevated, which supports the diagnosis of an infection."*
- **C. Explain Diagnosis and Differentials:**
  1. **Diagnosis (Frame it around Delirium first, then Encephalitis):**
     - *"Most likely, your son has a condition called **delirium**, because of a **viral encephalitis**."*
  2. **Explain Delirium:**
     - *"**Delirium** is a **sudden change in behaviour and mental state**. It causes the confusion, strange behaviours, and disorientation that you noticed in your son."*
  3. **Explain Encephalitis (The Cause):**
     - *"This delirium is happening because of a **viral encephalitis**, which is an **infection in the brain tissue itself**, caused by a virus. The most common virus that causes this condition is the **Herpes virus**."*
  4. **Provide Reasons for Diagnosis (Link to findings):**
     - *"The reasons I'm making this diagnosis are because of his symptoms of headache and fever, but more importantly the **abnormal behaviour, the confusion, and the seizure** he had. On examination, he didn't have the neck stiffness*

*we see in meningitis. His investigations, especially the lumbar puncture, confirm an infection in the brain, and the high lymphocyte count suggests it is most likely caused by a virus."*

5. **Differentials (for Delirium/Acute Confusional State):**
    - *"While encephalitis is the most likely cause, we also considered other possibilities."*
    - **Meningitis:** (An infection of the brain's covering).
    - **Brain Abscess / Brain Tumour:** (Largely ruled out by the normal CT scan).
    - **Drug-induced psychosis / Overdose.**
    - **Other intracranial problems** like a bleed (SAH).
    - (Can also mention metabolic causes like electrolyte or blood sugar problems, but these were likely normal on his blood tests).

- **D. Explain Implications of the Condition (The long-term consequences):**
    1. **Acknowledge Severity:**
        - *"First, it's important to know that this infection **can be life-threatening**, which is why we need to **urgently start treatment**."*
    2. **Discuss Potential Long-Term Complications (Sequelae):**
        - *"Although most patients recover completely without any long-term complications, it's important to be aware that **some patients can have some lingering problems** after this type of infection, due to the inflammation in the brain."*
        - **Group the complications simply:**
            - **Cognitive Problems:** *"Some people can end up with ongoing **memory problems**, or **language and speaking problems**."*
            - **Emotional & Behavioural Problems:** *"They might experience a **low mood or anxiety** after this, or even some behavioural changes that can stay for a while."*
            - **Physical Problems:** *"And some people can continue to have **seizures**, or feel a great deal of **tiredness** for a long time."*
- **E. Outline Immediate Management Plan (Briefly, as per task):**
    1. **Further Investigation (to confirm virus type):**
        - *"To find out exactly which virus is causing this, we will send the spinal fluid for a **special viral test called a PCR test**, looking for Herpes and other viruses."*
    2. **Empirical Treatment (CRITICAL):**
        - *"However, we are **not going to wait** for that confirmation. We will **immediately start him on an intravenous antiviral medication** (like Acyclovir)."*
    3. **Supportive Care:**
        - *"We will give him medication for his **fever**."*
        - *"We will keep a **close eye on him** and monitor him very closely."*
        - *"If he has any **further seizures**, we will give him medication for the seizures."*
        - *(Optional: "Sometimes we also give steroids to reduce the brain inflammation.")*
    4. **Closure & Support:**
        - *"I will refer you to **support groups for encephalitis**, like Encephalitis Australia, and I will give you some **reading material**."*
        - (Reiterate empathy, offer a family meeting, check for questions, and reassure them he is in safe hands).

**VI. Key Learning Points for the Encephalitis Case:**

- **Differentiate from Meningitis:** The key is the presence of **abnormal brain function (altered mental state, seizures, behavioural change)** and the **absence of significant neck stiffness**.
- **Interpret the LP:** Know that viral CNS infections typically cause a **lymphocytic pleocytosis** (high white cells, mostly lymphocytes) with normal glucose.
- **Frame the Diagnosis:** "Delirium due to viral encephalitis" is a comprehensive and accurate way to describe the clinical picture to the parent.
- **Urgency of Treatment:** Emphasize that treatment with antivirals (Acyclovir for suspected HSV) must be started empirically and immediately, without waiting for PCR results.
- **Counseling on Implications:** Be honest but hopeful. Acknowledge that while many recover fully, there is a risk of significant long-term cognitive, behavioural, and physical sequelae.

- **Communication with a Distressed Relative:** This case requires high-level communication skills, empathy, and the ability to explain complex medical concepts simply and clearly.

Benign IH

This section covers a newer and challenging headache case: **Benign Intracranial Hypertension (BIH)**, also known as Pseudotumour Cerebri. The tutor explains the classic patient profile, key differentiating features, and how to approach this diagnosis within the established headache history structure.

Here's the organized breakdown:

**AMC Recalls: Benign Intracranial Hypertension (BIH) Case**

**I. Case 61: 16 y.o. Girl, brought by Father, Complaining of Headaches**

- **Stem Summary:**
  - 16-year-old girl, GP.
  - Brought by father due to headaches.
- **Tasks:**
  1. Take a history (6 minutes).
  2. Physical Examination findings provided (on card or screen).
  3. Explain diagnosis and differentials to the father.
  4. (In one version) Explain management.
- **Tutor's Note:** This is a newer case that tests knowledge of a less common but important headache cause. It's crucial not to have tunnel vision for migraine/tension headache.

**II. Background Knowledge on Benign Intracranial Hypertension (BIH):**

- **What is it?** Increased intracranial pressure (ICP) *without* a tumour or other structural lesion, and with normal cerebrospinal fluid (CSF) composition.
- **"Pseudotumour Cerebri" (old name):** So-called because the symptoms (headache, papilloedema, visual changes) mimic those of a brain tumour, but imaging is normal.
- **Classic Patient Profile: Young, obese women.**
- **Key Clinical Features:**
  - **Headache:** Often chronic, can be daily, sometimes throbbing.
  - **Visual Problems (Major feature):** Blurred vision, double vision (diplopia), transient visual obscurations, photopsia (flashing lights), and ultimately, vision loss if untreated.
  - **Pulsatile Tinnitus:** An intracranial noise, like a buzzing or ringing sound, that is often in time with the heartbeat.
  - Nausea is common.
  - **Papilloedema** (swelling of the optic disc) is the key examination finding.
- **Medication Links (Common Triggers):**
  - **Acne Treatments:** Tetracyclines (Doxycycline, Minocycline), Vitamin A derivatives (Isotretinoin/Roaccutane).
  - **Oral Contraceptive Pills (OCPs).**
  - Corticosteroids (especially during withdrawal).
- **AMC Connection:** An OSCE case involving a young, obese female with headaches who is on acne treatment should immediately make you think of BIH.

**III. The Structured History Taking (Walkthrough):**

1. **Opening & Intro:** (Standard approach: hemodynamic stability check, open-ended question, address father's concern).
2. **Explore Pain (SICORA):**
   - **Findings in this recall:**
     - Site: "Side of the head," but can be all over.

        - Character: "Throbbing sensation."
        - Onset/Timing: "For four months. It's on and off. **Getting worse**." (Progressive nature is a red flag).
        - (Radiation & Alleviating/Aggravating factors may be non-specific).
    - **Affect on Life:** "How is this affecting her school? Has it affected her school performance?"
3. **Screening for Differentials (Systematic - Start with Red Flags):**
    - **Tutor's Note:** Even if you suspect BIH, you MUST rule out a brain tumour first.
    2. **Brain Tumour (Probe with ALL red flag questions):**
        - (Weight loss, appetite change, lumps, tiredness, nocturnal awakening, early morning headache/vomiting, weakness, numbness, gait problems, headache worse with coughing/sneezing).
        - **Positive Finding in this recall:** The patient *does* have **blurring of vision.** This is a red flag for raised ICP, which could be from a tumour OR from BIH.
    3. **Migraine & Tension Headache:** (Screen with key point questions - likely negative for many classic features).
    4. **Infections (Meningitis, Sinusitis, Dental):** (Standard screening questions).
    5. **Trauma/ICH:** "Any recent trauma or injuries to the head?"
    6. **Benign Intracranial Hypertension (Probe for Key Points):**
        - **Medications:** *"Is she on any regular medication? What about any painkillers?"*
            - Father: **"Yes, she is taking treatment for acne."** -> **KEY QUESTION:** *"Can you tell me what treatment for acne she is taking?"* (Father: **"Doxycycline"**).
            - *(The combination of headache, blurred vision, and being on Doxycycline makes BIH a very high probability).*
        - **Further BIH Symptoms:**
            - *"Does she also complain of any **double vision**?"*
            - *"Does she have any **buzzing sounds in her ear** (pulsatile tinnitus)?"*
    7. **Explore the Co-morbidity (Acne):**
        - Since a medical condition (acne) was mentioned, explore it briefly (4 key questions):
            - "When was she diagnosed with acne?"
            - "What is the treatment?" (Doxycycline - confirmed).
            - "Is she having regular follow-ups?"
            - **Complications of Acne (Psychosocial):** *"How is her mood? How is her sleep? Is the acne affecting her self-esteem?"* (In a teen, a quick psychosocial/suicide risk screen is good practice).
    8. **(Optional, if time & suspicion high) Screen for PCOS features (linked to obesity & acne):** "Has she started her periods? Are they regular? Have you noticed any excessive hair growth on her face or body?"

**IV. Physical Examination (If Tasked):**

- **Findings from Online Exam Recall:**
    - BP: 140/90 mmHg (mildly elevated, can be associated with BIH).
    - BMI: 29 (overweight/obese).
    - Neurological Examination: Normal.
    - **Fundoscopy: Not possible.**
- **Tutor's Interpretation:** The examiner states fundoscopy is "not possible" to avoid giving away the key sign of papilloedema, forcing you to make the diagnosis based on the strong clinical history.

**V. Explaining Diagnosis and Differentials to the Father:**

1. **Most Likely Diagnosis:**
    - *"Based on our discussion, most likely your daughter has a condition called **Benign Intracranial Hypertension**, which is also sometimes called pseudotumour cerebri."*
2. **Brief Explanation:**
    - *"In this condition, the **pressure of the fluid inside the brain increases**, and this is what causes the headaches and vision problems."*
3. **Provide the REASONS for your diagnosis:**
    - *"The reasons I think this is the case are because she has a chronic, worsening headache, she is having **vision problems** (blurred vision), and very importantly, she is on an **acne medication (Doxycycline)** which is a known trigger for this condition."*

4. **Second Most Important Differential (MUST Mention):**
    - *"However, we cannot be 100% certain without more tests. The symptoms she has, especially the headache with vision problems, means there is still a possibility of a **brain tumour**. Although I think this is less likely given her acne medication is a clear cause, we absolutely must rule it out."*
5. **List & Rule Out Other Differentials (Briefly):**
    - *"I was also thinking about other causes like **migraine headache** (unlikely because...), **tension headache** (unlikely because...), and **infections like sinusitis**, but these do not fit her symptoms as well."*

**VI. Explaining the Management Plan (If Tasked):**

1. **IMMEDIATE First Step:**
    - *"The very first and most important thing we need to do is to **stop the Doxycycline medication** immediately, as this is the most likely provoking factor."*
2. **Urgent Investigations (to confirm diagnosis & rule out tumour):**
    - *"Second, I need to send your daughter for urgent **brain imaging**. A **brain MRI or a CT scan** is essential to make sure there is no tumour or other structural problem."*
3. **Referral:** Urgent referral to a Neurologist and/or Ophthalmologist for further management and monitoring of vision.
4. **Symptomatic & Long-Term Treatment:**
    - *"If the symptoms continue after we stop the medication, we can use a diuretic (a 'water tablet') called **Acetazolamide** to help reduce the fluid pressure in the brain."*
    - *"In the long run, **weight loss** is also proven to be very helpful in managing this condition."*
5. **Manage Co-morbidities:**
    - *"We will also need to find an alternative, safer treatment for her acne."*
    - (Address any psychosocial issues identified in the history).

**VII. Key Learning Points for the BIH Case:**

- **Recognize the Triad:** Young, obese female + Headache + Visual disturbances = Think BIH.
- **Medication History is Key:** Always ask about acne treatments (tetracyclines, isotretinoin) and OCPs.
- **Brain Tumour is the Main Differential:** BIH is a diagnosis of exclusion. You must demonstrate that you are ruling out a brain tumour, primarily with imaging.
- **Papilloedema is the Key Sign:** Fundoscopy is a critical part of the examination. If the OSCE says it's "not possible," you must still make the provisional diagnosis based on the strong history.
- **Management is Two-Fold:** 1) Stop the offending agent. 2) Urgent imaging to rule out SOL.
- This case tests the ability to recognize a specific clinical syndrome from a constellation of signs, symptoms, and risk factors, and to formulate a safe and appropriate investigation and management plan.

Facial pain

This section provides a detailed walkthrough of a specific facial pain case: **Trigeminal Neuralgia**. The tutor emphasizes that while the presenting complaint is "facial pain," the underlying structure of history taking shares many principles with the headache cluster, but with a re-prioritized and more focused list of differentials.

Here's the organized breakdown:

**AMC Recalls: Trigeminal Neuralgia (Presenting as Facial Pain)**

**I. Case 62: 45 y.o. Lady, GP, Complaining of Facial Pain**

- **Stem Summary:**
    - 45-year-old lady, GP.
    - Complaint: Facial Pain.
- **Tasks:**

1. Take a history (4 minutes).
2. Ask Physical Examination from Examiner (PFEE).
3. Explain diagnosis and differentials.

- **Tutor's Note:** Although the recall is Trigeminal Neuralgia, you must approach it as "facial pain" and systematically rule out other causes.

**II. Brainstorming Differentials for Facial Pain:**

- **Neuropathic (Nerve Pain):**
  - **Trigeminal Neuralgia (Top of list).**
  - Glossopharyngeal Neuralgia (deep throat pain, less likely but on list).
  - Post-herpetic Neuralgia (from Shingles).
- **Infections / Inflammatory:**
  - **Dental Problems (Abscess, Caries).**
  - **Sinusitis.**
- **Musculoskeletal / Joint:**
  - **Temporomandibular Joint (TMJ) Dysfunction.**
- **Vascular / Systemic:**
  - **Temporal Arteritis / GCA** (if patient > 50).
- **Headache Syndromes with Facial Pain:**
  - **Facial Migraine.**
  - Cluster Headache (often periorbital).
- **Ophthalmologic:**
  - **Glaucoma.**
- **Serious / Red Flags (MUST rule out):**
  - **Cancers:** Oral, pharyngeal, salivary gland cancers.
  - **Brain Tumours** (can compress the trigeminal nerve).
  - **Multiple Sclerosis (MS)** (can cause trigeminal neuralgia in younger patients).

**III. The Structured History Taking (Adapted for Facial Pain):**

- **1. Introduction:**
  - (Tutor: Haemodynamic stability is less critical here than in acute chest pain/headache with red flags, but can be done if desired. Focus is on opening the case).
  - Open-ended Q, address concern.
- **2. Explore the Pain (SICORA - with focus on neuropathic features):**
  - **S**ite: "It's always on **one side**, doctor." -> **Key Follow-up:** *"Is it always on the **same side**?"* (Yes, the right side). Unilateral is key. Often in V2/V3 distribution (cheek, jaw).
  - **I**ntensity: Often severe, "10 out of 10."
  - **C**haracter: **"A sharp, stabbing pain, it feels like an electrical shock."** (This is pathognomonic).
  - **O**nset & Timing: "Been happening for a couple of months."
    - **Key Timing Q for this pain:** *"How long does the pain last each time it happens?"* (Patient: **"Just for one or two seconds."** Paroxysmal nature is key).
  - **R**adiation: (Usually no).
  - **A**lleviating/Aggravating Factors:
    - Patient may volunteer: "It's worse on chewing." (Tutor notes this is non-specific - TMJ, dental, GCA also cause this).
    - **Key Probing Questions for Triggers:**
      - *"Is your pain worse on **sudden movements of your face**, such as smiling, sneezing, or talking?"* (Yes).
      - *"Does **touching the face**, even lightly like a blow of wind, trigger the pain?"* (Yes, allodynia).
  - **Provisional Diagnosis from SICORA:** The unilateral, sharp, electric, paroxysmal pain triggered by light touch/movement is classic for **Trigeminal Neuralgia.**
- **3. Screen for Differentials (Systematic):**
  - **Top Differentials (Brain Tumour/MS & Cancers - Red Flags):**

        - Brain Tumour/MS Questions: *"Any headache? Any blurring of vision? Weakness or numbness anywhere else? Problems with walking/balance? Ever lost weight?"* (These are crucial to rule out a secondary cause of the neuralgia).
        - Oral/Pharyngeal Cancer Screen: *"Have you noticed any chronic, non-healing ulcers in your mouth? Any swelling on your cheeks or below your jaw (for salivary glands)? Any long-term sore throat?"*
    - **Other Differentials (Screening Mode):**
        - **Sinusitis:** "Any fever? Any secretions dripping down the back of your throat? Any nasal congestion or runny nose?"
        - **TMJ Dysfunction:** (Pain on chewing already asked). *"Have you been doing any excessive chewing lately, like chewing gum or hard food? Have you noticed a cracking or clicking sound when you are chewing?"*
        - **Dental Infections:** "Any toothache? How is your dental hygiene? When was your last dental visit?"
        - **Shingles / Post-herpetic Neuralgia:** "Do you have any rash on your face now, or have you had one recently?"
        - **Facial Migraine:** "Any nausea or vomiting with the pain? Are you sensitive to light or noise? Any family history of migraine?"
        - **Glaucoma:** "Have you noticed a red eye?"
        - **Temporal Arteritis (if age appropriate):** (Already asked chewing pain, blurred vision). "Any tender cord on the side of your head? Shoulder/hip pain?"
- **4. Good Closure (SADMA).**

**IV. Physical Examination from Examiner (PFEE) - Focused:**

- **Tutor's Note:** This is a rare case where the examiner may prompt for more detail on a specific part of the exam.

1. **General Appearance:** Alert? Ptosis? Rashes?
2. **Vital Signs:** (Temperature is key for infections).
3. **CORE SYSTEM 1: Neurological Examination:**
    - *"Examiner, I would like to do a neurological examination."* (Examiner: "Which cranial nerve?").
    - **Trigeminal Nerve (CN V) Examination:**
        - *"I want to examine the fifth cranial nerve, the trigeminal nerve."* (Examiner: "How would you examine it?").
        - *"I want to check the **motor function** by assessing the power and bulk of the masseter and temporalis muscles. I'd also like to check the **sensation** on the three branches of the trigeminal nerve (ophthalmic, maxillary, mandibular). Finally, I would check the **jaw reflex** and the **corneal reflex**."*
        - **Tutor's Note:** In primary trigeminal neuralgia, the neurological exam is typically **NORMAL**.
    - **Rest of Neuro Exam:** *"I would also like to do a **fundoscopy** and a full **upper and lower limb neurological examination**."* (Will be normal).
4. **CORE SYSTEM 2: ENT Examination (Oral Cavity & Sinuses):**
    - **Sinuses:** "Is there any sinus tenderness?"
    - **Oral Examination:** "I'd like to do an oral examination. Are there any **dental caries** or **swelling/redness in the gums**? Are there any **oral ulcers**? Are the **tonsils enlarged**?"
5. **TMJ Examination:** "Is there any tenderness or crepitations on the TMJ on movement?"
6. **Other Relevant Exams:**
    - **Salivary Glands:** "I'd like to palpate the parotid and other salivary glands."
    - **Lymph Nodes:** "I'd like to check for cervical lymphadenopathy."
    - (Quick screen of CVS/Respiratory if time).

**V. Explaining Diagnosis and Differentials to the Patient:**

1. **Most Likely Diagnosis:**
    - *"Mary, most likely you have a condition called **trigeminal neuralgia**."*
2. **Brief, Simple Explanation:**
    - *"There are some nerves that exit your brain and go to your face; we call these the cranial nerves. The fifth cranial nerve is called the trigeminal nerve. In your case, we believe this **nerve is under some pressure**, which is causing the pain."*
3. **Provide the REASONS for your diagnosis:**
    - *"The reasons I think this is the case are because of the very specific type of pain you're describing. The fact that it's on **one side of your face**, is a very **sharp, electrical shock-like pain**, that it only **lasts for one or two seconds** at a time, and that it's*

***triggered by simple things like chewing, talking, or even a blow of wind**, are all very typical features of trigeminal neuralgia."*

4. **Explain the Potential Causes/Differentials within the Diagnosis:**
    - *"Now, we need to find out why this nerve is under pressure. This pressure can sometimes be because of a **brain tumour**, a condition called **multiple sclerosis** (which affects the nerve sheet), or sometimes it can be because of a **blood vessel** that is sitting too close to the nerve."*
5. **List & Rule Out Other Differentials for Facial Pain:**
    - *"While I was talking to you, I was also thinking about other causes for facial pain."*
    - *"I was considering **cancers in your mouth or throat**, but my examination was normal."*
    - *"I thought about **sinusitis**, but that's unlikely as you don't have secretions behind your throat."*
    - *"I also considered **TMJ dysfunction**, which is a problem with your jaw joint, but your examination was fine."*
    - **--- SWITCH TO LISTING ---**
    - *"And I was also thinking about shingles, facial migraine, glaucoma, dental infections, and glossopharyngeal neuralgia."*

**VI. Key Learning Points for the Trigeminal Neuralgia Case:**

- **Adapt the Headache Structure:** Use the same systematic approach but with a differential list specific to facial pain.
- **SICORA is Key:** The character (electric shock), duration (seconds), and triggers (light touch, movement) are pathognomonic.
- **Rule Out Secondary Causes:** A new diagnosis of trigeminal neuralgia necessitates ruling out underlying sinister causes like brain tumours and MS. This must be reflected in your history and management plan (which would involve an MRI).
- **A Normal Neurological Exam is Expected:** Do not be put off the diagnosis if the trigeminal nerve examination is normal.
- **Specific PFEE:** Be prepared for the examiner to ask *how* you would assess the trigeminal nerve.
- **Management (if asked):** First line is MRI to rule out secondary causes. First-line medical treatment is **Carbamazepine.**
- This case tests detailed knowledge of a specific neuropathic pain syndrome and the ability to differentiate it from a wide range of other causes of facial pain.

Tremor

This is a detailed walkthrough of a **Tremor** case, a newer and important neurological OSCE station. The tutor emphasizes that the core challenge of this case is differentiating between **Benign Essential Tremor (the recall diagnosis)** and **Parkinson's Disease**, which requires a thorough, structured history that screens for a wide range of other potential causes.

Here's the organized breakdown:

**AMC Recalls: Tremor Case ("Shakiness in Hands")**

**I. Case 63: 50 y.o. Male, GP, Concerned about Shakiness in his Hands**

- **Stem Summary:**
    - 50-year-old male, GP.
    - Complaint: "Shakiness in his hands" (Tremor).
- **Tasks:**
    1. Take a complete history (6 mins).
    2. (Assumed, based on similar cases) Explain diagnosis and differentials.
- **Tutor's Core Insight:** The "fuss" about tremor is the clinical challenge of differentiating Parkinson's Disease (a neurodegenerative condition) from Benign Essential Tremor (a movement disorder) and other causes. Since there's no definitive blood test or scan for Parkinson's, the diagnosis relies heavily on a meticulous history and physical examination. Therefore, the OSCE history must be comprehensive.

**II. Brainstorming Differentials for Tremor (Beyond Parkinson's & BET):**

- **CNS / Neurological:**
    - **Benign Essential Tremor (BET).**

    - **Parkinson's Disease.**
    - **Cerebellar Disease** (causes intention tremor).
    - **Brain Tumour** (Red Flag).
- **Systemic / Metabolic:**
    - **Hyperthyroidism.**
    - Chronic Liver Disease (causes asterixis/"hepatic flap").
    - Chronic Kidney Disease (causes uremic flap).
    - Phaeochromocytoma.
    - Hypoglycaemia.
- **Substances / Medications:**
    - **Stimulants:** Caffeine, Nicotine.
    - **Alcohol** (withdrawal or chronic use).
    - **Illicit Drugs.**
    - Medication side effects.
- **Psychogenic:**
    - Anxiety Disorders.

**III. Structured History Taking for Tremor (4 Big Steps):**

1. **Introduction:**
    - (Open-ended Q). Patient explains the shakiness in his hands.
    - **Patient's Agenda/Concern:** Often, the patient will explicitly state, *"I'm worried about Parkinson's disease."*
    - **Address Concern:** *"Thank you for coming in for an assessment, Mark. I understand you're concerned about this shakiness, especially about Parkinson's disease. Let me ask you a few questions, and we will try to find the cause together."*
2. **Explore the Complaint (Tremor - Pattern is Key):**
    - **Timing:** "How long have you had the tremor? Is it on and off or constantly there? Is it getting worse?" (Patient: Few years, on and off, getting worse).
    - **Pattern / Characteristics (CRITICAL for differentiating):**
        - **Laterality:** *"Do you have shakiness in **one hand or both**?"* (Both, but worse in right).
        - **Distribution:** *"Have you noticed any shakiness in **any other part of your body**?"* (Head, voice, legs will be explored later, this is a general screen).
        - **Resting vs. Kinetic (The Key Differentiating Question):** *"Does the shakiness happen when you are **resting**, for example, when your hands are just sitting in your lap? Or does it happen when you are **doing a task** or trying to take an action, like writing or picking up a glass?"* (Patient: **"No, not at rest. Only when I want to do a task."** -> This points strongly towards Essential Tremor, not Parkinson's).
    - **Alleviating & Aggravating Factors:** "Does anything make it better or worse?" (Will be explored specifically under BET key points).
    - **Affect on Life / Function:** "How is this affecting your life and your daily activities?"
3. **Screening for Differentials (Systematic, starting with provisional diagnosis):**
    - **Provisional Diagnosis -> Benign Essential Tremor (Probe with Key Point Questions):**
        - **Distribution:** *"Have you noticed any shakiness in your **voice** when you speak? Any shakiness in your **head**? Or in your **legs** when you walk?"* (Yes to all).
        - **Aggravating Factor:** *"Is the shakiness worse when you are **stressed** or anxious?"* (Yes).
        - **Alleviating Factor:** *"Is it better when you drink **alcohol**?"* (Yes).
        - **Family History (CRITICAL):** *"Do you have any **family history** of shakiness in the hands?"* (Yes, my father had it).
    - **Second Differential -> Parkinson's Disease (Address Patient's Concern):**
        - **Bradykinesia (Slowness of Movement):** *"Have you noticed that your movements **feel slower** recently? Or does it take you **longer to do a task** lately?"*
        - **Other Early Signs:** *"Have you noticed any changes in your **smelling sensation**?"*
        - (Gait will be asked with cerebellar questions).
    - **Third Differential -> Brain Tumours & Cerebellar Disease (Red Flags & CNS):**
        - **Brain Tumour Screen:** "Any history of chronic or long-term headaches? Any loss of weight?"
        - **Neurological Deficits (for both):** "Any blurring of vision? Weakness? Numbness or pins and needles?"
        - **Cerebellar Screen:** *"Have you had any problems with your **balance and walking**?"*

- **Screening Other Systemic Causes (1-2 questions each):**
  - **Hyperthyroidism:** "Any weather preference, especially heat intolerance? Any diarrhoea?"
  - **Chronic Liver Disease:** "Any yellowish discoloration of your skin (jaundice)? Any itchiness? Any dark urine?"
  - **COPD:** "Any history of cough or noisy breathing?"
  - **Chronic Kidney Disease:** "Have you noticed any decrease in the amount of urine you pass?"
  - **Phaeochromocytoma:** "Any racing of your heart (palpitations)? Any episodes of flushing or sweating?"
- **Anxiety Disorders:** "How has your mood been? Any stress lately at home or at work?"
- **Stimulants:** "Do you smoke? Drink alcohol? Use any recreational drugs? How much coffee or tea do you drink? Are you on any medications?" (Also ask about stopping meds for withdrawal).

4. **Good Closure (Geriatric Screen is a good option here instead of standard SADMA):**
   - **Memory:** "Any memory problems?" (For Lewy Body Dementia link).
   - **Function (ADLs):** "Are you able to do your daily activities by yourself?"
   - **Diet:** "Are you able to cook for yourself? Can you describe your diet?"
   - **Support:** "Do you have enough support at home?"
   - **Falls: "Have you had any recent falls?"** (Critical for both Parkinson's and Cerebellar issues).

**IV. Explaining Diagnosis and Differentials to the Patient:**

1. **Most Likely Diagnosis:**
   - *"Mark, most likely you have a condition called **Benign Essential Tremor**."*
2. **Brief Explanation:**
   - *"This is a **movement disorder** which causes the shakiness in your arms, legs, and head."* (It is benign, meaning it is not life-threatening and doesn't shorten your life).
3. **Provide the REASONS for your diagnosis (Link to key points):**
   - *"The reasons I'm making this diagnosis are because you have shakiness in a few parts of your body – your hands, your legs, your head, and even your voice."*
   - *"Crucially, the shakiness in your hands is happening **on movement, not when you are at rest**."*
   - *"You've also told me that **anxiety makes it worse**, **alcohol makes it better**, and that this condition **runs in your family**."*
4. **Address the Patient's Primary Concern (Parkinson's Disease) DIRECTLY:**
   - *"Now, I know you were concerned about **Parkinson's Disease**. However, I **don't think you have Parkinson's Disease**."*
   - **Reasons why not:** *"This is because Parkinson's disease usually causes a tremor when you are **at rest**, not on movement. It also typically causes a **slowness of movement**, and you told me you haven't noticed any slowness in your activities. Parkinson's also often causes a problem with the sense of smell and affects walking in a specific way, which you don't have."*
5. **List & Rule Out Other Differentials (Briefly):**
   - *"I was also thinking about a **brain tumour** or **multiple sclerosis**, but this is not likely because you haven't lost weight and you don't have any weakness or numbness in your body."*
   - *"I also considered an overactive thyroid (**hyperthyroidism**), but you don't have a preference for cold weather or diarrhoea."*
   - **--- SWITCH TO LISTING ---**
   - *"And I was also thinking about other causes like liver disease, kidney disease, a lung condition called COPD, phaeochromocytoma, anxiety disorders, and the effects of stimulants."*

**V. Management Principles for Benign Essential Tremor (If asked):**

- **Reassurance:** Explain it's a "benign" condition.
- **First-line Medication: Propranolol** (a beta-blocker). Another option is Primidone (an anticonvulsant).
- **Lifestyle:** Avoid triggers like stress and caffeine.
- **Referral:** To a Neurologist for confirmation and management.
- **Occupational Therapy:** To help with aids for ADLs if the tremor is severe.
- (Do NOT advise the patient to drink alcohol as a treatment).

**VI. Key Learning Points for the Tremor Case:**

- **The History is the Key:** The core of the case is differentiating tremor types and causes through a detailed history.
- **Resting vs. Kinetic Tremor:** This is the most crucial historical point to differentiate Parkinson's from Essential Tremor.
- **Address the Parkinson's Fear:** The patient's primary concern must be addressed directly and with clear reasoning.
- **Broad Differential Screen:** Demonstrates a safe and comprehensive approach.
- **Geriatric Screen is Relevant:** Even in a 50-year-old, questions about falls and ADLs are important for assessing the functional impact of the tremor.
- This case tests deep neurological history-taking skills and the ability to reason through a complex differential diagnosis based on subtle but critical historical clues.

Gait abnormality

This section covers a complex neurological case: **Chronic Subdural Haematoma** presenting as a "difficulty in walking" or "unsteady gait." The tutor emphasizes the importance of a very broad, systematic differential diagnosis because the presenting complaint is vague, and highlights the need to thoroughly explore any key positive findings, like a history of a fall.

Here's the organized breakdown:

**AMC Recalls: Unsteady Gait / Difficulty Walking (Chronic Subdural Haematoma)**

**I. Case 64: 55 y.o. Male, GP, Difficulty in Walking (getting worse), Concerned about Stroke**

- **Stem Summary:**
  - 55-year-old male, GP.
  - **Complaint:** Difficulty in walking, which has been getting worse.
  - **Patient's Agenda:** He is specifically concerned that he is having a stroke.
- **Tasks:**
  1. Take a complete history (6 mins).
  2. Explain diagnosis and differentials.
- **Tutor's Note:** Although the recall diagnosis is Chronic Subdural Haematoma, the presenting complaint of "difficulty walking" is extremely broad. The 6-minute history task indicates a comprehensive differential screen is expected.

**II. Brainstorming Differentials for "Difficulty in Walking":**

- **Tutor's Categorization (what do you need to walk?):**
  1. **Motor Dysfunction (Nerves - "Hardware"):**
     - **Upper Motor Neuron (Brain/Spinal Cord):** Brain Tumours, Stroke/TIA, **Intracranial Haemorrhages (ICH - including subdural)**, Multiple Sclerosis.
     - **Lower Motor Neuron (Peripheral Nerves/Roots):** Lumbar Radiculopathy, Peripheral Neuropathy, Spinal Canal Stenosis, Cauda Equina Syndrome.
  2. **Myopathy (Muscles - "Engine"):**
     - Inflammatory/Autoimmune: Polymyalgia Rheumatica (PMR), Dermato/Polymyositis, **Multiple Sclerosis (MS)**.
     - Endocrine: Hypothyroidism.
     - Neuromuscular Junction: **Myasthenia Gravis.**
     - Drug-induced: Statin myopathy, steroid myopathy.
  3. **Cerebellar Dysfunction (Balance/Coordination):**
     - Strokes or tumours affecting the cerebellum.
     - **Alcoholic cerebellar degeneration.**
     - Hypothyroidism.
  4. **Vestibular Dysfunction (Inner Ear Balance):**
     - Benign Paroxysmal Positional Vertigo (BPPV), Meniere's Disease, Vestibular Neuronitis.
  5. **Sensory Ataxia (Loss of position sense):**
     - **Sensory Neuropathy** (from Diabetes, Alcohol, B12 deficiency).
  6. **Movement Disorders:**
     - **Parkinson's Disease** (shuffling gait).

7. **Antalgic Gait (Painful Gait):**
    - Osteoarthritis, Gout, Fractures (e.g., hip).
8. **Non-Neurological/Multifactorial:**
    - Vision loss, hearing loss.
    - Medication side effects (sedatives, antihypertensives causing postural drop).

**III. The Structured History Taking:**

1. **Opening & Intro:**
    - (Haemodynamic stability less critical for a chronic gait issue, but can be done. Open-ended question).
    - Patient: Explains difficulty walking and his specific worry about having a stroke.
    - Address concern: *"I understand that difficulty walking can be very concerning, especially with the worry about a stroke. Let me ask you a few questions so we can try to figure out the cause together."*
2. **Explore the Complaint (Walking Difficulty - Characterize it):**
    - **Describe:** *"Can you describe what you mean by walking difficulty? Is it a **balance problem**? A problem **moving your legs (weakness)**? Or is it because of **pain in your legs**?"* (This is the most important initial question to narrow the focus).
    - **Timing:** "How long have you had this problem for? Is it on and off or constant? Is it getting worse? Did it start suddenly?"
    - **Alleviating/Aggravating Factors:**
        - General: "Anything make it better or worse?"
        - **Specific (for Myasthenia):** *"Do you feel it's worse at the end of the day when you're tired?"*
3. **Screening for Differentials (Systematic):**
    - **A. Motor Problems - Upper Motor Neuron (Brain):**
        - **Stroke/TIA:** *"Have you ever lost consciousness or fainted? Noticed any slurred speech? Any blurring of vision? Any weakness or numbness in your legs or arms?"*
        - **Brain Tumours:** "Any history of headaches? Any early morning vomiting? Any loss of weight?"
        - **Intracranial Haemorrhage (ICH - especially Chronic Subdural):**
            - **KEY QUESTION:** *"Have you had any **trauma or injuries to your head**, or any **falls**, in the last few months?"*
            - (Patient: **"Yes doctor, three months ago, I had a fall."**).
            - **Deep Dive into the Fall (Key Point):**
                - *"Can you please describe the fall? Did you **hit your head**?"*
                - *"Did you **lose consciousness**? Did you **vomit** afterwards? Did you have any **jerky movements (a seizure)** after the fall?"* (Screening for red flags of significant head injury).
            - **Bleeding Risk:** *"Are you taking any **blood thinners**?"* (Patient: **"Yes, I'm on Apixaban."**).
    - **B. Motor Problems - Lower Motor Neuron (Spine/Peripheral Nerves):**
        - "Any neck or back pain? Have you had any problems with your bladder or bowel control? Any injury to your back or legs?"
    - **C. Myopathies (Muscle Problems):**
        - Inflammatory: "Any rashes (dermatomyositis)? Any muscle aches?"
        - PMR: "Any shoulder and hip stiffness or pain?"
        - Hypothyroidism: "Any preference for cold weather?"
        - Myasthenia Gravis: **"Any double vision, especially at the end of the day?"**
        - Medications: "Are you taking any cholesterol-lowering medication (statins) or any steroids?"
    - **D. Parkinson's Disease:** "Have you noticed any shakiness in your hands? Have you noticed that it takes you longer to do tasks, or that your movements feel slower?"
    - **E. Sensory Neuropathy:** (Numbness/pins and needles already asked). Screen for causes: "Any history of diabetes? Do you drink alcohol?"
    - **F. Cerebellar Problems:** (Balance problems already asked). "Any speech problems or difficulty saying words?"
    - **G. Vestibular Problems (Inner Ear):** "Any hearing loss? Buzzing sound in your ears (tinnitus)? Nausea or vomiting? Any spinning sensation (vertigo)?"
    - **H. Antalgic Gait (Pain) & Multifactorial:** "Any pain in your legs? Any vision or hearing problems? Are you taking any sleeping pills?"
4. **Closure (SADMA / Geriatric Screen):** (Assess social situation, supports, diet).

**IV. Key History Findings (Example for this Chronic SDH Recall):**

- Difficulty walking (movement problem).
- **Fall 3 months ago with head injury.**
- **On an anticoagulant (Apixaban).**
- **New left arm and left leg weakness** since the fall.

**V. Explaining Diagnosis and Differentials to the Patient:**

1. **Most Likely Diagnosis (Provisional):**
   - *"Based on our discussion, most likely you have a condition called a **chronic subdural haematoma**."*
2. **Brief Explanation:**
   - *"This is a type of **slow bleeding that occurs in the space around the brain**. It can happen after a head injury, especially in someone who is on blood thinners."*
3. **Provide the REASONS for your diagnosis:**
   - *"The reasons I am making this diagnosis are because your walking difficulties and the **weakness on one side of your body started after your fall** three months ago. The fact that you are on **blood thinners** significantly increases the risk of this type of bleeding happening after even a minor head injury."*
4. **Address the Patient's Primary Concern (Stroke):**
   - *"I understand you were concerned about a **stroke**. While some of the symptoms like weakness can be similar, it is less likely to be a typical stroke. This is because your problems **started and progressed slowly after the fall**, which is more characteristic of this slow bleed rather than a sudden stroke."* (Be careful, as a bleed is a type of stroke, but differentiate from an ischemic stroke).
5. **List & Rule Out Other Differentials (Show breadth):**
   - *"While the bleed is most likely, I was also thinking about other problems in the **brain**, such as a **brain tumour** or the effects of a **stroke**."*
   - *"I considered problems with the **nerves in your legs**, like a pinched nerve in your back (**lumbar radiculopathy**) or damage from other conditions (**traumatic nerve injury**)."*
   - *"I also thought about problems with the **muscles**, like **polymyositis or myasthenia gravis**, problems with your **inner ear**, or with the **balance centre in your brain (cerebellum)**."*
   - *"However, given your specific history of a fall while on blood thinners, the subdural haematoma is my main concern, and we need to confirm this with a scan."*

**VI. Key Learning Points for the Unsteady Gait Case:**

- **Broad Differential is Key:** "Difficulty walking" is a vague complaint requiring a systematic screen of all possible causes (neurological, muscular, sensory, vestibular, pain).
- **Characterize the Gait Problem:** The first step is to clarify if it's a balance, weakness, or pain issue.
- **The Fall History is Crucial:** For any patient with new neurological symptoms, a history of falls or head trauma (even minor and weeks/months ago) is a major red flag, especially if they are elderly or on anticoagulants.
- **Differentiate from Stroke:** While a bleed is a type of haemorrhagic stroke, be prepared to explain why it's less likely to be a typical ischemic stroke based on the subacute/chronic onset.
- **Don't Pass Without Differentials:** The tutor stresses that candidates fail this case by correctly diagnosing chronic SDH but failing to demonstrate the comprehensive thought process of ruling out the many other causes of gait disturbance. The 6-minute history is designed for this purpose.
- The management would involve an urgent referral to the ED for a CT scan of the brain and neurosurgical consultation.

Gait abnormality

This section details a newer, challenging case of **difficulty walking** which turns out to be a **pelvic fracture**, a significant departure from the chronic subdural haematoma recall that shares a similar vague presenting complaint. The tutor emphasizes how a structured, broad differential diagnosis approach allows a candidate to adapt to unexpected findings.

Here's the organized breakdown:

**AMC Recalls: Difficulty Walking (Traumatic Pelvic Fracture)**

**I. Case 65: 26 y.o. Lady, GP, Difficulty Walking (Post-Trauma)**

- **Stem Summary:**
  - 26-year-old lady, GP.
  - **Complaint:** Difficulty in walking.
- **Tasks:**
  1. Take history (6 mins).
  2. Physical Examination findings provided (on screen/card , but tutor prepares for PFEE).
  3. Explain diagnosis and differentials.
- **Tutor's Note:** This is a newer case designed to challenge candidates who rely on memorizing the older "difficulty walking = chronic subdural haematoma" recall. The underlying history-taking structure remains the same, but the findings lead down a completely different, musculoskeletal pathway.

**II. The Structured History Taking (Adapting to Patient's Clues):**

1. **Opening & Intro:**
   - (Standard open-ended question, address concern).
2. **Explore the Complaint (Walking Difficulty - Characterize it):**
   - **KEY QUESTION:** *"Can you describe what you mean by walking difficulty? Is it a **balance problem**, a problem **moving your legs (weakness)**, or is it because of **pain**?"*
   - **Patient's Answer: "I have pain."**
   - **Adaptation:** The complaint is now clearly **pain**, so the next step is to explore the pain using **SICORA**.
3. **Explore the Pain (SICORA):**
   - **S**ite: "On the back of my thigh."
   - **I**ntensity: "8 or 9 out of 10" (Severe).
   - **C**haracter: "A dull ache."
   - **O**nset & Timing: "Started a few days ago. It's constantly there. Staying the same."
   - **R**adiation: "**Yes, it travels down my leg to my knee.**" (Suggests a radicular or significant bony/soft tissue injury pattern).
   - **A**lleviating/Aggravating Factors: (Explore rest vs. activity).
   - **A**ffect on Life: "I'm unable to bear weight at all. I'm just staying at home."
4. **Screening for Differentials (Re-prioritized for Painful Gait):**
   - **Tutor's Logic:** The provisional diagnosis is now a **musculoskeletal/traumatic** problem, so this group of differentials should be explored first.
   2. **Musculoskeletal Group (Top Priority):**
      - **Myopathies (Muscle Problems):**
        - "Any pain in other muscles? Any rashes (for dermatomyositis)? Have you had any fever or chills (for pyomyositis/septic arthritis)?"
        - (Screen for hyperthyroidism, medication causes like statins).
      - **Infections (Septic Arthritis, Osteomyelitis, Cellulitis):**
        - (Fever/chills already asked). "Any rashes on your leg? Any swelling or redness in any of your joints?"
      - **Traumatic Injuries (Becomes High Yield):**
        - **KEY QUESTION:** *"Have you had any **recent injuries, trauma, or falls**?"*
        - **Patient's Answer: "Yes, I was playing football, and I was tackled and I fell."**
        - **Deep Dive into the Mechanism of Injury (CRITICAL):**
          - *"Can you please **describe the fall** for me?"* (Patient: *"I was running with the ball, someone pushed me from the left, and I **landed on my right side, on the side of my hip**."*).
        - **Explore Associated Trauma:**
          - *"Did you **hit your head** anywhere? Did you **lose consciousness**? Did you **vomit** afterwards?"* (Rule out concurrent head injury/intracranial bleed).
        - **Explore Musculoskeletal Red Flags:**

        - *"After the injury, did you notice any **deformity** in your leg?"*
        - *"Did you hear a **popping or a clicking sound**?"* (Suggests ligament/meniscal injury).
        - *"Have you noticed any **bruising or swelling** on the leg?"*
        - **KEY FUNCTIONAL QUESTION:** *"Were you able to **bear weight** immediately after the injury?"*
    3. **Neurological Group (Still Important to Rule Out):**
        - **Upper Motor Neuron (Brain/Spine):** (Head injury questions already asked). "Any headaches? Blurred vision? Slurred speech? Weakness or numbness (other than the affected leg)?"
        - **Lower Motor Neuron (Spine/Nerve Roots):** "Any back pain or neck pain after this injury? Have you had any problems with your bowel or bladder control (for cauda equina)?"
    4. **Other Differential Groups (Screen Briefly as time allows):**
        - Cerebellar, Vestibular.

**III. Physical Examination (If Tasked - Focused Lower Limb Exam):**

- **Structure:** Look, Feel, Move.

1. **General Appearance:** Patient in pain? Using walking aids?
2. **Vital Signs:** (Temperature for infection).
3. **Lower Limb Examination (Comprehensive):**
    - **Look (Inspection):** *"Examiner, I'm looking for **bruises, swelling, redness, any visible deformity, and muscle wasting**."*
    - **Feel (Palpation):** *"On palpation of the lower limb, including the hip, the knee, and the leg, do I have any **tenderness**?"*
    - **Move (Movement):**
        - *"I want to check for any **tenderness or pain on movements** of the hip, knee, and ankle."*
        - *"I also want to know the **range of movement**. Is it normal or restricted?"*
    - **Measure:** *"I would like to measure the **true length of the lower limb**."* (To check for shortening, which suggests a femoral neck fracture).
4. **Neurological Examination:**
    - *"I'd like to do a full neurological examination of the lower limb, checking the **motor power, sensation, and reflexes**."*
    - *"I'd also like to complete the examination by checking the cranial nerves and the upper limbs."*

**IV. Examination Findings & Diagnosis:**

- **Provided Findings from Recall:**
    - Swelling and a bruise on the posterior aspect of the thigh.
    - **Tenderness on the ischial tuberosity.**
    - Neuro exam: Sensation/reflexes normal. Power is reduced *due to pain*.
    - Decreased range of movement of the hip joint.
    - **No leg length discrepancy.**
- **Diagnostic Reasoning:**
    - The absence of leg length discrepancy makes a significant femoral neck fracture less likely.
    - The key finding is tenderness specifically over the **ischial tuberosity**, which is part of the pelvic bone.
- **Diagnosis: Pelvic Fracture.**
    - (Tutor: "Pelvic fracture" is a better and more precise term than "hip fracture" in this context).

**V. Explaining Diagnosis and Differentials to the Patient:**

1. **Most Likely Diagnosis:**
    - *"Samantha, based on the story of your fall and my examination, most likely you have a **pelvic fracture**."*
2. **Brief Explanation:**
    - *"The pelvis is made up of three main bones which connect to form part of the hip joint. It seems you have a **fracture, or a break, in one of these bones**."*
3. **Provide the REASONS for your diagnosis:**

- *"The main reason I think this is the case is because I found that you have **pain in a specific area of that bone**, a spot we call the ischial tuberosity."*
- *"Also, the **large bruise** you have suggests a significant injury, and the fact that you have **painful and restricted movements of your hip** also points towards a fracture in this area."*

4. **List & Rule Out Other Differentials (Prioritize MSK):**
   - *"While a pelvic fracture is most likely, I was also thinking about other possible injuries from your fall."*
   - *"I considered a **femoral fracture** (a break in your thigh bone), but that's less likely as your leg lengths are equal."*
   - *"I thought about significant **knee problems** like a tear in your anterior cruciate ligament (ACL) or a meniscal tear."*
   - *"I also considered a severe **muscle tear**, like a hamstring tear."*
   - *"We also had to think about the possibility of a **head injury causing an intracranial haemorrhage (a bleed in the brain)**, or a **spinal injury**, but your neurological examination was normal."*
   - (Can list other broader categories briefly: "I also thought about problems with the balance centre in your brain or inner ear, but these don't fit with a traumatic injury like this.").

**VI. Key Learning Points for the Pelvic Fracture Case:**

- **Adaptability is Key:** This case demonstrates the need to adapt your history-taking structure when the patient's initial response (e.g., "my problem is pain") redirects the focus.
- **Mechanism of Injury:** For any trauma case, a detailed exploration of the mechanism is critical for diagnosis.
- **Musculoskeletal Red Flags:** Know the key signs and symptoms to ask about after a traumatic injury (deformity, pop/click, bruising, ability to bear weight).
- **Precise Anatomical Knowledge:** Being able to link the point of tenderness (ischial tuberosity) to a specific anatomical structure (the pelvis) is crucial for a precise diagnosis.
- **Don't Be Fooled by Recalls:** This case is a "punch in the face" for those who memorized the "unsteady gait = subdural haematoma" recall. A systematic approach that listens to the patient's actual story is protective.
- The differential diagnosis must be appropriate for the *presenting complaint* (difficulty walking), even after the history strongly suggests a specific traumatic cause.

Diplopia

This section provides a detailed walkthrough of a **Diplopia (Double Vision)** history-taking case, a challenging neurological OSCE station. The tutor emphasizes the importance of a broad, structured differential diagnosis list (covering brain, cranial nerves, neuromuscular junction, muscles, and monocular causes) and highlights the key clinical question—the cover test—to differentiate monocular from binocular diplopia early in the history.

Here's the organized breakdown:

**AMC Recalls: Diplopia (Double Vision) History Taking**

**I. Case 66: 50 y.o. Male, GP, Complaining of Double Vision, known Diabetes & Hypertension**

- **Stem Summary:**
  - 50-year-old male, GP.
  - **Complaint:** Diplopia (double vision).
  - **PMHx:** Diabetes and Hypertension (on treatment).
- **Tasks (History-taking focus):**
  1. Take a history (6 minutes).
  2. (Assumed, based on similar cases) Explain diagnosis and differentials.
- **Tutor's Note:** This is a challenging case that requires a deep and organized list of differentials to explore systematically.

**II. Background Knowledge & Differentials for Diplopia:**

- **Monocular vs. Binocular Diplopia (The Critical Distinction):**

- **Monocular Diplopia:** Double vision persists when the *unaffected* eye is covered. The problem is within the eye itself (an optical problem).
  - **Causes:** Cataract, Astigmatism, Refractive errors, corneal/lens issues.
- **Binocular Diplopia:** Double vision disappears when *either* eye is covered. The problem is a misalignment of the eyes (an eye movement problem). The brain receives two different images.

- **Differentials for Binocular Diplopia (The "Movement Problem" - think Brain to Muscle):**
  1. **Brain (Central Causes):**
     - **Brain Tumours.**
     - **Multiple Sclerosis (MS).**
     - Stroke.
     - Raised intracranial pressure.
     - Meningitis/Encephalitis.
  2. **Cranial Nerves (III, IV, VI):**
     - **Diabetic Neuropathy** (very common cause of isolated CN palsies).
     - Microvascular ischemia from hypertension/vasculitis.
     - Compression (aneurysm, tumour).
  3. **Neuromuscular Junction (NMJ):**
     - **Myasthenia Gravis (MG)** (a classic cause).
  4. **Ocular Muscles (Extraocular Myopathy):**
     - **Thyroid Eye Disease / Graves' Ophthalmopathy.**
     - Traumatic muscle injury (e.g., orbital floor "blowout" fracture).
     - Orbital tumours.
     - Orbital cellulitis/myositis.
  5. **Migraine Variant:**
     - Ophthalmoplegic Migraine.

**III. The Structured History Taking:**

1. **Opening & Intro:**
   - (Open-ended Q). Patient explains he's had double vision for a few months and it's getting worse.
   - Address concern: *"I understand that having double vision can be very concerning. Let's ask a few questions to try and figure out the cause together."*
2. **Explore the Complaint (Diplopia - Pattern is Key):**
   - **Timing:** "When did you first notice this double vision? Is it on and off or constantly there? Is it getting worse?"
   - **Pattern / Characteristics (CRITICAL for differentiating):**
     - **Blur vs. True Diplopia:** *"Can you describe what you're seeing? Are you seeing **two separate, distinct images**, or is it more of a **blurry** vision?"*
     - **THE KEY QUESTION (Monocular vs. Binocular):** *"Does the double vision **persist when you close either one of your eyes**?"* (Patient: **"No, it's better when I close one eye."** -> This confirms **BINOCULAR diplopia**).
     - **Image Orientation:** *"Are the two images separated **side-by-side (horizontally)** or **one on top of the other (vertically)**?"* (Helps localize which muscle/nerve).
     - **Gaze-evoked Diplopia:** *"Is the double vision **worse on looking to a specific side** (up, down, left, or right)?"*
     - **Distance:** *"Is it worse when you look at **far objects or near objects**?"*
     - **Compensatory Head Posture:** "Is there any head position that makes the double vision better?"
     - General Q: "Anything else make it better or worse?"
3. **"Eye Review" (Screen for other ocular red flags before moving to systemic causes):**
   - **Tutor's Note:** Do not forget to ask about other eye symptoms just because the complaint is "diplopia."
   - "Any swelling or redness of your eyelids (for orbital cellulitis)?"
   - "Any discharge from your eyes?"
   - "Any fever?"
   - "Do you have a **red eye**? Any **pain on moving your eyes**? Are you **sensitive to light** (photophobia)?"
   - "Do you see any **flashing lights or floating spots** in your vision?"
4. **Screening for Differentials (Based on Binocular Causes):**
   - **A. Brain (Tumours, MS):**
     - "Any history of headaches? Any early morning vomiting? Any loss of weight?"

        - **Neurological Deficits:** "Any weakness in your body? Any numbness or pins and needles? Any balance or walking problems?"
        - (Migraine Screen): "Any family history of migraine?"
    - **B. Cranial Nerves (Diabetic Neuropathy):**
        - **Explore the Diabetes (4 key questions):**
            - "When were you diagnosed with diabetes/hypertension?"
            - "What treatment are you taking for them?"
            - **"Are you compliant with your treatment? Are you taking it regularly?"**
            - **"Are you having regular follow-ups with your GP and doing your regular blood tests?"**
            - **Screen for other diabetic complications:** *"Have you noticed any **numbness in your legs** (for peripheral neuropathy)? Any chest pain (for IHD)?"*
    - **C. Neuromuscular Junction (Myasthenia Gravis):**
        - **Fatigability:** *"Is your double vision **worse at the end of the day**?"*
        - **Other MG Symptoms:** *"Have you noticed any **drooping of your eyelids**? Any difficulty in **making facial expressions**, swallowing, or speaking?"*
    - **D. Ocular Muscles (Thyroid, Trauma):**
        - **Trauma:** "Have you had any recent injuries to your eyes or your head?"
        - **Thyroid Eye Disease:**
            - "Have you noticed any weather preference, either heat or cold intolerance?"
            - "Any family history of thyroid problems?"
            - (Can also ask about palpitations, weight change, diarrhoea/constipation).
5. **Screen for Monocular Causes (to be comprehensive, despite history pointing to binocular):**
    - **Cataract:** "Do you see any halos around lights? Do colors look faded to you?"
    - **Macular Degeneration:** "Do you have problems seeing my face (central vision)? Do you see wavy lines when looking at straight lines?"
    - **Glaucoma:** (Red eye already asked). "While driving, do you need to turn your head to see signs on the side (peripheral vision loss)?"
6. **Closure (SADMA).**

**IV. Explaining Diagnosis and Differentials to the Patient:**

1. **State the Diagnosis (Start with the type of diplopia):**
    - *"Mr. [Patient's Name], based on our discussion, most likely you have a condition called **binocular diplopia**."*
2. **Explain what that means:**
    - *"This means your double vision is because of a **movement problem between both of your eyes**; they are not moving together perfectly, which is why your brain is receiving two separate images."*
3. **Explain the Most Likely Cause (Diabetic Neuropathy):**
    - *"In your case, this is most likely caused by a **diabetic neuropathy**."*
    - *"This means that the **high blood sugar level from your diabetes has damaged the small nerves that are responsible for your eye movements**."*
4. **Provide the REASONS for your diagnosis:**
    - *"The reason I am suspecting this is because you have a history of diabetes, and you mentioned you are not always taking your medications properly or seeing your GP regularly. When diabetes is not well-controlled, it can lead to this type of nerve damage."*
5. **List & Rule Out Other Differentials (Show breadth):**
    - **Binocular Causes first:**
        - *"I was also thinking about other problems in the **brain**, such as a **brain tumour** or a condition called **multiple sclerosis**, but these are less likely as you don't have any headache or other weakness or numbness in your body."*
        - *"I considered a problem at the junction of the nerve and the muscle, a condition we call **myasthenia gravis**, but this is less likely because your double vision isn't worse at the end of the day."*
        - *"I also thought about problems in the **muscles of your eyes** themselves, which can be caused by **thyroid problems** or **traumatic injuries**, but your history doesn't suggest these."*
    - **Monocular Causes (mention you considered them):**

        - *"I also thought about causes of monocular double vision, meaning a problem within one eye, such as **cataracts, astigmatism, or refractive errors**, but your history of the double vision going away when you cover one eye makes these less likely."*
    - (Can also mention ophthalmoplegic migraine).

**V. Key Learning Points for the Diplopia Case:**

- **Monocular vs. Binocular is the First Step:** The "cover test" question in the history is the most critical initial question.
- **Systematic Differential List:** The "Brain -> Nerve -> NMJ -> Muscle -> Eye" framework is a powerful way to organize your thoughts and your history taking for binocular diplopia.
- **Don't Forget the "Eye Review":** For any eye presentation, a quick screen for red eye, pain, photophobia, floaters/flashers is essential.
- **Explore Co-morbidities:** If a relevant condition like diabetes is in the stem, you must explore its control, treatment, compliance, and screen for other complications.
- **Comprehensive History:** A 6-minute history for a complex neurological symptom like diplopia requires you to cover both binocular and monocular causes to be thorough.
- This case tests the ability to apply a logical, neuroanatomical framework to a complex presenting complaint and to systematically work through a broad list of differentials.

Sore eyes

This section provides a detailed walkthrough of two related but distinct OSCE cases presenting with a **"Sore Eye" (Painful Eye).** The first is a newer online/telehealth case focused on differentiating urgent causes like orbital cellulitis. The second is an older, more nuanced face-to-face case that involves a travel history and points towards a viral conjunctivitis.

Here's the organized breakdown:

**AMC Recalls: Sore/Painful Eye Cases**

**I. Introduction & Differentials for a Painful Eye:**

- **Tutor's Categorization (Think anatomically):**
    1. **Eyelid Problems:**
        - **Orbital Cellulitis / Preseptal Cellulitis (RED FLAG - MOST IMPORTANT).**
        - Stye (Hordeolum).
        - Chalazion.
        - Blepharitis.
    2. **Eyeball Problems:**
        - Endophthalmitis (infection inside the eye - very serious).
        - **Keratitis** (corneal inflammation, e.g., UV keratitis from welding, bacterial from contact lenses).
        - **Foreign Body / Corneal Ulcer/Abrasion.**
        - **Acute Angle-Closure Glaucoma.**
        - **Uveitis / Iritis.**
        - **Scleritis.**
        - **Conjunctivitis** (bacterial, viral, allergic - often more discomfort/grittiness than severe pain).
    3. **"Other" Causes (Pain referred to the eye):**
        - **Facial Migraine.**
        - **Sinusitis.**
        - **Travel-related infections** (e.g., Dengue fever causes retro-orbital pain).
        - **STIs** (Gonococcal/Chlamydial conjunctivitis can be very severe and painful).

**II. Case 67 (Newer Version - Telephone): 25 y.o. Lady, Telephone Appointment, Concern with one eye (Pain/Swelling)**

- **Stem Summary:**
  - 25-year-old lady, telephone appointment.
  - Concern with one eye (pain and swelling).
- **Tasks:**
  1. Take a history (5 mins).
  2. Explain most likely diagnosis and differentials.
  3. Explain initial management plan.
- **A. Structured History Taking (Telephone Context):**
  1. **Opening & Intro:** (Standard open-ended question, address concern).
  2. **Explore the Pain (SICORA):**
     - **S**ite: "Is the pain in **one eye or both**?" (One eye). *"Is the pain felt in the **eyelids or in your eyeball** itself?"*
     - **I**ntensity: (Scale of 1-10).
     - **C**haracter: "Is it a dull ache or a burning sensation?"
     - **O**nset & Timing: (When started? On/off or constant? Getting worse?).
     - **R**adiation.
     - **A**lleviating/Aggravating Factors: **"Is it worse on blinking?"** (Key for foreign body).
  3. **Comprehensive "Eye Review" (CRITICAL - Screen for Red Flags):**
     - **Eyelids:**
       - "Any **swelling and redness in the eyelids**?"
       - If yes -> **Key Q for Cellulitis:** *"Is the **entire eyelid** swollen and red, or is it just a **localized point** (like a pimple)?"*
       - "Any **discharge** from the eye?" (If yes -> Color: clear/yellowish? Consistency: watery/sticky?).
       - "Were your **eyelids sticking together** in the morning?" (Classic for bacterial conjunctivitis).
     - **Eyeball (Very Important Red Flag Questions):**
       - "Is there any **redness in the white part of the eye** itself?"
       - "Have you noticed any **blurring of your vision** or any **double vision**?"
       - "Are you **sensitive to light** (photophobia)?"
       - "Are you seeing any **flashing lights or floating spots** in your vision?"
  4. **Screening for Specific Differentials/Causes:**
     - **Orbital Cellulitis (Top Red Flag):**
       - "Any fever or chills?"
       - **"Do you have any pain on moving your eyes?"** (Key differentiating sign).
       - **Source (Sinusitis):** "Any history of headache or facial pain? Any secretions dripping down the back of your throat? Any nasal congestion or runny nose?"
     - **Foreign Body / Corneal Injury:**
       - "Any history of injuries or trauma to your face or eyes?"
       - "What is your occupation?" (Welder for UV keratitis, tradesperson for foreign bodies).
     - **Bacterial Keratitis / Severe Infections:**
       - "Do you wear **contact lenses**?" (CRITICAL question for red, painful eye).
     - **Glaucoma:** "Any nausea or vomiting with the eye pain? Any family history of glaucoma?"
     - **Blepharitis:** "Noticed any rashes or flakes on your eyelids or eyelashes?"
     - **Uveitis (Systemic Link):** "Any joint pains? Any history of bloody diarrhoea (for IBD)? Any rashes on your body?"
     - **Migraine:** "Any family history of migraine?"
     - **Systemic/Travel:** "Any recent travel? Contact with anyone sick? Are you sexually active? Any recent unsafe sexual practices?"
  5. **Closure (SADMA).**
- **B. History Findings & Diagnosis (Example for Orbital Cellulitis Recall):**
  - Pain and redness in one eye for 2 days. No discharge.
  - **Eyelid is very swollen**, almost closing the eye.
  - Patient feels "hot and cold" (feverish) and has a headache.
  - History of being scratched in the eye by a branch while gardening.
  - (The key finding of "pain on eye movement" would be elicited if history was face-to-face, but is assumed for this diagnosis).
- **Explaining Diagnosis & Differentials (Telephone Context - Emphasize Uncertainty & Need for Assessment):**

- *"Based on what you've told me over the phone, it sounds like you have a serious **infection in your eye**."*
- *"I am concerned about a couple of possibilities. It could be **endophthalmitis**, which is an infection inside your eyeball itself, especially since you had a scratch from a branch. My other main concern is **orbital cellulitis**, which is an infection in the tissues and muscles around your eye. The severe swelling of your eyelid makes me concerned about this."*
- (Briefly list other differentials: "I also considered other eyelid problems like a stye or other eye infections like keratitis, but your symptoms sound more serious.").

- **C. Initial Management Plan (Telephone -> URGENT Referral):**
  - *"Because this could be a serious infection that might threaten your vision, I need you to **go to the nearest hospital emergency department immediately**."*
  - *"In the emergency department, the first thing they will do is a **full examination of your eye with a special device called a slit lamp**."*
  - *"A key thing they will check is if you have **pain on your eye movements**. If you do, that makes orbital cellulitis very likely, and they might decide to do a **CT scan** of your sinuses and orbits."*
  - *"Regardless, they will almost certainly start you on **intravenous (IV) antibiotics** and ask the **eye specialist (ophthalmologist) to see you urgently**."*

**III. Case 68 (Older Version - Face-to-Face): 25 y.o. Lady, Sore, Red Eyes (both)**

- **Stem Summary:** 25-year-old lady, GP, complaining of sore, red eyes.
- **Tasks:** History (6 mins), Dx/DDx.
- **History Findings (from Recall):**
  - Patient is wearing sunglasses in the waiting room (suggests photophobia, but she may say it's because she's "embarrassed").
  - **Pain and redness in BOTH eyes.**
  - **Discharge is watery and clear.**
  - **Systemic Symptoms:** Feeling hot (feverish), body aches.
  - **Rash on her body.**
  - **Travel History:** Just returned from a trip to **Brazil.**
- **Deep Dive into Travel History (CRITICAL):**
  - "What did you do in Brazil? Any **bushwalking**? Any **insect bites**? Contact with **sick people or animals**? Illicit **drugs**? New **sexual** partners?" (Full travel screen).
- **Diagnostic Reasoning:**
  - The bilateral nature, watery discharge, and prominent systemic symptoms (fever, aches, rash) following travel to a tropical region (Brazil) strongly suggest a **systemic viral illness with ocular manifestations.**
  - This points away from localized bacterial infections or structural problems.
- **Diagnosis & Differentials:**
  1. **Most Likely Diagnosis: Viral Conjunctivitis.**
  2. **Explain the Cause:**
     - *"Most likely, you have a condition called **viral conjunctivitis**. This is an inflammation or infection in the outer layer of your eye and the inner layer of your eyelids, caused by a virus."*
     - **Address the Travel History (The "Zika" Link):** *"Because of your recent travel to Brazil and your other symptoms like fever and rash, I am concerned that this could be due to a more **serious tropical viral infection**, such as **Zika virus** or **Dengue fever**, which are known to cause conjunctivitis."*
  3. **Differentials:**
     - **Bacterial Conjunctivitis:** (Less likely as discharge is watery, not purulent).
     - **Allergic Conjunctivitis:** (Less likely due to fever and pain).
     - (Then list other eye differentials systematically: Orbital cellulitis, uveitis, keratitis, scleritis, glaucoma, etc., explaining briefly why they are less likely).
     - (Also mention other travel-related infections and STIs).

**IV. Key Learning Points for Sore Eye Cases:**

- **Broad Differentials are Key:** A painful eye can range from a simple stye to sight-threatening emergencies like glaucoma or orbital cellulitis.

- **The "Eye Review" is Non-Negotiable:** For any eye complaint, you must systematically ask about eyelid changes, discharge, redness, pain on movement, vision changes (blurring/double), photophobia, and floaters/flashers.
- **Unilateral vs. Bilateral:** This is a crucial first step in narrowing your differentials.
- **Pain on Eye Movement:** A key red flag for orbital cellulitis.
- **Contact Lens Use:** A critical question for any red, painful eye.
- **Systemic Symptoms & Travel History:** Don't get tunnel vision on the eye. Consider systemic illnesses that can have ocular manifestations.
- **Telephone Counseling Requires Robust Safety Netting:** If the diagnosis is unclear or potentially serious, the only safe management is an urgent referral to an emergency department for in-person assessment.

Vision loss

This section details a complex neurological case: **Transient Ischemic Attack (TIA)** presenting as **transient monocular vision loss (amaurosis fugax)**. The tutor emphasizes the importance of a broad differential diagnosis for vision loss, a highly detailed and specific physical examination from the examiner (PFEE) that includes both neurological and ophthalmological components, and correctly prioritizing the TIA diagnosis despite other findings.

Here's the organized breakdown:

**AMC Recalls: Transient Vision Loss (TIA/Amaurosis Fugax Case)**

**I. Case 69: 67 y.o. Male, ED, Complaining of Vision Loss**

- **Stem Summary:**
  - 67-year-old male, ED.
  - **Complaint:** Vision loss.
  - **Pattern:** This is the **third episode** (recurrent).
  - **Current Status:** His **vision has now improved** (transient).
- **Tasks:**
  1. Take a history (4 minutes).
  2. Ask Physical Examination from Examiner (PFEE).
  3. Explain diagnosis and differentials to the patient.
- **Tutor's Key Insight:** Recurrent, transient monocular vision loss in an older adult is **TIA (specifically, amaurosis fugax) until proven otherwise**. However, a comprehensive differential diagnosis is crucial for passing. The physical exam for this case is one of the most complex in the OSCEs.

**II. Brainstorming Differentials for Vision Loss (Transient & Permanent):**

- **Tutor's Approach:** Don't limit your list to only transient causes just because the stem says it improved. Your initial differential should be for "vision loss" to ensure a comprehensive history.
- **The List:**
  1. **Vascular (Top of the list):**
     - **Stroke / Transient Ischemic Attack (TIA).**
     - **Temporal Arteritis / Giant Cell Arteritis (GCA).**
     - Central Retinal Artery/Vein Occlusion (CRAO/CRVO).
  2. **Neurological:**
     - **Optic Neuritis** (often the first sign of Multiple Sclerosis).
     - **Migraine with Aura.**
     - **Brain Tumour** (compressing optic pathways).
  3. **Ophthalmological:**
     - **Acute Angle-Closure Glaucoma.**
     - **Retinal Detachment.**
     - Vitreous haemorrhage.

4. **Systemic:**
    - **Hypoglycaemia** (can cause transient visual changes).
    - Hypertensive/Diabetic Retinopathy (usually causes gradual blurring, but can have acute events).

**III. The Structured History Taking:**

1. **Opening & Intro:** (Standard approach, including haemodynamic stability check). Patient explains this is the third episode of vision loss, but this time it lasted longer, which is why he is concerned and came to the ED. Address his concern.
2. **Explore the Vision Loss (Pattern is Key):**
    - **Timing:** "When did this episode happen exactly? How long did it last? Was the vision loss on and off during the episode, or constantly there? Has your vision fully improved back to normal now?"
    - **Pattern / Characteristics (CRITICAL):**
        - **Laterality:** *"Did you lose vision in **one eye or both eyes**?"* (Key for localization).
        - **Clarify "Loss":** *"Can I just confirm that you **totally lost your vision**, and it was not just a blurring of your vision?"*
        - **Field Defect:** *"Did you lose the **entire field of vision**, or just a part of it?"*
        - **(For Retinal Detachment):** *"Would you describe the vision loss as a **curtain falling** over your vision?"*
    - **Alleviating/Aggravating Factors:** "Anything that you noticed made it better or worse?"
3. **Screening for Differentials (Systematic, starting with TIA/Stroke):**
    - **A. Stroke/TIA (Provisional Diagnosis):**
        - **Associated Neurological Deficits:** *"During the episode, did you have any **slurred speech**? Did you notice any **weakness** in your body? Any **numbness or pins and needles**? Any **balance or walking problems**?"* (Patient: "Yes, I was unable to talk for 10-15 minutes").
        - **CARDIOVASCULAR RISK FACTORS (CRITICAL):**
            - *"Do you have a history of **high blood pressure, high blood sugar (diabetes), or high fats** in your blood?"* (Patient: "Yes, high blood pressure").
            - *"Any **family history** of heart attacks or strokes?"*
            - *"Do you **smoke**? Do you drink **alcohol**?"*
    - **B. Other Red Flags / Serious Differentials:**
        - **Temporal Arteritis (GCA - Patient is >50):** *"Any history of long-term headaches? Have you noticed a tender or painful cord on the side of your head? Any pain on chewing? Any shoulder or hip pain and stiffness?"*
        - **Brain Tumour:** "Any long-term headaches? Any early morning vomiting? Any recent unexplained weight loss?"
    - **C. The "Eye Review" (CRITICAL - Don't forget this in a vision loss case):**
        - Eyelids: "Any swelling or redness of your eyelids?"
        - Eyeball: "Any **redness** in the eye itself? Any **pain on moving your eyes**? Are you **sensitive to light** (photophobia)?"
        - **Flashers/Floaters (for Retinal Detachment/Uveitis):** *"Are you seeing any **small dots or flashing/floating lights** in your vision?"*
    - **D. Screen Other Key Differentials:**
        - **Optic Neuritis / MS:** *"Have you noticed any **difficulty in seeing and recognizing colors**?"* (Dyschromatopsia).
        - **Migraine:** "Any nausea/vomiting? Family history of migraine?"
        - **Hypoglycaemia:** "Did you miss any meals before this happened?"
        - (Glaucoma, Retinal Detachment questions already integrated into Eye Review).
4. **Closure (SADMA).**

**IV. Physical Examination from Examiner (PFEE) - Very Complex for this Case:**

- **Tutor's Note:** This is one of the most complex PFEEs. It requires a detailed Neuro, Eye, and CVS exam.

1. **General Appearance:** Level of consciousness, ptosis.
2. **Vital Signs:** BP, HR. **Crucially, check the pulse rhythm for Atrial Fibrillation.**
3. **CORE SYSTEM 1: Neurological Examination:**
    - **Cranial Nerves:** (Start with this).
    - **Upper & Lower Limbs:** (Power, sensation, reflexes, coordination).
4. **CORE SYSTEM 2: Specific Eye Examination:**

- **Inspection:** "Any swelling in the eyelids? Any redness in the eye?"
- **Pupils:** "Check the size, shape, symmetry, and light reflex."
- **Visual Acuity.**
- **Color Vision** (e.g., Ishihara chart).
- **Eye Movements.**
- **FUNDOSCOPY (CRITICAL):** Must be asked for separately.

5. **CORE SYSTEM 3: Cardiovascular Examination:**
   - **Auscultation:** "S1, S2 normal? Any murmurs or added sounds?"
   - **KEY FINDING: "I want to check for carotid bruits."** (Will be positive in the recall).
6. **Quick screen of other systems (Respiratory, Abdomen).**

- **The "Killer" Finding (The Twist):**
  - When you ask for fundoscopy, the examiner provides a retinal photo showing classic signs of **HYPERTENSIVE RETINOPATHY** (e.g., AV nipping, cotton wool spots, hemorrhages).
  - **TUTOR'S WARNING:** Do NOT get distracted and change your primary diagnosis to "Hypertensive Retinopathy." A TIA is an acute event. Retinopathy is a chronic finding. The retinopathy is *evidence* of poorly controlled hypertension, which is a *risk factor* for the TIA. It is not the cause of the acute transient vision loss. **Your diagnosis remains TIA.**

**V. Explaining Diagnosis and Differentials to the Patient:**

1. **Most Likely Diagnosis:**
   - *"Bill, most likely you have had a condition called a **Transient Ischemic Attack**, which is also known as a **TIA or a mini-stroke**."*
2. **Brief Explanation:**
   - *"In this condition, the **blood supply to a part of your brain was cut off for a brief period of time**, which caused your temporary vision loss and speech difficulty."*
3. **Provide the REASONS for your diagnosis:**
   - *"The reasons I'm making this diagnosis are because you had a **total, temporary vision loss**, and at the same time you had **other neurological symptoms** like difficulty speaking, all of which have now improved."*
   - *"You also have some **risk factors** for this, including your **high blood pressure**. On my examination, I also found some signs of **narrowing in the blood vessels in your neck** (the carotid bruits), which can be a source for this."*
4. **Address the Retinopathy Finding (Integrate it as a risk factor):**
   - *"When I looked at the back of your eye, I also found signs of **hypertensive retinopathy**. This is some **damage to the small blood vessels at the back of your eye caused by the long-term high blood pressure**. While it's not the cause of today's event, it confirms that your blood pressure has been high and is a significant risk factor for having a TIA or a full stroke."*
5. **List & Rule Out Other Differentials:**
   - *"I was also thinking about other causes for your vision loss."*
   - *"I considered a **complete full stroke**, but your symptoms have resolved, which makes a TIA more likely."*
   - *"I also thought about **temporal arteritis**, but you don't have the typical headache or shoulder pain."*
   - *"We also consider **optic neuritis**, but you didn't have any problem seeing colors."*
   - *"I also considered a **brain tumour**, **glaucoma**, and **retinal detachment**, but these are less likely based on your symptoms."*

**VI. Key Learning Points for the TIA / Vision Loss Case:**

- **Broad Differentials are Essential:** Approach "vision loss" broadly first, then narrow down based on the "transient and recurrent" nature.
- **The History Defines the Diagnosis:** The combination of transient neurological deficits (vision, speech, motor, sensory) is the hallmark of a TIA.
- **Cardiovascular Risk Factors are CRITICAL:** TIA is a cardiovascular event. A full CVRF screen is mandatory.
- **The PFEE is Complex and High-Yield:** It requires a detailed Neuro, Eye, and CVS exam. You MUST know to check for carotid bruits and be prepared to interpret a fundoscopy image.
- **Don't Fall for the Retinopathy Trap:** Understand that chronic findings (retinopathy) are risk factors for, not the diagnosis of, an acute event (TIA).

- This case tests advanced clinical reasoning, the ability to perform a complex multi-system PFEE, and the skill of integrating chronic findings into the explanation of an acute event.

HTN retinopathy

This section is a mini-masterclass on recognizing the features of **Hypertensive Retinopathy** on a fundoscopy image, a skill needed for several AMC OSCE stations (e.g., TIA, hypertension counseling). The tutor also briefly contrasts these findings with a normal retina and the findings of glaucoma.

Here's the organized breakdown:

**AMC Approach: Interpreting Hypertensive Retinopathy**

**I. The Normal Retina (Baseline for Comparison):**

- **Key Features to Recognize:**
    1. **Optic Disc:** This is the bright, circular area where the optic nerve enters the eye.
        - **Crucial Feature:** The margins (edges) of a normal optic disc are **sharp and clear**. The tutor emphasizes: *"You are able to draw a line around it."*
    2. **Blood Vessels:** Arteries and veins emerge from the optic disc. They should appear as clear, red lines. The ratio of the arteriole to venule width (AV ratio) is typically around 2:3.
    3. **Macula/Fovea:** The central area responsible for sharp vision (often appears slightly darker).

**II. Key Features of Hypertensive Retinopathy (What to look for in the AMC OSCEs):**

- **Tutor's Note:** The AMC cases so far have primarily shown a combination of AV nipping, silver/copper wiring, and sometimes papilloedema. Cotton wool spots and hemorrhages have not been commonly recalled but are important to know.
- **Grading:** Older systems used Grade 1-4. Newer systems use Mild, Moderate, and Severe. **You do not need to memorize the grades for the AMC.** You only need to be able to identify the key pathological signs.
- **1. Arteriovenous (AV) Nipping / Nicking:**
    - **What it is:** Chronic high blood pressure causes the walls of the retinal arterioles to thicken and harden (arteriolosclerosis). Where a stiffened arteriole crosses over a venule, it compresses the softer vein underneath.
    - **How it looks:** The venule appears to be "pinched off" or "nicked" where the arteriole crosses it. The vein may look tapered or deflected at the crossing point.
    - **Tutor's Tip:** Look for multiple crossing points where the vein appears indented or disappears under the artery.
- **2. Silver Wiring / Copper Wiring:**
    - **What it is:** This is another sign of advanced arteriolosclerosis. The thickened, less transparent walls of the arterioles reflect the light from the ophthalmoscope in a characteristic way.
    - **How it looks:**
        - **Copper Wiring:** The central light reflex of the arteriole appears broader and more coppery/yellowish in color.
        - **Silver Wiring:** In severe cases, the arteriole wall becomes so opaque that it looks like a shiny, silver tube, and the blood column inside may no longer be visible.
    - **Tutor's Tip:** Compare the appearance of the arteries to a normal retina. In hypertensive retinopathy, they will look unusually **bright and shiny.** This is a very common finding in the AMC images.
- **3. Papilloedema (Optic Disc Swelling):**
    - **What it is:** Swelling of the optic disc due to raised intracranial pressure. In the context of hypertension, this occurs in **malignant or accelerated hypertension** and is a sign of severe, end-organ damage.
    - **How it looks (The Key Differentiating Feature):**
        - **Loss of sharp disc margins.** The edges of the optic disc become blurry, indistinct, and impossible to trace clearly.
        - The disc appears **elevated or bulging** towards you.
        - Veins may appear engorged.
        - Often associated with flame-shaped hemorrhages and cotton wool spots around the disc.
    - **Tutor's Tip:** The simplest way to identify papilloedema is to ask yourself, "Can I draw a clear, sharp line around the entire optic disc?" If the answer is no, and the edges are blurred, it's papilloedema.

- **4. Other Advanced Features (Less common in recalls so far, but good to know):**
    - **Cotton Wool Spots:** These are soft, fluffy-looking white patches on the retina. They represent areas of nerve fiber layer infarction (mini-strokes) due to vessel occlusion.
    - **Flame-shaped Haemorrhages:** Bleeds in the nerve fiber layer that follow the architecture of the nerves, appearing linear or flame-shaped.
    - (Hard exudates - waxy yellow deposits from leaky vessels - are more typical of diabetic retinopathy but can be seen).

**III. Contrasting with Other Pathologies:**

- **Glaucoma (For Comparison):**
    - **Key Feature: Optic Disc Cupping.**
    - **What it is:** In glaucoma, increased intraocular pressure causes progressive damage and death of the optic nerve fibers.
    - **How it looks:** The central "cup" within the optic disc becomes larger and deeper. The cup-to-disc ratio increases (e.g., > 0.5). The neuroretinal rim (the healthy nerve tissue around the cup) becomes thinner.
    - The tutor shows an image and explains: *"You are seeing cupping of the disc... looking at your optic disc, almost more than half of it is the cup."*
- **Tutor's Final Point:** Be prepared for these retinal photos to be given to you in cases of TIA or hypertension counseling. Your job is to identify the signs of hypertensive retinopathy, understand that they are chronic changes reflecting long-term, likely poorly controlled hypertension, and use this as a key risk factor in your overall assessment of the patient.

Syncope

This is a foundational masterclass on the **Syncope & Pre-Syncope** cluster of cases for the AMC exam. The tutor emphasizes that "fall" is a common but vague stem, and the first critical step is to differentiate a true syncopal event (with loss of consciousness) from a simple fall or a seizure. A broad, structured approach to differential diagnosis is essential.

Here's the organized breakdown:

**AMC Approach: Syncope & Pre-Syncope Cases - Structure & Differentials**

**I. Introduction & The Challenge of "Falls":**

- **Vague Stem:** Many AMC cases start with "a patient who has had a fall."
- **Critical First Distinction:** Your history must differentiate between:
    1. **Syncope/Pre-Syncope:** A transient loss of consciousness (or near-fainting) causing the fall.
    2. **Seizure:** A convulsive event causing the fall.
    3. **Recurrent Falls:** Falls due to other reasons (e.g., gait/balance issues, vision problems, hazards) without loss of consciousness.
- **Tutor's Note:** Applying the wrong structure (e.g., a "recurrent falls" structure to a "syncope" case) will lead to a fail. This initial differentiation is key.

**II. Building a Comprehensive Differential Diagnosis List for Syncope:**

- **Tutor's Approach:** Organize by system. The two primary systems involved are the brain (neurological) and the heart (cardiovascular).
- **The List:**
    1. **Cardiovascular (Serious/Life-Threatening):**
        - **Myocardial Infarction (MI) / Acute Coronary Syndrome (ACS).**
        - **Symptomatic Arrhythmias** (tachyarrhythmias like AF/SVT/VT; bradyarrhythmias like heart block).
        - **Cardiomyopathies** (especially **Hypertrophic Obstructive Cardiomyopathy - HOCM**).
        - **Valvular Disease** (especially **Aortic Stenosis**).
        - Pericarditis/Myocarditis (less common).
        - Long QT Syndrome.

2. **Neurological:**
    - **Seizure (Must differentiate from syncope).**
    - **Stroke / TIA.**
    - **Intracranial Haemorrhage (ICH), especially Subarachnoid Haemorrhage (SAH).**
    - Brain Tumours.
    - Brain Infections (e.g., Meningitis).
3. **Reflex Syncope (Common):**
    - **Vasovagal Syncope ("common faint"):** Triggered by emotion, stress, pain, prolonged standing in a warm environment.
    - **Situational Syncope:** Triggered by specific actions (coughing, micturition, defecation).
    - **Orthostatic (Postural) Hypotension:** Drop in BP on standing.
4. **Metabolic:**
    - **Hypoglycaemia.**
    - Electrolyte abnormalities.
5. **Substances:**
    - Alcohol, illicit drugs.
    - **Medication side effects** (overdose or withdrawal).
6. **Psychogenic:**
    - Psychogenic pseudosyncope, anxiety/panic attacks (usually pre-syncope, not true LOC).

**III. The Structured History Taking for Syncope (4 Big Steps with a twist):**

- **Tutor's Note:** The structure is unique. You explore the syncopal event *itself* first, then the events *before*, then the events *after*, and finally, you screen for causes using a systemic review.
- **Big Step 1: Introduction**
    - (Standard: Haemodynamic stability, open-ended question, address concern).
- **Big Step 2: Explore the Complaint (Syncope - Before, During, After)**
    1. **The Defining Question (Syncope vs. Fall):**
        - *"When you fell, did you **lose consciousness completely**, or were you still **aware of your surroundings**?"* (If LOC -> Syncope path. If aware -> Falls path).
    2. **Differentiate Syncope vs. Seizure:**
        - *"Did anyone witness the event?"* (Yes).
        - *"Did they tell you if you had any **jerky movements** of your arms and legs?"*
        - *"Did you **bite your tongue**?"*
        - *"Did you **lose control of your bladder or bowels** (wet or soil yourself)?"* (If yes to these -> Seizure path. If no -> Syncope path).
    3. **Explore the Syncopal Episode Itself (The "During"):**
        - **Timing:**
            - *"How long were you unconscious for?"* (Seconds to a minute is typical for syncope; longer suggests seizure or other serious cause).
            - *"Is this the first time this has happened?"* (If recurrent, explore each episode).
        - **Context:**
            - *"What were you doing just before it happened?"* (e.g., exercising, standing up, coughing, emotional stress).
            - *"What was the environment like? Were you in a hot or crowded place?"*
            - *"Did it happen after changing position?"*
            - *"Were you standing for a long time?"*
    4. **Key Questions for Events BEFORE the Syncope (Key Points, not symptoms):**
        - **Warning Signs (Prodrome):** *"Did you feel any **warning signs or symptoms** just before it happened? Did you know you were about to fall/faint?"* (Presence of a prodrome - dizziness, nausea, sweating - suggests vasovagal. Absence suggests a dangerous cardiac cause like an arrhythmia).
        - **Food/Fluid Intake:** *"Did you **miss any meals** before it happened? Have you been drinking fluids as usual today?"* (For hypoglycaemia, dehydration).
        - **Preceding Events:** *"Did you have any **head injuries** before it happened? Any **fever or rashes**?"*
    5. **Key Questions for Events AFTER the Syncope (Key Points, not symptoms):**

        - **Post-Ictal State (Key for Seizure):** *"Were you **confused** when you woke up/regained consciousness?"* (Confusion suggests post-ictal state from seizure. Tiredness is common in vasovagal syncope, but confusion is different).
        - **Appearance:** *"Were you looking **pale** afterwards?"* (Common in vasovagal).
        - **Injuries from the Fall:** *"Did you **injure your head or any other part of your body** when you fell?"* (Post-fall assessment).
- **Big Step 3: Screen for Differentials (Systematic Review for Causes)**
    - **Tutor's Rule:** No symptoms here. The questions are now about underlying conditions that could *cause* the syncope.
    - **Give a Preamble:** *"Bill, for the following questions, can you tell me if you had any of these symptoms either before or after the event?"*
    3. **Neurological Differentials:** "Any headache? Blurring of vision? Slurred speech? Weakness? Numbness?"
    4. **Cardiovascular Differentials:** "Any chest pain? Racing of your heart (palpitations)?"
    5. **Respiratory Differentials:** "Any shortness of breath? Cough? Swelling in the legs (for PE)?"
    6. **GI Symptoms:** "Nausea, vomiting?"
    7. **"Others" (Targeted Screening for key differentials):**
        - "Any long travel recently (for PE)?"
        - "Any yellowish discoloration of your skin (for liver disease)?"
        - "Any weather preference (for thyroid disease)?"
    8. **Substances:** "Do you drink alcohol? Use any drugs? Do you take any medications regularly, or have you stopped any recently?"
    9. **Psychogenic:** "Were you breathing very fast before this happened (hyperventilation)? Was there any stressful incident just before this happened?"
- **Big Step 4: Good Closure (SADMA, PMHx, FMHx - focus on key areas)**
    - **Family History (CRITICAL for syncope):**
        - *"Any family history of similar episodes?"*
        - *"Any family history of **sudden cardiac death**, especially at a young age?"* (For HOCM, Long QT).
    - (Other PMHx like diabetes, IHD, seizure, migraine history).

**IV. Physical Examination Structure for Syncope:**

1. **General Appearance:** Alert/drowsy? Pallor? Hydration? Rashes?
2. **Vital Signs (Crucial):**
    - Standard vitals (BP, HR, RR, Temp).
    - **Pulse Rhythm** (for arrhythmias).
    - **Postural (Orthostatic) Blood Pressure Drop.**
3. **Neurological Examination (Full).**
4. **Cardiovascular Examination (Full).**
5. **Respiratory Examination (Brief Screen).**
6. **Abdominal Examination (Brief Screen).**
7. **Office Tests: Blood Sugar Level (BSL), Urine Dipstick, ECG.**

**V. Key Learning Points for the Syncope Case:**

- **Differentiate First:** The initial questions must clearly separate a syncopal event from a simple fall or a seizure.
- **"Before, During, After" Structure:** Exploring the complaint in this sequence is logical and high-yield.
- **Key Point Questions are Different from Symptom Screening:** The "before" and "after" sections are for specific clues (warning signs, missed meals, head injury, confusion), not a general symptom review.
- **Warning Signs are Critical:** Their absence points towards a dangerous cardiac cause.
- **Family History of Sudden Death:** A non-negotiable question for a syncope case.
- **The PFEE is Comprehensive:** It must include a full neuro and CVS exam, plus postural vitals and key office tests.
- By following this detailed structure, a candidate can safely and thoroughly navigate the very broad differential diagnosis of syncope.

Aortic stenosis

This section provides a detailed walkthrough of a classic, high-stakes face-to-face exam case: **Syncope on Exertion due to Aortic Stenosis.** The tutor emphasizes the importance of a broad differential diagnosis for syncope, even with a strong clue in the stem, and then meticulously breaks down how to perform a focused yet comprehensive physical examination from the examiner (PFEE) to pinpoint the diagnosis.

Here's the organized breakdown:

**AMC Recalls: Syncope on Exertion (Aortic Stenosis Case)**

**I. Case 70: 40 y.o. Male, ED, after a Fall while Playing Tennis**

- **Stem Summary:**
  - 40-year-old male, ED.
  - **Complaint:** Had a "fall" while playing tennis (heavy physical activity).
- **Tasks:**
  1. Take a history (4 minutes).
  2. Ask Physical Examination from Examiner (PFEE).
  3. Explain diagnosis and differentials to the patient.
- **Tutor's Brainstorming Prompt:** For syncope on exertion in a middle-aged man, what are the top differentials?
  - **Answer:** Serious cardiovascular causes must be at the top: **Aortic Stenosis, HOCM, Arrhythmias, and Ischemic Heart Disease (MI).**

**II. The Structured History Taking (Syncope Structure):**

1. **Opening & Intro:**
   - (Haemodynamic stability check with examiner first).
   - Open-ended Q: *"Gary, how can I help you today?"*
   - Patient: *"Doctor, I was playing tennis with my mates, and I just blacked out. My friends brought me to the ED, and I'm really worried."*
   - Address concern: Empathetic, reassuring statement.
2. **Explore the Complaint (Differentiate Syncope vs. Seizure first):**
   - **Confirm LOC:** *"Gary, let me confirm, did you **lose consciousness completely**, or were you aware of your surroundings when you fell?"* (Completely blacked out -> Syncope).
   - **Rule out Seizure:** *"Did your friends tell you if you had any **jerky movements** of your arms and legs? Did you **bite your tongue**? Did you **wet or soil yourself**?"* (No to all -> Not a seizure).
   - **Explore the Syncope Itself:**
     - **Duration:** *"Do you know how long you were unconscious for?"* (A few minutes).
     - **Frequency:** *"Is this the first time this has happened?"* (Yes).
     - **Context:** (Already known - during heavy exercise - tennis).
3. **Key Questions for Events BEFORE the Syncope:**
   - **Warning Signs (CRITICAL):** *"Did you get any **warning signs** before you fell/blacked out?"* (Patient: **"No, doctor, I just blacked out."** -> Absence of a prodrome is a major red flag for a cardiac cause).
   - **Other "Before" Questions:** "Did you miss any meals? Were you drinking fluids? Any head injuries before this happened? Any fever or rashes?" (All negative).
4. **Key Questions for Events AFTER the Syncope:**
   - "When you woke up, were you **confused or tired**?" (No, was totally fine -> No post-ictal state).
   - "Did you **injure yourself** when you fell?"
5. **Screening for Differentials (Systematic):**
   - **Cardiovascular (Top Priority due to exertional syncope & no warning signs):**
     - **Key Question:** *"Did you have any **chest pain**?"* (Patient: **"Yes, doctor."**). -> **EXPLORE THE CHEST PAIN (SOCRATES):** *"Can you tell me the site...? Did it radiate anywhere?"* (Patient: "Yes, to my left arm and neck"). *"What was the quality?"* ("A heavy sensation").
     - **Other Cardiac Symptoms:** *"Did you have any **shortness of breath**? Any **racing of your heart**?"* (Yes to SOB).
     - **CARDIOVASCULAR RISK FACTORS (CRITICAL):**

        - *"Do you have a history of **high blood pressure, high blood sugar, or high fats** in your blood?"* (Yes, high BP).
        - *"Any **family history** of heart attacks or strokes?"*
    - **Neurological, Respiratory, GI, etc.:** (Continue screening other systems as per the syncope structure, but the positive cardiac findings make them less likely).

**III. The Physical Examination from Examiner (PFEE) - Focused on CVS:**

- **Tutor's Note:** The core system is **Cardiovascular**. It must be examined completely (Inspection, Palpation, Auscultation).

1. **General Appearance:** Alert/drowsy? Pallor? Dehydration? Rashes?
2. **Vital Signs:** (Postural drop, pulse rhythm).
3. **Neurological Examination (Screen):** Cranial nerves, fundoscopy, upper/lower limb neuro. (Will be normal).
4. **CORE SYSTEM: Cardiovascular Examination (Detailed & Specific):**
    - **Inspection:** *"Examiner, on inspection, do I have a **raised JVP**? Do I have a **visible apex beat**?"*
    - **Palpation:** *"On palpation, do I have a **displaced apex beat**? Do I have a **parasternal heave**?"*
    - **Auscultation (CRITICAL):**
        - *"Are **S1 and S2 normal**?"* (Yes).
        - *"Do I have any **murmurs or added sounds**?"* (Examiner: "Yes, you do have a murmur.").
        - **PROBE THE MURMUR:**
            - *"Can you tell me the **site** where the murmur is best heard?"* (Aortic area / 2nd intercostal space, right sternal edge).
            - *"What is the **timing** of the murmur? Is it systolic or diastolic?"* (Systolic).
            - *"Does the murmur **radiate anywhere**?"* (Yes, to the neck/carotids).
5. **Respiratory & Abdominal Exam (Quick Screen).**
6. **Lower Limb Exam (Check for edema - HF).**
7. **Office Tests:** ECG (will be abnormal but may not be given), BSL, Urine Dipstick.

**IV. Diagnosis and Differentials:**

- **Key Findings:** Syncope on exertion with no warning signs, accompanied by typical anginal chest pain and SOB. On examination, a classic **ejection systolic murmur radiating to the carotids.**
- **Diagnosis: Aortic Stenosis.**

1. **Explain the Diagnosis to the Patient:**
    - *"Gary, most likely you have a condition called **aortic stenosis**."*
    - **Brief Explanation:** *"The **aortic valve is like a gateway** between the main pumping chamber of your heart and the main blood tube that carries blood and oxygen to your organs. In your case, this **gateway has become narrowed**."*
2. **Provide the REASONS for your diagnosis (Link to "Triad" of symptoms & exam):**
    - *"The reasons I believe this is the case are because you experienced the classic triad of symptoms for this condition: **chest pain, shortness of breath, and fainting, all happening during exercise**."*
    - *"Also, on my physical examination, I heard some **abnormal sounds in your heart** (the murmur) that confirms this narrowing in that gateway."*
3. **List & Rule Out Differentials:**
    - **Prioritize other serious cardiac causes:**
        - *"I was also thinking about an **ischemic heart disease** event, like a heart attack, but your heart scan (ECG) was normal, which makes that less likely right now."*
        - *"I also considered an **arrhythmia**, which is an abnormal beating of your heart, but you didn't describe a racing heart, and your pulse was regular."*
        - *"Another condition called **hypertrophic cardiomyopathy** was also on my mind, but the murmur I heard is more typical for aortic stenosis."*
    - **Then list other syncope differentials:** Seizure, brain tumour, stroke, ICH, hypoglycaemia, vasovagal syncope, PE, etc.

**V. Handbook Insights & OSCE Traps:**

- **Handbook emphasizes a full CVS exam:** The case is designed to test your ability to properly examine the cardiovascular system and characterize a murmur. Asking vague questions like "any added sounds?" may not be enough; you might need to specifically ask "any murmurs?"
- **Investigations:** The handbook warns against "shotgun" investigation requests. Be specific. For this case, key investigations would be an **ECG** and an **Echocardiogram** (to confirm the valve stenosis).
- **Don't miss the Carotid Bruits/Radiation:** Auscultating the carotids is a key part of the CVS exam in this context. The radiation of the murmur is a classic sign.

**VI. Key Learning Points for the Aortic Stenosis Case:**

- **Syncope on Exertion = Cardiac Cause until proven otherwise.**
- **Absence of Warning Signs = Red Flag** for a serious cardiac arrhythmia or outflow obstruction (like AS or HOCM).
- **The Classic Triad:** Be aware of the classic triad of aortic stenosis: **Angina (chest pain), Syncope, and Dyspnoea (SOB)**, especially on exertion.
- **Full CVS Examination is a MUST:** You must demonstrate a complete examination (I, P, A) and know how to characterize a murmur (Site, Timing, Radiation, etc.).
- **Don't Get Sidetracked:** Even if the patient has cardiovascular risk factors, the primary diagnosis is the structural valve problem (AS), which is causing the syncope. The risk factors are important context but not the primary diagnosis itself.
- This case tests the ability to diagnose a critical cardiovascular condition based on a classic history and specific physical examination findings elicited in a structured manner.

Bradycardia

**AMC Recalls: Syncope with Bradycardia**

**I. Case 72: 52 y.o. Male, ED, after two episodes of falls/loss of consciousness**

- **Stem Summary:**
  - 52-year-old male, ED.
  - **Complaint:** Two episodes of falls / loss of consciousness.
  - **Patient's Agenda/Concern:** He is worried because his daughter had to help him, and he fears falling when no one is around.
- **Tasks (Online Exam Format):**
  1. Take a history (6 minutes).
  2. Physical Examination findings provided on a screen/card .
  3. Explain diagnosis and differentials.
- **Tutor's Note:** This is another case where the stem uses "fall," but the history will reveal it's true syncope. The core task is to apply the structured syncope history to a patient who turns out to have an underlying bradyarrhythmia.

**II. The Structured History Taking (Syncope Structure):**

1. **Opening & Intro:**
   - (Haemodynamic stability check).
   - **Open-Ended Question:** *"Gary, I can see from the notes that you've been having some falls. Can you tell me more about it?"*
   - **Patient's Opening Statement & Concern:** *"Doctor, I've fallen twice, and I'm very worried about this because last time my daughter was there to help me, but what if I fall once and there's no one there to help me?"*
   - **Address Concern:** *"I understand how concerning that can be, Gary. We will definitely try to find the cause today to prevent further falls. Let me start by asking you a few questions."*
2. **Explore the Complaint (Differentiate Syncope vs. Seizure first):**
   - **Confirm LOC:** *"Gary, can you just confirm for me, when these episodes happened, did you **lose consciousness completely**, or were you aware of your surroundings?"* (Lost consciousness -> Syncope).

- **Rule out Seizure:** *"Did your daughter tell you if you had any **jerky movements**? Did you **bite your tongue**? Did you **lose control of your bladder or bowels**?"* (No to all -> Not a seizure).
- **Explore the Syncopal Episodes (Timing & Context):**
  - **Duration:** *"Do you know how long you were unconscious for?"* (A minute or two).
  - **Describe each episode (Patient provides key clues):**
    - **Episode 1:** *"The first time, I **got out of bed**, and I fell. My daughter saw me, and she said I was looking very pale."* (Suggests orthostatic or vasovagal component).
    - **Episode 2:** *"The second time, I was with my daughter, I was **sitting on the couch**. I felt a **thump in my heart**, in my chest, a very big beat or a pound, and that's when I lost consciousness."* (The palpitation/"thump" is a huge clue for a cardiac arrhythmia).
  - (Explore environment - hot/humid, emotional triggers - likely negative).

3. **Key Questions for Events BEFORE the Syncope:**
   - **Warning Signs (CRITICAL):** *"Did you get any **warning signs** before you blacked out?"* (Patient: **"No."** -> Red flag for a cardiac cause).
   - **Other "Before" Questions:** (Missed meals, fluids, head injury, fever/rash - all negative).
4. **Key Questions for Events AFTER the Syncope:**
   - **Post-Ictal State:** *"When you woke up, were you **confused**?"* (No, was totally fine -> Not a seizure).
   - **Appearance:** "Did anyone tell you that you looked pale afterwards?" (Yes, my daughter told me I was pale after the first time).
   - **Injuries:** "Did you injure yourself when you fell?"
5. **Screening for Differentials (Systematic):**
   - **Neurological:** (Headache, blurred vision, slurred speech, weakness, numbness - all negative).
   - **Cardiovascular (Top Priority):**
     - "Did you have any chest pain?" (No).
     - **"Did you have any racing of your heart?"** (Patient: **"Yes"** - he already mentioned the "thump").
     - **Probe the Palpitation:** *"Can you describe the racing of your heart? Was it beating fast or irregularly?"* (Patient: "I don't really know, I just felt my heart racing"). *"Can you try to tap it?"* (No).
     - "Any shortness of breath? Any swelling in your legs? Any cough?" (No).
   - **GI, Stimulants, Psychogenic, Other (screen briefly as per structure):** (All negative).
   - **Past Medical / Family History:** (Ask about PMHx, FMHx of sudden death for HOCM, etc.).

**III. Physical Examination & Investigation Findings (Provided on Screen/Card):**

- **Vital Signs:**
  - BP: Fine.
  - **Pulse Rate: 42 bpm** (Bradycardia).
  - Rhythm: **Regular**.
  - Temp: Normal.
- **CVS Exam:** Normal.
- **Neuro Exam:** Normal.
- **Fundoscopy:** Normal.
- **Office Tests:**
  - **BSL:** Normal.

**IV. Explaining Diagnosis and Differentials to the Patient:**

- **Tutor's Note:** The key finding is bradycardia (slow heart rate). However, there are many causes of bradycardia. Do NOT jump to a specific diagnosis like "complete heart block" or "Long QT syndrome" without ECG evidence. The safest and most accurate diagnosis is the *symptom/sign* itself.

1. **Most Likely Diagnosis (The Sign/Symptom):**
   - *"Gary, based on our discussion and the examination findings, it appears you have a condition called **bradycardia**."*
2. **Brief Explanation:**
   - *"Bradycardia simply means that your **heart is beating too slowly**, slower than normal."*

3. **Explain the Potential Causes (This is your "differential diagnosis" for the bradycardia):**
    - *"This slow heart rate can happen for a number of reasons, and we will need to do more tests, like an ECG, to find the exact cause. The possible causes include:"*
    - **Sinus Bradycardia** (the heart's natural pacemaker is slow).
    - **Heart Blocks** (a problem with the electrical wiring in the heart).
    - **Long QT Syndrome** (a specific electrical problem).
    - **Sick Sinus Syndrome** (a problem with the heart's natural pacemaker).
    - **Ischemic Heart Disease** (a blockage in the heart arteries affecting the electrical system).
    - (You are essentially listing the differential diagnoses for bradycardia itself).
4. **List & Rule Out Other Differentials for Syncope:**
    - *"While the slow heart rate is the most likely cause of your blackouts, I was also thinking about other possibilities."*
    - *"I was considering other heart problems like **hypertrophic cardiomyopathy** or **pericarditis**."*
    - *"I also thought about neurological causes like **seizures, brain tumours, meningitis, or a stroke**, but your history and examination make these less likely."*
    - *"We also considered a **low blood sugar level (hypoglycaemia)**, **electrolyte imbalances**, a **vasovagal syncope (common faint)**, a **clot in the lung (pulmonary embolism)**, or side effects from **alcohol, drugs, or medications**."*

**V. Key Learning Points for the Syncope with Bradycardia Case:**

- **The Structure Works:** The standard syncope history structure successfully elicits the key findings (exertional syncope, palpitations, no warning signs) that point towards a cardiac cause.
- **Diagnose the Sign, Differentiate the Cause:** When the key finding is a sign like bradycardia, your primary "diagnosis" is the sign itself. Your "differentials" then become the underlying causes of that sign.
- **Don't Over-diagnose:** Without an ECG, you cannot specify the exact type of bradyarrhythmia (e.g., complete heart block vs. sinus bradycardia). Stating "bradycardia" is accurate and safe.
- **Comprehensive Differential for Syncope is Still Required:** Even when a clear cause like bradycardia is found, you must still mention and briefly rule out the other major categories of syncope causes to demonstrate a thorough and safe approach.
- **Listen to the Patient's Story:** The patient's description of the two different episodes (one orthostatic-like, one with a "thump") provides rich clinical clues that point towards an intermittent arrhythmia.
- This case tests the ability to apply a structured history to uncover a specific clinical sign, and then to correctly frame the diagnosis and differentials around that sign rather than a specific disease entity.

Vasovagal syncope

**AMC Recalls: Vasovagal Syncope Cases**

**I. Case 73 (Classic Face-to-Face Version): 17 y.o. Girl, ED, Fainted for 30 seconds at a Parade**

- **Stem Summary:**
    - 17-year-old girl, ED.
    - Fainted for 30 seconds while attending a parade.
    - Incident was witnessed by friends.
    - **Investigations in stem (to reassure but not alter your structure):** BSL and ECG are normal.
- **Tasks:**
    1. Take a history (4 minutes).
    2. Ask Physical Examination from Examiner (PFEE).
    3. Explain diagnosis and differentials.
- **Tutor's Note on "Provided Info":** Even if the stem says ECG/BSL are normal, you still need to ask about relevant symptoms (palpitations, missed meals) in your history to demonstrate a thorough process.

**II. The Structured History Taking (Syncope Structure):**

1. **Opening & Intro:**
    - (Haemodynamic stability check).

- Open-ended Q. Patient explains she fainted at a parade, friends were worried and brought her in. Address her concern.

2. **Explore the Complaint (Differentiate Syncope vs. Seizure first):**
   - **Confirm LOC:** *"Can you just confirm for me, did you **lose consciousness completely**...?"* (Yes).
   - **Rule out Seizure:** *"Did your friends tell you if you had any **jerky movements**...?"* (No). *"Did you **bite your tongue**...?"* (No). *"Did you **lose control of your bladder or bowels**...?"* (No).
   - **Explore the Syncopal Episodes (Timing & Context):**
     - **Frequency (Key for this recall):** *"Is this the first time this has happened?"* (Patient: **"No, this is the third time."**).
     - **Deep Dive into all episodes:** *"Can you please describe the three episodes for me?"*
       - Patient: *"The first time, I **got out of bed and was rushing** to pick up the phone and I fell. The second time, I **saw blood** and I just fainted. The third time was today at the parade."* (These are classic vasovagal/orthostatic triggers).
     - **Context of Today's Faint:**
       - *"Were you **standing for a long time** at the parade?"* (Yes, for an hour or two).
       - *"Was it a **hot and humid day**?"* (Yes).
       - *"Was there any **strong emotion or fear**?"* (e.g., excitement of the parade).
3. **Key Questions for Events BEFORE the Syncope:**
   - **Warning Signs (CRITICAL for Vasovagal):** *"Did you get any **warning signs** before you fainted?"* (Patient: **"Yes, doctor, I was seeing blurry, and I felt a little bit light-headed, and then I fainted."** -> This prodrome is classic for vasovagal syncope).
   - **Other "Before" Questions:** "Miss any meals? Drinking fluids? Head injuries? Fever/rashes?" (All negative).
4. **Key Questions for Events AFTER the Syncope:**
   - **Post-Ictal State:** *"When you woke up, were you **confused** or tired?"* (Patient: **"I was feeling tired, but not confused."** -> Tiredness is common post-faint; absence of confusion argues against seizure).
   - (Ask about injuries from the fall, being pale).
5. **Screening for Differentials (Systematic):**
   - **Neurological:** (Headache - patient says yes, chronic, uses Nurofen -> briefly explore but move on, blurring of vision, slurred speech, weakness, numbness - all negative).
   - **Cardiovascular:** (Chest pain, racing heart, SOB, leg swelling, cough - all negative).
   - **GI, Stimulants, Psychogenic:** (Standard screening).
   - **Past Medical / Family History:** (Including family history of sudden death for HOCM).

**III. Physical Examination from Examiner (PFEE):**

- **Key Finding: Postural (Orthostatic) Hypotension.**

1. **General Appearance:** (Alert, pale?).
2. **Vital Signs:**
   - Ask for standard vitals.
   - **MUST ASK:** *"I would like to check for a **postural drop in blood pressure**."* (Examiner: "Lying BP is 120/80. Standing BP is 94/62.").
3. **Neurological, CVS, Respiratory, Abdominal Exam:** (Perform standard screen as per syncope structure).
4. **Office Tests:** (BSL, ECG already given in stem as normal).

**IV. Explaining Diagnosis and Differentials to the Patient:**

- **Tutor's Diagnostic Dilemma:** The history is classic for vasovagal syncope, but the key exam finding is postural hypotension. Are they the same?
  - **Tutor's Clarification:** They are both forms of **reflex syncope** with overlapping pathophysiology (a transient autonomic dysfunction). For the OSCE, the primary diagnosis should be the one that best fits the predominant historical pattern.

1. **Most Likely Diagnosis:**
   - *"Jane, most likely you are having a condition called **vasovagal syncope**, which is also known as a 'common faint'."*
2. **Brief Explanation:**

    - *"When you stand for a long time, especially in a hot environment, some nerves can activate in your body. These nerves cause the blood vessels in your legs to dilate or widen. This leads to less blood and oxygen being delivered to your brain for a moment, which can lead to a faint."*
3. **Provide the REASONS for your diagnosis (Link to history):**
    - *"The reasons I think this is the case are because of the **environment** you were in today – it was a hot day, you were standing for a long time in a crowded place."*
    - *"Your **previous episodes** also sound like typical vasovagal faints, like fainting after seeing blood or when rushing to get up."*
    - *"Crucially, you had **warning symptoms** before you fainted, like feeling light-headed and having blurry vision. This is very characteristic of this type of faint."*
4. **Incorporate the Exam Finding:**
    - *"On my examination, I also found that you have some **postural hypotension**. This means your **blood pressure drops when you stand up**. This is part of the same mechanism that causes the vasovagal syncope."*
5. **List & Rule Out Other Differentials:** (Use the standard, comprehensive syncope differential list, briefly explaining why the most serious ones are unlikely).

**V. Case 74 (Newer Online Version - Multiple Triggers): 15 y.o. Girl, ED, LOC after 100m race**

- **History Findings (Multiple Positives - The "Multiple Finding Drama"):**
    - Fell at the end of a 100m race (exertional component).
    - She was given Gastrolyte afterwards (suggests dehydration/electrolyte issue).
    - It was a **hot day**.
    - She **skipped breakfast** (hypoglycaemia risk).
    - She **had warning symptoms** (dizzy, light-headed).
    - She looked **pale** afterwards.
    - No sinister cardiac or neurological symptoms.
    - **Physical Exam:** Shows **postural hypotension**.
- **The Diagnostic Challenge:** You have features suggesting vasovagal syncope (hot day, exertion, warning signs), postural hypotension (on exam), and hypoglycaemia (skipped breakfast).
- **How to Counsel:**
    1. **Choose the MOST LIKELY diagnosis as your primary: Vasovagal Syncope** is the best fit for the overall clinical picture (exertion in heat with a prodrome).
    2. **Acknowledge the other contributing factors.**
    3. **Example Explanation:**
        - *"Jane, the most likely cause of your faint today was a **vasovagal syncope**. This was likely triggered by a combination of factors: the heavy exertion of the race, it being a hot day, and the fact that you were likely a bit dehydrated."*
        - *"However, there are other possibilities. Because you **skipped breakfast**, you might also have had a **low blood sugar level (hypoglycaemia)**, which could have contributed."*
        - *"We also found on examination that you have some **postural hypotension**, where your blood pressure drops on standing, which is part of the same fainting mechanism."*
    4. (Proceed to rule out other serious differentials like HOCM, arrhythmias, etc., explaining *why* they are less likely despite the exertional trigger - e.g., "you had clear warning signs, no chest pain, and no family history of sudden death").

**VI. Key Learning Points for Vasovagal Syncope Cases:**

- **Recognize the Classic Triggers:** Prolonged standing, heat, emotional stress, pain, sight of blood, dehydration, exertion.
- **The Prodrome is Key:** The presence of warning signs (light-headedness, dizziness, nausea, sweating, blurred/tunnel vision) is the most important feature distinguishing vasovagal syncope from more dangerous cardiac causes.
- **Postural Hypotension is a Sign, not always the Primary Diagnosis:** It's a common finding in patients with reflex syncope and should be integrated into the explanation, not necessarily replace the primary diagnosis of vasovagal syncope if the history fits.
- **"Multiple Finding Drama":** Be prepared for cases with multiple potential triggers. Acknowledge all of them, but make a reasoned judgment about the most likely primary cause.

- **Safety Netting:** Even with a benign diagnosis like vasovagal syncope, it's important to have ruled out serious cardiovascular and neurological causes through a structured history.

Funny turn

This section provides a detailed walkthrough of a complex case presenting as a **"funny turn," which is revealed to be a seizure**. The tutor emphasizes that despite the event being a seizure, the initial history-taking structure for "syncope/loss of consciousness" is the most robust and safest way to approach the case, as it systematically rules out other causes of transient loss of consciousness (TLOC).

Here's the organized breakdown:

**AMC Recalls: Seizure Case (Presenting as a "Funny Turn")**

**I. Case 75: 25 y.o. Girl, ED, after a "Funny Turn" this morning**

- **Stem Summary:**
  - 25-year-old girl, ED.
  - **Complaint:** "Funny turn" this morning.
- **Tasks (Face-to-Face Exam Format):**
  1. Take a history (4 minutes).
  2. Ask Physical Examination from Examiner (PFEE).
  3. Explain diagnosis and differentials.
- **Tutor's Note:** "Funny turn" or "fit" are layman's terms for a seizure. However, the initial clinical approach should be broad to cover all causes of TLOC.

**II. The Structured History Taking (Using the Syncope Structure):**

- **Tutor's Rationale:** Do not jump to a "seizure history" structure. A broad "loss of consciousness" structure (the syncope one) is safer because it forces you to rule out cardiac, metabolic, and other causes before concluding it was a seizure.

1. **Opening & Intro:**
   - (Haemodynamic stability check).
   - Open-ended Q: *"Hello [Patient's Name], how can I help you today?"*
   - Patient: *"I woke up, went to the fridge, and then I had a funny turn. My parents saw it and were really worried."*
   - Address concern: Empathetic, reassuring statement.
2. **Explore the Complaint (Differentiate Syncope vs. Seizure first):**
   - **Confirm LOC:** *"Did you **lose consciousness completely**, or were you aware of your surroundings?"* (Lost consciousness).
   - **KEY QUESTIONS FOR SEIZURE:**
     - *"Did anyone witness it?"* (Yes, my parents).
     - *"Did your parents tell you if you had any **jerky movements** of your arms and legs?"* (Patient: **"Yes, they did."**).
     - *"Did you **lose control of your bladder or bowels** (wet or soil yourself)?"* (Patient: **"Yes, I did wet myself."**).
     - *"Did you **bite your tongue**?"* (Yes/No).
     - *(Tutor notes the role player may also volunteer "upward rolling of my eyes").*
   - **Conclusion so far:** This is a **seizure**, not a simple faint. But you *continue* with the TLOC structure to find the cause.
3. **Explore the Seizure Episode (Timing & Context):**
   - "How long did the funny turn last for?"
   - "Is this the first time this has happened?"
   - "What were you doing when it happened?" (Woke up, went to the fridge).
4. **Key Questions for Events BEFORE the Seizure (Key Point Screen):**
   - **Warning Signs (Aura):** "Did you have any warning signs before this happened?" (e.g., strange smells, déjà vu). (No).
   - **Hypoglycaemia: "Did you miss any meals last night or this morning?"** (Patient: **"Yes, I woke up late and had missed breakfast."** -> Key Positive Finding).
   - **Dehydration:** "Were you drinking enough fluids?"
   - **Head Injury:** "Did you have any head injuries before this happened?"

- **Infection:** "Did you have any fever or rashes?"

5. **Key Questions for Events AFTER the Seizure (Post-Ictal Phase):**
   - **Post-Ictal Confusion (CRITICAL):** *"When you regained consciousness, were you **confused** or tired?"* (Patient: **"Yes, I was very confused."** -> Key Positive Finding).
   - (Ask about injuries from the event, being pale).
6. **Screening for Differentials / Causes of Seizure (Systematic):**
   - **Substances (High Yield):**
     - **Alcohol:** *"Did you drink any **alcohol** last night?"* (Patient: **"Yes, I was at a party last night and I just remember drinking champagne."** -> Key Positive Finding). "Do you know how much you drank?" (I don't remember).
     - **Drugs:** *"Did you use any recreational **drugs**?"* (I don't remember).
     - **Medications:** *"Are you taking any regular medications, or have you **stopped any medications recently**?"*
   - **Neurological (Structural Causes):** (Headache, neuro deficits, brain tumour red flags - all negative).
   - **Cardiovascular:** (Chest pain, palpitations - all negative).
   - (GI, Psychogenic, etc., as time allows).

**III. Physical Examination from Examiner (PFEE):**

- The PFEE for this case is typically **NORMAL**.
- The structure is the same as the general syncope PFEE (General appearance, Vitals, full Neuro, brief CVS, Resp, Abdo, and office tests like BSL/ECG).
- The normal finding is significant – it makes underlying acute structural brain pathology less likely (though doesn't rule it out).

**IV. Explaining Diagnosis and Differentials to the Patient:**

- **Tutor's Note:** The history has revealed multiple potential triggers (missed breakfast, alcohol). You cannot be certain which one was the primary cause. Your diagnosis and explanation must reflect this uncertainty.

1. **State the Diagnosis (The Event):**
   - *"Most likely, you have had an episode of a **seizure**, which is also known as a fit."*
2. **Brief Explanation of Seizure:**
   - *"This happens because of some temporary **electrical imbalances in your brain**."*
3. **Explain the MOST LIKELY CAUSES/TRIGGERS (Your Differentials for the Seizure):**
   - *"Now, we need to think about why this seizure happened. Based on our conversation, I think there are a few possible reasons:"*
   - **Alcohol (Top of the list):** *"The most likely reason is the **alcohol intake** that you had last night. Alcohol can lower the threshold for having a seizure, even in someone who doesn't have epilepsy."*
   - **Drugs (Acknowledge possibility):** *"There is also a possibility that if you used any recreational **drugs** last night, either willingly or without knowing it, that could also have caused a seizure."*
   - **Hypoglycaemia:** *"Thirdly, you mentioned you **missed breakfast**. Sometimes a **low blood sugar level**, which we call hypoglycaemia, can also cause a seizure."*
4. **List & Rule Out Other Serious Differentials (for seizures):**
   - *"It's also very important that we consider other serious causes, even if they are less likely."*
   - *"Sometimes, brain infections like **meningitis or encephalitis** can cause seizures."*
   - *"Occasionally, a **brain tumour** can be a cause."*
   - *"And sometimes, a **bleed in the brain (intracranial haemorrhage)**, perhaps from a head injury, can also lead to a seizure."*
   - (Then list other syncope differentials briefly to show a comprehensive approach).

**V. Version 2 (The Online Exam Twist - Benzodiazepine Withdrawal):**

- **Scenario:** Same initial presentation (woke up, went to fridge, had a seizure).
- **Key History Finding Change:**
  - History of parties/alcohol/drugs is **NEGATIVE**.

    - When asked about medications, the patient says: **"I usually take Temazepam for sleep, but I have not taken it in the last two days because I ran out."**
- **Diagnosis & Explanation:**
    - The primary diagnosis is still a **seizure**.
    - The most likely cause/trigger is **Benzodiazepine Withdrawal**.
    - **Explanation to Patient:** *"The most possible reason for this seizure is the **withdrawal from your Temazepam tablets**. These tablets can cause dependence in your body if you use them for a long time, and if you suddenly stop them, your body can have a reaction, with a seizure being one of the most severe withdrawal symptoms."*
    - (Still mention other differentials like hypoglycaemia, meningitis, etc., as possibilities).

**VI. Key Learning Points for the Seizure/"Funny Turn" Case:**

- **The Syncope Structure is a Safe and Effective "Loss of Consciousness" Structure:** It works for syncope, seizures, and helps differentiate between them. Do not change your structure just because you suspect a seizure early on.
- **Explore Triggers Thoroughly:** The cause of a first-time seizure is the main diagnostic challenge. Systematically ask about metabolic causes (hypoglycaemia), substances (alcohol, drugs, withdrawal), infections, and trauma.
- **Don't Settle on a Single Cause if Multiple are Possible:** In the alcohol/hypoglycaemia version, acknowledge that several factors likely contributed.
- **Be Aware of Recall Variations:** The shift from an "alcohol-induced" to a "benzo withdrawal" cause is a classic AMC adaptation. A good, broad history structure will protect you and allow you to find the correct trigger.
- **Diagnosis is Two-fold:** First, diagnose the event (a seizure). Second, discuss the likely underlying causes/triggers.

Long QT syndrome

This section covers a rare, difficult, but classic face-to-face exam case: **Congenital Long QT Syndrome** presenting as recurrent syncope. The tutor emphasizes the importance of a structured approach to syncope history, the critical step of "thinking out loud" during ECG interpretation to get key information from the examiner, and how to deliver the diagnosis.

Here's the organized breakdown:

**AMC Recalls: Long QT Syndrome (Presenting as Syncope)**

**I. Case 76: 17 y.o. Girl, ED, Fainted at School, 3rd Episode**

- **Stem Summary:**
    - 17-year-old girl, ED.
    - **Complaint:** Fainted at school for 30 seconds.
    - **Pattern:** This is her **third similar episode**.
    - **Provided Info:** Incident was witnessed. BSL and an **ECG have already been done** and are available.
- **Tasks:**
    1. Take a history (5 minutes).
    2. Interpret the ECG to the examiner.
    3. Explain diagnosis and differentials.
- **Tutor's Initial Insight:** The stem telling you an ECG has been done and is waiting for interpretation is a massive clue that the cause is likely a primary cardiac electrical issue (an arrhythmia).

**II. The Structured History Taking (Syncope Structure):**

1. **Opening & Intro:**
    - (Haemodynamic stability check -> Vitals reveal **bradycardia, rate of 50**).
    - Open-ended Q. Patient explains she fainted in class, this is the third time, she's worried.
    - Address concern: *"I'm so sorry to hear that you fainted again today, Lily. Is it okay if I ask you a few questions to find the reason for your falls?"*

2. **Explore the Complaint (Differentiate Syncope vs. Seizure):**
    - **Confirm LOC:** (Yes, completely blacked out).
    - **Rule out Seizure:** (No jerky movements, tongue biting, or incontinence).
    - **Explore the Syncopal Episodes (Timing & Context):**
        - **Frequency:** Third time.
        - **Describe each episode:** *"Can you please describe the three episodes for me?"* (Patient: "The first time I was rushing to pick up the phone. The second time I saw blood. The third time was today, just sitting in class."). -> *The first two sound vasovagal, but the third (sitting at rest) is a red flag.*
3. **Key Questions for Events BEFORE the Syncope:**
    - **Warning Signs (CRITICAL):** *"Did you get any **warning signs** before you fainted?"* (Patient: **"No."** -> Absence of a prodrome is a major red flag for a cardiac cause, especially an arrhythmia).
    - **Other "Before" Questions:** (Missed meals, fluids, head injury, fever/rash - all negative).
4. **Key Questions for Events AFTER the Syncope:**
    - "When you woke up, were you **confused** or tired?" (Not confused).
    - (Ask about injuries, being pale).
5. **Screening for Differentials (Systematic):**
    - **History is Largely Negative:** The tutor notes that in this specific recall, the screening for neurological, cardiovascular (chest pain, SOB), GI, and other symptoms is almost entirely negative.
    - **The ONLY other key positive finding is elicited here:**
        - **Family History (CRITICAL for congenital channelopathies):** *"Do you have any **family history of similar episodes** or a family history of **sudden death**?"* (Patient: **"Yes, my mom also used to faint when she was younger."**).

**III. The ECG Interpretation - Long QT Syndrome:**

- **The Challenge:** The ECG shows sinus bradycardia but no obvious ST changes or other common abnormalities. The key is the QT interval, which is difficult to measure and correct for rate by eye.
- **Tutor's Personal Story & The "Think Out Loud" Principle:**
    - The tutor failed this station the first time because he tried to calculate the QT interval silently, panicked, and guessed the wrong diagnosis (Sick Sinus Syndrome).
    - His friend passed by "thinking out loud." This is the key to passing this station.
- **How to Interpret this ECG in the OSCE:**
    1. **Systematic Review (Verbalize each step):**
        - **Rate:** *"Examiner, looking at the R-R interval, there are about six large squares, so the rate is slow, around **50 beats per minute**. The patient has bradycardia."*
        - **Rhythm:** *"The rhythm is **regular**, and I can see **P waves** before each QRS, so this is a **sinus bradycardia**."*
        - **PR Interval:** *"The PR interval looks normal, less than 5 small squares."*
        - **QRS Duration:** *"The QRS duration is normal and narrow."*
        - **ST Segment:** *"I do not see any significant ST elevation or ST depressions."*
    2. **The "Think Out Loud" Step for the QT Interval (CRITICAL):**
        - *"The final thing I need to do is check the T-wave and the **QT interval**."*
        - *"However, calculating the corrected QT interval (QTc), especially in the presence of bradycardia, is complex and requires a specific formula (Bazett's formula)."*
        - **Directly ask the examiner:** *"Examiner, I would like to check and calculate the corrected QT interval. Can you please provide me with the QTc value from the machine's reading?"*
    3. **Examiner's Response:** The examiner will then provide the value: **"The corrected QT interval is 0.54 seconds."**
- **What is a Long QT?**
    - Normal QTc is generally < 0.44 seconds.
    - Anything > 0.50 seconds is definitively and dangerously long.
- **Final Impression after getting the QTc:**
    - *"Thank you. Given the QTc is 0.54 seconds, which is significantly prolonged, my overall impression of this ECG is **Long QT Syndrome**."*

**IV. Explaining Diagnosis and Differentials to the Patient:**

1. **Most Likely Diagnosis:**
    - *"Lily, most likely you have a condition called **Long QT Syndrome**."*
2. **Brief, Simple Explanation:**
    - *"In this condition, there is a **problem with the electrical function of your heart**. It takes a little bit longer for your heart muscle to recharge after each beat, and this can cause your heart to beat slower than normal and sometimes lead to dangerous fast rhythms that cause fainting."*
3. **Provide the REASONS for your diagnosis (Link to History & ECG):**
    - *"The reason I am making this diagnosis is that when I did your heart scan (the ECG), I checked a specific measurement called the **QT interval, and it is longer than normal**."*
    - *"This also fits with your story because you told me you have a **family history** of fainting, as your mom had similar episodes, and this condition often runs in families."*
    - *"Also, the fact that you **faint without any warning signs** is very typical for heart problems like this."*
4. **List & Rule Out Other Differentials for Syncope:**
    - (Follow the standard comprehensive syncope differential list).
    - *"I was also thinking about other heart problems like **hypertrophic cardiomyopathy**... I also considered **seizures, brain tumours, a stroke**... a **low blood sugar level**, a **vasovagal faint**, and **pulmonary embolism**, but these are less likely given your specific history and the clear ECG finding."*

**V. Key Learning Points for the Long QT Syndrome Case:**

- **Recognize the Clinical Clues:** Recurrent syncope, **absence of a prodrome (warning signs)**, and a **positive family history** are major red flags for a primary cardiac arrhythmia.
- **"Think Out Loud" for ECGs:** This case is specifically designed to test this skill. You cannot pass if you do not verbalize your process and ask the examiner for the corrected QT interval.
- **Don't Guess:** If a calculation is required that is not feasible in the exam setting (like QTc), state how you would do it and ask the examiner for the result.
- **The Structure is Your Safety Net:** Even if you get lost, a systematic history (exploring syncope, before/after questions, differential screening) and a step-by-step ECG interpretation will guide you.
- This is a rare but "killer" case. Mastering the "think out loud" principle for the ECG is non-negotiable for passing.

Silent MI

This section covers a particularly tricky case designed to be a "punch in the face" for candidates relying on simple pattern recognition: a **Pre-syncope** episode in a patient with diabetes, which is ultimately revealed to be a **Silent Myocardial Infarction (MI)**. The tutor emphasizes the importance of a robust, structured history even when the initial clues seem to point towards a more benign diagnosis like hypoglycaemia.

Here's the organized breakdown:

**AMC Recalls: Pre-syncope (Silent MI in a Diabetic Patient)**

**I. Case 77: 44 y.o. Lady, GP, Felt Unwell and "About to Fall"**

- **Stem Summary:**
    - 44-year-old lady, GP.
    - **Complaint:** Felt unwell and was **"about to fall"** at the shopping centre today.
    - **PMHx:** Known case of **diabetes**, on **insulin**.
    - **Vitals (in stem):** Stable.
- **Tasks:**
    1. Take history (5 minutes).
    2. Interpret the ECG (which will be provided).
    3. Explain diagnosis and differentials.

- **Tutor's Key Insight:** The phrase "about to fall" signifies a **pre-syncope** event (the feeling of fainting without actual loss of consciousness). You must still apply the full "loss of consciousness" (syncope) structure to be safe and thorough.

**II. The Structured History Taking (Syncope Structure):**

1. **Opening & Intro:**
    - (Vital signs are in the stem, so no need to ask).
    - Open-ended Q. Patient explains she was busy shopping, felt unwell, and was about to fall. Friends were worried.
    - Address concern: Empathetic, reassuring statement.
2. **Explore the Complaint (The Pre-syncope Episode):**
    - **KEY QUESTION (LOC):** *"Did you **lose consciousness completely**, or were you aware of your surroundings?"*
    - **Patient's Answer: "I was about to lose consciousness, doctor, but I actually didn't lose consciousness. I was still aware and could hear things."** -> This confirms **PRE-SYNCOPE.**
    - **Rule out Seizure-like features:** *"During that time, did you have any jerky movements? Wet or soil yourself? Bite your tongue?"* (No).
    - **Explore the Context:**
        - "What were you doing?" (Busy shopping, walking a lot).
        - (Explore environment - hot, crowded, positional change, emotional stress - likely negative).
3. **Key Questions for Events BEFORE the Pre-syncope:**
    - **Warning Signs:** *"Did you get any **warning signs** before you felt you were about to fall?"* (Patient: **"No, doctor, I didn't get any warning signs."** -> RED FLAG for cardiac cause).
    - **Hypoglycaemia Screen:** *"Did you **miss any meals** today?"* (Patient: **"Yes, doctor, I didn't take breakfast. I just had an apple today because I was busy."** -> This is a major distractor, pointing towards hypoglycaemia).
    - (Ask about fluid intake, head injury, fever/rash - likely negative).
4. **Key Questions for Events AFTER the Pre-syncope:**
    - "Afterwards, were you feeling confused or tired?" (No).
    - (Ask about injuries, pallor).
5. **Explore Diabetes in Detail (The Patient's Co-morbidity):**
    - "When were you diagnosed with diabetes?"
    - "Are you compliant with your treatment? Have you taken your insulin today? Have you recently changed the dose?"
    - "Are you on any new medications?"
    - "Are you having your regular follow-ups with your GP?"
    - **Screen for other diabetic complications (to assess for neuropathy):** *"Have you noticed any **numbness in your legs**? Any **vision problems**?"*
6. **Screening for Differentials (Systematic - this is where the MI is uncovered):**
    - **Neurological:** (Headache, neuro deficits - all negative).
    - **Cardiovascular (CRITICAL):**
        - **"Did you have any chest pain?"** (Patient: **NO**).
        - **"Did you have any shortness of breath?"** (No).
        - **"Did you have any racing of your heart?"** (Patient: **NO**).
        - **"Any swelling in your legs?"** (No).
        - **Ask Cardiovascular Risk Factors:** (Family Hx, Hypertension, Hyperlipidaemia, Smoking, Alcohol).
    - (Screen GI, Stimulants, Psychogenic as per structure).

**III. The "Punch in the Face" - The ECG Interpretation:**

- After a history that strongly suggests hypoglycaemia (missed meal, diabetic on insulin), the examiner provides the ECG.
- **ECG Findings:** The ECG shows a clear **Inferior ST-Elevation Myocardial Infarction (STEMI).**
    - ST Elevation in II, III, aVF.
    - Reciprocal ST Depression in aVL (±I).
- **The Diagnostic Twist:** The patient is having a **SILENT MI**.

- **Why is it "Silent"?** Patients with long-standing diabetes can develop autonomic neuropathy, which damages the nerves that transmit cardiac pain. They may not feel the classic crushing chest pain of a heart attack. Instead, they present with atypical symptoms like unexplained SOB, nausea, sweating, dizziness, or pre-syncope/syncope.

**IV. Explaining the Diagnosis and Differentials to the Patient:**

1. **Most Likely Diagnosis (State it clearly):**
    - *"Mrs. [Patient's Name], based on the heart scan (ECG) we have done, it appears you are having a condition called a **myocardial infarction**, which is also known as a **heart attack**."*
2. **Explain the "Silent" Nature of the MI (CRITICAL for patient understanding):**
    - *"Now, I know this might be confusing because you are not having any chest pain. The reason you are not having any chest pain is because **long-term diabetes can damage the nerves**, including the ones that send pain signals from the heart. This means you can have a heart attack without feeling the typical pain."*
3. **Provide the REASONS for your diagnosis:**
    - *"The reason I am making this diagnosis is because, even though you didn't have pain, you **felt unwell and were about to fall**, which can be a sign of a heart attack in someone with diabetes."*
    - *"Also, your **diabetes itself is a major risk factor** for having a heart attack."*
    - *"And most importantly, your **heart scan (the ECG) showed clear changes of a heart attack**."*
4. **List & Rule Out Other Differentials (including the obvious hypoglycaemia):**
    - *"When you first told me your story, I was also thinking about other possibilities."*
    - **Hypoglycaemia:** *"My first thought was a **low blood sugar level (hypoglycaemia)**, especially since you are on insulin and you missed breakfast. While this could have contributed, the changes on your heart scan confirm that the main problem is the heart attack."*
    - **Other Syncope Differentials:** *"I also considered other causes for fainting like **arrhythmias (abnormal heart rhythms), a pulmonary embolism (clot in the lung), a seizure, or a brain tumour**, but the ECG finding is very specific for a heart attack in your case."*

**V. Key Learning Points for the Silent MI Case:**

- **The Structure Protects You:** The tutor's main point is that even though the case is a "punch in the face," the comprehensive syncope structure (which includes screening for cardiovascular symptoms and risk factors) is the *only* thing that allows a candidate to safely navigate this case. A candidate who only focuses on the hypoglycaemia clue would miss the diagnosis.
- **Be Aware of Atypical Presentations:** Know that diabetic patients can have silent MIs. Any new, unexplained symptom in a high-risk diabetic patient (like pre-syncope, SOB, nausea) should prompt consideration of an MI.
- **The ECG is the Definitive Clue:** In this case, the history is deliberately misleading. The ECG provides the definitive diagnosis.
- **Don't Abandon Your Provisional Diagnosis:** Once the ECG shows a clear MI, that becomes your primary diagnosis. You must explain it, even if it contradicts the initial story.
- **Integrate the Contradiction:** A key skill is explaining *why* the presentation was atypical (i.e., explaining the concept of silent MI due to diabetic neuropathy) to the patient.
- This is a high-level case that tests clinical suspicion, the ability to stick to a safe structure despite misleading clues, ECG interpretation, and communication of a complex and unexpected diagnosis.

Psychogenic seizure

**AMC Recalls: Psychogenic Seizure ("Funny Turn" after Shoplifting Accusation)**

**I. Case 78: 25 y.o. Lady, ED, after a "Funny Turn"**

- **Stem Summary:**
    - 25-year-old lady, ED.
    - **Complaint:** "Funny turn" this morning.
    - **Context:** She was **accused of shoplifting** by her boss just before the event.
- **Tasks:**
    1. Take a history (6 minutes).

2. Ask Physical Examination from Examiner (PFEE).
3. Explain diagnosis and differentials.

- **Tutor's Core Insight:** This is a classic "pseudo-seizure" or psychogenic seizure case. The key is the clear psychological trigger (stressful accusation) and the atypical seizure features. However, you MUST approach it as a potential true seizure/syncope first to be safe.

**II. The Structured History Taking (Using the Syncope/"Loss of Consciousness" Structure):**

- **Tutor's Rationale:** Do not jump to a psychiatric history. The syncope structure is a safe "loss of consciousness" framework that allows you to differentiate syncope, true seizures, and psychogenic events.

1. **Opening & Intro:** (Standard approach: hemodynamic stability, open-ended question, address concern).
2. **Explore the Complaint (The "Funny Turn"):**
    - **KEY QUESTION 1 (LOC):** *"Did you **lose consciousness completely**, or were you aware of your surroundings?"*
    - **Patient's Answer: "No, I didn't lose consciousness. I was still aware of my surroundings. I could hear people talking and calling the ambulance."** -> This is a massive red flag against a true generalized seizure or syncope.
    - **KEY QUESTION 2 (Seizure-like Features):**
        - *"Did you have any **jerky movements** of your arms and legs?"* (Patient: **"Yes, my parents/colleagues told me my arms and legs were shaking."**).
        - *"Did you **bite your tongue**? Did you **lose control of your bladder or bowels**?"* (No).
    - **Conclusion so far:** A "seizure" with retained consciousness is highly suggestive of a non-epileptic, psychogenic cause.
3. **Explore the Episode (Timing & Context):**
    - "How long did the episode last?" (20-30 seconds).
    - "Is this the first time?" (Yes).
    - **Context (CRITICAL):** *"What were you doing immediately before this happened?"* (Patient: **"I had a fight with my boss. He was accusing me of shoplifting."** -> This confirms a significant, acute psychosocial stressor).
4. **Key Questions for Events BEFORE & AFTER:**
    - **Warning Signs:** "Did you have any warning signs?" (No).
    - **Post-Ictal State (CRITICAL):** *"When the episode was over, were you **confused**?"* (Patient: **"No."** -> Absence of a post-ictal confusional state is another strong feature against a true generalized seizure).
    - (Ask about missed meals, fluids, head injury, injuries from the event - all negative).
5. **Screening for Differentials (Systematic, to rule out organic causes):**
    - **Neurological:** (Headache, neuro deficits - all negative).
    - **Cardiovascular:** (Chest pain, palpitations, SOB - all negative).
    - **GI, Stimulants:** (All negative).
    - **Psychogenic (Probe Deeper Now, as it's the leading differential):**
        - **Hyperventilation:** "Were you breathing very fast before this happened?"
        - **Stress Assessment (Mini-HEADS):**
            - "How has your mood been lately? How is your sleeping? Appetite?"
            - "How are things going at home? Any stressors at home?"
            - "How are things going at work? Any problems or stresses there (apart from today's event)?"
        - **Panic Attack Screen (Key differential for psychogenic events):** *"During the incident, did you feel like you were about to **die**, or were you scared you were going to die?"* (Patient: "No."). -> This makes a classic panic attack less likely, pushing the diagnosis more towards a psychogenic seizure/conversion.

**III. Diagnosis: Psychogenic Seizure vs. Conversion Disorder**

- **Tutor's Discussion:**
    - **Conversion Disorder (Functional Neurological Disorder):** DSM-5 criteria require clinical findings showing *incompatibility* between the symptom (e.g., paralysis) and recognized neurological pathways. It's often a diagnosis made after extensive neurological workup and observation. It can be a difficult and potentially stigmatizing label to apply in an acute setting.
    - **Psychogenic Non-Epileptic Seizure (PNES):** A more specific and descriptive term for this event. It accurately describes a seizure-like episode that is psychological in origin rather than due to abnormal electrical brain activity.

- **Tutor's Recommendation for OSCE: "Psychogenic Seizure"** is the safer, more descriptive, and less complex diagnosis to explain in the time-limited OSCE context.

**IV. Explaining Diagnosis and Differentials to the Patient:**

1. **Most Likely Diagnosis:**
   - *"Jane, most likely the episode you had today was a **psychogenic seizure**."* (Can also say "psychogenic non-epileptic seizure" if you prefer).
2. **Brief, Careful Explanation (Destigmatizing Language is Key):**
   - *"Although the symptoms you had, like the jerky movements, are **very similar to a true seizure, this is not a true epileptic seizure**."*
   - *"It is most likely an event that was **caused or triggered by the extreme stress and emotions** you experienced after the argument with your boss."*
   - **Crucial Reassurance:** *"What this means is that there is **no underlying physical abnormality in your brain**. The electrical function in your brain is normal. This was your body's physical reaction to an overwhelming emotional event."*
3. **List & Rule Out Other Differentials:**
   - *"Now, when you came in, it was very important for us to think about other serious causes."*
   - *"My first thought was a **real seizure or epilepsy**. We also had to consider other neurological problems like a **brain tumour, meningitis, or a bleed in the brain (intracranial haemorrhage)**."*
   - *"We also thought about serious heart problems like an **arrhythmia** or other causes of fainting like a **low blood sugar level**."*
   - *"Based on our detailed conversation and the fact that you did not lose consciousness and were not confused afterwards, these other serious conditions are very unlikely."*

**V. Key Learning Points for the Psychogenic Seizure Case:**

- **The Structure is Protective:** The syncope/LOC structure is the safest way to approach this case, as it forces you to rule out dangerous organic conditions before considering a psychological cause.
- **Recognize the "Incongruent" Features:** The key to the diagnosis is the combination of seizure-like activity (jerky movements) with features that are *inconsistent* with a true epileptic seizure (retained consciousness, no post-ictal confusion).
- **Identify the Trigger:** The clear, acute psychosocial stressor immediately preceding the event is a hallmark of a psychogenic episode.
- **Careful Language:** When explaining the diagnosis, use non-stigmatizing language. Emphasize it's a real and distressing experience, but one that is caused by psychological stress rather than a brain disease. Reassure them that their brain is physically normal.
- **Do Not Diagnose "Conversion Disorder" Lightly:** It's a complex diagnosis. "Psychogenic Seizure" is a more direct and safer term for this specific OSCE presentation.
- This case tests advanced communication skills and the ability to navigate a sensitive diagnosis while maintaining a safe, structured medical approach.

Pulmonary embolism

This section covers a new and diagnostically challenging case: **Syncope in a post-operative patient**, where the most likely underlying diagnosis is a **Pulmonary Embolism (PE)**. The tutor emphasizes that despite a potentially negative history for typical PE symptoms, the clinical context (post-op immobilization) makes PE a "must-not-miss" diagnosis.

Here's the organized breakdown:

**AMC Recalls: Post-Operative Syncope (Pulmonary Embolism)**

**I. Case 79 (New 2024 Recall): 60 y.o. Male, Day 1 Post-Total Knee Replacement, Had a Fall in the Washroom**

- **Stem Summary:**
  - 60-year-old male.
  - Post-operative Day 1, after a **total knee replacement**.

- **Complaint:** Had a fall in the hospital washroom.

- **Tasks:**
  1. Take a history.
  2. Explain your diagnosis and differentials.
  3. Explain your further investigations.
- **Tutor's Critical Insight:** The stem is designed to scream "Pulmonary Embolism." A major orthopedic surgery (like a total knee replacement) creates a state of significant **immobilization**, which is a major risk factor for Deep Vein Thrombosis (DVT) and subsequent PE. **Even if the history for cough, SOB, and leg swelling is negative, PE MUST remain your top differential.** Failing to mention PE is a critical error.

**II. Brainstorming Top Differentials (in this specific context):**

1. **Pulmonary Embolism (PE) - TOP of the list.**
2. **Myocardial Infarction (MI):** Post-operative stress can trigger an MI.
3. **Vasovagal Syncope:** Can be triggered by pain or by straining during urination/defecation (micturition/defecation syncope) in the washroom.
4. (Orthostatic hypotension, arrhythmia, hypoglycaemia, etc., are also on the broader syncope list).

**III. The Structured History Taking (Syncope Structure):**

- **Tutor's Note:** Apply the full, comprehensive syncope structure. Do not shortcut just because you suspect PE.

1. **Opening & Intro:** (Standard approach: hemodynamic stability, open-ended question, address patient's concern about the fall).
2. **Explore the Complaint (Differentiate Syncope vs. Seizure):**
   - **Confirm LOC:** *"When you fell, did you **lose consciousness completely**...?"* (Yes).
   - **Rule out Seizure:** (No jerky movements, tongue biting, or incontinence).
   - **Explore the Syncopal Episode (Timing & Context):**
     - "How long were you unconscious for?"
     - "Is this the first time?" (Yes).
     - **Context:** *"Can you tell me what you were doing exactly before you fell?"* (On the way to the toilet).
     - **Probe the context:** *"Did it happen **while you were passing urine or opening your bowels**? Were you in a lot of **pain** at that moment? Was the washroom particularly hot?"* (Exploring triggers for vasovagal syncope).
3. **Key Questions for Events BEFORE & AFTER the Syncope:**
   - (Standard "before" questions: warning signs, missed meals, fluids, head injuries, fever/rash).
   - (Standard "after" questions: confusion/tiredness, injuries from the fall, pallor).
4. **Screening for Differentials (Systematic):**
   - **Tutor's key point:** Even if all the following questions are negative, it does NOT rule out PE.
   - **Neurological:** (Headache, neuro deficits).
   - **Cardiovascular & Respiratory (Probe deeply for PE/MI):**
     - *"Did you have any **chest pain**?"* (No).
     - *"Did you have any **racing of your heart** (palpitations)?"* (No).
     - *"Did you have any **shortness of breath**?"* (No).
     - *"Did you have any **cough**?"* (No).
     - **"Did you have any swelling or pain in your legs?"** (No).
   - **GI, Stimulants, Psychogenic, Other:** (Standard screening questions).
5. **Closure (SADMA / PMHx / FMHx).**

**IV. Explaining Diagnosis and Differentials to the Patient:**

- **History Findings in this Recall:** Patient has a syncopal event in the washroom post-TKR. Critically, the history is **negative for chest pain, SOB, cough, and leg swelling.** This is the trap.

1. **Most Likely/Most Important Diagnosis (State the Concern):**

    - *"Mr. [Patient's Name], based on your situation, my main concern and the most likely serious cause of your fall is a condition called **pulmonary embolism**."*
2. **Brief Explanation:**
    - *"This means there may be a **blood clot in the blood vessels of your lungs**."*
3. **Provide the REASONS for your diagnosis (The "Why" despite negative symptoms):**
    - *"The main reason I am concerned about this is because you have just had a **major surgery** (your knee replacement), and after a big operation like that, you are **not moving your legs as much as usual**. This **immobilization** significantly increases the risk of forming a clot in the legs, which can then travel to the lungs. A fall or fainting can be the first and only sign of this."*
4. **List & Rule Out Other Differentials (Acknowledge other possibilities):**
    - **Vasovagal Syncope:** *"I was also thinking about a **vasovagal syncope**, or a common faint. These can sometimes happen when you are in pain or when you are straining in the toilet, so it is a possibility we need to consider."*
    - **Myocardial Infarction:** *"We also have to consider a **heart attack (myocardial infarction)**. The stress of a major surgery can sometimes trigger a heart attack."*
    - **List others:** *"And of course, I was also thinking about other causes of fainting, like arrhythmias, seizures, brain tumours, or low blood sugar, but the top three possibilities we need to investigate are the pulmonary embolism, the vasovagal faint, and a heart event."*

**V. Explaining Further Investigations:**

- **Tutor's Warning:** Do NOT give a "shotgun" list of every test you know. Be specific and prioritize based on your differentials.

1. **For Pulmonary Embolism (Top Priority):**
    - *"To investigate for a pulmonary embolism, the main test we need to do is a **CT Pulmonary Angiogram (CTPA)**. This is a special CT scan with some dye that lets us see the blood vessels in your lungs very clearly."*
    - *(Can also mention a D-dimer blood test as a screening tool if appropriate, but CTPA is the key diagnostic test here).*
2. **For Myocardial Infarction:**
    - *"To make sure your heart is okay, we will also do an **ECG** (a heart tracing) and a **Troponin** blood test, which checks for heart muscle damage."*
3. **For Other Causes:**
    - *"We will also do some baseline blood tests like a **full blood count** and check your inflammation markers (**ESR/CRP**) to get a full picture."*

**VI. Key Learning Points for the Post-Op Syncope Case:**

- **Clinical Context is Everything:** A post-operative patient with syncope is a **Pulmonary Embolism until proven otherwise**, regardless of the presence of "classic" symptoms. Immobilization is the single most powerful risk factor in this stem.
- **Demonstrate Your Thinking:** You must verbalize your concern for PE to pass. Failing to mention it, even if the history is "negative," is a critical error.
- **The Structure is Still Your Guide:** A comprehensive syncope history allows you to explore all possibilities, making your final differential list robust and defensible.
- **Investigations Must be Targeted:** Prioritize the investigations for your most likely and most serious differentials (CTPA for PE, ECG/Troponin for MI).
- **Understand the Case Design:** The tutor highlights that cases are designed to test specific knowledge points. This case is designed to see if you recognize the high risk of PE in a post-operative, immobilized patient.
- This is a sophisticated case that tests the ability to weigh pre-test probability (high risk of PE) against a potentially non-specific or negative history, demonstrating high-level clinical judgment.

Recurrent fall

This section provides a detailed masterclass on approaching **Recurrent Falls** in an elderly patient, a key geriatric topic in the AMC exam. The tutor emphasizes that "falls" are almost always multifactorial and that candidates who focus on a single recall diagnosis (like postural hypotension) will fail. The core skill is a comprehensive history and examination aimed at identifying multiple contributing risk factors.

Here's the organized breakdown:

**AMC Approach: Recurrent Falls in the Elderly**

**I. Introduction & The Core Problem:**

- **Syncope vs. Recurrent Falls:** The tutor stresses the importance of differentiating these two presentations. The key initial question in any "fall" case is, **"Did you lose consciousness?"**
  - **Yes ->** Follow the **Syncope** structure (loss of consciousness structure).
  - **No ->** Follow the **Recurrent Falls** structure (which is built upon the syncope structure but with a different focus).
- **The "Multifactorial" Trap:** The biggest reason candidates fail this case is by latching onto one diagnosis (e.g., postural hypotension) and ignoring the fact that falls in the elderly are almost always caused by a combination of multiple risk factors. Your job is to identify as many of these factors as possible.

**II. Risk Factors for Falls (The Foundation of Your History & Management):**

- **Intrinsic Factors (Patient-related):**
  - **Gait & Balance Disturbances:** (e.g., from Parkinson's, cerebellar disease, vertigo).
  - **Muscle Weakness:** (e.g., from deconditioning, polymyalgia rheumatica, osteoarthritis, neuropathy).
  - **Sensory Decline:**
    - **Vision Impairment.**
    - **Hearing Impairment.**
    - **Peripheral Neuropathy** (loss of proprioception).
  - **Medical Conditions:**
    - **Cardiovascular: Orthostatic (Postural) Hypotension**, Arrhythmias, Aortic Stenosis.
    - **Neurological:** Previous Stroke/TIA, Parkinson's Disease, Cognitive Impairment (Dementia), Peripheral Neuropathy.
    - **Musculoskeletal:** Arthritis, foot problems.
    - **Other:** Urinary incontinence/urgency (rushing to the toilet), acute illness.
  - **Medications ("Sedating Drugs"): Antihypertensives, Benzodiazepines (and Z-drugs), strong painkillers (opioids), antidepressants (especially TCAs like Amitriptyline).** Polypharmacy (≥4 meds) is a major risk.
- **Extrinsic Factors (Environmental):**
  - Poor lighting.
  - Loose rugs, clutter.
  - Slippery surfaces (e.g., in the bathroom).
  - Stairs.
  - Inappropriate footwear.
  - Household pets.

**III. The Structured History Taking for Recurrent Falls:**

1. **Opening & Intro:** (Haemodynamic stability, open-ended question, address patient's concern about falling).
2. **Explore the Falls (The Complaint):**
   - **THE DEFINING QUESTION:** *"When you fall, do you **lose consciousness completely**, or are you **aware of your surroundings**?"* (Patient: **"No, I don't lose consciousness."** -> This confirms you are on the Recurrent Falls pathway).
   - **Timing/Frequency:** "Is this the first time you've fallen?" (No, it's recurrent). -> *"Can you **describe each of the falls** for me? Tell me how and where they happened."* (This explores the mechanism and context). -> "Are the falls getting more frequent or worse?"
   - **Context:** *"What were you doing just before the falls? Is there any special activity or environment that triggers the falls?"* (e.g., rushing to the toilet, getting out of bed).
   - **Injuries:** *"Have you ever had any serious injuries or fractures from your falls?"* (Important for osteoporosis risk).
3. **Quick Organic Screening (to rule out pre-syncope/syncope-like causes):**
   - **Tutor's Note:** Even without LOC, you must briefly screen for serious underlying causes that could present as "near-faints" or falls.

- **Neurological:** "Any headaches? Slurred speech? Weakness or numbness?"
- **Cardiovascular:** "Any chest pain? Racing of your heart? Shortness of breath?"
- **GI:** "Nausea, vomiting?"
- **Vestibular:** *"Have you ever had any **spinning sensation (vertigo)** in your head?"*
- **Metabolic:** *"Do you ever **miss any meals**?"* (For hypoglycaemia).

4. **Explore Past Medical History (Crucial for identifying risk factors):**
   - Ask about the patient's known medical conditions (e.g., Diabetes, Hypertension, PMR, Depression).
   - For each condition, use the **4 key questions:** When diagnosed? What treatment? Are you compliant? Any complications? (e.g., complications of diabetes include retinopathy and neuropathy, both major fall risks).
5. **Comprehensive Risk Factor Assessment (THE CORE of the History):**
   - **Musculoskeletal System:** "Any joint pains (arthritis)? Any deformities in your legs or feet? Any problems with your balance when walking?" (Weakness/numbness already asked).
   - **Sensory (Eyes & Ears):** "Any problems with your vision or your hearing?"
   - **Urinary Problems:** "Do you need to pass urine more frequently or urgently these days? Do you wake up in the middle of the night to pass urine (nocturia)?"
   - **Home Environment:** "Do you have any loose rugs at home? Do you have slippery surfaces, like in the bathroom? Do you have any stairs? Does your home have good lighting?"
   - **Medications, Alcohol, Drugs (Extremely High Yield):** "Can you tell me all the medications you are taking, including any sleeping pills? Do you drink alcohol? Do you use any other drugs?"
6. **Geriatric Screening (Adds depth and identifies other needs):**
   - **Cognition:** "Any memory problems?"
   - **Mood:** "How has your mood been lately?"
   - **Social Support:** "Who do you live with? Do you have enough support at home?"
   - **Nutrition:** "Can you describe your diet for me? Who cooks for you?"
   - **Function (ADLs):** "Are you able to do your daily activities, like dressing and bathing, by yourself?"

**IV. Physical Examination from Examiner (PFEE) for Recurrent Falls:**

1. **General Appearance:** Alert? Frail? Using walking aids?
2. **Gait & Balance Assessment (Do this EARLY):**
   - *"Examiner, I want to assess the patient's **gait**."* (Examiner will describe it, e.g., slow, antalgic, shuffling).
3. **Vital Signs:**
   - Standard vitals (BP, HR, RR, Temp).
   - **MUST ASK:** *"I would like to check for a **postural drop in blood pressure**."*
   - Check the **pulse rhythm**.
4. **Neurological Examination (Full, with focus on lower limbs).**
5. **Cardiovascular Examination (Screen for murmurs, signs of HF).**
6. **Respiratory Examination (Brief Screen).**
7. **Lower Limb Musculoskeletal Examination:**
   - **Look:** Deformities (e.g., foot problems), swelling, redness.
   - **Feel:** Joint tenderness.
   - **Move:** Check the range of movement of the hips, knees, and ankles.
8. **Special / Office Tests (CRITICAL):**
   - **"Can I check the 'Timed Up and Go' (TUG) test?"** (>15 seconds is abnormal).
   - **"Can I do the 'Single Leg Stance' test?"** (Inability to hold for 10s is abnormal).
   - **BSL, Urine Dipstick, ECG.**

**V. Diagnosis and Differentials:**

- **Diagnosis:** The diagnosis is a **multifactorial assessment of fall risk.** You must list the multiple contributing factors you have identified.
  - **Example:** *"Mrs. Smith, the reason you are having recurrent falls is likely due to **a combination of several factors**. Based on our discussion and my examination, these include: **postural hypotension** (your blood pressure dropping when you stand up), **sensory neuropathy** in your feet from your diabetes, your poor **vision**, the **medication** you are on (e.g., the sleeping pill), and some **hazards in your home** like the loose rugs."*

- **Differentials:** Your differentials are the other *potential* risk factors that need to be considered or were ruled out.
    - *"While these are the main causes, I was also thinking about other possibilities. It was important to rule out any serious **underlying neurological problems** like a TIA or a stroke, or **cardiac problems** like an arrhythmia. Your history and examination make these less likely today."*

**VI. Key Learning Points for Recurrent Falls Case:**

- **Multifactorial is the Mantra:** Your entire approach must be geared towards identifying multiple contributing causes. Finding only one cause (like postural hypotension) is not enough.
- **The Structure is Key:** The history structure provided is designed to systematically uncover these multiple risk factors across different domains (medical, functional, environmental).
- **The Geriatric Screen is Not Optional:** It's an integral part of assessing an elderly person with falls, uncovering key risk factors like cognitive impairment, poor nutrition, and functional dependence.
- **The PFEE is Specialized:** You must know and ask for the specific functional tests (TUG, Single Leg Stance) and a detailed lower limb and neurological exam.
- **The Diagnosis is a Synthesis:** Your final diagnosis is a summary list of the identified risk factors, not a single disease label.
- The management (which would be the next step in a full counseling case) would then involve creating a plan to address each of the identified risk factors (e.g., medication review, physio referral, OT home assessment, podiatry, ophthalmology review).

Fall 1

This section provides a detailed walkthrough of a classic but challenging face-to-face exam case: **Recurrent Falls in an Elderly Patient**. The tutor emphasizes that this case is **multifactorial**, and candidates who latch onto a single diagnosis (the "recall") like sensory neuropathy will fail. The key to passing is to identify and counsel on the multiple contributing risk factors.

Here's the organized breakdown:

**AMC Recalls: Recurrent Falls in the Elderly (Multifactorial Case)**

**I. Case 79: 70 y.o. Male, GP, Concerned about Recent Falls**

- **Stem Summary:**
    - 70-year-old male, GP.
    - **Complaint:** "Recent falls" (implies recurrent).
- **Tasks:**
    1. Take a history (4 minutes).
    2. Ask Physical Examination from Examiner (PFEE).
    3. Explain diagnosis and differentials.
- **Tutor's Critical Insight:** The highest failure rate in this case comes from "recall bias." Candidates know one of the findings is often sensory neuropathy or postural hypotension and focus only on that. **Falls in the elderly are ALWAYS multifactorial.** Your job is to uncover at least 2-3 contributing causes.

**II. The Structured History Taking (Recurrent Falls Structure):**

1. **Opening & Intro:**
    - (Haemodynamic stability check with examiner).
    - Open-ended Q. Patient expresses worry about falling, especially when alone.
    - Address concern empathetically.
2. **Explore the Falls:**
    - **THE DEFINING QUESTION:** *"When you fall, do you **lose consciousness**, or are you still aware of your surroundings?"* (Patient: **"No, I don't lose consciousness."** -> This confirms the Recurrent Falls pathway).

    - **Frequency & Description:** "Is this the first time?" (No, 3 falls). -> *"Can you please **describe the falls** for me?"* (Patient describes different mechanisms: bumped into something, tripped in the garden, slipped in the kitchen -> suggests environmental factors and/or gait/balance issues, not a single syncopal cause).
3. **Quick Organic Screening (Rule out pre-syncope/serious causes):**
    - **Neurological:** "Any slurred speech? Weakness? **Numbness?**" (Patient: **"Yes, I have numbness in both of my legs."** -> Key Positive Finding).
    - **Cardiovascular:** "Any chest pain? Racing of your heart? Shortness of breath?" (No).
    - **Vestibular/Metabolic:** "Any spinning sensation (vertigo)? Do you miss meals?" (No).
4. **Explore Past Medical History (Uncover underlying risk factors):**
    - *"Do you have any past medical conditions that I need to be aware of?"* (Patient: **"Yes, I have diabetes."**).
    - **Deep Dive into Diabetes (4 key questions):**
        - When diagnosed? (8-9 years ago).
        - What treatment? (Metformin).
        - **Compliance?** ("I don't take it regularly"). -> Poor control clue.
        - **Follow-ups/Monitoring?** ("No, I haven't seen my GP for a long time"). -> Poor control clue.
        - **Complications (Screen for fall-related ones):**
            - *"Do you have any **numbness in your legs**?"* (Already confirmed positive).
            - *"Have you noticed any **blurring of your vision** (for diabetic retinopathy)?"*
5. **Comprehensive Risk Factor Assessment (THE CORE of the History):**
    - **Musculoskeletal System:** *"Do you have any **joint pains**, especially in your legs?"* (Patient: **"Yes, I have very bad knee pain."** -> Key Positive Finding: Osteoarthritis).
    - **Sensory (Eyes & Ears):** *"Any problems with your **vision** or your **hearing**?"*
    - **Urinary Problems:** "Do you wake up at night to pass urine (nocturia)? Do you need to pass urine more frequently or urgently?" (No).
    - **Home Environment:** "Do you have any stairs at home? Any loose rugs? Slippery surfaces?"
    - **Medications, Alcohol, Drugs.**
6. **Geriatric Screening (as time allows, very relevant):**
    - Cognition (memory), Mood, Social Support, Diet, Function (ADLs).

**III. Physical Examination from Examiner (PFEE):**

- **Key Findings in this Recall:**
    - **Fundoscopy: Diabetic retinopathy.**
    - **Lower Limb Neuro: Bilateral sensory neuropathy** in a glove and stocking distribution.
    - **Lower Limb MSK: Tenderness and decreased range of movement in both knee joints.**
    - **Office Tests:** Random BSL is high (e.g., **15 mmol/L**).
- **Tutor's Note on PFEE structure:** The previously outlined detailed PFEE for recurrent falls (Gait, Vitals+Posturals, Neuro, CVS, Resp, Lower Limb MSK, Special Tests like TUG) is the ideal structure to elicit these findings.

**IV. Explaining Diagnosis and Differentials to the Patient:**

- **Tutor's Core Principle:** You MUST present the diagnosis as **multifactorial**.

1. **Framing Statement:**
    - *"Robert, thank you for sharing that information. After our discussion and looking at the examination findings, I believe your **falls are likely due to multiple reasons**, not just one single problem. It's very common for this to be the case."*
2. **Explain Each Contributing Factor (The "Diagnosis"):**
    - **Cause #1 (Neuropathy):** *"In your case, I found a condition called **diabetic sensory neuropathy**. This means that the high blood sugar level from your diabetes over the years has **damaged the nerves in your legs**. This has caused the **numbness** you feel, which makes it harder to sense where your feet are and increases your risk of falling."*
    - **Cause #2 (Osteoarthritis):** *"I also found that you have **osteoarthritis in your knees**. This is the common 'wear and tear' type of arthritis. This is causing the **knee pain** you mentioned, which can affect your stability and also increases the risk of falls."*

- **Cause #3 (Retinopathy):** *"Finally, you also have some **diabetic retinopathy**. This means the high sugar levels have also **damaged the small blood vessels at the back of your eyes**, which can affect your vision. And as you can imagine, having vision problems also increases the risk of falls."*
- *(If postural hypotension or other factors were found, they would be added here as Cause #4, #5 etc.)*

3. **List & Rule Out Other Differentials (Briefly):**
   - *"While these seem to be the main causes, it was important for us to think about other possibilities."*
   - **Prioritize other fall risk factors first:** *"Other things that can cause falls include **balance problems** from the inner ear or a part of the brain called the cerebellum, **urinary problems** that make you rush to the toilet, **hazards in the home environment**, or side effects from **alcohol, drugs, or certain medications**."*
   - **Then mention the syncope differentials:** *"We also had to consider causes of blackouts, like a **TIA or a stroke**, **seizures**, or serious **heart problems like arrhythmias or aortic stenosis**, but your story of not losing consciousness makes these much less likely."*

**V. Key Learning Points for the Recurrent Falls Case:**

- **Multifactorial is the Mantra:** The diagnosis IS the list of contributing factors.
- **The Syncope Structure is a Foundation:** The history starts with the same principles as a syncope case (confirming/ruling out LOC and seizures), then diverges into a detailed risk factor assessment.
- **Geriatric Syndromes are Key:** This case is a classic geriatric presentation. Your history and examination must reflect an understanding of common geriatric issues (falls, sensory impairment, polypharmacy, functional decline).
- **Connect the Dots:** A key skill is linking the patient's poorly controlled chronic disease (diabetes) to its complications (neuropathy, retinopathy), and then linking those complications to the presenting complaint (falls).
- **A "Normal" Finding can be Abnormal Contextually:** The absence of LOC is a key finding that steers you away from syncope and towards a falls assessment.
- The management plan (not the primary task here, but implied) would involve creating a multifactorial intervention plan targeting each identified risk factor (e.g., referral to podiatrist, physiotherapist, ophthalmologist; diabetes management review; OT home safety assessment).

Fall 2

This section covers a classic face-to-face exam case: **Recurrent Falls in a patient with a history of stroke.** The tutor breaks down how the history of stroke influences the history-taking, emphasizing the need to screen for residual neurological deficits and other cardiovascular issues. The final diagnosis is multifactorial, highlighting postural hypotension and residual weakness as key contributors.

Here's the organized breakdown:

**AMC Recalls: Recurrent Falls (Patient with Previous Stroke)**

**I. Case 80: 60 y.o. Male, GP, Concerned about Recent Falls, History of Stroke 2 years ago**

- **Stem Summary:**
  - 60-year-old male, GP.
  - **Complaint:** "Recent falls."
  - **PMHx:** History of stroke 2 years ago.
- **Tasks:**
  1. Take a history (4 minutes).
  2. Ask Physical Examination from Examiner (PFEE).
  3. Explain diagnosis and differentials.
  4. (In some versions) Explain the consequences of falls.
- **Tutor's Critical Insight:** The history of stroke is a major clue. Your history must explore for **residual neurological deficits** (e.g., weakness) as a primary cause of the falls. You are still applying the "Recurrent Falls" structure, not the "Syncope" one, unless the patient reports loss of consciousness.

**II. The Structured History Taking (Recurrent Falls Structure):**

1. **Opening & Intro:** (Standard: haemodynamic stability check, open-ended question, address patient's concern about falling alone).
2. **Explore the Falls:**
    - **THE DEFINING QUESTION:** *"When you fall, do you **lose consciousness**...?"* (Patient: **"No, I don't lose consciousness."** -> Recurrent Falls pathway).
    - **Frequency & Description:** "Is this the first time?" (No). -> *"Can you **describe the falls** for me?"* (Patient: "The first time I was **getting up from the couch** and I fell. The second time I was **getting out of bed** and I fell." -> **Strong clue for postural/orthostatic cause**).
    - (Ask about injuries).
    - **Context:**
        - **KEY QUESTION (based on his description):** *"Do you think a **change of position**, from sitting or lying to standing, triggers the falls?"* (Yes).
3. **Quick Organic Screening (Rule out pre-syncope/serious causes):**
    - **Neurological (High Yield due to Stroke Hx):**
        - "Any slurred speech? **Weakness** in your body? **Numbness** in your body?" (Patient: **"Yes, doctor, I still have weakness in my left arm and left leg from the stroke."** -> Key Positive Finding).
    - **Cardiovascular:** "Any chest pain? Racing of your heart? **Shortness of breath**?" (Patient: **"Yes, doctor, whenever I am gardening, I get shortness of breath."** -> Key Positive Finding, suggests underlying cardiac issue).
    - **GI:** "Nausea, vomiting? **Abdominal pain**?" (Patient: "Yes, I usually do get a pain over here [epigastric area]"). -> Briefly explore (rule out PUD with NSAID question etc.).
    - (Ask about vertigo, missed meals).
4. **Explore Past Medical History (Stroke & Hypertension):**
    - **Stroke:** (When? Treatment? Compliance? Follow-up?). **Complications:** (The residual weakness is the key complication).
    - **Hypertension (very likely present):**
        - (When? Treatment? Compliance? Follow-up?).
        - **Complications:** *"Any **blurring of your vision** (for hypertensive retinopathy)?"*
5. **Comprehensive Risk Factor Assessment:**
    - (Ask about MSK - joint pain, balance; Sensory - vision/hearing; Urinary - nocturia/urgency; Home environment; Medications/Alcohol/Drugs as per the full structure).

**III. Physical Examination from Examiner (PFEE):**

- **Key Findings in this Recall:**
    1. **Postural (Orthostatic) Hypotension:** The examiner provides both sitting and standing BP readings, which show a significant drop (e.g., Sitting 120/80, Standing 94/56).
    2. **Residual Neurological Deficit:** *"Examiner, on power examination of the lower limb, the power of the left lower limb and the left arm is **3 out of 5**."* (Significant weakness).
- (Other parts of the exam are typically normal to focus on these key findings).

**IV. Explaining Diagnosis and Differentials to the Patient:**

- **Tutor's Core Principle:** The diagnosis is **multifactorial**.

1. **Framing Statement:**
    - *"Robert, thank you for sharing that information. After our discussion and my examination, I believe your **falls are happening because of multiple reasons**."*
2. **Explain Each Contributing Factor (The "Diagnosis"):**
    - **Cause #1 (Postural Hypotension):**
        - *"First, I found that your **blood pressure drops when you stand up**. We call this **postural hypotension**. This condition increases the risk of falls. This fits with your story, as you mentioned your falls often happen when you are changing position, like getting up from the couch or out of bed."*
    - **Cause #2 (Residual Weakness from Stroke):**

        - *"Second, I also found that you have some **remaining weakness in your left leg and arm** from your previous stroke. This weakness can affect your balance and also increases your risk of falls."*
    - **Cause #3 (Possible Undiagnosed Cardiac Issue):**
        - *"Third, I am also concerned about your **shortness of breath when you are gardening**. There is a chance that you may have an underlying **ischemic heart disease** (a problem with the blood supply to your heart) that could be contributing to your overall fitness and risk of falls."*
    - **Cause #4 (Acknowledge Stroke Recurrence Risk):**
        - *"Finally, because you've had a stroke before, there is always a chance that you might be having **mini-strokes, or TIAs**, and we must consider that."*
3. **List & Rule Out Other Differentials (Briefly):**
    - **Start with other fall risk factors:** *"Overall, there are many other things that can increase the risk of falls, such as **unsafe features at home**, **joint pain**, **numbness in your legs** (which you also have from your stroke), or **vision and hearing problems**."*
    - **Then mention syncope differentials:** *"We also had to think about other causes of blackouts, like **seizures, brain tumours, heart rhythm problems (arrhythmias), or a vasovagal faint**, but your story of not losing consciousness makes these less likely."*

**V. Explaining the Consequences of Falls (If Tasked):**

- *"We are concerned about you having recurrent falls because when you fall, there is a chance you might have a **head injury**, which can be very serious and cause bleeding in the brain."*
- *"You could also have **fractures**, especially a **hip fracture**. A hip fracture often requires major surgery and has a very long rehabilitation process."*
- *"Therefore, our main aim is to **prevent future falls by reducing all of these risk factors** that we've identified today."*

**VI. Key Learning Points for this Case:**

- **Stroke History is a Major Clue:** It directs you to screen for residual neurological deficits (weakness, sensory loss) and ongoing cardiovascular risk.
- **The Diagnosis is a List of Causes:** Do not just say "postural hypotension." The correct diagnosis is "recurrent falls due to postural hypotension, residual weakness from a previous stroke, and possible underlying ischemic heart disease."
- **Connect History to Exam:** The history of falls on changing position is confirmed by the finding of postural hypotension on examination. The history of stroke is confirmed by the finding of unilateral weakness.
- **Acknowledge All Positive Findings:** Don't ignore the SOB on exertion. It's a clue to another co-morbidity (IHD) that contributes to the overall frailty and fall risk.
- **The Recurrent Falls Structure is Robust:** It allows you to systematically uncover all these different contributing factors, from medical conditions to environmental risks.

Fall 3

This section covers another variation of the **Recurrent Falls** case, this time with a patient who is a heavy alcohol user and has poor nutritional intake. The tutor demonstrates again how the comprehensive "Recurrent Falls" structure allows the candidate to uncover multiple contributing factors beyond a single, simple cause.

Here's the organized breakdown:

**AMC Recalls: Recurrent Falls (Alcoholic Neuropathy & Multifactorial Causes)**

**I. Case 81: 70 y.o. Male, GP, Concerned about Recurrent Falls**

- **Stem Summary:**
    - 70-year-old male, GP.
    - **Complaint:** "Recent falls" (recurrent).

- **Tasks:**
    1. Take a history (4 minutes).
    2. Ask Physical Examination from Examiner (PFEE).
    3. Explain diagnosis and differentials.
- **Tutor's Note:** This case is designed to test the candidate's ability to identify multiple risk factors, including those related to substance use (alcohol) and social determinants (living alone, poor nutrition).

**II. The Structured History Taking (Recurrent Falls Structure):**

1. **Opening & Intro:** (Standard: haemodynamic stability check, open-ended question, address patient's concern about falling alone).
2. **Explore the Falls:**
    - **Confirm NO Loss of Consciousness:** *"Do you lose consciousness when you fall...?"* (No). -> Recurrent Falls pathway.
    - **Frequency & Description:** *"How many falls have you had?"* (Three). -> *"Can you please describe the falls for me?"* (Patient describes a mix of mechanisms: some on changing position, others from tripping/slipping -> suggests multifactorial cause, not just one pattern).
    - **Injuries:** *"Have you ever injured yourself during these falls?"* (Patient: "Yes, I hit my head once and had to go to the hospital").
3. **Quick Organic Screening (Rule out pre-syncope/serious causes):**
    - **Neurological:** "Any slurred speech? Weakness? **Numbness?**" (Patient: **"Yes, I have numbness in both of my legs."** -> Key Positive Finding).
    - (Screen CVS, GI, Vertigo, Missed Meals - all negative at this stage).
4. **Explore Past Medical History:** "Do you have any past medical conditions?" (Patient: "No").
5. **Comprehensive Risk Factor Assessment (THE CORE of the History):**
    - **Substances (High Yield):**
        - **Alcohol:** *"Do you drink **alcohol**?"* (Patient: **"Yes."**). -> **Key Follow-up:** *"Can you tell me how much alcohol you drink, and how frequently?"* (Patient: **"I drink a full bottle of wine every night."** -> Key Positive Finding: Heavy Alcohol Use).
    - **Musculoskeletal System:** "Any joint pains? Any balance problems?"
    - **Sensory (Eyes & Ears):** "Any problems with your vision or your hearing?"
    - **Urinary Problems:** (Screen for nocturia/urgency - negative).
    - **Home Environment:** (Screen for hazards - negative).
    - **Medications/Drugs.**
6. **Geriatric Screening (Crucial for uncovering social/nutritional factors):**
    - **Social Support:** *"Who do you live with? Do you have enough support at home?"* (Patient: **"I live alone. My family is far away."** -> Key Positive Finding).
    - **Nutrition:** *"Can you describe your diet for me? Who cooks for you?"* (Patient: **"I just eat one meal every day. I'm not able to cook for myself, and there's no one there to help me."** -> Key Positive Finding: Malnutrition/Hypoglycaemia Risk).
    - (Ask about memory, mood, function/ADLs).

**III. Physical Examination from Examiner (PFEE):**

- **Key Findings in this Recall:**
    1. **Neurological Exam:** Confirms **sensory loss** and **loss of proprioception** (joint position sense) in both legs (glove and stocking distribution). -> **Confirms Sensory Neuropathy.**
    2. **Postural Hypotension: NO** postural hypotension is found. (This is a key negative, showing it's not the primary cause).
    3. **Office Tests:** BSL is normal *at the time of consultation*.
- (Other parts of the exam are typically normal to focus on these key findings).

**IV. Explaining Diagnosis and Differentials to the Patient:**

- **Tutor's Core Principle:** The diagnosis is **multifactorial**.

1. **Framing Statement:**

    - *"Robert, thank you for sharing that information. I believe your **falls are happening because of a combination of several different reasons**."*
2. **Explain Each Contributing Factor (The "Diagnosis"):**
    - **Cause #1 (Alcoholic Sensory Neuropathy):**
        - *"First, on examination, I found that you have **numbness and a loss of sensation in your legs**. This is a condition we call **sensory neuropathy**, and it is most likely **due to your heavy alcohol intake** over a long time. When you can't feel your feet properly, it significantly increases your risk of falling."*
    - **Cause #2 (Alcoholic Cerebellar Degeneration):**
        - *"Second, heavy alcohol use can also affect a part of the brain responsible for balance, called the **cerebellum**. This can lead to what we call **cerebellar degeneration**, which causes **balance issues** and further increases the risk of falls."*
    - **Cause #3 (Hypoglycaemia / Malnutrition):**
        - *"Third, I am also concerned about a condition called **hypoglycaemia**, which is a **drop in your blood sugar level**. This is a risk because you are **missing meals** and only eating once a day. A sudden drop in sugar can make you feel weak or dizzy and can definitely cause a fall."*
    - **Cause #4 (Direct Effects of Alcohol):**
        - *"Finally, **alcohol itself increases the risk of falls** as it can make you **drowsy** and affect your coordination and judgment."*
3. **List & Rule Out Other Differentials (Briefly):**
    - **Start with other fall risk factors:**
        - *"I was also thinking about **postural hypotension**, which is when your blood pressure drops when you stand up, but we checked for that today, and it was normal."*
        - *"Other things that increase fall risk are an **unsafe home environment, joint pain, or vision and hearing problems**."*
    - **Then mention syncope differentials:**
        - *"It was also important to rule out serious **neurological conditions** like a TIA or a stroke, and **cardiac problems** like an arrhythmia. Your history makes these less likely today, but they are things we always consider."*

**V. Key Learning Points for this Multifactorial Falls Case:**

- **The Structure Uncovers the Causes:** A systematic history (including geriatric screening) is what allows you to find the multiple hidden causes (alcohol, neuropathy, poor nutrition, social isolation).
- **Don't Fixate on a Single Recall:** This case is a direct challenge to candidates who memorized the "postural hypotension" falls case. Here, postural hypotension is specifically *negative*, forcing the candidate to rely on other findings.
- **Link the Findings Logically:** A key skill is to connect the findings: Heavy alcohol use -> Sensory Neuropathy & Cerebellar Degeneration -> Falls. Living alone/poor support -> Poor nutrition -> Hypoglycaemia risk -> Falls.
- **Geriatric Screening is Essential:** Questions about diet and social support are not "extra"; they are central to understanding the patient's risk profile and formulating a management plan.
- **The Diagnosis is a Synthesis:** The final "diagnosis" is a list of the contributing factors. You must present it as a multifactorial problem.
- The management plan for this patient would be complex, involving referrals to a neurologist, a dietitian, social services for home support (e.g., Meals on Wheels), and an alcohol support service.

Fall 4

This section covers another variation of the **Recurrent Falls** case, this time in a patient with a history of **hypertension and major depression**, who is taking multiple high-risk medications. The tutor emphasizes how to systematically uncover these factors using the standard "Recurrent Falls" structure.

Here's the organized breakdown:

**AMC Recalls: Recurrent Falls (Patient with Hypertension, Depression & High-Risk Medications)**

**I. Case 82: 70 y.o. Male, GP, Concerned about Recurrent Falls, PMHx of Stroke**

- **Stem Summary:**
  - 70-year-old male, GP.
  - **Complaint:** Recurrent falls.
- **Tasks:**
  1. Take a history.
  2. Ask Physical Examination from Examiner (PFEE).
  3. Explain diagnosis and differentials.
- **Tutor's Note:** This is another version of the multifactorial falls case. The key is to apply the same robust structure and not get tunnelled by a single finding.

**II. The Structured History Taking (Recurrent Falls Structure):**

1. **Opening & Intro:** (Standard: haemodynamic stability, open-ended question, address patient's concern).
2. **Explore the Falls:**
   - **Confirm NO Loss of Consciousness:** (Patient: "No, I don't lose consciousness.").
   - **Frequency & Description:** (Patient: Three falls. Describes a mix of mechanisms, some on changing position, others not).
3. **Quick Organic Screening:**
   - **Neurological:** "Any slurred speech? Weakness? **Numbness?**" (Patient: **"Yes, I have numbness in my legs."** -> Key Positive Finding, even if exam is later normal).
   - (Screen CVS, GI, Vertigo, Missed Meals).
4. **Explore Past Medical History (Uncover underlying risk factors):**
   - *"Do you have any past medical conditions?"*
   - Patient: **"Yes, I have high blood pressure and major depression."**
   - **Deep Dive into each condition (4 key questions):**
     - **Hypertension:**
       - (When diagnosed? Treatment? Compliance?).
       - Treatment: Patient reports being on a **thiazide diuretic and an ARB (e.g., Candesartan)**. -> These are antihypertensives, a major fall risk.
       - Complications: "Any blurring of vision (retinopathy)?"
     - **Major Depression (MDD):**
       - (When diagnosed? Treatment? Compliance?).
       - Treatment: Patient reports taking a **sleeping pill, Temazepam** (a benzodiazepine). -> This is a major fall risk.
       - Complications (Current Symptoms): **"How has your mood been lately? How is your sleep? Have you ever thought about harming yourself?"** (Assess control of depression).
5. **Comprehensive Risk Factor Assessment:**
   - (Screen home environment, urinary problems, musculoskeletal issues, vision/hearing - all negative in this recall).
   - **Medications, Alcohol, Drugs:** (Crucially, you have already identified two high-risk medications - antihypertensives and a benzodiazepine).

**III. Physical Examination from Examiner (PFEE):**

- **The "Twist" / Contradictory Findings in this Recall:**
  1. **Postural (Orthostatic) Hypotension:** The examiner reports there is **NO postural drop** in blood pressure.
  2. **Sensory Examination:** The examiner reports that sensation in the lower limbs is **NORMAL**.
- **Tutor's Interpretation:** This is a common AMC tactic. The patient *subjectively* reports numbness, and the *known side effect* of their medication is postural hypotension. Even if these are not objectively demonstrable *at the exact moment of the examination*, they are still valid and crucial contributing risk factors based on the history. Do not discard them.

**IV. Explaining Diagnosis and Differentials to the Patient:**

- **Tutor's Core Principle:** The diagnosis remains **multifactorial**.

1. **Framing Statement:**

- *"Robert, based on our discussion, I believe your falls are happening because of a **combination of several factors**."*

2. **Explain Each Contributing Factor (The "Diagnosis"):**
   - **Cause #1 (Postural Hypotension - despite normal exam):**
     - *"First, you are on medication for **high blood pressure**. A common side effect of these medications is that they can sometimes cause your blood pressure to **drop when you change position**, like when you stand up. We call this **postural hypotension**. Even though your blood pressure was normal when we checked it just now, this can happen intermittently and is a very likely contributor to your falls, especially the ones that happen when you get up."*
   - **Cause #2 (Medication - Benzodiazepine):**
     - *"Second, the **sleeping medication** you are taking, Temazepam, is a sedative. This medication can make you **drowsy**, affect your balance and coordination, and significantly **increase your risk of falls**, especially if you get up at night."*
   - **Cause #3 (Sensory Neuropathy - despite normal exam):**
     - *"Third, you told me that you experience **numbness in your legs**. Although the sensation felt normal when I tested it today, having this symptom of numbness can interfere with your balance and your ability to feel where your feet are, which also **increases the risk of falls**."*
3. **List & Rule Out Other Differentials:** (Use the standard comprehensive list).
   - *"While these are the main causes, it was important for us to think about other possibilities..."*
   - (Mention other risk factors: unsafe home environment, joint pain, vision/hearing problems).
   - (Mention syncope differentials: TIA/stroke, seizures, heart problems like arrhythmias, hypoglycaemia, vasovagal syncope).

**V. Version 2 (The 2024 Medication Change Twist):**

- **Scenario:** Same case, but the patient reports different medications.
- **Medication Changes:**
  - Hypertension: Now on **Clonidine** and a thiazide.
  - Depression: Now on **Amitriptyline**.
  - Patient may also mention the GP recently changed the medications.
- **Tutor's Analysis:** This does **NOT** change the fundamental diagnosis. Clonidine and Amitriptyline are both well-known for causing sedation and postural hypotension. The reasoning remains the same.
- **Conclusion:** The specific names of the drugs are less important than your ability to recognize that they belong to high-risk classes (antihypertensives, sedatives) and to link them to the patient's falls.

**VI. Key Learning Points for this Multifactorial Falls Case:**

- **History Can Trump Examination:** Do not discard a strong, relevant historical finding (like subjective numbness or falls on standing) just because a spot-check examination is normal. Both are important pieces of the puzzle.
- **Medication Review is Central:** In elderly patients with falls, a thorough medication history is one of the highest-yield parts of the consultation. Be prepared to identify and counsel on high-risk medications.
- **The Diagnosis is a List of Risk Factors:** The final diagnosis is a synthesis of all the identified contributors.
- **Don't Be Thrown by Minor Recall Changes:** AMC often changes small details like the specific drug names. A good understanding of drug *classes* and their side effects is more important than memorizing every single drug name.
- **Stick to the Structure:** The comprehensive "Recurrent Falls" structure is designed to uncover these multiple layers of risk, protecting you from recall bias and allowing you to adapt to any combination of findings.

Fall 5

This section covers another nuanced variation of the **Recurrent Falls** case, this time triggered by an acute medical issue: a **Urinary Tract Infection (UTI)**. The tutor demonstrates how the standard, comprehensive falls structure is essential for uncovering the multiple contributing factors that lead to the patient's falls.

Here's the organized breakdown:

**AMC Recalls: Recurrent Falls (Acute UTI with other contributing factors)**

**I. Case 83: 70 y.o. Male, GP, Two Falls in the Last Two Nights**

- **Stem Summary:**
  - 70-year-old male, GP.
  - **Complaint:** Two falls, but they are very **acute**, having occurred only in the last two nights.
- **Tasks:**
  1. Take a history.
  2. Ask Physical Examination from Examiner (PFEE).
  3. Explain diagnosis and differentials.
- **Tutor's Note:** The acute onset of falls in an elderly person who was previously stable should trigger a search for an acute precipitant, most commonly an infection (like a UTI or pneumonia) causing delirium or functional decline.

**II. The Structured History Taking (Recurrent Falls Structure):**

1. **Opening & Intro:** (Standard: haemodynamic stability, open-ended question, address patient's concern).
2. **Explore the Falls:**
   - **Confirm NO Loss of Consciousness:** (Patient: "No, I don't lose consciousness.").
   - **Frequency & Timing:** "You've had two falls in the last two nights. Have you had any falls in the past before this?" (No -> Confirms acute onset).
   - **Context of the Falls (Key Clue):** *"Can you describe the falls for me?"* (Patient: **"Last night it happened when I was rushing to the toilet."** -> This is a huge clue for a urinary cause).
3. **Quick Organic Screening (Rule out pre-syncope/serious causes):**
   - **Neurological:** (Screen for weakness, numbness, etc. - patient reports **numbness in the legs**).
   - (Screen CVS, GI, Vertigo).
   - **Metabolic:** *"Do you miss any meals?"* (Patient: **"Yes, I am skipping meals at night."** -> Key Positive Finding).
4. **Explore Past Medical History:** "Any medical conditions?" (No).
5. **Comprehensive Risk Factor Assessment (THE CORE of the History):**
   - **Urinary Problems (High Yield due to context):**
     - *"You mentioned you were rushing to the toilet. Have you noticed in the last two nights that you need to pass urine more **frequently** or more **urgently**?"* (Yes).
     - *"Are you **waking up in the middle of the night** to pass urine?"* (Yes).
     - **Screen for Upper UTI (Pyelonephritis):** *"Do you have any **fever**? Any **abdominal or flank pain**?"* (No).
   - (Screen MSK - joint pain; Sensory - vision/hearing; Home environment; Medications/Alcohol/Drugs).
   - (The history of numbness in legs remains an important finding, even if no clear cause like diabetes is identified initially).
6. **Geriatric Screening (as time allows).**

**III. Physical Examination from Examiner (PFEE):**

- **Key Findings in this Recall (A "Multiple Finding Drama"):**
  1. **Postural (Orthostatic) Hypotension:** The examiner provides both sitting and standing BP readings, which show a significant drop.
  2. **Suprapubic Tenderness:** Tenderness when pressing on the lower abdomen over the bladder.
  3. **Urine Dipstick (Office Test): Positive for nitrates and leucocytes.**
  4. **BSL (Office Test):** Low-normal, on the threshold of hypoglycaemia (e.g., **4.0 mmol/L**).

**IV. Explaining the Diagnosis and Differentials to the Patient:**

- **Tutor's Core Principle:** The diagnosis is **multifactorial**. Do not just say "UTI."

1. **Framing Statement:**
   - *"John, thank you for that information. It's important to understand that falls in people your age usually have **multiple reasons**, and in your case, I have found a few contributing factors."*
2. **Explain Each Contributing Factor (The "Diagnosis"):**
   - **Cause #1 (UTI - The Acute Trigger):**

        - *"First, it appears you have a **urinary tract infection (UTI)**. This is the reason that in the last two nights you've had to pass urine more frequently and urgently, and why you've been rushing to the toilet. This urgency is a major reason for your falls."*
    - **Cause #2 (Postural Hypotension):**
        - *"Second, I also found that your **blood pressure drops when you stand up**. We call this postural hypotension. This means when you get out of bed suddenly at night to rush to the toilet, your blood pressure can drop, making you feel dizzy and causing you to fall."*
    - **Cause #3 (Hypoglycaemia Risk):**
        - *"Third, you told me that you're **skipping meals at night**. This can lead to a **low blood sugar level (hypoglycaemia)**, and even though your sugar was on the lower side of normal when we checked it now, having a drop overnight could also make you feel weak or dizzy and contribute to a fall."*
    - **Cause #4 (Environmental/Situational Factors):**
        - *"Finally, the situation itself is a risk. **Waking up in the middle of the night**, likely in the **dark**, feeling **drowsy**, and then **rushing to the toilet** because of the urgency from the infection all adds up to increase your risk of falling."*
3. **List & Rule Out Other Differentials (Briefly):**
    - (Follow the standard comprehensive list).
    - *"While these are the main causes, it was important for me to also think about other possibilities..."*
    - (Mention other fall risk factors: sensory neuropathy from alcohol/other causes, joint pain, vision/hearing problems, medications).
    - (Mention syncope differentials: TIA/stroke, seizures, heart problems).

**V. Tutor's Note on an Alternative "Prostate" Version:**

- The tutor mentions that this case could easily be adapted. If the UTI component were removed and the urinary symptoms were more chronic (hesitancy, poor stream, nocturia), the underlying cause could be **Benign Prostatic Hyperplasia (BPH)**. The falls would still be multifactorial (rushing to toilet due to nocturia, postural hypotension, medications for BPH, etc.). The structure for assessment remains the same.

**VI. Key Learning Points for this Multifactorial Falls Case:**

- **Acute Onset -> Look for a Trigger:** Sudden onset of falls in a previously stable elderly person should prompt a search for an acute illness, most commonly a UTI or other infection.
- **The Structure Uncovers Multiple Causes:** The comprehensive falls history structure is designed to find all the contributing factors. In this case, it uncovered the UTI, the postural hypotension, the hypoglycaemia risk, and the environmental factors.
- **Don't Settle for One Answer:** Even when you find a clear cause like a UTI, continue your assessment to find other contributing factors. AMC loves to test your ability to synthesize multiple findings.
- **Synthesize the Diagnosis:** The final diagnosis is a summary of all the identified contributing factors.
- **Management (if asked) would be multifactorial:** Treat the UTI with antibiotics, review medications to address postural hypotension, advise on nutrition to prevent hypoglycaemia, and provide advice on home safety (e.g., night lights, clear path to the toilet).

Fall 6

This section discusses a very old and likely **incomplete or "confused" recall** of a recurrent falls case. The tutor uses it as an exercise to demonstrate clinical reasoning in the face of sparse and somewhat contradictory information, emphasizing that even with a confusing recall, a structured approach helps formulate a logical differential diagnosis.

Here's the organized breakdown:

**AMC Recalls: Recurrent Falls (Old, Confusing "TIA-like" Recall)**

**I. Case 84: 77 y.o. Male, GP, Recurrent Falls**

- **Stem Summary (Old and possibly incomplete recall):**

    - 77-year-old male.
    - **Complaint:** Recurrent falls.
- **Tasks:**
    1. Take a history.
    2. Ask Physical Examination from Examiner (PFEE).
    3. Explain diagnosis and differentials.
- **Tutor's Note:** This is a very old case (pre-2020) that has not been seen recently. It is likely an incomplete recall, but it serves as a good thinking exercise. The challenge is making sense of limited positive findings.

**II. The Structured History Taking & Findings from the Incomplete Recall:**

1. **Opening & Exploring the Falls:**
    - **Confirm NO Loss of Consciousness:** Patient reports no LOC. -> Recurrent Falls pathway.
    - **Frequency & Description:** Three falls. The patient describes a mix of mechanisms:
        - "I tripped over something at home."
        - "I was standing up and I fell."
        - "I was in the garden and I fell."
2. **Quick Organic Screening:**
    - **Neurological:**
        - **KEY POSITIVE FINDING:** The patient reports that during the fall in the garden, he had **"a blurring of vision before and after I fell."** -> This is a significant "red flag" neurological symptom (a focal deficit).
    - **Cardiovascular:**
        - Patient reports **"no chest pain"** and **"no sweating."**
        - He does mention, "I just felt cold." (A non-specific but potentially relevant systemic symptom).
3. **Rest of the History (As per the recall, this was largely negative):**
    - No significant past medical history reported.
    - No major risk factors (home environment, urinary, MSK pain) reported.
    - Geriatric screen findings not recalled.

**III. Physical Examination from Examiner (PFEE):**

- **Key Finding from Recall:** The physical examination was reported as being **COMPLETELY NORMAL.**
- Specifically, there was **no postural drop** in blood pressure.

**IV. The Diagnostic Challenge & Formulating a Diagnosis:**

- **The Puzzle:** You have a patient with recurrent falls and a clear transient neurological symptom (blurred vision), but the rest of the history and the entire physical exam are normal. The falls themselves have mixed mechanisms (some postural, some environmental/trip, some associated with a focal deficit).
- **The Tutor's Reasoning Process (How to handle this in an OSCE):**
    - The case is multifactorial. You cannot attribute all falls to one cause.
    - The most concerning finding is the transient blurring of vision associated with a fall during activity (gardening). This MUST be addressed as a potential vascular event.

1. **State the Most Likely/Serious Diagnosis FIRST:**
    - *"Mr. [Patient's Name], my main concern, especially regarding the fall you had in the garden, is the possibility that you had a **Transient Ischemic Attack**, which is also known as a **TIA or a mini-stroke**."*
2. **Provide a Brief Explanation:**
    - *"This is when the **blood supply to a part of your brain is cut off for a brief period of time**. This is what could have caused the temporary blurring of your vision and the fall."*
3. **Explain the Other Contributing Factors (The Multifactorial Diagnosis):**
    - **Address the Cardiac Possibility (Exertional Fall):**

        - *"Second, because that fall happened while you were doing a physical activity (gardening), I am also concerned about an underlying **ischemic heart disease**. Sometimes a problem with the heart's blood supply can cause a person to feel unwell and fall during exercise, even without classic chest pain."*
    - **Address the Postural Component:**
        - *"And finally, one of your falls happened when you were **changing position** (standing up). This suggests that you may also have an element of **postural hypotension**, which is a drop in blood pressure when you stand up, which can also cause falls. Even though your blood pressure was normal when we checked it today, this can happen from time to time."*
4. **List & Rule Out Other Differentials:**
    - (Use the standard comprehensive list).
    - *"While these are my main concerns, I was also thinking about other possibilities like a seizure, a brain tumour, or other causes of dizziness like inner ear problems or low blood sugar."*

**V. Key Learning Points from this "Confused Recall" Case:**

- **Prioritize the Red Flags:** A new, transient focal neurological deficit (blurred vision) in an elderly patient is a TIA until proven otherwise. This must be your leading diagnosis to demonstrate safety.
- **Even with a Confusing History, a Structure Helps:** The recurrent falls structure forces you to ask about different mechanisms and contexts (postural, exertional), which helps you identify the different potential causes.
- **Don't Be Falsely Reassured by a Normal Exam:** A TIA, by definition, is a transient event, and the neurological examination is often normal by the time the patient is assessed. The diagnosis is made on the history.
- **Synthesize a Multifactorial Diagnosis:** The most sophisticated answer acknowledges that different falls may have different causes. The final diagnosis is a list of the likely contributing factors.
- **Trust Your Clinical Judgment over an Incomplete Recall:** The tutor implies that if he were in the exam, he would find it hard to believe a 77-year-old man has zero other positive findings. A good, structured history would likely uncover more clues. The lesson is to perform your own thorough history and not be constrained by a potentially flawed recall.
- This case is an excellent exercise in applying clinical reasoning to an ambiguous scenario and demonstrating a safe, prioritized approach to diagnosis.

Fall 7

This section covers a recent, somewhat confusing **Recurrent Falls** case involving a patient with **Polymyalgia Rheumatica (PMR) on steroids**. The tutor highlights that the case is poorly designed in some ways ("stupidly designed") because the physical exam findings are largely negative, forcing the candidate to rely heavily on reasoning from the history and potential risks, even if not objectively confirmed.

Here's the organized breakdown:

**AMC Recalls: Recurrent Falls (Patient with PMR on Steroids)**

**I. Case 85: 66 y.o. Lady, GP, Complaining of Falls**

- **Stem Summary:**
    - 66-year-old lady, GP.
    - **Complaint:** "Falls."
- **Tasks:**
    1. Take a history (5 minutes).
    2. Physical Examination findings provided on a card/screen.
    3. Explain diagnosis and differentials.
    4. Request one further investigation or office test.
- **Tutor's Note:** This is a newer case. The key challenge is navigating the diagnosis when the physical exam findings don't strongly support a single, clear cause, requiring you to synthesize multiple *potential* risks from the history.

**II. The Structured History Taking (Recurrent Falls Structure):**

1. **Opening & Intro:** (Standard: haemodynamic stability, open-ended question, address concern).
2. **Explore the Falls:**
    - **Confirm NO Loss of Consciousness:** (Patient: "No, I don't lose consciousness.").
    - **Frequency & Description:** (Patient: Four falls. Describes a mix of mechanisms: some on changing position, tripping, etc.).
3. **Quick Organic Screening:**
    - **Neurological:** (Screen for weakness, slurred speech, etc. - **patient reports numbness in the legs**).
4. **Explore Past Medical History (Uncover underlying risk factors):**
    - *"Do you have any past medical conditions?"*
    - Patient: **"Yes, I have high blood pressure and Polymyalgia Rheumatica (PMR)."**
    - **Deep Dive into each condition:**
        - **Hypertension:**
            - (When diagnosed? Treatment? Compliance?).
            - Treatment: Patient reports being on a **thiazide diuretic and an ARB.** -> Antihypertensives are a fall risk.
        - **Polymyalgia Rheumatica (PMR):**
            - "When was that diagnosed?" (6 months ago).
            - "What treatment are you taking?" (Patient: **"I'm taking steroids."** -> Steroids are a major fall risk, can cause weakness and affect blood sugar).
            - **Complications/Current Symptoms:**
                - *"Are you still having any **shoulder and hip pain and stiffness**?"* (To check if PMR is controlled).
                - *"Have you had any **headaches or blurring of your vision**?"* (To screen for co-existing Temporal Arteritis/GCA).
5. **Comprehensive Risk Factor Assessment:**
    - **Urinary Problems (High Yield):**
        - *"Do you **wake up in the middle of the night** to pass urine? Do you need to pass urine more **frequently or urgently**?"* (Patient: **"Yes, I wake up in the middle of the night to pass urine."** -> Nocturia is a key risk factor).
    - (Screen MSK, Sensory, Home environment, other Medications/Alcohol/Drugs).
6. **Geriatric Screening (as time allows).**

**III. Physical Examination & Investigation Findings (Provided):**

- **The "Confusing" Findings:**
    1. **Postural Hypotension:** The exam finds **NO postural drop** in blood pressure.
    2. **Neuropathy:** Despite the patient reporting numbness, the sensory examination is **NORMAL**.
    3. **MSK:** The lower limb exam is normal.
    4. **Urine Dipstick (Office Test): Positive for GLUCOSE.**
- **Tutor's Interpretation:** This is the core challenge. The objective findings (or lack thereof) contradict some of the risks suggested by the history. You must be able to reason through this.

**IV. Requesting One Further Investigation:**

- **The Clue:** The urine dipstick shows glucosuria (sugar in the urine).
- **Logical Next Step:** You need to check the blood sugar.
    - If the task asks for an **Office Test:** "I would like to do a **random blood sugar level** with a glucometer."
    - If the task asks for a **Further Investigation:** "I would like to order a **fasting blood sugar level** or an **HbA1c** to formally screen for diabetes."
- (Tutor notes that either FBG or HbA1c would be acceptable and score well).

**V. Explaining Diagnosis and Differentials to the Patient:**

- **Tutor's Core Principle:** The diagnosis is **multifactorial**. Do not get fixated on a single cause. You must explain all the *potential contributing factors* you've identified, even if the exam was "normal."

1. **Framing Statement:**
    - *"Jane, it's important to understand that falls in people your age **usually have multiple reasons**, not just one single problem. In your case, I have found a few things that are likely contributing."*
2. **Explain Each Contributing Factor (The "Diagnosis"):**
    - **Cause #1 (Medication Side Effect - Postural Hypotension Risk):**
        - *"First, you are taking **blood pressure medication** (the thiazide diuretic). A common side effect of this is that it can cause your blood pressure to drop when you stand up, which we call **postural hypotension**. Even though your blood pressure was normal when we checked it today, this can happen from time to to time and is a very likely reason for your falls, especially when you get out of bed."*
    - **Cause #2 (Undiagnosed/Steroid-Induced Diabetes):**
        - *"Second, I found that you have **sugar in your urine**. This can be a sign of **diabetes**, or it could be a side effect of the **steroid medication** you are taking for your PMR. High blood sugar can damage the nerves in your legs and affect your vision over time, and both of these can increase the risk of falls. The numbness you've been feeling could be related to this."*
    - **Cause #3 (PMR & Steroid Myopathy):**
        - *"Third, your condition, **Polymyalgia Rheumatica**, causes pain and stiffness in your hip and shoulder muscles. Having hip pain and stiffness can affect your balance and walking, increasing your fall risk. Also, the long-term use of steroids can sometimes cause muscle weakness."*
    - **Cause #4 (Nocturia - The Urinary Problem):**
        - *"Finally, you mentioned that you are **waking up at night to pass urine**. Having to get up when you are drowsy, in the dark, and rushing to the toilet is another significant factor that increases your risk of falling."*
3. **List & Rule Out Other Differentials (Briefly):** (Use the standard comprehensive list of syncope/falls differentials).
    - *"While these are the main possibilities, we also have to think about other serious causes like a mini-stroke (TIA), a heart rhythm problem, or other issues..."*

**VI. Key Learning Points for this Multifactorial Falls Case:**

- **Don't Be Thrown by a "Normal" Exam:** A single normal reading (like BP) does not rule out an intermittent problem (like postural hypotension). A subjective symptom (numbness) is still a valid clinical finding even if objective signs are absent at that moment.
- **Think Pharmacologically:** Steroids are a major clue. Know their key side effects: hyperglycaemia (diabetes), osteoporosis, myopathy (muscle weakness).
- **The Diagnosis IS the Risk Factor List:** Success in this station comes from identifying and articulating the multiple interacting factors that are causing the falls.
- **Synthesize, Don't Silo:** Connect the findings. PMR -> Steroid Treatment -> Possible Hyperglycaemia -> Possible Neuropathy/Vision changes -> Falls. Hypertension -> Antihypertensive Meds -> Postural Hypotension -> Falls.
- **The Structure is Your Anchor:** The comprehensive falls history structure is designed to uncover these multiple layers. Trust the structure even if the case seems confusing.
- The tutor concludes that even if the case is not perfectly designed, the candidate's job is to demonstrate a logical and comprehensive thought process based on the information given.

Dizziness

This section covers the approach to a patient presenting with **Dizziness**, a notoriously vague symptom. The tutor explains how to differentiate dizziness into its subtypes (vertigo, pre-syncope, imbalance) and then provides a comprehensive history and examination structure for a patient whose dizziness is identified as **vertigo**, leading to a likely diagnosis of **Benign Paroxysmal Positional Vertigo (BPPV)**.

Here's the organized breakdown:

**AMC Recalls: Dizziness (Focus on Vertigo & BPPV)**

**I. Introduction & The Challenge of "Dizziness":**

- **Vague Symptom:** "Dizziness" is a non-specific term. The first and most crucial step is to clarify what the patient means.
- **Differentiating the Complaint (The Key Initial Question):** This is how you decide which diagnostic pathway to follow.
    - **If patient describes a "spinning sensation" ->** This is **VERTIGO**. Follow the vertigo/dizziness structure.
    - **If patient describes "light-headedness" or "about to faint" ->** This is **PRE-SYNCOPE**. Follow the syncope structure.
    - **If patient describes "unsteadiness" or "off-balance" ->** This is **IMBALANCE/DISEQUILIBRIUM**. Follow the recurrent falls structure.
    - **If patient describes loss of consciousness ->** This is **SYNCOPE**. Follow the syncope structure.
- **Tutor's Note:** The recent AMC cases presenting as "dizziness" have often been the same recurrent falls/postural hypotension cases in disguise. However, you must be prepared for a true vertigo case.

**II. Brainstorming Differentials for Vertigo (The Spinning Sensation):**

- **1. Peripheral Causes (Inner Ear / Vestibular Nerve):**
    - **Benign Paroxysmal Positional Vertigo (BPPV) (Most common OSCE cause).**
    - Meniere's Disease.
    - Vestibular Neuronitis.
    - Labyrinthitis.
    - Acoustic Neuroma (a type of brain tumour, but affects the vestibulocochlear nerve peripherally).
- **2. Central Causes (Brainstem / Cerebellum):**
    - **Stroke / TIA** (especially posterior circulation).
    - **Brain Tumours.**
    - **Migraine (Vestibular Migraine).**
    - **Multiple Sclerosis (MS).**
- **Tutor's Note:** Cardiovascular causes (arrhythmias, MI) can sometimes cause a sensation described as vertigo, so a CVS screen is still important.

**III. The Structured History Taking for Dizziness/Vertigo:**

1. **Opening & Intro:** (Standard: haemodynamic stability, open-ended question, address concern).
2. **Explore the "Dizziness" (The Defining Step):**
    - **KEY QUESTION:** *"Can you please describe what you mean by dizziness? Do you mean you are having a **spinning sensation** in your head or of your head? Are you feeling **light-headed and about to faint**? Or are you having **balance problems**?"*
    - **If Vertigo (Spinning):** Proceed with vertigo exploration.
    - **If Pre-syncope/Imbalance:** Acknowledge this and ask about falls/LOC to decide between the syncope vs. recurrent falls structure.
3. **Explore the Vertigo (Assuming patient confirms "spinning"):**
    - **Timing:** "How long have you had this? Is it on and off or constant? Is it getting worse?"
    - **Character:** "Do you feel like the room is spinning, or that you are spinning?"
    - **Alleviating & Aggravating Factors:**
        - General Q: "Anything make it better or worse?"
        - **Key Question for BPPV:** *"Have you noticed any special activity or **position** that triggers this spinning? For example, does a **change of position, such as rolling over in bed**, trigger the dizziness?"*
4. **Screening for Differentials (Systematic, starting with Ear/Vestibular):**
    - **A. "Ear" Differentials (Inner Ear/Vestibular Nerve):**
        - **Hearing Loss?** (Key for Meniere's, Labyrinthitis, Acoustic Neuroma).
        - **Tinnitus?** ("Any buzzing sounds in your ears?") (Key for Meniere's, Acoustic Neuroma).
        - **Nausea/Vomiting?** (Common with acute vertigo).
        - **Ear Pain?**
        - **Recent Viral Illness?** ("Any recent flu-like symptoms?") (Key for Vestibular Neuronitis, Labyrinthitis).
    - **B. "Brain" Differentials (Central Causes):**
        - (This section is identical to the neurological screen in the syncope structure).
        - **Stroke/TIA/Tumour Red Flags:** "Any slurred speech? Blurred or double vision? Weakness? Numbness? Balance or walking problems? Recent head injuries? Headaches? Early morning vomiting? Loss of weight?"
        - **Migraine:** "Any history of flashing lights in your vision (aura)? Are you sensitive to light (photophobia)?"

- **C. Cardiovascular Differentials (to be safe):** "Any chest pain? Shortness of breath? Racing of your heart?"
- **D. Other Differentials (Medications, Balance, Metabolic):**
  - "Are you taking any medications? Drinking alcohol? Using drugs?"
  - "Any problems with your eyes (vision)? Any numbness in your legs (for proprioception)?"
  - "Any history of high blood sugar (diabetes)?"

5. **Geriatric Screening / Closure:** (As appropriate for age, ADLs, falls, mood, support, SADMA).

**IV. Physical Examination from Examiner (PFEE) for Vertigo:**

- **Key points:** This PFEE requires a specific ENT/Vestibular and Neurological exam.

1. **General Appearance:** Alert/drowsy? In distress?
2. **Vital Signs:** (Including postural BP).
3. **Gait Assessment:** (Check for ataxia).
4. **CORE SYSTEM 1: Neurological Examination (Full):**
   - **CRANIAL NERVES:**
     - **MUST ask for NYSTAGMUS specifically.** (Horizontal nystagmus is classic in BPPV).
     - (Also check pupils, eye movements, facial sensation/power, etc.).
   - Fundoscopy.
   - Upper & Lower Limb Neurological Exam (power, sensation, reflexes, **coordination - finger-nose, heel-shin for cerebellar signs**).
5. **CORE SYSTEM 2: Ear Examination:**
   - **Otoscopy** (to look at the ear drum).
   - **Hearing Tests (bedside):** *"Examiner, I want to do hearing tests. Can you tell me the findings for **Rinne's and Weber's tests**?"* (To check for hearing loss).
6. **Quick Screen of Other Systems (CVS, Respiratory).**
7. **SPECIAL TEST (CRITICAL for BPPV):**
   - *"Examiner, I would like to perform the **Dix-Hallpike manoeuvre**."*
   - The examiner will tell you if it is positive (i.e., vertigo and nystagmus are reproduced).

**V. Diagnosis and Differentials (For the BPPV Recall):**

- **History Findings:** Recurrent, brief episodes of spinning vertigo, triggered by rolling over in bed. No hearing loss, tinnitus, or other neurological/cardiac red flags.
- **Examination Findings:** Dix-Hallpike manoeuvre is **POSITIVE**. Rest of the exam is normal.

1. **Most Likely Diagnosis:**
   - *"Based on our discussion and my examination, you have a condition called **Benign Paroxysmal Positional Vertigo**, or BPPV for short."*
2. **Brief, Simple Explanation:**
   - *"This is a very common and harmless condition. It happens because of a **disruption of the normal fluid and small crystal circulation inside your inner ear**, which is responsible for balance."*
3. **Provide the REASONS for your diagnosis:**
   - *"The reasons I think this is the case are because you describe a **spinning sensation** that is specifically **triggered by a change of position, like rolling in bed**."*
   - *"Crucially, you don't have any 'red flag' symptoms like hearing loss, headaches, or weakness. Also, a specific test we can do, called the Dix-Hallpike manoeuvre, was positive, which confirms the diagnosis."*
4. **Reassurance (Key for BPPV):**
   - *"It's important to know that this is a **benign condition** (meaning it's not dangerous) and it is often **self-limiting**, which means it gets better by itself over a few days to weeks."*
5. **List & Rule Out Other Differentials (Prioritize by system):**
   - **Ear Differentials:** "I was also thinking about other inner ear problems like **vestibular neuronitis** (inflammation of the balance nerve), **labyrinthitis** (which also affects hearing), **Meniere's disease** (which involves hearing loss and tinnitus), and an **acoustic neuroma** (a type of tumour on the nerve)."

- **Brain Differentials:** "It was also very important to rule out more serious causes in the brain, like a **brain tumour, a stroke or TIA, multiple sclerosis, or a vestibular migraine.**"
- (Briefly list CVS, medication, and balance problem causes).

**VI. Key Learning Points for Dizziness/Vertigo Cases:**

- **Clarify "Dizziness" First:** This is the most critical step to determine your diagnostic pathway.
- **The Syncope/Falls Structure is Your Foundation:** The dizziness structure is built upon the same principles of ruling out serious neurological and cardiovascular causes, with an added, detailed focus on the vestibular system.
- **Know the Hallmarks of BPPV:** Positional trigger (especially rolling in bed), brief duration, no auditory symptoms, no other neurological deficits, and a positive Dix-Hallpike test.
- **The PFEE is Specialized:** You must know to ask for specific vestibular tests (hearing tests, nystagmus, Dix-Hallpike).
- **Reassurance is a Key Management Step:** For a benign condition like BPPV, reassuring the patient that it is not a stroke or brain tumour is a crucial part of the consultation.
- (Management for BPPV, if asked: Epley manoeuvre, vestibular rehabilitation exercises, anti-emetics like prochlorperazine/Stemetil for acute symptoms, and reassurance).

Snakebite

This section provides a detailed walkthrough of a rare but important face-to-face exam case: **Snakebite**. The tutor covers the essential first aid principles, the key areas of systemic involvement (coagulopathy, neurotoxicity, myotoxicity, nephrotoxicity), and outlines a structured approach for the history, physical examination, and explanation of investigation results.

Here's the organized breakdown:

**AMC Recalls: Snakebite Case**

**I. Case 86: 25 y.o. Male, ED, after a Snakebite**

- **Stem Summary:**
  - 25-year-old male, ED.
  - **Complaint:** Snakebite.
  - **Pre-hospital care:** First aid (pressure immobilization bandage) has already been applied.
- **Tasks:**
  1. Take a short history (3 minutes).
  2. Ask Physical Examination from Examiner (PFEE).
  3. Examiner provides a card with investigation results.
  4. Explain the investigation results to the patient.
- **Tutor's Note:** This is an old handbook case. The key is to demonstrate a systematic approach to assessing a patient with envenomation, focusing on the four major toxic effects.

**II. Background Knowledge on Australian Snakebites:**

- **First Aid (Crucial Principles):**
  - **DRSABCD:** If the patient collapses, start with basic life support.
  - **Pressure Immobilisation Bandage (PIB):** Apply a firm pressure bandage over the bite site and then up the entire limb.
  - **Immobilize the Limb:** Use a splint to keep the limb still.
  - **Keep the patient still.**
  - **Call Triple Zero (000).**
  - **Things NOT to do:**
    - **Do NOT wash the bite site.** Venom residue is needed for the Venom Detection Kit (VDK).
    - Do NOT cut or suck the wound.
    - Do NOT apply an arterial tourniquet.

        - Do NOT try to catch or kill the snake.
- **The 4 Major Organ Systems Affected by Australian Snake Venom:**
    1. **Coagulopathy:** Venom-induced consumptive coagulopathy (VICC) is very common, leading to abnormal clotting tests (high INR/PTT) and spontaneous bleeding.
    2. **Neurotoxicity:** Can cause descending paralysis, starting with ptosis, diplopia, and progressing to respiratory failure.
    3. **Myotoxicity:** Venom directly damages muscle tissue, causing myalgia (muscle pain) and rhabdomyolysis (muscle breakdown), which releases myoglobin. This leads to a high CK level and can cause myoglobinuria (dark urine).
    4. **Nephrotoxicity (Kidney Damage):** Can be a direct effect of the venom or secondary to rhabdomyolysis.

**III. Structured OSCE Approach:**

- **A. Focused History Taking (3 minutes):**
    1. **Opening & Reassurance:**
        - (Start with haemodynamic stability check with examiner).
        - Introduce self, get patient's name. *"Nick, I understand you've been bitten by a snake. You are in safe hands now. This is a serious situation, but we will do everything necessary to take care of you."*
    2. **Explore the Bite (The Event):**
        - **Site:** *"Where were you bitten?"*
        - **Timing:** *"When did the bite happen?"* (Time since bite is critical).
        - **First Aid:** *"What did you do immediately after the bite?"*
        - **Snake Identification:** *"Did you see the snake? Can you describe its color or what it looked like?"*
    3. **Screen for Symptoms (Systematically, based on the 4 toxic effects):**
        - **Bite Site:** "Do you have any pain and swelling at the bite site?"
        - **Neurotoxicity:** *"Any headache? Dizziness? Any **double vision**? Any difficulty breathing?"*
        - **Myotoxicity:** *"Do you have any **muscle pain** or **muscle weakness**?" -> "Have you noticed any **change in the color of your urine**? Is it dark?"*
        - **Coagulopathy (Bleeding):**
            - *"Do you have any rashes or bruises on your body at the moment?"*
            - *"Have you noticed any **bleeding from your nose**, any **bleeding in your urine**, or any **bleeding from your cannula sites**?"* (The recall has a positive finding for this).
    4. **Other Key History Points:**
        - **Tetanus Status:** *"Can you tell me when you had your last tetanus vaccination?"*
        - **Past Medical History & Medications:** *"Do you have any medical conditions? Are you taking any medications, especially any **blood thinners like warfarin**?"*
- **B. Physical Examination from Examiner (PFEE):**
    1. **General Appearance:** Look for signs of bleeding (**ecchymoses**, rashes), and check the patient's **level of consciousness** (alert or drowsy).
    2. **Vital Signs.**
    3. **Bite Area Examination:**
        - **Inspect:** "I'll inspect the bite area. Do I have any swelling and redness?"
        - **Swab:** "I will take a swab from the bite site for the venom detection kit."
        - **Palpate (for compartment syndrome):** "I will palpate the pulses and check the capillary refill in the affected limb."
    4. **Neurological Examination (Full):** Cranial nerves (especially for ptosis, diplopia), fundoscopy, upper and lower limb neuro exam.
    5. (Brief screen of CVS, Respiratory, Abdomen).
    6. **Office Test: Urine Dipstick** (looking for blood, which can indicate myoglobinuria).
- **C. Investigation Results & Explanation to Patient:**
    - **The Card/Results Provided in Recall:**
        - **INR / PTT:** High (abnormal coagulation).
        - WCC: High (reaction to bite).
        - **CK & Kidney Function (UEC): NORMAL.**
    - **Explaining the Results:**

1. **Frame the Explanation:** *"Nick, the snake venom can affect your body in several ways. It can affect your **blood's ability to clot**, it can affect your **kidneys**, your **muscles**, and also your **brain and nerves**. We've done some tests to check these systems."*
2. **Explain the Coagulopathy (The Positive Finding):**
    - *"In your case, I can see that the **clotting tests** we have done are **abnormal**."*
    - *"We checked a test called the **INR**, which shows how long it takes for your blood to clot. In your case, your blood is **taking longer than usual to clot**. This is why you were bleeding from the cannula site."*
    - *(Can also mention PTT is another clotting test that is also high).*
3. **Explain the Negative (but Reassuring) Findings:**
    - *"The good news is that we have done a test called **CK**, which checks for muscle damage, and it is **normal**."*
    - *"We've also done a **kidney function test**, and that is also **normal**, so you do not have any kidney damage at this stage."*
4. **Explain the High WCC:**
    - *"I also found that your **white blood cells are high**. These are part of your immune system, and the number is higher than usual. This is likely just a **reaction to the bite**."*

- **D. Management (If asked, or integrated into explanation):**
    1. **Venom Detection Kit (VDK):**
        - *"We are going to use the swab we've taken from the bite area in a **venom detection kit**. This will help us try to identify what kind of snake has bitten you."*
    2. **Antivenom Administration (The Core Treatment):**
        - *"Because your clotting tests are abnormal, this is a clear sign you have been significantly envenomated, so we will definitely be giving you **antivenom**."*
        - **Monovalent vs. Polyvalent:** *"If the venom detection kit tells us the specific type of snake, we will give you a **monovalent or specific antivenom** for that snake. If we can't detect the specific type, we will use a **polyvalent antivenom**, which protects you against a few of the most common dangerous snakes we have in Australia."*
    3. **Supportive Care & Monitoring:**
        - *"Alongside the antivenom, we will continue to monitor you very closely, do regular blood tests, give you IV fluids, oxygen if needed, and pain relief."*
    4. **Antivenom Side Effects (to mention if counseling in detail):** Anaphylaxis (immediate, rare), Serum Sickness (delayed, common, flu-like illness).

**V. Key Learning Points for the Snakebite Case:**

- **Know the 4 Toxic Effects:** The entire case revolves around assessing for Coagulopathy, Neurotoxicity, Myotoxicity, and Nephrotoxicity. Your history and examination must be structured around these.
- **History is Targeted:** The 3-minute history is not for a broad screen; it's for specific questions about the bite, the snake, and symptoms related to the 4 toxic effects.
- **Coagulopathy is the Key Finding in this Recall:** The bleeding from the cannula site and the abnormal INR/PTT are the central findings.
- **VDK and Antivenom:** Understand the purpose of the VDK and the difference between monovalent and polyvalent antivenom.
- **First Aid Principles:** Know the "dos and don'ts" of snakebite first aid, especially the importance of the pressure immobilization bandage and NOT washing the wound.
- This is a highly specific emergency medicine case that tests knowledge of a particular toxidrome and the principles of its assessment and management.

Chapter 4

This section provides a detailed and practical guide to navigating the **AMC Face-to-Face Clinical Exam**, moving beyond the clinical content to the logistics, environment, common pitfalls, and mental preparation required. The tutor shares personal experiences and strategic advice for exam day.

Here's the organized breakdown:

**AMC Guide: The Face-to-Face Clinical Exam Experience**

**I. The Exam Centre & Logistics:**

- **Location:** The National Test Centre (NTC) in Docklands, Melbourne.
  - It's a modern facility, but the exam environment itself is inherently stressful.
  - **Advice:** If you're not from Melbourne, **visit the centre a day or two beforehand**. Know exactly where it is and how to get there to avoid stress on exam day.
- **Transport:**
  - Docklands is in Melbourne's Free Tram Zone, making it easily accessible from anywhere in the city CBD.
  - Taxis can get stuck in morning traffic. Public transport (trains to Southern Cross station, then a short tram ride) is reliable.
- **Accommodation:**
  - Staying in Docklands is ideal to minimize travel stress, especially for morning sessions.
  - Hotels in the city CBD are also a good option, with easy tram access.
- **Arrival Time (CRUCIAL):**
  - **Be on time. Do not be late.** They may not let you in if you arrive after the designated sign-in time.
  - **Morning Session:** Sign-in is at 8:00 AM. Arrive by 7:30 AM to allow a buffer for traffic and to calm your nerves. Exam starts at 9:00 AM.
  - **Afternoon Session:** Sign-in is at 12:00 PM. The morning session candidates are quarantined until after the afternoon candidates have checked in, so **you cannot get cases from them.**

**II. The Check-in & Waiting Process:**

- **Arrival:** An AMC marshal will meet candidates on the ground floor and take them up in the elevator.
- **ID Check:** You will need:
  1. **Primary Photo ID:** Passport is best. A driver's license is also acceptable.
  2. **A document with your signature:** A credit/debit card with a signature on the back is the most common option. **Sign your card beforehand.**
- **Candidate Badge:** You will be given a badge with your name and a **station number**. This number indicates which station you will start at.
  - **Key Numbers:** Stations **3, 8, 13, and 18** are traditionally the **rest stations**. If your number is one of these, you will start your exam sitting in a rest station for 10 minutes while others begin their first case.
- **The Waiting Room / Candidate Lounge:**
  - After check-in, you will be escorted to a waiting room. You will be here for a significant amount of time (e.g., up to an hour for the morning session).
  - Lockers will be provided for your belongings.
- **The Briefing Video:**
  - About 15 minutes before the exam starts, you will be taken to a briefing room to watch a short video explaining the exam process (the bells, rules about not talking, etc.).

**III. What (and What Not) to Take Into the Exam Hall:**

- **What you CANNOT take in:**
  - Phones, electronic devices of any kind.
  - **Watches** (including smartwatches and regular watches).
  - Wallets, purses, bags, books, notes, papers.
  - Hats, unnecessary accessories like tie clips.
- **What you MUST take in:**
  - **A simple, functioning stethoscope.**
    - Do not bring an expensive digital one (like a Littmann CORE) as it may not be allowed.
    - Ensure it has both a bell and a diaphragm.
- **What is PROVIDED:**
  - All other necessary equipment (reflex hammer, pen torch, etc.) will be provided in the relevant stations.
  - Pen and paper are available in every station for taking notes (though the tutor strongly advises against it).

    - Water is available in the rest stations.
- **Food & Drink (CRITICAL ADVICE):**
    - No food is provided inside the exam hall. The exam is a 3-4 hour marathon.
    - **Tutor's "Chocolate Trick":** You are allowed snacks in the *waiting room*. Five minutes before you go into the briefing room, **eat a high-energy snack like a chocolate bar or a banana.** This sugar boost will be crucial for maintaining focus and energy during the last few, most tiring stations of the exam.

**IV. The Exam Hall & Station Structure:**

- **Layout:** A large hall with stations (rooms) lining the sides. A central corridor where candidates stand to read the stems.
- **The Process:**
    1. You will be directed to stand in front of your starting station number.
    2. **First Bell:** The monitors outside each room turn on. Your **2-minute reading time** begins.
    3. **Second Bell:** Reading time is over. You enter the station. The **8-minute station time** begins.
    4. **Third Bell:** Station time is over. You must **leave the station immediately** and move to the next one.
- **NO GAPS:** The exam is a continuous cycle of 2 minutes reading -> 8 minutes in station -> 2 minutes reading -> 8 minutes in station... for the entire duration. There are no breaks between stations other than the scheduled rest stations.
- **Inside the Room:**
    - You will have a desk and chair. The role player will be seated opposite you.
    - An **examiner will be in the room, usually sitting behind you and out of your direct line of sight.** Their job is to observe and mark, not interact (unless it's a PFEE task).
    - There will be a copy of the case stem inside the room (likely on a monitor on the wall).

**V. OSCE Strategy & Mindset:**

- **The 2-Minute Reading Time is CRITICAL:**
    - This is your planning phase. Do not waste it.
    - Use the "brainstorming" process: Identify the complaint. What are my top differentials? What is my history structure? What are the key points I must ask?
    - Do NOT take notes. The process is mental.
- **Run When the Bell Rings:** When the 8-minute station time is up, leave immediately. Do not try to ask "one more question." You will be cut off, it won't be scored, and you will lose precious reading time for the next station.
- **Be a Confident Candidate (The "Confident Mask"):**
    - Even if you are dying of stress inside, project confidence. Maintain good eye contact, have a calm tone, and an open posture.
    - Examiners are subconsciously influenced by a candidate's demeanor. A hesitant, scared candidate appears less competent than a calm, confident one.
- **Don't Write Notes During the Station:**
    - Tutor's strong advice: It breaks rapport, divides your concentration, and you likely won't have time to read what you wrote anyway.
    - The goal is active listening and responding, not transcribing.
- **The First & Last Two Stations are the Riskiest:**
    - **First two:** Your stress is highest, and the role player/examiner is just "warming up" and may be less smooth. Be flexible and prepared for "shit to happen."
    - **Last two:** You are physically and mentally exhausted, dehydrated, and hypoglycemic. This is where the pre-exam chocolate helps. You may feel hopeless if you think you've failed earlier stations. You MUST push through and perform your best until the very last bell. You can fail up to 7 stations and still pass.
- **One Case at a Time:**
    - Whatever happens in a station—good or bad—**leave it behind you** when you walk out the door.
    - Do not spend your next 2-minute reading time dwelling on a mistake from the previous station. Press your mental "restart button" and focus entirely on the new case in front of you.
- **Handling New or "Weird" Cases:**
    - If you get a case on a topic you don't know, **do not panic or give up.**

    - **Stick to a structure.** Start with an intro. Explore the complaint as best you can (e.g., if it's pain, use SICORA). Rule out the differentials you *do* know. You will still score marks for a safe, structured approach even if you don't know the specific condition.
- **Handling "Shit Happens" (e.g., sleeping examiner, confused role player):**
    - Stay calm.
    - If a major issue occurs that genuinely compromises your performance (e.g., examiner is asleep for the whole station), **be vocal.** Speak to the marshal immediately in your next rest station. Do not wait until after the exam. Request that the incident is noted or that the station is reviewed.

**VI. Final Advice on Recalls & Preparation:**

- **Recalls are for Topics, Not Scripts:** Use recalls to understand the *types of cases and topics* that are tested. Do NOT memorize them as exact scripts, because AMC changes the findings and details.
- **Focus on Structure:** Your energy in the final weeks should be on reviewing and mastering your structures and differential lists.
- **Roleplay Minimally in the Last Weeks:** Focus on knowledge consolidation (differentials, structures, key points). Do short, timed roleplays to practice timing, but don't spend hours on them if your knowledge base is weak.
- **Make a Strict Revision Plan:** Allocate time for each subject. Medicine and Physical Examination are half your exam; give them appropriate weight. If you fall behind on a topic, move on to the next one in your plan rather than derailing your entire schedule.
- **Trial Exams:** They are a good experience for stress and time management practice, but do not take the results or specific feedback as gospel. The goal is to experience the process, not to get a predictive score.
- The exam is a performance. Prepare your knowledge, trust your structures, manage your stress, and perform your best on the day, one station at a time.

**Structured Approach to Abdominal Pain**

**AMC Approach: Abdominal Pain Cases - Structure & Differentials**

**I. Introduction & Philosophy:**

- **Abdominal Pain is a Major Cluster:** It's a common, complex presentation with a vast list of differentials.
- **Challenge of Abdominal Pain:** The abdomen contains multiple organ systems (GI, KUB, Gynae, Hepatobiliary), all of which can cause pain.
- **The Goal:** Build **one comprehensive structure** for abdominal pain that works for both acute and chronic presentations and can be adapted based on the location of the pain (upper vs. lower). A candidate must demonstrate they are ruling out differentials from all relevant systems, not just GI.
- **The "One Structure" Principle:** Creating separate structures for "acute" vs. "chronic" is inefficient and confusing. Many chronic conditions (like IBD or diverticulosis) have acute flare-ups. A single, robust structure is safer and more effective.
- **Key Principles for OSCE Success:**
    1. **Long, good, specific differential list.**
    2. **A structured plan for the history.**
    3. **Knowing the key points for specific recalls.**

**II. Step 1: Building a Comprehensive Differential Diagnosis List for Abdominal Pain:**

- **Tutor's Categorization (by Organ System & Location):**
- **A. Gastrointestinal (GI) Differentials (Core Group):**
    - **Bowel Cancer (MUST be at the top of your red flag screen).**
    - **Inflammatory Bowel Disease (IBD)** (Crohn's, Ulcerative Colitis).
    - **Gastroenteritis.**
    - Irritable Bowel Syndrome (IBS) (a diagnosis of exclusion, keep it lower on the list).
    - Appendicitis, Diverticulitis.
    - Bowel Obstruction.
- **B. Kidney, Ureter, Bladder (KUB) / Urological Differentials:**

    - **Urinary Tract Infection (UTI)** (Cystitis - lower, Pyelonephritis - upper).
    - **Renal Colic (Kidney Stones).**
    - KUB Cancers.
    - Urinary Retention.
- **C. Genital / Pelvic Differentials (Especially for Lower Abdominal Pain):**
    - **Hernia (Inguinal, Femoral - incarcerated/strangulated).**
    - **Female:**
        - **Obstetric: Ectopic Pregnancy (RED FLAG).**
        - **Gynaecological:** Pelvic Inflammatory Disease (PID), Ovarian pathology (cyst rupture, torsion, cancer), Endometriosis, Mid-cycle pain (Mittelschmerz).
    - **Male:**
        - Testicular Torsion (usually presents with scrotal pain but can refer).
        - Epididymo-orchitis.
- **D. Upper Abdominal Pain Specific Differentials (Hepatobiliary & Epigastric):**
    - **Liver & Gallbladder:** Hepatitis, Cholecystitis, Cholangitis.
    - **Epigastric:**
        - **Gastroesophageal Reflux Disease (GERD).**
        - **Peptic Ulcer Disease (PUD).**
        - **Pancreatitis.**
- **E. "Other" Causes (Systemic / Referred Pain - Often Missed):**
    - **Cardiovascular: Myocardial Infarction (MI) / ACS (especially for epigastric pain).**
    - **Vascular: Mesenteric Ischemia, Ruptured Abdominal Aortic Aneurysm (AAA).**
    - **Respiratory: Lower Lobe Pneumonia** (can refer pain to upper abdomen).
    - **Dermatological: Shingles (Herpes Zoster).**
    - **Metabolic: Diabetic Ketoacidosis (DKA).**
- **Tutor's Note on Grouping:** Your list must contain differentials from multiple groups to score well. Listing ten GI causes is not as good as listing a few from GI, a few from KUB, a few from Pelvic, etc.

**III. Step 2: Structured History Taking for Abdominal Pain (4 Big Steps):**

- **Big Step 1: Introduction**
    1. **Haemodynamic Stability:** (Critical for acute abdomen. Ask examiner for vitals).
    2. **Good Open-Ended Question.**
    3. **Address Concern / Empathy Statement.**
    4. **(Optional/Low-Yield): Offer Painkillers.**
- **Big Step 2: Explore the Presenting Complaint (Pain) - "SICORA"**
    - (Follow the standard, detailed SICORA structure).
    - **Key adaptation for Abdominal Pain:**
        - **Site:** If pain is in the right lower quadrant, ask the key question for appendicitis: *"Where did the pain start, and did it move or shift to the right lower side?"*
        - **Alleviating/Aggravating Factors:** Add specific probes for abdominal causes:
            - *"Is there any specific **position** that makes it better or worse?"* (e.g., leaning forward for pancreatitis).
            - *"Is the pain **related to eating**?"* (For upper GI causes).
            - *"Is the pain better or worse on **opening your bowels**?"* (For IBS, proctitis).
- **Big Step 3: Screen for Differentials (Systematic)**
    - **Tutor's Approach:** Start with general GI questions that cover multiple differentials, then move system by system.
    2. **General GI Questions (Do these first):**
        - *"Do you have any **nausea or vomiting**?"*
        - *"Do you have any **diarrhoea or constipation**?"*
        - *"Do you feel **bloated**? Are you **passing gas or wind**?"*
    3. **General Infection Screen:**
        - *"Do you have any **fever**?"*
    4. **GI Differentials (Systematic):**
        - **Bowel Cancer (Red Flags - Probe deeply):**

        - *"Have you had any unexplained **loss of weight** recently? Any **loss of appetite**? Any **lumps or bumps** in your body? Feeling unusually **tired or dizzy**?"*
        - *"Have you had any **blood in your stools**? Or any **dark, tarry stools**?"*
        - *"Have you noticed any recent **changes in your bowel habits**?"*
        - *"Any **family history of bowel cancer**?"*
    - **IBD (Extra-intestinal Manifestations):**
        - *"Any **joint pain**? Any **blurring of your vision**? Any **mouth ulcers**?"*
    - **"SAM" (Surgeries, Alcohol, Medications):**
        - *"Have you had any previous **surgeries** on your abdomen?"* (For adhesions/obstruction).
        - *"Do you drink **alcohol**?"* (For pancreatitis, liver disease).
        - *"Are you taking any regular **medications**?"* (Especially NSAIDs for PUD, opioids for constipation, antibiotics for C. diff).
    - **Gastroenteritis:** *"Any recent **travel**?"*
5. **KUB (Urological) Differentials:**
    - *"Do you have any **pain or burning** when passing urine (dysuria)?"*
    - *"Are you passing urine **more frequently**?"*
    - *"Have you noticed any **blood in your urine**?"*
6. **Lower Abdominal Pain -> Genital/Pelvic Differentials:**
    - **Hernia:** *"Have you noticed any **lumps or swelling in your groin**?"*
    - **Female:**
        - Symptoms: *"Any **vaginal bleeding**? Any **vaginal discharge**?"*
        - Period Hx: *"When was your **last menstrual period (LMP)**? Are your periods heavy or irregular?"*
        - Sexual Hx: *"Are you sexually active? Do you practice safe sex and use condoms? Have you had multiple partners or a history of STIs?"*
    - **Male:** *"Any pain or swelling in your scrotum/private parts?"*
7. **Upper Abdominal Pain -> Hepatobiliary & Referred Pain:**
    - **Liver/Gallbladder:** *"Any **yellowish discoloration of your skin** (jaundice)? Any **dark urine**? Any **pale stools**? Any **itchiness**?"*
    - **Referred CVS Pain (MI):** "Any chest pain? Shortness of breath?"
    - **Referred Respiratory Pain (Pneumonia):** "Any cough?"
8. **"Other" Causes:**
    - **Mesenteric Ischemia:** *"Have you noticed any **racing or funny beating of your heart**?"* (Screening for AF).
    - **Shingles/Trauma:** *"Any **rashes on your stomach**? Any **injuries to your stomach**?"*
    - **DKA:** *"Have you noticed you're passing more urine or feeling more thirsty?"*

- **Big Step 4: Good Closure (SADMA - what's left):** (Most key points are already integrated).

**IV. Key Learning Points for Abdominal Pain Cases:**

- **A Single, Comprehensive Structure is Safest:** It prevents you from missing causes from other systems.
- **Categorize Your Differentials:** Think in systems (GI, KUB, Pelvic, Hepatobiliary, Referred) to ensure a broad approach.
- **Location Matters:** Tailor your deep dive based on the site of the pain (e.g., focus on pelvic questions for lower abdominal pain).
- **Red Flags are Non-Negotiable:** The cancer screen is a critical component of any abdominal pain history.
- **"General GI Questions" are a good starting point** before delving into specific conditions.
- **"SAM" (Surgeries, Alcohol, Medications)** is a high-yield trio of questions for many GI conditions.
- The history for abdominal pain is one of the most populated and complex, requiring diligent practice of the structure.

**Abdominal Pain Cases - Structure, PFEE & Diagnosis**

**AMC Approach: Abdominal Pain Cases - Structure, PFEE & Diagnosis**

**I. Introduction & Philosophy:**

- **Abdominal Pain is a Major Cluster:** It's a challenging topic because the abdomen contains multiple organ systems. A good, structured approach is essential.

- **One Structure for All:** The tutor emphasizes using a single, comprehensive structure for both acute and chronic abdominal pain presentations. The context of the case (e.g., location of pain, patient demographics) will guide which parts of the structure you emphasize, but the framework remains the same.
- **Key Principles for OSCE Success (Recap):**
    1. A long, good, specific **Differential Diagnosis List**.
    2. A systematic **Structure** for the consultation.
    3. Knowing the **Key Points** for specific recalls.

**II. The Differential Diagnosis List (Organized by System):**

- **Tutor's Categorization:**
    1. **Gastrointestinal (GI):**
        - **Bowel Cancer (Red Flag - MUST screen).**
        - Inflammatory Bowel Disease (IBD - Crohn's, UC).
        - Gastroenteritis.
        - Irritable Bowel Syndrome (IBS - diagnosis of exclusion).
        - *If Upper Abdominal Pain:* GERD, Peptic Ulcer Disease (PUD), Pancreatitis.
    2. **Kidney, Ureter, Bladder (KUB):**
        - Urinary Tract Infection (UTI - Cystitis, Pyelonephritis).
        - Renal Colic (Kidney Stones).
        - KUB Cancers, Urinary Retention.
    3. **Genital / Pelvic (Especially for Lower Abdominal Pain):**
        - **Hernia (Inguinal/Femoral - RED FLAG if incarcerated/strangulated).**
        - **Female:**
            - Obstetric: **Ectopic Pregnancy (RED FLAG).**
            - Gynaecological: PID, Ovarian Cyst/Torsion, Endometriosis.
        - **Male:** Testicular Torsion, Epididymo-orchitis.
    4. **Upper Abdominal Pain -> Referred Causes:**
        - **Liver & Gallbladder:** Hepatitis, Cholecystitis, Cholangitis.
        - **Cardiovascular: Myocardial Infarction (MI).**
        - **Respiratory: Lower Lobe Pneumonia.**
    5. **"Other" Causes (Systemic / Vascular / Dermatological):**
        - **Mesenteric Ischemia (RED FLAG).**
        - **Ruptured Abdominal Aortic Aneurysm (AAA - RED FLAG).**
        - **Shingles (Herpes Zoster).**
        - **Diabetic Ketoacidosis (DKA).**
- **Tutor's Note on Grouping:** To pass, you must demonstrate a broad thought process by including differentials from multiple system groups, not just GI.

**III. The Structured History Taking for Abdominal Pain (4 Big Steps):**

- **Big Step 1: Introduction**
    - (Standard: Haemodynamic stability, open-ended question, address concern, optional painkiller offer).
- **Big Step 2: Explore the Presenting Complaint (Pain) - "SICORA"**
    - (Follow standard SICORA).
    - **Key adaptation for Abdominal Pain:**
        - **Site:** If RLQ pain, ask about pain migration (periumbilical to RLQ for appendicitis).
        - **Alleviating/Aggravating Factors:** Add specific probes:
            - Relation to **position** (leaning forward for pancreatitis).
            - Relation to **eating**.
            - Relation to **defecation** (opening bowels).
- **Big Step 3: Screen for Differentials (Systematic)**
    1. **General GI Questions (Do these first):**
        - *"Do you have any **nausea or vomiting**?"*

        - *"Do you have any **diarrhoea or constipation**?"*
        - *"Do you feel **bloated**? Are you **passing gas or wind**?"*
    2. **General Infection Screen:** *"Do you have any **fever**?"*
    3. **GI Differentials (Systematic):**
        - **Bowel Cancer (Red Flags - Probe deeply):** Weight loss, appetite loss, lumps/bumps, tiredness, **blood in stools/dark stools**, change in bowel habits, family history of bowel cancer.
        - **IBD (Extra-intestinal Manifestations):** Joint pain, blurring of vision, mouth ulcers.
        - **"SAM" (Surgeries, Alcohol, Medications):** Previous abdominal **S**urgeries? **A**lcohol intake? Regular **M**edications (especially NSAIDs, opioids, antibiotics)?
        - **Gastroenteritis:** Recent **travel**?
    4. **KUB (Urological) Differentials:**
        - Dysuria (burning/pain on urination)? Frequency? Haematuria (blood in urine)?
    5. **Lower Abdominal Pain -> Genital/Pelvic Differentials:**
        - Hernia: *"Have you noticed any **lumps or swelling in your groin**?"*
        - Female: Vaginal bleeding/discharge? LMP? Sexual history (sexually active, condoms, multiple partners/STI history)?
        - Male: Scrotal pain/swelling?
    6. **Upper Abdominal Pain -> Hepatobiliary & Referred Pain:**
        - Liver/Gallbladder: Jaundice (yellow skin)? Dark urine? Pale stools? Itchiness?
        - Referred CVS/Resp Pain: Chest pain? SOB? Cough?
    7. **"Other" Causes (Screen for key red flags):**
        - Mesenteric Ischemia: *"Have you noticed any **racing or funny beating of your heart** (for AF)?"*
        - Shingles/Trauma: "Any rashes on your stomach? Any injuries to your stomach?"
        - DKA: "Passing more urine or feeling more thirsty?"
- **Big Step 4: Good Closure (SADMA - what's left).**

**IV. Physical Examination from Examiner (PFEE) for Abdominal Pain:**

- **Tutor's Note:** The CORE system is the **abdominal examination**, which must be done completely. The sequence is adapted to put this first after vitals.

1. **General Appearance:** Drowsy? Pale? Dehydrated? Jaundice?
2. **Vital Signs:** Standard vitals + **Postural BP Drop** + **Pulse Rhythm.**
3. **CORE SYSTEM: Abdominal Examination (Inspection, Auscultation, Percussion, Palpation):**
    - **Inspection:** *"Examiner, on inspection, is there **symmetric movement** on respiration? Do I see **Cullen's sign or Grey Turner's sign** (bruising)? Is there any **distension**?"*
    - **Auscultation:** *"On auscultation, are the **bowel sounds present or absent**?"*
    - **Percussion:** *"On percussion, do I have any **tenderness**?"*
    - **Palpation (Superficial & Deep):**
        - *"On superficial and deep palpation, do I have any **tenderness or masses**?"* (Examiner will localize tenderness, e.g., "tenderness in the RLQ").
        - *"Do I have any **guarding and rigidity**?"*
        - *"Do I have any **rebound tenderness**?"*
    - **Hernial Orifices & DRE:**
        - *"I want to examine the **inguinal area**. Do I have any swelling?"*
        - *"I want to do a **digital rectal examination (DRE)** with the patient's consent and a chaperone."* (Examiner will provide findings: normal, blood, melaena, empty rectum, etc.).
4. **Tailor to Pain Location:**
    - **If Lower Abdominal Pain (Female):**
        - Perform a **Pelvic Exam** (with consent & chaperone):
            - Inspection: Bleeding, discharge.
            - Speculum: Bleeding/discharge from cervix.
            - Bimanual: **Cervical motion tenderness?** Uterine size/tenderness? Adnexal masses/tenderness?
    - **If Upper Abdominal Pain:**
        - Perform a **Quick CVS and Respiratory Screen**:

        - CVS: "S1, S2 normal? Any murmurs?"
        - Resp: "Air entry equal? Any added sounds?"
5. **Office Tests (CRITICAL):**
    - **Urine Dipstick (ALWAYS for abdominal pain).**
    - **Urine Pregnancy Test (hCG) (ALWAYS for a female of childbearing age).**
    - BSL, ECG (especially for upper abdominal pain).

**V. The Diagnosis & Differentials Task:**

- Follow the structure: State Diagnosis -> Brief Explanation -> **Reasons** -> Address Concern -> List Differentials.
- **Time Management is Key:** You have very little time.
- **Method:** Reason the first 2-3 differentials, then quickly LIST the rest.
- **Example (Appendicitis):**
    - **Diagnosis:** "Most likely you have appendicitis."
    - **Explanation:** "This is an inflammation of your appendix."
    - **Reasons:** "Because your pain started in the middle of your tummy and moved to the right lower side, you've lost your appetite, and on examination, you have tenderness in that specific spot."
    - **Differentials:** "I was also thinking about a UTI, but... I was also thinking about an ovarian problem, but... I was also thinking about..." (then list).

**VI. Key Learning Points for Abdominal Pain Cases:**

- A broad, multi-system differential list is non-negotiable.
- The history must be structured and comprehensive. SICORA is the foundation for pain exploration.
- The PFEE must be complete for the abdomen (IAPP+DRE+Hernias) and tailored to the location of pain (adding pelvic exam for lower, CVS/Resp screen for upper).
- Office tests, especially urine dipstick and pregnancy test in females, are critical.
- The final diagnosis and differential explanation must be time-efficient, prioritizing breadth and clear reasoning.

**Left Lower Quadrant Pain**

**AMC Recalls: Left Lower Quadrant Pain (Diverticulitis vs. Bowel Cancer)**

**I. Introduction & Case Presentation:**

- **Case Stem (General):** 50-year-old male, GP, complaining of left lower quadrant (LLQ) abdominal pain for one month (chronic/subacute).
- **Tasks:**
    1. Take a history (6 minutes).
    2. Explain diagnosis and differentials.
- **Tutor's Note:** The 6-minute history indicates that a comprehensive differential diagnosis and a thorough history are the predominant assessment areas.

**II. Brainstorming Differentials for Chronic LLQ Pain:**

- **Top of the list (most common recalls): Diverticulitis** and **Bowel Cancer.**
- **Other key differentials:**
    - Inflammatory Bowel Disease (IBD - especially UC).
    - Irritable Bowel Syndrome (IBS).
    - Kidney/Ureter issues (stones, infection, cancer).
    - Hernia (inguinal).
    - Prostate issues / Epididymo-orchitis (in a male).
    - Mesenteric Ischemia.

- Constipation.

**III. The Structured History Taking (Applied to this case):**

- (Tutor walks through the application of the full abdominal pain history structure).

1. **Opening & Intro:** (Standard: haemodynamic stability, open-ended question, address patient's concern about the persistent pain).
2. **Explore the Pain (SICORA):**
    - **Findings in this recall:**
        - Site: LLQ.
        - Intensity: 5-6/10.
        - Character: Dull ache.
        - Onset/Timing: For one month, on and off, not getting worse.
        - Radiation: No.
        - Alleviating/Aggravating Factors: No clear relationship to position, eating, or defecation.
3. **Screening for Differentials (Systematic):**
    - **General GI Questions:**
        - Nausea/Vomiting? (No).
        - Diarrhoea? (No).
        - **Constipation?** (Patient: **"Yes, I've had constipation for as long as I can remember."** -> Key Positive Finding for Diverticular Disease).
        - Bloating? Passing wind? (No/Yes).
        - Fever? (No).
    - **GI Differentials (Systematic):**
        - **Bowel Cancer (Red Flags - Probe deeply):**
            - *"Have you lost any weight recently?"*
            - *"Have you lost your appetite?"*
            - *"Any lumps or bumps in your body?"*
            - *"Feeling unusually tired?"*
            - *"Have you noticed any **blood in your stools** or any **dark, tarry stools**?"*
            - *"Have you noticed any recent **change in your bowel habits**?"*
            - *"Any **family history of bowel cancer**?"*
        - **IBD:** "Any joint pain? Blurring of vision? Mouth ulcers?"
        - **"SAM" (Surgeries, Alcohol, Medications).**
        - **IBS:** "Any stress at home or at work?"
    - **KUB (Urological) Differentials:** "Pain on urination? Increased frequency? Blood in urine?"
    - **Genital/Pelvic Differentials:** "Any lumps or swelling in your groin (hernia)? Any swelling or pain in your private parts/scrotum?"
    - **"Other" Causes:** "Racing heart (for mesenteric ischemia)? Rashes (shingles)? Trauma? Increased urination/thirst (for DKA)?"

**IV. Version 1: The "Classic" Diverticulitis Case**

- **History Findings:**
    - LLQ pain for one month.
    - **Long-standing history of constipation.**
    - **NO red flag symptoms** (no weight loss, no blood in stool, no change in bowel habits).
- **Physical Exam (if done):** Tenderness in the LLQ, no peritonism.
- **Provisional Diagnosis: Diverticulitis.**

1. **Explain the Diagnosis to the Patient:**
    - *"Jacob, most likely you have a condition called **diverticulitis**."*
2. **Brief Explanation (Pathophysiology):**

    - *"Having **long-term constipation** puts pressure on the walls of your bowel. Over time, this pressure can create small **pouches** that stick out from the bowel wall, which we call **diverticula**."*
    - *"Sometimes, one of these pouches can become **inflamed or infected**, and that is what we call diverticulitis, which is causing your pain."*
3. **Provide the REASONS for your diagnosis:**
    - *"The reasons I think this is the case are because your pain is in the **left lower side** of your abdomen, which is the typical location for this."*
    - *"Also, it's very common in people who have had **constipation for a long time**, like you."*
    - *"And importantly, there are **no 'red flag' symptoms** to suggest a more serious cause like cancer."*
4. **List & Rule Out Differentials:** (Use the comprehensive list: Bowel Cancer, IBD, IBS, KUB causes, Hernia, etc., briefly explaining why they are less likely).

- **Management of Uncomplicated Diverticulitis (Briefly, if asked):**
    - Pain relief (Paracetamol).
    - Diet: **Soft, low-fibre diet** during the acute flare-up. (High-fibre is for long-term prevention, not during an acute attack).
    - **Consider antibiotics** (e.g., Augmentin), especially if signs of infection.
    - Red flag advice to return if pain worsens or fever develops.
    - (Colonoscopy is recommended 6-8 weeks *after* the acute episode resolves to rule out underlying cancer).

**V. Version 2: The "Twist" - Same Case, but WITH Red Flags (Bowel Cancer)**

- **History Findings Change:**
    - Same LLQ pain and constipation history.
    - **BUT, the patient now also reports:**
        - **Blood in the stools.**
        - **Significant weight loss** (e.g., 5-6 kg in the last six months).
- **The Diagnostic Shift:** The presence of these major red flags (bleeding and weight loss) elevates **Bowel Cancer** to the top of the differential list, above diverticulitis.

1. **Explain the Diagnosis (Sensitive Communication):**
    - *"Jacob, in your case, I was thinking about different causes for your abdominal pain. I have to say that I am **concerned about the possibility of cancer in your bowels**, or bowel cancer."*
    - (This is not a full breaking bad news station, so a direct but sensitive statement of concern is appropriate).
2. **Provide the REASONS for your diagnosis:**
    - *"The reasons I am very concerned are because you are **losing weight**, you have **blood in your stools**, and you have a chronic pain that has been there for one month. This combination of symptoms is a red flag, and we must make sure you don't have cancer."*
3. **List & Rule Out Differentials (Diverticulitis is now a differential):**
    - *"I was also thinking about other conditions. It could still be **diverticulitis**, which is inflammation of pouches in the bowel, but because of the red flags like weight loss, cancer is a more urgent concern to rule out."*
    - (Then list other differentials: IBD, IBS, KUB causes, etc.).

**VI. Key Learning Points for LLQ Pain Cases:**

- **The Structure is Protective:** The comprehensive history structure is designed to elicit red flags. By following it, you will ask the crucial questions about weight loss and bleeding, allowing you to differentiate between the two versions of this case.
- **Red Flags Change Everything:** A single finding like weight loss can completely change the provisional diagnosis and the urgency of the situation.
- **Don't Fall for Recall Bias:** Candidates who memorize the case as "diverticulitis" and don't ask the red flag questions will fail Version 2.
- **Acknowledge Uncertainty but Prioritize:** Even in Version 2, the final diagnosis is not certain without a colonoscopy, but you must demonstrate to the examiner that you recognize **bowel cancer** is the most likely and most serious possibility that needs to be investigated urgently.

- This case is a perfect example of how AMC tests clinical reasoning and safety by making small but critical changes to a familiar recall.

**right lower quadrant (RLQ) abdominal pain**

This section provides a detailed walkthrough of two related but distinct OSCE cases involving **right lower quadrant (RLQ) abdominal pain in a young woman**: one focusing on **Appendicitis** and the other on **Pelvic Inflammatory Disease (PID)**. The tutor emphasizes the need for a comprehensive history that covers both GI and pelvic differentials, as well as the specific key points for each condition.

Here's the organized breakdown:

**AMC Recalls: Right Lower Quadrant (RLQ) Pain (Appendicitis vs. PID)**

**I. Case 87 (Classic Face-to-Face Version): 27 y.o. Lady, ED, Complaining of Abdominal Pain (Appendicitis)**

- **Stem Summary:**
  - 27-year-old lady, ED.
  - Complaint: Abdominal pain.
- **Tasks:**
  1. Take a history (4 minutes).
  2. Ask Physical Examination from Examiner (PFEE).
  3. Explain diagnosis and differentials.
- **Tutor's Key Point:** RLQ pain in a young woman is a classic diagnostic dilemma between appendicitis and gynaecological emergencies. A thorough history covering both is essential.
- **A. Structured History Taking (Abdominal Pain Structure):**
  1. **Opening & Intro:** (Standard: haemodynamic stability, open-ended question, address concern).
  2. **Explore the Pain (SICORA - with focus on appendicitis features):**
     - **Site:** *"Where is the pain?"* (Patient points to RLQ).
     - **KEY QUESTION for Appendicitis:** *"Where did the pain **start**? And did it **move** to the right lower side?"* (Patient: **"Yes, it actually started around my belly button and moved to the right lower side a few hours later."** -> This is the classic migratory pain).
     - (Intensity, Quality - often sharp, Onset - usually acute/subacute, Radiation - usually none, Aggravating - worse with movement/coughing).
  3. **Screening for Differentials (Systematic):**
     - **General GI Questions:**
       - **Nausea/Vomiting:** (Common in appendicitis).
       - **Diarrhoea/Constipation:** (Can occur).
       - **Fever:** (Common).
     - **GI Differentials:**
       - **Bowel Cancer (Red Flags - less likely at 27 but screen briefly):** Weight loss, **loss of appetite (anorexia - KEY for appendicitis)**, blood in stool, change in bowel habits, family Hx.
       - **IBD / Gastroenteritis:** (Ask about joint pain, vision changes, mouth ulcers, travel).
     - **KUB Differentials:** "Pain on urination? Increased frequency? Blood in urine?"
     - **Genital / Pelvic Differentials (CRITICAL - Do NOT skip):**
       - **Hernia:** "Lumps or swelling in your groin?"
       - **Female Pelvic Organs:**
         - "Any **vaginal bleeding** or **vaginal discharge**?"
         - **"When was your last menstrual period (LMP)?"** (NON-NEGOTIABLE question).
         - "Are your periods heavy or irregular?"
         - "Are you **sexually active**? Do you use condoms? Any history of multiple partners or STIs?"
- **B. Physical Examination from Examiner (PFEE) - Focused on RLQ:**
  1. (General Appearance, Vital Signs).
  2. **Abdominal Examination (Complete):** (Inspection, Auscultation, Percussion, Palpation, Hernias, DRE).
     - **Key Positive Findings for Appendicitis:**

        - Tenderness in the RLQ (McBurney's Point).
        - **Rebound tenderness** in the RLQ.
        - Guarding.
    3. **SPECIAL TESTS for Appendicitis (MUST ASK):**
        - *"Examiner, I would like to check for the **Rovsing's sign**."* (Positive).
        - *"I would also like to check for the **Psoas sign** or the **Obturator sign**."* (Choose one or both - will be positive).
    4. **Pelvic Examination (MUST PERFORM to rule out pelvic causes):**
        - (With consent & chaperone).
        - Inspection (bleeding/discharge).
        - Speculum exam (bleeding/discharge from cervix).
        - Bimanual exam: **Cervical Motion Tenderness (CMT)?** Uterine tenderness? **Adnexal tenderness/masses?** (These will all be NEGATIVE in a pure appendicitis case).
    5. **Office Tests (CRITICAL):**
        - **Urine Dipstick.**
        - **Urine Pregnancy Test (hCG).**
- **C. Explaining Diagnosis (Appendicitis):**
    - *"Most likely, Jane, you have a condition called **appendicitis**."*
    - **Brief Explanation:** *"The appendix is a small, finger-shaped pouch that is attached to your large bowel. In your case, it has become inflamed, which is causing the pain."*
    - **Reasons:** Link to migratory pain, anorexia, nausea, and the positive examination findings.
    - **Differentials:** You MUST include pelvic causes in your differential list (e.g., "I was also thinking about an ovarian problem like a cyst or an infection like PID, but your pelvic examination was normal. I also considered a urinary tract infection...").

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**II. Case 88 (Newer Version - Online/Face-to-Face): 19 y.o. Lady, Abdominal Pain (PID)**

- **Stem Summary:**
    - 19-year-old lady.
    - Abdominal pain (site not specified).
    - May include other clues like **vaginal discharge** and **multiple partners.**
- **Tasks:**
    1. History (3 minutes - short, or 6 minutes in other versions).
    2. PFEE (or findings on screen/card ).
    3. Diagnosis & Differentials.
    4. **Management.**
- **A. Focused History Taking (Adapting for Short Timeframe & Clues):**
    - (If a short 3-min history, you must focus on the key points).
    - **SICORA:** Pain is in the RLQ but *did not* start in the middle (no migration).
    - **Pelvic Questions become HIGH YIELD:**
        - **Vaginal Discharge:** (Positive). **Explore the discharge (CCVO):** *"What is the **color**?"* (Yellow). *"What is the **consistency**?"* (Thick). *"Is there a **bad smell**?"* (Yes).
        - **Sexual History (from stem):** Multiple partners.
        - **Probe further:** "Do you use condoms? Ever had an STI? Any pain or bleeding after intercourse (dyspareunia/post-coital bleeding)? Are you on any contraception (especially IUD)?"
- **B. Physical Examination:**
    - **Abdominal Exam:** May have lower abdominal tenderness, but often less pronounced than appendicitis.
    - **Pelvic Exam (Key Positive Findings):**
        - Speculum: Purulent (pus-like) discharge from the cervix.
        - Bimanual: **POSITIVE Cervical Motion Tenderness (CMT)**. May also have uterine or adnexal tenderness.
- **C. Explaining Diagnosis (PID):**
    - *"Most likely, Jane, you have a condition called **Pelvic Inflammatory Disease**, or PID for short."*
    - **Brief Explanation:** *"This is an **infection** that affects the female reproductive organs, including your **womb (uterus), the tubes, and the ovaries**. It is usually caused by **sexually transmitted infections**."*

- **Reasons:** Link to lower abdominal pain, the nature of the vaginal discharge, risk factors (multiple partners, no condoms), and the key finding of cervical motion tenderness on examination.

- **D. Management of PID (Immediate, Empirical):**
  - **Tutor's Key Point:** PID is a clinical diagnosis. You **treat immediately** with empirical antibiotics; you do **NOT** wait for swab results.
  2. **Immediate Step - Antibiotics:**
     - *"Jane, this infection needs to be treated right away to prevent long-term complications like infertility. I need to **start you on antibiotics immediately**, without waiting for the results of any tests."*
     - **The "Triple Therapy" Regimen:** *"I will give you **three different antibiotics** to cover all the likely bacteria. This will be an injection of **Ceftriaxone** today, plus a course of tablets of **Doxycycline** and **Metronidazole** for you to take for 14 days."*
  3. **Investigations (Done concurrently or after starting treatment):**
     - *"At the same time, I need to arrange for some **investigations**. The main thing is to take **swabs** from your vagina and cervix to test for infections like **Chlamydia and Gonorrhoea**."*
     - **Blood-borne Virus Screen:** *"Because this is an STI, I would also strongly recommend we do a blood test to screen for other infections like **HIV and Syphilis**."*
  4. **Other Management Aspects (Contact Tracing, Safe Sex, etc. - covered in GUM/O&G clusters).**

**III. Key Learning Points for RLQ Pain in Young Women:**

- **Dual Pathology Mindset:** Always have "Appendicitis vs. Gynaecological Cause (Ectopic/PID/Ovarian)" at the forefront of your mind.
- **The Pelvic Exam is NOT Optional:** You must perform/request a pelvic exam to rule out gynaecological causes.
- **Know the Differentiating Features:**
  - **Appendicitis:** Migratory pain, anorexia, RLQ tenderness/rebound, positive special tests (Rovsing's etc.), normal pelvic exam.
  - **PID:** Lower abdominal/pelvic pain, vaginal discharge, dyspareunia/PCB, risk factors (multiple partners), **positive Cervical Motion Tenderness.**
- **PID Management is URGENT and EMPIRICAL:** Start triple therapy immediately based on clinical suspicion. Do not wait for swab results.
- These cases test your ability to navigate a common but critical diagnostic dilemma, perform a relevant and complete examination, and apply guideline-based management for urgent conditions.

**Right Sided Abdominal Pain**

This section covers two variations of a nuanced gynaecological case presenting as abdominal pain: **Mittelschmerz (mid-cycle ovulation pain).** The tutor explains how to differentiate this benign condition from more serious causes like appendicitis or gallbladder issues, how to interpret and explain the investigation findings (ultrasound), and how to provide appropriate counseling and management.

Here's the organized breakdown:

**AMC Recalls: Right Sided Abdominal Pain in a Young Woman (Mittelschmerz Case)**

**I. Introduction & The Diagnostic Challenge:**

- **Vague Stem:** The stem often says "right-sided abdominal pain," deliberately not specifying upper or lower quadrant, to force the candidate to consider a broad differential.
- **The Trap:** The patient often has a concern about a more serious condition (gallstones, appendicitis) based on family history or their own fears. The investigation results can also contain "distractor" findings (incidental gallstones, non-visualized appendix).
- **Key Skill:** The ability to synthesize the clinical history (especially the timing of the pain in the menstrual cycle) with the investigation findings to arrive at the correct, benign diagnosis while confidently reassuring the patient about their other concerns.

**II. Case 89 (Version 1 - Gallbladder Concern): 24 y.o. Lady, Right Sided Abdominal Pain, Mother had Gallstones**

- **Stem Summary:**
  - 24-year-old lady.
  - Complaint: Right-sided abdominal pain.
  - **Patient's Agenda/Concern:** Her mother had gallstones and required surgery, and she is worried she has the same thing.
- **Tasks:**
  1. Take history (5 mins).
  2. Investigations (Ultrasound report) provided on a card/screen.
  3. Explain investigations to the patient.
  4. Explain diagnosis.
- **A. Structured History Taking (Abdominal Pain Structure):**
  - (Apply the full, comprehensive structure: Intro, SICORA, General GI, GI Differentials, KUB, Pelvic, and because the pain is "right-sided" and not specified, include Hepatobiliary/Gallbladder questions).
  - **Key History Findings for this Recall:**
    - Pain is mild, in the **right lower quadrant.**
    - It gets better with Panadol and rest.
    - She has a **history of having this pain before.**
    - **CRITICAL FINDING (LMP):** When asked her Last Menstrual Period, she reports it was **exactly 14 days ago.**
- **B. Investigation Findings (Ultrasound Report - with distractors):**
  - **Finding #1:** A **ruptured follicle in the right ovary.**
  - **Finding #2:** A small amount of **free fluid in the Pouch of Douglas.**
  - **Finding #3 (Distractor):** There are a **few gallstones** in the gallbladder, but there are **NO signs of inflammation** (no gallbladder wall thickening, no obstruction).
  - **Finding #4 (Distractor):** The **appendix is not visualized.**
- **C. Interpreting the "Distractors":**
  - **Gallstones:** Incidental finding. Without signs of inflammation (cholecystitis) or blockage, they are not the cause of her acute RLQ pain.
  - **Non-visualized Appendix:** This is a very common and normal finding on ultrasound. It does **NOT** mean the patient has appendicitis. The absence of sonographic signs of appendicitis is what's important.
- **D. Explaining the Investigations & Diagnosis:**
  1. **Explain the Pathophysiology of Ovulation First (to make sense of the findings):**
     - *"Jane, let me first explain a normal process that happens in your body. In each of your menstrual or period cycles, one of your ovaries prepares and releases an egg cell. This egg cell grows inside a small fluid-filled sac in the ovary, which we call a **follicle**."*
     - *"In the first two weeks of your cycle, this follicle grows. Then, around **day 14 of your cycle (mid-cycle)**, this follicle **ruptures** to release the egg. When it ruptures, a small amount of **bleeding and fluid is released** into your abdomen, and this can cause some pain."*
  2. **Link Pathophysiology to Her Ultrasound Findings:**
     - *"Now, looking at your ultrasound report, this is exactly what we are seeing. The report shows a **ruptured follicle on your right ovary** and a small amount of **fluid in your pelvis**. This confirms that the pain you're experiencing is from this normal ovulation process."*
  3. **State the Diagnosis:**
     - *"We call this condition **Mittelschmerz**, which is a German word for **mid-cycle pain**."*
  4. **Provide Reasons for Diagnosis:**
     - *"The reasons I'm confident in this diagnosis are: first, the **timing of your pain**, which is happening exactly on day 14 of your cycle. Second, you've had this **mild, recurrent pain before**. And third, the **ultrasound findings** directly show the signs of recent ovulation."*
  5. **Address Her Specific Concern (Gallstones):**
     - *"Now, I know you were worried about gallstones because of your mother. The ultrasound did show some **small stones in your gallbladder**. However, importantly, they are **not causing any problems right now**. There is no blockage and no inflammation in the gallbladder. So, I don't think the pain you are feeling today is because of the gallstones."*
  6. **Address the Appendix Finding:**

        - *"The report also mentions that they were **not able to see your appendix**. I want to reassure you that this is a **very common and normal finding** on an ultrasound. Not seeing the appendix doesn't mean you have appendicitis."*
- **E. Management of Mittelschmerz (If asked):**
    - **Conservative/Symptomatic:** *"This is a normal process, not a dangerous condition. When you get this pain, you can take **simple painkillers like paracetamol or Nurofen**, use a **heat pack** on your lower stomach, and **rest**."*
    - **Reassurance:** Reassure her that it's benign and will resolve on its own.
    - **Red Flags:** Advise her to return if the pain becomes severe, she develops a fever, or has heavy vaginal bleeding.
    - **Long-term (Optional):** "For some women with very troublesome mid-cycle pain, going on the oral contraceptive pill can help, as it stops ovulation. This is something we can discuss in the future if it continues to be a problem for you."

**III. Case 89 (Version 2 - Appendicitis Concern): Same patient, different concern**

- **History Change:** Instead of a family history of gallstones, the patient is specifically worried about **appendicitis.**
- **Ultrasound & Diagnosis:** The findings are the same (ruptured follicle, fluid, non-visualized appendix). The diagnosis is still **Mittelschmerz.**
- **Counseling Change (Address the Appendicitis Concern Directly):**
    - *"Jane, I understand you were concerned about **appendicitis**."*
    - *"While we were not able to see your appendix on the ultrasound, which is very common, I am quite confident that you do not have appendicitis."*
    - **Reasons why not Appendicitis:**
        - *"This is because, in appendicitis, the pain typically **starts around the belly button and then moves** to the right lower side, which didn't happen for you."*
        - *"In appendicitis, people usually **lose their appetite completely (anorexia)**, and often have **nausea, vomiting, and a fever**, none of which you have."*
        - *"Your symptoms and the ultrasound findings fit much better with the diagnosis of mid-cycle pain."*

**IV. Key Learning Points for the Mittelschmerz Case:**

- **The LMP is the Key to the Case:** A thorough history, especially asking for the Last Menstrual Period, is crucial to link the RLQ pain to mid-cycle timing.
- **Don't Be Fooled by Distractors:** Recognize that incidental findings (gallstones, non-visualized appendix) are common on imaging. You must interpret them in the context of the patient's clinical picture.
- **Explain the Pathophysiology Simply:** A clear, simple explanation of the normal process of ovulation and follicular rupture is the most effective way to help the patient understand her diagnosis and feel reassured.
- **Address the Patient's Agenda Directly:** The core of the counseling task is to directly address and confidently refute the patient's specific fear (gallstones or appendicitis), using evidence from the history and investigations.
- This case tests clinical reasoning, the ability to interpret and explain investigation results with distractors, and nuanced patient-centered communication.

**central abdominal pain**

**AMC Recalls: Central Abdominal Pain (Small Bowel Obstruction)**

**I. Case 90: 50 y.o. Male, ED, Central Abdominal Pain for a few hours**

- **Stem Summary:**
    - 50-year-old male, ED.
    - **Complaint:** Pain in the centre of the abdomen for the last few hours (acute).
    - Painkillers have been given.
- **Tasks:**
    1. Take a history (6 minutes).
    2. Physical Examination findings provided on a card/screen.
    3. Explain diagnosis and differentials.

- **Tutor's Brainstorming Prompt (Order of Differentials for Central Abdominal Pain):**
    - **Top of the list:** GI causes are most prominent.
    - **Also crucial:** Vascular causes like Mesenteric Ischemia and Ruptured AAA.
    - KUB, Pelvic, and Hepatobiliary causes are less likely but should still be screened briefly.

**II. The Structured History Taking (Abdominal Pain Structure):**

1. **Opening & Intro:** (Standard: haemodynamic stability check, open-ended question, address patient's concern about the severe pain).
2. **Explore the Pain (SICORA):**
    - (Site is central. Intensity is high. Quality may be colicky/cramping. Onset is acute, constant, getting worse. Radiation may be minimal).
3. **Screening for Differentials (Systematic):**
    - **General GI Questions (HIGH YIELD for SBO):**
        - "Do you have any nausea or vomiting?" (No).
        - "Do you have any diarrhoea or **constipation**?" (Patient: **"Yes, I haven't passed my bowel motions for two days."** -> Key Positive Finding).
        - "Are you feeling **bloated**?" (Patient: **"Yes."** -> Key Positive Finding).
        - **CRITICAL QUESTION:** *"Are you **passing gas or wind**?"* (Patient: **"Nope, it's been two days that I'm not passing any gas and I'm not passing any stools."** -> This is **obstipation**, a hallmark of bowel obstruction).
        - "Any fever?" (No).
    - **Provisional Diagnosis from General Qs:** The combination of constipation, bloating, and obstipation strongly suggests **Bowel Obstruction.** The rest of the history aims to find the *cause* of the obstruction.
    - **GI Differentials (Systematic, now looking for causes of SBO):**
        - **Adhesions (Most Common Cause):**
            - **KEY QUESTION ("SAM"):** *"Have you had any previous **surgeries** on your abdomen?"* (Patient: **"Yes, I've had my appendix removed."** -> Key Positive Finding).
        - **Bowel Cancer (Red Flags):** (Ask full cancer screen - weight loss, appetite change, blood in stool, family Hx - all negative).
        - **Hernia (Will ask specifically later, but can be screened with "lumps/bumps").**
        - **IBD (Crohn's can cause strictures):** "Any joint pain? Vision problems? Mouth ulcers?" (Negative).
    - **KUB Differentials:** (Screen briefly - negative).
    - **Hernia (Ask again, specifically):** *"Have you noticed any lumps or swelling in your groin?"*
    - **"Other" Causes (Vascular - Mesenteric Ischemia, AAA):**
        - Mesenteric Ischemia: "Any funny racing of your heart (for AF)?"
        - AAA: "Any history of heart disease or problems with your blood vessels? Any high blood pressure?"
    - (Screen other systems like hepatobiliary briefly if time permits).

**III. Physical Examination Findings (Provided on Screen/Card):**

- **Vitals:** Normal/stable.
- **Abdomen:**
    - Generalized tenderness, no rebound tenderness.
    - Guarding.
    - **Hyperresonance on percussion.** (Due to gas trapped in the distended bowel).
    - **Absent bowel sounds.** (In late-stage, established obstruction. Early on, they can be high-pitched and "tinkling").
- **DRE:** Empty rectum.
- **Office Tests:** Normal.

**IV. Background Knowledge on Small Bowel Obstruction (SBO):**

- **Symptoms:** Cramping abdominal pain, nausea/vomiting, and **obstipation** (inability to pass flatus or stool).
- **Signs:** Abdominal distension, tenderness, hyperresonance, and altered bowel sounds (initially high-pitched, later absent).
- **Causes:**
    - **Adhesions** (scar tissue from previous surgery) - most common cause.

    - **Hernias** (incarcerated).
    - **Malignancy** (tumours).
    - Crohn's disease (strictures).
    - Volvulus (twisting of the bowel).
- **Key Investigation:** An **erect/upright abdominal X-ray** is the classic first-line investigation, looking for **multiple air-fluid levels** and dilated loops of small bowel. A CT scan provides more detail.

**V. Explaining Diagnosis and Differentials to the Patient:**

1. **Most Likely Diagnosis:**
    - *"James, most likely you have a condition called a **small bowel obstruction**, and this is likely happening **because of adhesion bands**."*
2. **Brief Explanation (Explain "Adhesion Bands"):**
    - *"After any surgery on your stomach, like your appendectomy, the body can form some internal **scar tissue and bands**. Sometimes, a loop of your bowel can get stuck or trapped between these bands, which causes it to become **obstructed or blocked**."*
3. **Provide the REASONS for your diagnosis:**
    - *"The reasons I believe this is the case are, first, you are **not passing stools and, more importantly, not passing any gas or wind**, which tells me your bowels are blocked."*
    - *"Second, you have a **history of a previous surgery**, which is the most common cause for these adhesion bands to form."*
    - *"And finally, I have ruled out other common causes that can block your bowels, such as **cancers or a hernia**."*
4. **List & Rule Out Other Differentials (Briefly, focusing on other causes of central pain/obstruction):**
    - **Bowel Cancer:** *"I was also definitely worried about **bowel cancer** causing a blockage, but this is less likely as you are not losing weight and haven't had any blood in your stools."*
    - **Hernia:** *"I also considered a **hernia**, which is a weakness in the abdominal wall, but I didn't find any swelling in your groin."*
    - **Mesenteric Ischemia:** *"We also think about a condition called **mesenteric ischemia**, which is a problem with the blood supply to the bowel, but you don't have the typical risk factors like an irregular heartbeat."*
    - **List others:** *"I was also thinking about inflammatory bowel disease and other rare causes."*

**VI. Key Learning Points for the SBO Case:**

- **Obstipation is the Key Symptom:** The inability to pass flatus (gas) is a more specific sign of mechanical bowel obstruction than constipation alone.
- **The "SAM" Mnemonic is High-Yield:** Asking about previous **S**urgeries, **A**lcohol, and **M**edications is crucial in almost all GI cases. Here, the "S" for surgery gives you the likely cause of the SBO.
- **Know the Causes of SBO:** Your differential diagnosis for a patient with SBO should be the list of potential causes (adhesions, hernia, cancer, Crohn's).
- **Physical Exam Signs:** Be familiar with the classic signs (distension, hyperresonance, absent bowel sounds).
- **Key Investigation:** Know that an erect abdominal X-ray is the classic imaging modality to request.
- This case tests the ability to recognize a common surgical emergency from classic historical and examination findings and to identify its most likely underlying cause.

**central abdominal pain**

**AMC Recalls: Central Abdominal Pain (SBO, Hernia, Mesenteric Ischemia)**

**I. Case 91: 55 y.o. Lady, Central Abdominal Pain, Nausea, No Flatus**

- **Stem Summary:**
    - 55-year-old lady.
    - Pain in the umbilical area.
    - (History reveals no flatus, nausea, no previous surgeries, no cancer red flags).
- **Tasks:**

1. History (long).
2. PFEE (or findings on card).
3. Diagnosis and differentials.

- **The Diagnostic Challenge:** The symptoms strongly suggest bowel obstruction, but the most common cause (adhesions from previous surgery) is absent from the history. This forces the clinician to consider other causes.
- **The Physical Examination from Examiner (PFEE) - The "Nightmare" Scenario:**
  - **Tutor's Key Point:** The key to this PFEE is not to forget the hernial orifices.
  2. (General Appearance, Vital Signs - including postural drop & pulse rhythm).
  3. **Abdominal Examination (Full):**
     - (Inspection, Auscultation, Percussion, Palpation, DRE).
     - **CRITICAL STEP:** *"Examiner, I want to examine the **inguinal area**. Do I have any swelling?"* (Examiner: "Yes, you have a swelling/lump").
  4. **Once Hernia is Found - PROBE IT:**
     - **KEY QUESTION 1:** *"Is the hernia **reducible**?"* (Can you push it back in?).
     - **KEY QUESTION 2:** *"Is it **tender**?"*
  5. (Rest of PFEE: quick screen of other systems, office tests).
- **Examination Findings (From Recall):**
  - Abdominal tenderness (can be diffuse or localized).
  - Exaggerated (early) or absent (late) bowel sounds.
  - A large, **irreducible, and tender hernia** in the left groin.
- **Diagnosis & Explanation to Patient:**
  1. **Diagnosis:** *"Most likely, you have a condition called a **strangulated or incarcerated hernia**."*
  2. **Brief Explanation:** *"A hernia is a sac that bulges out of your stomach wall. In your case, it has happened in the groin. Sometimes, a loop of your bowel can enter this sac, get stuck, and become blocked or obstructed. This is what is causing your pain."*
  3. **Reasons for Diagnosis:** *"The reasons are that on your examination, I found a swelling in your groin that I wasn't able to push back in, and it was tender. This, along with your symptoms of nausea and not passing wind, confirms this is the cause."*
  4. **Differentials:** (Start with other causes of bowel obstruction: "I was also thinking about a bowel obstruction from **bowel cancer** or **adhesion bands**, but..." then list other GI, KUB, etc., differentials).

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**II. Case 92: 60 y.o. Male, GP, Abdominal Pain for a few days (Acute Mesenteric Ischemia)**

- **Stem Summary (The "Hardest Case"):**
  - 60-year-old male, GP.
  - Abdominal pain for a few days (no site specified).
- **Tasks (Face-to-Face Exam format):**
  1. Take a history (4 minutes).
  2. Ask PFEE.
  3. Explain diagnosis and differentials.
- **The Structured History Taking:**
  - (Follow the full abdominal pain structure).
  - **Key Positive Finding:**
    - When screening the "Other" causes, specifically the cardiovascular links: *"Have you had any **funny racing of your heart** (palpitations)?"* (Patient: **"Oh yes, my heart is beating a little bit fast and funny."** -> This is the key clue for **Atrial Fibrillation (AF)**, the most common cause of embolic mesenteric ischemia).
  - (Rest of the history is often non-specific).
- **The Physical Examination from Examiner (PFEE):**
  - **The Classic Finding of Mesenteric Ischemia:** The abdominal exam is often deceptively benign. The patient may have severe, diffuse pain, but on palpation, there is only **mild, non-specific tenderness**. This "pain out of proportion to clinical signs" is a classic feature.

    - **The Hidden Clue:** When you check the pulse during the vital signs check, the examiner will tell you the rhythm is **irregularly irregular** (confirming AF).
- **Diagnosis & Explanation to Patient:**
    1. **Diagnosis (Link the cause and effect):** *"James, most likely you have a condition called **mesenteric ischemia**, which is happening because of **atrial fibrillation**."*
    2. **Brief Explanation (Explain both conditions simply):**
        - *"Let me explain. First, your **heart is beating irregularly and sometimes too fast**. This condition is called atrial fibrillation."*
        - *"When this happens, it increases the risk of **forming a small blood clot** inside your heart. This clot can then get pumped out and travel to the **blood vessels that supply your bowels**."*
        - *"In your condition, we believe one of these blood tubes has been **blocked by a clot**. This has **cut off the blood supply** to your bowels, and that is what is causing your severe pain."*
    3. **Provide the REASONS for your diagnosis:**
        - *"The reasons I think this is the case are because you have a **sudden, severe abdominal pain**. You also told me you felt your **heart beating fast and funny (palpitations)**, and on my examination, I confirmed that you have an **irregular heartbeat (atrial fibrillation)**, which is the most common cause for this."*
    4. **List & Rule Out Other Differentials:** (Start with other serious causes of central/diffuse abdominal pain).
        - **Bowel Cancer / Obstruction:** *"I was also thinking about a bowel obstruction from **bowel cancer** or **adhesion bands**..."*
        - **Hernia:** *"I considered a **hernia**..."*
        - (Then list GI, KUB, etc., differentials).
- **Management (If asked):**
    - **Investigations:** Abdominal X-ray (may show "thumbprinting"), **CT Angiogram (CTA)** is the gold standard. Labs (look for high lactate, leukocytosis).
    - **Treatment:** This is a surgical emergency. NPO, IV fluids, anticoagulation (heparin), IV antibiotics, and urgent surgical consultation for possible embolectomy or bowel resection.

**III. Recap of Central Abdominal Pain Differentials & Approach:**

- **The Tutor's List of Differentials for the Centre of the Abdomen:**
    - Mesenteric Ischemia.
    - Inflammatory Bowel Disease (IBD).
    - Cancers.
    - Celiac Disease / Lactose Intolerance.
    - Irritable Bowel Syndrome (IBS).
    - Constipation.
    - Ruptured Abdominal Aortic Aneurysm (AAA).
- **The Tutor's Approach:**
    - For central abdominal pain, the structure remains the same, but the *priority* of your questioning changes.
    - You must give high importance to the "Other Causes" group, specifically screening for vascular catastrophes like **Mesenteric Ischemia** (by asking about AF/palpitations and CVRFs) and **AAA** (by asking about CVRFs and back pain).
    - A complete, systematic history that covers all organ systems is your best defense against missing these challenging diagnoses.

**IV. Key Learning Points for Central Abdominal Pain Cases:**

- **The Abdominal Pain Structure is Adaptable:** The same framework is used, but the order and emphasis of your differential screening changes based on the location of the pain.
- **Recognize the "Red Flag" Presentations:** A patient with known AF and sudden, severe abdominal pain is Mesenteric Ischemia until proven otherwise.
- **History + Exam Correlation:** In the hernia case, the history (no previous surgery) and exam (palpable, irreducible hernia) lead to the diagnosis. In the mesenteric ischemia case, the history (palpitations) and exam (irregular pulse, minimal tenderness) point to the cause.

- **Don't Be Falsely Reassured:** The classic "pain out of proportion to signs" in mesenteric ischemia is a major diagnostic trap. A soft abdomen in a patient with 10/10 pain is a surgical emergency.
- These cases test a high level of clinical acumen, requiring the candidate to synthesize subtle clues from the history and exam to diagnose rare but life-threatening conditions.

**Upper Abdominal Pain**

**AMC Recalls: Upper Abdominal Pain (Acute Pancreatitis)**

**I. Introduction & The Challenge of Upper Abdominal Pain:**

- **Broad Differentials:** Upper abdominal pain requires consideration of GI, hepatobiliary, pancreatic, and referred causes from the chest (cardiac and respiratory).
- **The Recall:** The classic AMC case for this presentation is **Acute Pancreatitis**.
- **Key Causes of Pancreatitis (Mnemonic: I GET SMASHED, simplified for OSCE):**
    - **Gallstones** (obstructing the common duct).
    - **Ethanol (Alcohol)** (especially binge drinking).
    - Trauma.
    - Steroids.
    - Mumps (and other infections).
    - Autoimmune.
    - Scorpion stings (not relevant for AMC).
    - **Hypertriglyceridemia / Hypercalcaemia.**
    - ERCP (post-procedure).
    - **Drugs/Medications** (e.g., thiazide diuretics, GLP-1 agonists, DPP-4 inhibitors).
    - Idiopathic / Cancers (obstructing the duct).

**II. Case 93 (Version 1 - Classic Face-to-Face): 25 y.o. Male, ED, Upper Abdominal Pain**

- **Stem Summary:**
    - 25-year-old male, ED.
    - Complaint: Pain in the upper abdomen.
    - Vitals are provided.
- **Tasks:**
    1. Take history (5 minutes).
    2. Explain diagnosis and differentials.
    3. Request investigations.
- **A. The Structured History Taking (Adapted for Upper Abdominal Pain):**
    1. **Opening & Intro:** (Standard: haemodynamic stability check can be skipped if vitals are in the stem, open-ended question, address concern).
    2. **Explore the Pain (SICORA - with focus on pancreatitis features):**
        - **Non-verbal cues in face-to-face:** Patient may be holding a vomit bag and leaning forward.
        - **S**ite: Epigastric / central upper abdomen.
        - **I**ntensity: Severe (e.g., 8-9/10).
        - **C**haracter: Dull ache.
        - **O**nset: Acute (e.g., started last night), constant, getting worse.
        - **R**adiation: Can radiate to the back (though often negative in OSCE recall).
        - **A**lleviating/Aggravating Factors:
            - **KEY FINDING: Pain is better when leaning forward, worse when lying down.** (Pathognomonic).
            - (Ask relation to eating - can be worse after eating).
    3. **Screening for Differentials (Systematic, but probe Pancreatitis causes first):**
        - **General GI Questions: Nausea/Vomiting** (Patient: "Yes, I have nausea and have vomited 3-4 times"). (Diarrhoea/Constipation less relevant here). Fever?
        - **Provisional Diagnosis from SICORA & N/V -> Pancreatitis.** Now, probe for its causes.

        - **Key Point Questions for Pancreatitis Causes:**
            - **Alcohol:** *"Do you drink alcohol?"* (No, not often). -> **KEY FOLLOW-UP:** *"Have you had any recent **heavy drinking or binge drinking**?"* (Patient: **"Yes, last night I drank a little bit too much."** -> Key Positive Finding).
            - **Gallstones:** *"Have you had any history of pain and cramps after eating large, fatty meals? Did this pain start after eating a large fatty meal?"*
            - **Hyperlipidemia:** *"Any history of high fats in your blood?"*
            - **Medications:** *"Are you taking any special medications?"*
            - **Trauma:** *"Any recent trauma to your abdomen?"*
            - **Infections:** *"Any recent flu-like symptoms or rashes?"*
            - **Cancers (Pancreatic/Biliary):** *"Have you had any recent loss of weight? Loss of appetite? Lumps/bumps? Tiredness?"*
        - **Screening Other Upper Abdominal Differentials:**
            - **Hepatobiliary (Liver/Gallbladder):** "Any yellowish discoloration of your skin (jaundice)? Dark urine? Pale stools? Itchiness?"
            - **PUD/GERD:** "Any heartburn? Water brash? Do you drink coffee or eat spicy food?"
            - **Referred Cardiac Pain (MI/ACS):** "Any chest pain? Shortness of breath?"
            - **Referred Respiratory Pain (Lower Lobe Pneumonia):** "Any cough?"
- **B. Explaining Diagnosis & Differentials:**
    1. **Diagnosis:** *"John, most likely you have a condition called **pancreatitis**."*
    2. **Brief Explanation:** *"The pancreas is an organ in your upper stomach that helps with digesting food. In your case, the **pancreas is inflamed**, and this was likely **triggered by your recent heavy alcohol intake**."*
    3. **Differentials (Prioritize other upper abdominal causes):**
        - **Start by listing other pancreatic/biliary causes:** "I was also thinking about **pancreatic cancer** or **cholangiocarcinoma** (bile duct cancer)."
        - **Then gallbladder/liver:** "I also considered **hepatitis** (liver inflammation), **cholecystitis** (gallbladder inflammation), or **cholangitis** (bile duct infection)."
        - **Then epigastric GI:** "Other possibilities include **peptic ulcer disease** or **gastroesophageal reflux disease**."
        - **Then referred causes:** "And it was very important to rule out problems referred from the chest, like **ischemic heart disease (a heart problem)** or a **lower lobe pneumonia**."
        - (Can list other broader GI causes like bowel cancer, IBD at the end).
- **C. Requesting Investigations:**
    - **Tutor's Warning:** Be specific. Do not give a generic "bloods and imaging" list.
    2. **KEY DIAGNOSTIC TEST (Must be first): Serum Lipase** (and/or Amylase). Lipase is more specific.
    3. **Tests for Causes & Severity:**
        - **LFTs (Liver Function Tests):** To check for gallstone-related causes (obstructive pattern).
        - **Lipid Profile:** To check for hypertriglyceridemia.
        - (Calcium level).
    4. **Baseline/Severity Bloods:** Full Blood Count (FBC) for leukocytosis, UECs for hydration/kidney function, BSL, ESR/CRP.
    5. **Imaging (if needed):** "We may consider an **ultrasound** of your abdomen to look for gallstones, or a **CT scan** if we are concerned about complications."

**III. Case 93 (Version 2 - Online Exam Style): Same case, but Investigations are GIVEN**

- **Task Difference:** Instead of requesting investigations, you must *explain* them.
- **Investigation Findings Provided:**
    - High White Cell Count.
    - **High Lipase.**
    - Mildly raised LFTs (AST/ALT).
- **Explanation of Investigations to Patient:**
    - **WCC:** *"I can see your **white blood cells are high**. White blood cells are part of your immune system, and they increase when you have inflammation in your body."*
    - **Lipase (The Key):** *"Your **lipase enzyme is high**. This is an enzyme that is produced by your pancreas... When the pancreas is inflamed, it releases a large amount of lipase into your blood. A high lipase level suggests that your pancreas is inflamed."*

    - **LFTs:** *"Your **liver enzymes are also slightly high**. This means there is a mild inflammation in your liver, which is **common to see when we have inflammation in the pancreas** because the two organs are closely connected."*
- **Diagnosis/Differentials Explanation:** The rest of the counseling is the same as Version 1, but now you can use the lipase result as a key *reason* for your diagnosis of pancreatitis.

**IV. Key Learning Points for Pancreatitis Case:**

- **Recognize the Clinical Picture:** The combination of severe epigastric pain, radiation to the back, relief on leaning forward, and significant nausea/vomiting is classic for pancreatitis.
- **Probe for Causes:** The history must actively seek the common causes, especially alcohol and gallstones.
- **Lipase is the Key Investigation:** When requesting or explaining tests, lipase must be the top priority.
- **Prioritize Upper Abdominal Differentials:** When explaining differentials, start with other conditions in that region (biliary, peptic ulcer) and the important referred causes (MI, pneumonia) before listing more general abdominal pain causes.
- The management (not a primary task here but good to know) involves NPO (nil by mouth), IV fluids, strong analgesia (opioids), and treating the underlying cause.

**Right Upper Quadrant (RUQ) Abdominal Pain**

**AMC Recalls: Right Upper Quadrant (RUQ) Pain (Biliary Colic vs. Cholecystitis vs. Cholangitis)**

**I. Introduction & The Diagnostic Challenge:**

- **The Problem:** These three conditions exist on a spectrum of gallstone disease, and their presentations can overlap, making differentiation challenging under exam pressure.
- **Tutor's Critical Point:** A structured history and a high index of suspicion for the most serious condition (cholangitis) are essential. You must be able to identify the key features that separate one from the others.
- **The Three Conditions (A Spectrum):**
    1. **Biliary Colic (Cholelithiasis):** Pain caused by a gallstone temporarily obstructing the cystic duct. The obstruction is transient, and there is **no significant inflammation or infection.**
    2. **Cholecystitis:** Persistent obstruction of the cystic duct by a stone, leading to **inflammation** of the gallbladder wall.
    3. **Cholangitis:** Obstruction of the **common bile duct** (often by a stone), leading to stasis of bile and a dangerous ascending **bacterial infection** of the biliary tree. **This is a medical emergency.**

**II. The Structured History Taking (Adapted for RUQ Pain):**

- **Tutor's Approach:** Start with the standard abdominal pain structure, but once the pain is localized to the RUQ, prioritize the "Liver & Gallbladder" differential group.

1. **Opening & Intro:** (Standard: haemodynamic stability, open-ended question, address concern).
2. **Explore the Pain (SICORA):**
3. **General GI Questions:** (Nausea/vomiting, diarrhoea/constipation, bloating/flatus, **FEVER - CRITICAL**).
4. **CORE DIFFERENTIAL GROUP: Liver & Gallbladder (Probe Deeply):**
    - **Hepatitis Screen:** *"Any **yellowish discoloration of your skin (jaundice)**? Any **dark urine**? Any **pale stools**? Any **itchiness**?"*
    - **Gallstone Screen:** *"Have you ever had **pain and cramps after eating large, fatty meals**?"* (This is a key question for biliary colic).
    - **Cholangitis Screen (FEVER & JAUNDICE - REINFORCE):** You must be certain about these. The general "fever" question is good, but you can probe again if suspicion is high.
    - **Cancer Screen (Red Flags):** Weight loss, appetite loss, etc.
    - **Previous Surgery:** *"Have you had any previous surgeries, especially on your gallbladder or liver?"* (For strictures, etc.).
5. **Other Upper Abdominal Differentials (Pancreas, PUD/GERD, Referred Chest Pain):** Systematically screen these as per the main abdominal pain structure.

**III. The Three Case Variations & Their Differentiating Features:**

**Case 94 (Version 1): Biliary Colic (Cholelithiasis)**

- **History Findings:**
  - Pain is **on and off (colicky)**.
  - Intensity is moderate (e.g., 5/10).
  - Pain **radiates to the right shoulder/scapula.**
  - **Triggered by fatty food** (e.g., "happened after I had curry").
  - **CRUCIAL NEGATIVES: NO FEVER, NO JAUNDICE.**
- **Physical Examination:**
  - Generally well, afebrile, not jaundiced.
  - Abdominal exam may be completely normal or show mild RUQ tenderness.
  - **Murphy's sign is NEGATIVE.**
  - Urine dipstick is normal (no bilirubinuria).
- **Diagnosis: Biliary Colic** (or Cholelithiasis).
- **Explanation to Patient:**
  - *"Most likely, you have a condition called **biliary colic**. This means you have **stones in your gallbladder**. The gallbladder is a small sac behind your liver that helps with digesting fatty food. Sometimes, a stone temporarily blocks the outlet of this sac, especially after a fatty meal, and this causes the pain."*
  - **Reasons:** Link to the on-and-off pain, radiation to the shoulder, and the trigger of fatty food, plus the absence of fever or jaundice.

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**Case 95 (Version 3 in tutor's sequence): Cholecystitis**

- **History Findings:**
  - Pain is **constant and severe**, not colicky. Started suddenly a few hours ago.
  - May radiate to the back.
  - Nausea present, may have vomited.
  - May or may not have a history of fatty food intolerance.
  - **CRUCIAL: FEVER is present**, but JAUNDICE is usually absent.
- **Physical Examination:**
  - Patient appears unwell, has a fever. Not jaundiced.
  - Significant tenderness in the RUQ.
  - **Murphy's sign is POSITIVE.** (This is the key differentiating sign).
- **Diagnosis: Acute Cholecystitis.**
- **Explanation to Patient:**
  - *"Most likely, you have a condition called **cholecystitis**. This means that a **stone has become stuck and is blocking the tube** coming out of your gallbladder. This blockage has caused the gallbladder to become **inflamed**, which is causing the severe, constant pain and fever."*
  - **Reasons:** Link to the constant RUQ pain, the fever, and the positive Murphy's sign on examination.

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**Case 96 (Version 2 in tutor's sequence): Acute Cholangitis**

- **History Findings:**
  - Patient is systemically unwell.
  - Pain is in the RUQ, constant and severe.
  - **CRITICAL TRIAD (Charcot's Triad):**
    1. **Right Upper Quadrant Pain.**

2. **FEVER** (often high, with rigors/chills).
3. **JAUNDICE** (yellow skin/eyes, dark urine, pale stools).

- **Physical Examination:**
  - Patient is visibly unwell, febrile, and jaundiced. May be confused (sign of sepsis - Reynolds' Pentad).
  - Tenderness in the RUQ.
  - **Murphy's sign may be positive or negative.** (Tutor notes that even if Murphy's sign is positive, the presence of the full triad makes cholangitis the primary diagnosis).
- **Diagnosis: Acute Cholangitis.**
- **Explanation to Patient:**
  - *"You have a very serious condition called **cholangitis**. This is a **bacterial infection inside the main tubes (bile ducts)** that drain fluid from your liver and gallbladder. We think this has happened because a **gallstone is blocking the main duct**, which has allowed bacteria to build up and cause a severe infection."*
  - **Reasons:** *"The reasons I am very concerned and believe this is the diagnosis is because you have the classic combination of **pain in your right upper abdomen, a high fever, and you are also jaundiced**."*

**IV. Key Learning Points for Differentiating RUQ Pain:**

- **It's a Spectrum:** Think of it as a progression: Biliary Colic (transient blockage) -> Cholecystitis (persistent blockage + inflammation) -> Cholangitis (main duct blockage + infection).
- **Know Your Triads:**
  - **Biliary Colic:** RUQ pain + radiation to shoulder + triggered by fatty food.
  - **Cholecystitis:** Constant RUQ pain + fever + positive Murphy's sign.
  - **Cholangitis (Charcot's Triad):** RUQ pain + fever + jaundice.
- **Fever & Jaundice are the Key Differentiators:**
  - No fever, no jaundice -> Biliary Colic.
  - Fever, no jaundice -> Cholecystitis.
  - Fever AND Jaundice -> Cholangitis.
- **Don't Be Fooled by a Positive Murphy's Sign:** If the patient also has jaundice, the diagnosis is cholangitis, not cholecystitis. The inflammation from cholangitis can extend to the gallbladder, making Murphy's sign positive. Cholangitis is the more severe, life-threatening diagnosis and must take precedence.
- **Structure Protects You:** A systematic history that *always* asks about fever and jaundice is the only way to safely differentiate these conditions. A candidate who forgets to ask about jaundice will misdiagnose cholangitis as cholecystitis and fail.
- These cases are designed to test precise clinical reasoning and the ability to differentiate between similar presentations with different levels of acuity and risk.

**right upper quadrant (RUQ) abdominal pain**

**AMC Recalls: RUQ Pain with Red Flags (Suspected Malignancy)**

**I. Case 97 (Newer Online Exam Case): 55 y.o. Lady, RUQ Abdominal Pain for 3 Months**

- **Stem Summary:**
  - 55-year-old lady, GP.
  - **Complaint:** Pain in the right upper abdomen for 3 months (chronic).
- **Tasks:**
  1. Take a history (4 minutes).
  2. Ask Physical Examination from Examiner (PFEE).
  3. Explain diagnosis and differentials.
- **Tutor's Note:** This is a newer, complex case. The key is to correctly identify and weigh the multiple "red flag" findings from the history against other information (like travel or alcohol use) to arrive at the most likely and most serious diagnosis.

**II. The Structured History Taking (Adapted for RUQ Pain):**

- (Follow the full, comprehensive abdominal pain structure. Once pain is localized to the RUQ, prioritize the "Liver & Gallbladder" and other upper abdominal differential groups).
- **Key History Findings (A "Multiple Finding Drama"):**
    1. **Red Flags for Cancer:**
        - **Weight loss.**
        - **Loss of appetite.**
        - **Significant family history of cancer** (e.g., gallbladder cancer, bowel cancer).
    2. **Alcohol History:**
        - Heavy alcohol use (e.g., **6 beers every day**). This is a risk factor for alcoholic liver disease, cirrhosis, and pancreatitis.
    3. **Travel History:**
        - Recent travel to a region like **Queensland.** This is a distractor, prompting you to think about travel-related infections (like hepatitis), but it's less significant than the cancer red flags.
    4. **Other Negative but Important Findings:**
        - No fever.
        - No jaundice.
- **Navigating the History:**
    - Even though the patient has a significant alcohol and travel history, the presence of **multiple, strong red flags for malignancy (weight loss, anorexia, strong family history) must take precedence.**
    - **When travel is mentioned:** Briefly screen for relevant risks (e.g., "While you were travelling, were you exposed to anything that might affect your liver, like unsafe food or water for Hepatitis A, or did you engage in any high-risk activities for Hepatitis B?").

**III. Physical Examination from Examiner (PFEE):**

- **Key Finding from Recall:**
    - The examiner describes a finding of **"hepatic nodularity"** or an **"irregular liver edge"** on palpation. The liver is **not tender**.
- **Interpretation:**
    - An irregular, nodular liver edge is a classic sign of **cirrhosis**.
    - Cirrhosis can be caused by long-term alcohol use, but it is also the end-stage result of many chronic liver diseases and is a major risk factor for **primary liver cancer (hepatocellular carcinoma - HCC)**. It can also be a sign of extensive **liver metastases**.
    - The absence of tenderness makes acute inflammation (like hepatitis or cholecystitis) less likely.

**IV. Explaining Diagnosis and Differentials to the Patient:**

- **The Diagnostic Challenge:** The findings (RUQ pain, weight loss, family hx of cancer, heavy alcohol use, nodular liver) point towards a serious liver pathology, but you cannot be certain if it's primary liver cancer, metastatic cancer, or advanced alcoholic cirrhosis without further imaging and biopsy.
- **Your Approach:** State the most serious concern first, while acknowledging the other possibilities.

1. **State the Most Serious Concern (Cancer):**
    - *"Mrs. [Patient's Name], based on our discussion and my examination, I am quite **concerned about the possibility of a cancer** in your **liver or perhaps your gallbladder**."*
2. **Provide the REASONS for your diagnosis:**
    - *"The reasons I am concerned are because you have several 'red flag' symptoms. You have **lost a significant amount of weight**, you have **lost your appetite**, and you have a **strong family history of cancers** in this area."*
    - *"Also, on examination, I can feel that the edge of your liver is irregular and nodular, which can be a sign of a serious underlying liver problem."*
3. **List & Rule Out Other Differentials (Structure your thoughts):**
    - **Prioritize other serious causes:**
        - **Other Cancers:** *"The cancer could also be in your **pancreas**, or it could be a **bowel cancer that has spread to your liver**."*

        - **Cirrhosis:** *"Another strong possibility is a condition called **cirrhosis**, which is severe scarring of the liver. This can be caused by the **long-term heavy alcohol drinking** that you mentioned. It's important to know that cirrhosis itself can increase the risk of liver cancer."*
    - **Then list less likely causes:**
        - *"We also have to think about other liver and gallbladder problems like **hepatitis (inflammation of the liver), cholecystitis (inflammation of the gallbladder), or cholangitis (an infection in the bile ducts)**, but these are less likely as you don't have a fever or jaundice."*
        - *"I also considered other causes of upper abdominal pain like **pancreatitis, peptic ulcer disease, or even referred pain from your heart or lungs**, but your symptoms fit best with a primary liver or gallbladder problem."*

**V. Key Learning Points for the RUQ Pain with Red Flags Case:**

- **Red Flags Trump Everything:** In the face of clear red flags for malignancy (weight loss, anorexia, family history), these must be your primary focus. Do not get distracted by other findings like travel or even heavy alcohol use (which is a risk factor for cancer anyway).
- **The Diagnosis is a "Concern," not a Certainty:** You cannot definitively diagnose cancer in a GP/ED setting. Your diagnosis should be framed as a "high suspicion" or a "serious concern" that requires urgent investigation.
- **Synthesize Multiple Findings:** The skill is in connecting the dots: RUQ pain + weight loss + family hx + alcohol use + nodular liver = high probability of advanced liver disease, most worrisomely malignancy or cirrhosis.
- **Structure Your Differentials:** Even in your explanation, structure your thoughts. Start with the most likely/serious (cancers, cirrhosis), then move to less likely inflammatory/infectious causes.
- **"Nodular Liver Edge":** Recognize this physical sign as a hallmark of cirrhosis, which can be a final common pathway for many liver diseases and is a major risk factor for primary liver cancer.
- This case is a test of clinical acumen and the ability to prioritize serious pathology in a complex presentation with multiple potential contributing factors.

**left upper quadrant (LUQ)**

**AMC Recalls: Left Upper Quadrant (LUQ) / Epigastric Pain (PUD Case)**

**I. Introduction & The Diagnostic Challenge:**

- **Overlapping Symptoms:** Pain in the LUQ/epigastric region can be caused by the pancreas, stomach, oesophagus, or referred from the chest. The symptoms often overlap.
- **The Recall:** The classic AMC case for this presentation is **Peptic Ulcer Disease (PUD)**, often secondary to NSAID use.
- **Structured Approach is Key:** A systematic history is crucial to differentiate PUD from other serious causes like pancreatitis or MI.

**II. The Structured History Taking (Adapted for LUQ/Epigastric Pain):**

- **Tutor's Approach:** Start with the standard abdominal pain structure, but once the pain is localized to the upper abdomen, prioritize the "Hepatobiliary/Pancreatic/Epigastric" and "Referred Chest Pain" differential groups.

1. **Opening & Intro:** (Standard: haemodynamic stability check, open-ended question, address concern).
2. **Explore the Pain (SICORA):**
    - **Findings in this recall:**
        - **S**ite: "Left upper side and in the middle (epigastric)."
        - **I**ntensity/ **C**haracter: Dull ache.
        - **O**nset & Timing: On and off for some time.
        - **R**adiation: (May be minimal).
        - **A**lleviating/Aggravating Factors:
            - **KEY FINDING: Pain is worse with eating food.**
            - **Key Question Follow-up:** *"How soon after eating does the pain start?"* (Pain starting immediately after eating is more suggestive of a gastric ulcer vs. a duodenal ulcer where pain may be delayed).

        - Patient volunteers that taking **"Quick-Eze" (an over-the-counter antacid) helps** the pain. This is a strong clue for an acid-related problem like PUD or GERD.
3. **Screening for Differentials (Systematic, prioritizing upper abdominal causes):**
    - **General GI Questions:** (Nausea is present, no vomiting, no change in bowel habit, no fever).
    - **CORE GROUP 1: Pancreatitis:**
        - (Positional relief - leaning forward - is negative).
        - **Alcohol:** "Do you drink alcohol? Any recent heavy drinking?"
        - (Ask other pancreatitis risk factors: gallstones, high triglycerides, trauma, medications).
    - **CORE GROUP 2: GERD & Peptic Ulcer Disease:**
        - **GERD Questions:** *"Do you have any **heartburn**? Any **acidic or bitter taste** in your mouth? A **sudden increase of saliva** in your mouth (water brash)?"* (Findings are negative in this PUD recall).
        - **PUD Risk Factor Questions:**
            - (Alcohol already asked).
            - "How much **coffee or tea** do you drink? Do you eat a lot of **spicy food**?"
            - **KEY QUESTION (Medications):** *"Are you taking any regular medications, especially any **anti-inflammatory painkillers like Nurofen (Ibuprofen)**?"* (Patient: **"Yes, I do take Nurofen."** -> This is the key positive finding for the cause of the PUD).
            - "Do you smoke?"
        - **PUD/Gastric Cancer Red Flags:**
            - (Ask the standard cancer screen: weight loss, appetite loss, lumps/bumps).
            - **KEY QUESTION:** *"Have you had any **dark, tarry stools** (melaena)?"*
            - *"Does the pain **wake you up at night**?"*
    - **CORE GROUP 3: Hepatobiliary & Referred Chest Pain:**
        - **Liver/Gallbladder:** "Any yellowish discoloration of your skin (jaundice)? Dark urine? Pale stools? Itchiness?"
        - **Referred Cardiac/Respiratory Pain (MI/Pneumonia):** "Any chest pain? Shortness of breath? Cough?"
    - (Screen other differential groups like KUB, Hernia, etc., more briefly as they are less likely).

**III. Physical Examination from Examiner (PFEE):**

- The PFEE for this case is often unremarkable besides one key finding.
- **Key Positive Finding: Tenderness on palpation in the epigastric region.**
- (The rest of the abdominal, cardiovascular, and respiratory exam is typically normal).

**IV. Explaining Diagnosis and Differentials to the Patient:**

- **History Findings Summary:** LUQ/epigastric dull ache, worse after eating, relieved by antacids. Patient is a regular user of NSAIDs (Nurofen). No GERD symptoms. No major red flags.

1. **Most Likely Diagnosis:**
    - *"Mrs. [Patient's Name], most likely you have a condition called **Peptic Ulcer Disease**."*
2. **Brief Explanation:**
    - *"This means you have likely developed an **ulcer, which is like a sore, in the lining of your stomach**."*
3. **Provide the REASONS for your diagnosis (Link to History):**
    - *"The reasons I believe this is the case are because your pain is in the **upper part of your stomach** and it is clearly **worse after you eat**."*
    - *"It is also very likely **caused by the Nurofen medication** that you are taking regularly. Long-term use of these anti-inflammatory drugs is a very common cause of stomach ulcers."*
    - (Can also add: *"The fact that antacids like Quick-Eze help your pain also points towards an acid-related problem like an ulcer."*)
4. **List & Rule Out Other Differentials (Prioritize upper abdominal causes):**
    - *"While an ulcer is most likely, I was also thinking about other possibilities for your pain."*
    - **Pancreatitis:** *"I considered **pancreatitis**, which is inflammation of the pancreas, but this is less likely as your pain isn't relieved by leaning forward and you haven't had any heavy alcohol intake."*

- **GERD:** *"I also thought about **acid reflux or GERD**, but you don't have the typical symptoms like heartburn or an acid taste in your mouth."*
- **Hepatobiliary:** *"We also have to think about liver or gallbladder problems, but you don't have any jaundice or other signs of that."*
- **Referred Pain:** *"And it was important to rule out pain coming from your chest, like a **heart problem (ischemic heart disease)** or a **lung infection (pneumonia)**, but you don't have any chest pain or cough."*
- **Cancers (The Indigestion Case Link):** *"The most important thing we need to rule out is a **stomach cancer**. While it's less likely as you don't have any 'red flag' symptoms like weight loss or dark stools, we will need to do further tests to be sure."*

**V. Tutor's Note on an Alternative "Cancer" Version (The "Indigestion" Case):**

- The tutor highlights that AMC could easily change this PUD case into a **Gastric Cancer** case by making a few simple changes to the findings:
  - The patient would also have **weight loss** and **dark, tarry stools (melaena).**
  - In this scenario, **Gastric Cancer** would become the top provisional diagnosis, with PUD as a differential.

**VI. Key Learning Points for the PUD Case:**

- **The Upper Abdominal Pain Structure is Key:** A systematic approach that specifically probes for pancreatic, gastroduodenal, and hepatobiliary causes is essential.
- **Medication History is CRITICAL:** Regular NSAID use is the single most important risk factor for PUD in this OSCE recall.
- **Differentiate PUD from GERD:** Ask about the specific symptoms of GERD (heartburn, water brash, acid taste). Their absence, in the presence of epigastric pain related to meals, points more towards PUD.
- **Don't Forget Referred Pain:** Always screen for cardiac (MI) and respiratory (pneumonia) causes in any patient with upper abdominal pain.
- **Recognize Brand Names:** Be familiar with common over-the-counter antacid brand names in Australia (e.g., Gaviscon, Mylanta, Quick-Eze) and PPIs (e.g., Somac/Pantoprazole).
- **Management (if asked):** Would involve stopping the NSAID, starting a Proton Pump Inhibitor (PPI), testing for *H. pylori*, and arranging an endoscopy (gastroscopy) to confirm the ulcer and rule out malignancy.

**chronic abdominal pain in a young person**

**AMC Recalls: Chronic Abdominal Pain in a Young Person**

**I. Introduction & Key Differential Additions for this Cluster:**

- **The Scenario:** A young patient (teenager to mid-20s) with chronic, recurrent abdominal pain.
- **Adapting the Differential List:** The standard abdominal pain differential list is used, but for this specific "young person with chronic pain" context, you must prioritize and add the following:
  1. **Inflammatory Bowel Disease (IBD)** (Crohn's, UC) - moves higher up the list.
  2. **Irritable Bowel Syndrome (IBS)** - becomes a more relevant differential (as a diagnosis of exclusion).
  3. **Celiac Disease.**
  4. **Lactose Intolerance.**
- **Red Flags still a Priority:** Despite the patient's young age, screening for **bowel cancer** red flags (weight loss, blood in stool, etc.) is still a non-negotiable safety step.

**II. The Structure of History Taking (Applied to all three cases):**

- (The tutor reinforces that the comprehensive abdominal pain history structure is applied, with special emphasis on the new key differentials).

1. **Opening & Intro:** (Standard: haemodynamic stability, open-ended question, address concern).
2. **Explore the Pain (SICORA):** (Detailed pain assessment as usual).

3. **Screening for Differentials (Systematic):**
    - **General GI Questions:** (Nausea/vomiting, diarrhoea/constipation, bloating/flatus, fever).
    - **GI Differentials (with new additions):**
        - **Bowel Cancer (Red Flags).**
        - **IBD:** *"Any joint pain? Blurring of vision? Mouth ulcers? Rashes?"*
        - **Lactose Intolerance:** *"Is the pain related to or worse after eating **dairy products** like milk, cheese, or yogurt?"*
        - **Celiac Disease:**
            - *"Have you noticed if the pain is worse after eating things like **pasta or bread**?"*
            - Stool Characteristics: *"Have you had **greasy stools**?"* (Tutor notes other features of greasy stools: hard to flush, stick to the pan, float on water).
        - **IBS:** *"Do you have any **stress at home or at school/work**?"* (Pain better after defecation was asked in SICORA).
        - **"SAM" (Surgeries, Alcohol, Medications).**
        - **Gastroenteritis.**
    - **KUB, Genital/Pelvic, Other systems:** (Screen as per the standard structure).

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**III. Case 98: 16 y.o. Boy, Chronic Abdominal Pain ("IBD Case")**

- **Key History Findings:**
    - Pain for a few months, all over the stomach.
    - Pain is better in the fetal position.
    - Nausea, but no vomiting.
    - Stools are soft, but no definite diarrhoea or constipation; no blood.
    - **Crucially, no clear food triggers** (e.g., stopping dairy didn't help).
    - No significant stress.
- **Physical Examination Findings (Provided on screen/card ):**
    - Abdominal exam is normal.
    - **KEY FINDING: Erythema nodosum** on both legs (tender, red, firm, raised nodules, 2cm each).
- **Diagnostic Reasoning:**
    - Erythema nodosum is a classic extra-intestinal manifestation of **Inflammatory Bowel Disease (IBD)** (and also Sarcoidosis).
    - In the context of chronic, unexplained abdominal pain and soft stools in a young person, this rash is a huge clue.
- **Diagnosis & Explanation:**
    - **Diagnosis: Inflammatory Bowel Disease (IBD).**
    - **Explanation:** *"Most likely, you have a condition called **Inflammatory Bowel Disease**. This is an **autoimmune condition**, which means your own immune system attacks your bowels and causes inflammation. The reasons I think this is the case are your long-standing abdominal pain, and very importantly, the specific **rash** you have on your legs, called erythema nodosum, which is a known sign of this condition."*

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**IV. Case 99: 22 y.o. Boy, Chronic Abdominal Pain ("Celiac Disease Case")**

- **Key History Findings:**
    - Abdominal pain for 6 months, all over.
    - Bloating is a prominent feature.
    - Loose stools.
    - **KEY TRIGGER:** Pain and bloating happen **after eating pasta and bread.**
    - **Stool characteristics:** Describes bulky, smelly, hard-to-flush stools (suggests steatorrhea/greasy stools).
    - **Associated finding:** Patient is taking **iron supplements** for known **iron deficiency anemia** (a classic sign of malabsorption from Celiac Disease).
- **Physical Examination:** (Likely normal).

- **Diagnosis & Explanation:**
    - **Diagnosis: Celiac Disease.**
    - **Explanation:** *"Most likely, you have a condition called **Celiac Disease**. **Gluten** is a protein found in some foods, mainly **wheat, rye, barley, and oats** – so things like pasta and bread. In your case, it seems your **bowels are sensitive or allergic to gluten**. After eating food with gluten, your bowels become inflamed, which causes the pain, bloating, and changes in your stools."*
    - **Reasons:** Link to the specific food trigger (pasta/bread), the characteristic stools, and the iron deficiency anemia (which is caused by poor iron absorption due to the bowel inflammation).
- **Management (If asked):**
    - **Investigations:**
        - Screening: **Celiac serology** (Anti-tTG and Anti-gliadin antibodies).
        - Confirmation: **Upper endoscopy (gastroscopy) with duodenal biopsy.**
        - **CRITICAL POINT:** The patient must **continue eating gluten** until *after* the biopsy is done to ensure an accurate diagnosis.
    - **Treatment:** Lifelong strict **gluten-free diet**, managed with the help of a specialized dietitian. Screen for other nutritional deficiencies (B12, Folate, Vitamin D) and other autoimmune conditions (thyroid, liver).

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**V. Case 100: 20 y.o. Male, Chronic Abdominal Pain ("Lactose Intolerance Case")**

- **Key History Findings:**
    - Abdominal pain for 6 months, around the belly button.
    - Patient reports alternating constipation and diarrhoea.
    - **KEY TRIGGER:** Patient explicitly states, **"Every time I take dairy products, I get cramps and bloating."**
    - No stress.
    - Family history of migraine (a distractor).
- **Tutor's Note on Diagnostic Traps:**
    - **IBS:** While the patient has alternating bowel habits, the clear and consistent link to a specific food trigger (dairy) makes IBS (a diagnosis of exclusion) less likely than a primary food intolerance.
    - **Abdominal Migraine:** This is a rare diagnosis of exclusion, primarily in children, and should not be considered when a clear cause like lactose intolerance is present. **This is not an abdominal migraine case.**
- **Diagnosis & Explanation:**
    - **Diagnosis: Lactose Intolerance.**
    - **Explanation:** *"Most likely, you have a condition called **lactose intolerance**. **Lactose** is a type of sugar that is found in **dairy products** like milk and cheese. In your case, it seems your bowels lack the enzyme needed to break down lactose properly. This means that whenever you eat dairy, you get the symptoms of cramps and bloating."*
    - **Reasons:** The diagnosis is based almost entirely on the classic and consistent history of symptoms being triggered by dairy intake.

**VI. Key Learning Points for the Young/Chronic Abdominal Pain Cluster:**

- **The "4 Is":** For this cluster, your differential list must include **IBD, IBS, and the two major Intolerances (Celiac/Lactose).**
- **The History Reveals the Diagnosis:** Each of these cases is designed so that a thorough and structured history will uncover a specific key finding that points to the correct diagnosis:
    - IBD -> Erythema Nodosum rash.
    - Celiac -> Pasta/bread trigger + greasy stools + iron deficiency.
    - Lactose Intolerance -> Dairy trigger.
- **Don't Abandon the Structure:** Even if a diagnosis seems obvious early on, continue to systematically rule out other causes (especially red flags) to demonstrate a safe and comprehensive approach.
- **Be Aware of Distractors:** Cases will often include irrelevant findings (like family history of migraine) or misleading clues to test your clinical reasoning. Stick to the most relevant and consistent findings.

**Abdominal Pain in a patient with Chronic Back Pain**.

**AMC Recalls: Abdominal Pain with Chronic Back Pain**

**I. Case 101 (Newer Case): 50 y.o. Male, Abdominal Pain, on Painkillers for Chronic Back Pain**

- **Stem Summary:**
  - 50-year-old male.
  - **Complaint:** Abdominal pain.
  - **Context:** He has **chronic back pain** for which he has recently been given painkillers.
- **Tasks:**
  1. Take a history (4 minutes).
  2. Ask Physical Examination from Examiner (PFEE).
  3. Explain diagnosis and differentials.
- **Tutor's Key Insight:** This is a "connector" case. The challenge is to determine the link between the chronic back pain and the new abdominal pain. The history must explore both complaints, but the *primary focus remains the acute abdominal pain*.

**II. Potential Storylines / Diagnostic Pathways:**

- **Pathway 1 (The Red Flag / Sinister Path):**
  - The patient has an undiagnosed **abdominal malignancy** (e.g., bowel, pancreatic cancer) that has **metastasized to his spine**, causing the chronic back pain. The new abdominal pain is a progression of the primary tumour.
- **Pathway 2 (The Autoimmune Path):**
  - The patient has an underlying autoimmune condition, most likely **Inflammatory Bowel Disease (IBD)**, which is causing both the chronic abdominal pain and an associated inflammatory arthropathy (spondyloarthropathy) causing the back pain.
- **Pathway 3 (The Medication Side Effect Path):**
  - The patient's abdominal pain is a direct side effect of the **painkillers** he is taking for his back pain.
    - If he's on **NSAIDs (e.g., Nurofen)** -> Think **Peptic Ulcer Disease (PUD).**
    - If he's on **Opioids (e.g., Codeine, Endone)** -> Think severe **Constipation / Fecal Impaction.**

**III. The Structured History Taking (Adapted for this "Connector" Case):**

1. **Opening & Intro:** (Standard: haemodynamic stability, open-ended question, address concern).
2. **Explore the PRIMARY Complaint (Abdominal Pain) with SICORA:** (This is the acute presenting problem).
3. **Explore the BACKGROUND Complaint (Chronic Back Pain - brief & focused):**
   - **Tutor's Warning:** Do NOT do a full SICORA for the back pain. You don't have time. Treat it like an existing medical condition.
   - **Key Questions for the Back Pain:**
     - "How long have you had the back pain for?"
     - **"What painkillers are you taking for it?"** (This is crucial to determine if it's NSAIDs vs. Opioids).
     - **Red Flags for Back Pain:** *"Does the pain wake you up at **night**?"* (Red flag for cancer/metastases).
     - **Inflammatory vs. Mechanical Pattern:** *"Is your back pain **better or worse with rest and activity**?"* (Worse with rest/better with activity suggests inflammatory, like IBD-related arthropathy).
4. **Screening for Differentials (Systematic, using the standard Abdominal Pain Structure):**
   - **General GI Questions:** (Nausea/vomiting, diarrhoea/constipation, bloating/flatus, fever).
   - **GI Differentials (Prioritize based on potential pathways):**
     - **Bowel Cancer (Red Flags - HIGH PRIORITY):** Ask the full cancer screen (weight loss, appetite, blood in stool, etc.). The back pain makes spinal metastases a concern.
     - **IBD:** Ask the extra-intestinal manifestation questions (joint pain - already positive, mouth ulcers, vision problems, rashes).
     - **PUD/GERD (If on NSAIDs):** Ask the specific questions for these (heartburn, water brash, risk factors like coffee/spicy food).
     - **Gastroenteritis / Other GI:** (Screen briefly).
   - **KUB Differentials:** (Briefly screen. Pyelonephritis can present with flank/back pain).

- (Pelvic, Hepatobiliary, and "Other" causes are screened as per the standard structure, but the GI-Back Pain connection is the focus).

**IV. Physical Examination from Examiner (PFEE) - Abdomen + Focused Back Exam:**

1. **General Appearance & Vital Signs.**
2. **CORE SYSTEM: Abdominal Examination (Full & Detailed):**
   - (Inspection, Auscultation, Percussion, Palpation, Hernias, DRE).
3. **FOCUSED Back Examination (Brief but targeted):**
   - **Tutor's Warning:** Do not do a full neurological exam of the lower limbs or a complex MSK exam unless indicated. This is an abdominal pain case.
   - **Key Questions:**
     - *"Examiner, I would like to examine the back. Is there any **tenderness on the spinous processes**?"* (Checks for vertebral metastases).
     - *"I'd like to check the **range of movement** of the spine. Is it restricted?"*
4. (Quick screen of other systems and office tests).

**V. Synthesizing the Diagnosis based on the Findings:**

- **If the patient is OLDER, has red flags (weight loss), back pain at night, and tenderness over the spine:**
  - **Diagnosis:** Your primary concern is **Metastatic Bowel Cancer.**
  - **Explanation:** *"I am concerned you may have a bowel cancer that has spread to your spine, causing both your abdominal and back pain."*
- **If the patient is YOUNG, has inflammatory-type back pain, bloody diarrhoea, and extra-intestinal symptoms (e.g., mouth ulcers):**
  - **Diagnosis: Inflammatory Bowel Disease (IBD).**
  - **Explanation:** *"Most likely you have a condition called Inflammatory Bowel Disease. This is an autoimmune condition that causes inflammation in your bowel, leading to your abdominal pain. It can also cause inflammation in other parts of the body, like your spine, which is causing your back pain."*
- **If the patient is on NSAIDs and has epigastric pain worse after eating:**
  - **Diagnosis: Peptic Ulcer Disease (PUD).**
  - **Explanation:** *"The painkillers (Nurofen) you are taking for your back have likely caused an ulcer in your stomach, which is the cause of your abdominal pain."*
- **If the patient is on Opioids and has constipation and bloating:**
  - **Diagnosis: Constipation / Fecal Impaction (secondary to opioids).**
  - **Explanation:** *"The strong painkillers you are taking for your back are a common cause of severe constipation, which is leading to your abdominal pain."*

**VI. Key Learning Points for the "Pain Connector" Case:**

- **The Structure is Adaptable:** The core abdominal pain history structure works, but you must add a focused exploration of the secondary complaint (the back pain).
- **Don't Do Two Full Histories:** Briefly explore the chronic back pain as a "past medical history" item, focusing on its character (inflammatory vs. mechanical) and treatment, rather than a full SICORA.
- **Find the Link:** The central task is to determine the relationship between the two pain presentations. The different diagnostic pathways (cancer, autoimmune, medication side effect) represent these links.
- **The PFEE must be focused:** A full abdominal exam is required, but only a targeted, brief examination of the back is needed to check for red flags.
- This is a sophisticated case that tests your ability to think flexibly and make logical connections between two different presenting problems to arrive at a unifying diagnosis.

**Traumatic Abdominal Pain**

**AMC Recalls: Traumatic Abdominal Pain (e.g., Splenic/Renal Injury)**

**I. Case 102: 16 y.o. Boy, ED, after Falling from his Bike**

- **Stem Summary:**
  - 16-year-old boy, ED.
  - **Complaint:** Fell from his bike.
  - **Presenting Symptom:** Pain in the **left upper quadrant (LUQ).**
- **Tasks:**
  1. Take a history (5 minutes).
  2. Explain diagnosis and differentials.
  3. Explain management (mainly investigations).
- **Tutor's Key Insight:** This is not a standard "medical" abdominal pain case. The entire focus is on **trauma** and ruling out **organ injury**. Your history and management plan must reflect this shift in priority.

**II. The Structured History Taking (Adapted for Trauma):**

- **Tutor's Logic:** Even if the case is new and unfamiliar, the standard abdominal pain structure provides a safe framework. The key is to adapt it to the traumatic context.

1. **Opening & Intro:**
   - (Haemodynamic stability is critical in trauma).
   - (Standard open-ended question, address concern - the patient will be scared).
2. **Explore the PRIMARY Complaint (Abdominal Pain) with SICORA:**
   - (Site is LUQ. Onset is acute, after the fall. Quality may be dull/aching. Assess radiation, alleviating/aggravating factors - especially position).
3. **Explore the MECHANISM OF INJURY (CRITICAL):**
   - *"Can you please **describe the incident**? Tell me exactly what happened when you fell."* (Looking for a direct blow, e.g., "I hit the handlebar," "I landed on my side").
   - *"Did you **injure any other part of your body**?"*
   - **KEY QUESTIONS for Head Injury:** *"Did you **hit your head** anywhere? Did you **lose consciousness**?"*
4. **Systematic Symptom Screen (Looking for Organ Injury):**
   - **Tutor's Approach:** Instead of screening for medical diseases (like IBD, cancer), you are screening for signs of injury to specific organs.
   - **A. Splenic Injury (LUQ organ):**
     - *"Are you feeling **dizzy**?"* (Sign of internal bleeding).
     - *"Did anyone tell you that you looked **pale**?"*
   - **B. Gastrointestinal (GI) Injury (Stomach/Bowel):**
     - *"Have you **vomited any blood**?"*
     - *"Have you noticed any **blood in your stools**?"*
   - **C. Kidney, Ureter, Bladder (KUB) Injury:**
     - *"Have you noticed any **blood in your urine**?"*
     - *"Are you passing any **clots**?"*
     - *"Do you have any **difficulty passing urine**?"*
   - **D. Respiratory Injury (Ribs/Lungs):**
     - *"Are you having any **shortness of breath** at the moment? Any **cough**? Any **difficulty breathing**?"*
   - **E. Cardiovascular Injury (Rare, but consider with severe chest trauma):**
     - *"Do you have any **chest pain**? Any **racing of your heart**?"*
5. **Past Medical History / Medications:**
   - "Any medical conditions I need to be aware of?"
   - "Are you taking any medications, especially any **blood thinners**?" (Crucial for bleeding risk).
   - "When was your last **tetanus vaccination**?"

**III. Explaining Diagnosis and Differentials to the Patient:**

- **Tutor's Note:** In an acute trauma with LUQ pain, you cannot give a definitive diagnosis without imaging. The "diagnosis" is a statement of concern about potential injuries.

1. **State the Primary Concern (Broadly):**
    - *"James, based on your fall, I am **concerned about a potential injury to the organs inside your stomach (abdomen)**."*
2. **List the Possible Injuries (Your Differentials):**
    - **Prioritize the Solid Organs in that area:**
        - *"The two main organs I am concerned about in the area where you have pain are your **kidney** and your **spleen**."*
    - **Then list other possibilities systematically:**
        - *"There is also a possibility that you might have injured your **ribs and your lungs**, which could cause a **rib fracture** or a **bruise to the lung (lung contusion)**."*
        - *"Less commonly, you could injure your **stomach or your bowels**."*
        - *"It could also just be a **soft tissue injury**, meaning a bruise to the skin and the muscles."*
        - *"And finally, we always think about any potential damage to your **heart** (like a cardiac tamponade from bleeding) in this kind of injury."*

**IV. Explaining the Management Plan (Investigations are Key):**

- **The goal of management is to IDENTIFY the injury.**

1. **Primary Investigation (FAST Scan):**
    - *"The first thing we need to do is an **ultrasound scan** of your stomach, which we call a **FAST scan**. This is a focused assessment for trauma patients. It's a quick scan we do at the bedside to **identify any possible injuries to the organs or any signs of bleeding** inside your stomach."*
2. **Other Key Investigations:**
    - **Chest X-ray:** *"I will also arrange a **chest X-ray** to check your ribs and your lungs."*
    - **Bloods:** *"We will also need to do some **blood tests**. Specifically, we will do a **full blood examination** to make sure you are not bleeding, and we will also do a **blood group and crossmatch** so that we can prepare some blood for you just in case you need it."*
    - **Urine Dipstick:** *"And I will definitely do a small **urine dipstick test** on your urine to make sure there is no blood, which would tell us about a potential kidney injury."*
3. **Further Imaging (if needed):**
    - *"Depending on what we find on these initial tests, we may need to proceed to a **CT scan** for a more detailed look."*
4. **Supportive Care & Observation:**
    - *"For now, we need to **admit you to the hospital for close observation**. We will be regularly checking your vital signs to make sure there are no concerning changes."*
    - *"We will give you **painkillers** for your pain and may give you some **IV fluids**."*
5. **Surgical Involvement:**
    - *"If we find any **significant injury**, for example to your kidneys or your spleen, I will have to ask the **surgeons to see you**, as you might need an urgent surgery to repair the injury."*

**V. Key Learning Points for the Traumatic Abdominal Pain Case:**

- **The Structure is Adaptable:** The standard abdominal pain structure can be used, but the focus of questioning shifts from medical diseases to traumatic injuries. The tutor demonstrates that even if a candidate doesn't know this specific case, applying the general structure will still lead them to ask most of the right questions (GI, KUB, CVS, Resp).
- **Mechanism of Injury is Key:** A detailed description of the fall/impact is a critical part of the history.
- **Think Anatomically:** The differential diagnosis is a list of organs in the affected area that could be injured (spleen, kidney, ribs, lung, stomach, bowel).
- **The FAST Scan is Central:** This is the key initial investigation for blunt abdominal trauma in the ED.
- **Management is about Investigation & Observation:** The immediate plan is to find the injury (FAST, CXR, bloods) and monitor the patient for deterioration.

- This case tests the ability to apply medical knowledge to a trauma context and formulate a safe, logical plan for investigation and initial management.

Indigestion

This section covers three related but distinct cases presenting with upper abdominal pain, dyspepsia, or symptoms suggestive of a GI bleed. The tutor emphasizes how to differentiate between **Peptic Ulcer Disease (PUD), Gastric Cancer, and Iron Deficiency Anemia (IDA)** of unknown cause, highlighting the critical role of red flag screening.

Here's the organized breakdown:

**AMC Recalls: Upper Abdominal Pain & Dyspepsia Cluster (PUD, Gastric Cancer, IDA)**

**I. Introduction & The Diagnostic Challenge:**

- **Overlapping Presentations:** The symptoms of benign PUD, Gastric Cancer, and other upper GI issues can be very similar initially.
- **The "Truck Driver" Joke:** The tutor jokes about candidates memorizing superficial details of a recall (e.g., "the patient is a truck driver") instead of understanding the underlying clinical reasoning. The key is to apply a robust structure, not just recognize a recall.
- **The Core Task:** To use a systematic history to identify "red flags" that differentiate a benign condition like simple PUD from a sinister one like Gastric Cancer.

**II. The Structured History Taking (Adapted for Upper Abdominal Pain):**

- **Tutor's Approach:** Start with the standard abdominal pain structure, but once the pain is localized to the upper abdomen, prioritize the "Hepatobiliary/Pancreatic/Epigastric" and "Referred Chest Pain" differential groups.

1. **Opening & Intro:** (Standard: haemodynamic stability check, open-ended question, address concern).
2. **Explore the Pain (SICORA):**
    - **Key finding for PUD/GERD:** Pain/discomfort is **worse with eating food.**
    - **Key Follow-up Question:** *"How soon after eating does the pain start?"*
3. **Screening for Differentials (Systematic, prioritizing upper abdominal causes):**
    - **General GI Questions:** (Nausea/vomiting, diarrhoea/constipation, bloating/flatus, fever).
    - **CORE GROUP 1: Pancreatitis:** (Ask about alcohol, binge drinking, trauma, high triglycerides).
    - **CORE GROUP 2: GERD & Peptic Ulcer Disease:**
        - **GERD Symptoms:** Heartburn, water brash, acid taste.
        - **PUD Risk Factors:** Alcohol, smoking, coffee, spicy/fatty food, **NSAID use (CRITICAL)**, stress.
        - **PUD/Gastric Cancer Red Flags (CRITICAL):**
            - (Standard cancer screen: **Weight loss, appetite loss**, lumps/bumps).
            - **Melaena:** *"Have you had any **dark, tarry stools**?"*
            - **Haematemesis:** *"Have you **vomited any blood**?"*
            - **Nocturnal Pain:** *"Does the discomfort **wake you up at night**?"*
            - **Dysphagia:** *"Do you have any **difficulty in swallowing**?"*
    - **CORE GROUP 3: Hepatobiliary & Referred Chest Pain:** (Screen for jaundice, dark urine, pale stools, chest pain, SOB, cough).

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**III. Case 103: 55 y.o. Lady, Epigastric/LUQ Pain, on NSAIDs ("PUD Case")**

- **Key History Findings:**
    - Epigastric/LUQ dull ache, on and off.
    - **Worse with eating.**
    - **Relieved by antacids** ("Quick-Eze").

- Takes **Nurofen (NSAID)** regularly.
- Has other risk factors (coffee, alcohol).
- **NO heartburn or water brash** (making GERD less likely).
- **CRUCIALLY: NO red flags** (no weight loss, no dark stools, etc.).

- **Diagnosis & Explanation:**
  - **Diagnosis: Peptic Ulcer Disease (PUD).**
  - **Explanation:** *"Most likely you have a condition called **Peptic Ulcer Disease**. This means you have an ulcer, or a sore, in your stomach lining. This is most likely caused by the **Nurofen medication** you are taking."*
  - **Reasons:** Link to the epigastric pain, relationship with food, relief with antacids, and the key risk factor of NSAID use, plus the absence of red flags.
  - **Differentials:** "I was also thinking about acid reflux (GERD), pancreatitis, gallbladder problems, and of course, it was very important to rule out stomach cancer, but this is less likely as you don't have any red flag symptoms."

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**IV. Case 104: 50 y.o. Woman, "Indigestion" for months, worsening ("Gastric Cancer Case")**

- **Stem:** 50 y.o. woman with chronic "indigestion." O-T-C antacids (Mylanta) used to help but are no longer effective.
- **Key History Findings:**
  - Epigastric burning discomfort, worse after eating.
  - Multiple risk factors for PUD (smoking, alcohol, spicy food, coffee, stress).
  - **BUT, patient ALSO has multiple RED FLAGS:**
    - **Unexplained WEIGHT LOSS.**
    - **Loss of appetite.**
    - **DARK, TARRY STOOLS (MELAENA).**
    - Pain that wakes her up at **night.**
    - Difficulty swallowing (**Dysphagia**).
- **Physical Examination Findings (PFEE):**
  - **Key Findings:** Patient is **pale** (anemia). There is a **palpable, enlarged left supraclavicular lymph node (Virchow's node)**. On DRE, there is **melaena**. Abdominal exam may be normal.
- **Diagnostic Reasoning:** The presence of multiple, severe red flags in a patient with dyspepsia strongly points to malignancy.
- **Diagnosis & Explanation (Sensitive Communication):**
  - **Diagnosis: Gastric Cancer** (likely arising from a chronic ulcer).
  - **Explanation:** *"Mrs. [Patient's Name], based on our discussion, I am **concerned about the possibility of a gastric cancer**, which is a cancer in your stomach. I am very sorry to have to tell you this."*
  - *"It's possible this has developed from a **long-standing ulcer** in your stomach."*
  - **Reasons:** *"The reasons I am concerned are because you have several red flag signs: you are **losing weight**, you have **dark stools which indicates bleeding**, and on examination I found an **enlarged gland in your neck**. These signs, along with your long-standing indigestion, make cancer a serious possibility we must investigate urgently."*
  - **Differentials:** "While cancer is my main concern, a benign (non-cancerous) **peptic ulcer** is still a possibility. We also need to consider..." (list other upper abdominal differentials).
- **Requesting Investigations:**
  - **THE KEY INVESTIGATION (Must be first): Upper GI Endoscopy (Gastroscopy) with biopsy.**
  - **Explanation:** *"The first and most important test we need to do is an **endoscopy**, also called a gastroscopy. This involves passing a thin tube with a camera through your mouth to look directly at your food pipe and stomach. If we find an ulcer or any abnormal area, we will take a small tissue sample (a **biopsy**) to check for cancer cells."*
  - **Other tests:** Colonoscopy (due to melaena), FBE/Iron Studies (for anemia), *H. pylori* test.

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**V. Case 105: 55 y.o. Lady, Tiredness, found to have IDA (Link to Gastric Cancer)**

- **Tutor's Note:** This is a case from the "Tiredness" cluster but is diagnostically linked to this topic.

- **Key Finding:** Patient presents with tiredness and is found to have **iron deficiency anemia (IDA)**.
- **History reveals:** Dark, tarry stools (melaena) and epigastric discomfort.
- **Conclusion:** This is another presentation of likely **Gastric Cancer** causing a chronic GI bleed, leading to IDA. The management pathway is the same: urgent **endoscopy (and colonoscopy)** to find the source of bleeding.

**VI. Key Learning Points for the Dyspepsia/Upper Abdominal Pain Cluster:**

- **Red Flags are EVERYTHING:** The ability to systematically screen for and recognize red flags (Weight loss, Anorexia, Melaena/Haematemesis, Dysphagia, Nocturnal pain, Virchow's node) is what separates the diagnosis of benign PUD from suspected Gastric Cancer.
- **NSAIDs and H. pylori:** Know these as the two major causes of PUD.
- **The Structure is Protective:** A comprehensive history structure ensures you will ask the red flag questions, even if the initial presentation seems like simple indigestion.
- **Investigations Must be Prioritized:** For suspected malignancy, endoscopy with biopsy is the number one investigation. Do not list FBE or *H. pylori* test first.
- **Synthesize the Diagnosis:** In the cancer case, a good candidate explains the diagnosis as "gastric cancer, likely developed from a chronic peptic ulcer."
- These cases are designed to test your ability to be a safe practitioner by recognizing sinister signs and symptoms that require urgent investigation, even when they are mixed with more benign features.

Liver metastasis

**AMC Recalls: Liver Lesions on CT (Metastases)**

**I. Introduction & The Diagnostic Challenge:**

- **The "Design" of the Case:** The tutor emphasizes that these cases are designed to test your ability to synthesize information from the stem (e.g., dyspepsia, back pain), investigations (CT, bloods), and clinical reasoning to formulate a likely diagnosis of metastatic cancer.
- **The Common Thread:** All three cases discussed (Indigestion with red flags, and these two CT cases) point towards a primary GI cancer with varying degrees of spread.

**II. Case 106 (Version 1 - Multiple Liver Lesions / "Cannonball Mets"): 65 y.o. Lady, Dyspepsia & Low Back Pain**

- **Stem Summary:**
  - 65-year-old lady.
  - **Complaints:** Dyspepsia for 6 months, and new low back pain.
  - **Investigations Provided:**
    - Bloods: Microcytic, hypochromic anemia.
    - **CT Scan:** Shows **multiple, circular, hyperdense lesions throughout the liver** (classic "cannonball" appearance of metastases).
- **Tasks:**
  1. Explain your investigation findings to the patient.
  2. State your diagnosis.
  3. Suggest further investigations.
- **Tutor's Diagnostic Reasoning:**
  - The CT scan is definitive for **liver metastases**.
  - The patient has dyspepsia (suggesting an upper GI primary, like stomach) and a microcytic anemia (suggesting a chronic GI bleed, common in both stomach and bowel cancer).
  - The new back pain is a red flag for **bone metastases**.
  - **Conclusion:** This is a patient with a likely GI primary cancer (stomach or bowel) that has spread to both the liver and the bones (spine).
- **A. Structured Counseling Approach (Breaking Bad News):**

1. **Opening & Setting the Stage (SPIKES model):**
    - (Start with an open-ended question: *"Hello [Patient's Name], I can see a lot has been happening. Can you tell me what has happened so far from your perspective?"*).
    - **Assess Perception (The "P" in SPIKES):** *"Did the doctor who ordered these tests tell you why they were being done, or what they were looking for?"*
2. **Explain the "Normal" Blood Results First:**
    - *"Let me first explain your blood test results. We checked your red blood cells, which are the cells that carry oxygen in your blood using a particle called hemoglobin. Your hemoglobin is low, and the size and amount of hemoglobin in each cell are also smaller than usual. We call this a microcytic anemia."*
3. **Break the Bad News (The "K" & "I" in SPIKES):**
    - *"Now, we also did a CT scan of your abdomen. **Unfortunately, I don't have good news today**."* (Warning shot).
    - *"Would you like anyone else to be here with you while we discuss this?"* (Invitation).
    - *"On your scan, I can see a condition we call **liver metastases**."*
    - **Explain simply:** *"This means that a **cancer has spread to your liver**."*
4. **Handle the Emotional Response (The "E" in SPIKES):**
    - **(Patient will likely become upset/cry).**
    - **Empathy:** Use empathetic statements ("I'm so sorry to be giving you this news," "I wish I had better news today").
    - **Offer support:** Offer tissues, a glass of water.
    - **Use Silence:** Give the patient time to process the information.
    - **Check readiness to continue:** "Would you like to discuss the rest in another consultation?" (They will almost always say "no, tell me now").
5. **Explain the Diagnosis (The Likely Primary Source):**
    - *"Now that we know the cancer has spread to the liver, we need to find out where it started. As you have had discomfort in your stomach (dyspepsia) and also the anemia from a slow bleed, I am concerned about the possibility of a **cancer in your stomach (gastric cancer)**. There is also a small possibility it could be a **bowel cancer**."*
    - **Link the Back Pain:** *"I am also concerned about your back pain, because cancers in your stomach or bowel can also spread to the bone in your spine."*
6. **Suggest Further Investigations:**
    - **The Key Investigations (to find the primary):**
        1. **Upper GI Endoscopy (Gastroscopy):** *"The first and most important test is an endoscopy. This involves passing a thin tube with a camera through your mouth to look at your food pipe and stomach. If we find any abnormal areas, we will take a small tissue sample (a biopsy)."*
        2. **Colonoscopy:** *"We will also need to do a colonoscopy, which is a similar camera test through your back passage, to check your large bowel."*
    - **Staging Investigations:**
      3. **PET Scan / Bone Scan:** *"Because of your back pain, I am also concerned the cancer may have spread to other areas. We will need to do a special type of scan, called a **PET scan**, to find any other areas where the cancer might have spread."*
    - **Other tests:** Iron studies (for the anemia), Tumour markers (e.g., CEA).

**III. Case 107 (Version 2 - Single Liver Lesion, Post-Cancer History): 60 y.o. Male, Pale Stools, Tea-colored Urine, Epigastric Pain**

- **Stem Summary:**
    - 60-year-old male.
    - **Symptoms:** Pale stools, tea-coloured urine (obstructive jaundice), epigastric pain.
    - **PMHx:** Previous cholecystectomy. **Known case of resected colon cancer.**
- **Tasks:**
    1. Take a short history (2-3 mins).
    2. Explain investigations (a CT scan is provided).
    3. Explain diagnosis and differentials.
- **CT Scan Finding:** A **single, large lesion** in the liver.
- **The Diagnostic Dilemma:** Is this a **metastasis** from his previous colon cancer, or a **new, primary liver cancer (Hepatocellular Carcinoma - HCC)**? You cannot be certain from the image alone.
- **A. Focused History Taking (2-3 mins):**

- (Quick intro, open-ended question, reassurance).
- **Explore Symptoms:** "How long have you had the pale stools/dark urine/pain for? Are they getting worse?"
- **Explore Liver-related symptoms:** "Any yellowish skin (jaundice)? Any itchiness?"
- **Explore Colon Cancer Follow-up (CRITICAL):**
  - "When were you diagnosed with the colon cancer? What treatment did you have?"
  - **"Are you having regular follow-ups with your specialist and your GP? Have you had your regular colonoscopies?"** (The likely answer is "no," which is a major risk factor for recurrence).
- **Cancer Red Flags:** "Are you losing weight? Loss of appetite? Lumps/bumps? Tiredness? Any blood in your stools?"

- **B. Explaining Investigations & Diagnosis (Must address both possibilities):**
  1. **Explain the CT Finding:** *"I have your CT scan results here. When we looked at the scan, we checked the different organs in your stomach. In your **liver, I can see a circular lesion**, which is abnormal."*
  2. **Break the Bad News (Gently):** *"In your case, I am concerned about the **possibility of a cancer**."*
  3. **Explain the Two Main Possibilities (Metastasis vs. Primary):**
     - **Possibility 1 (Metastasis):** *"Given your history, there is a chance that your previous **bowel cancer has spread to the liver**. This is what we call a metastasis, and this single lesion I am seeing could represent that."*
     - **Provide Reasons:** *"The reason I am concerned about this is because you have not been having your regular follow-up checks after your initial cancer treatment."*
     - **Possibility 2 (Primary):** *"However, there is still a possibility that this is a **new, primary liver cancer** that is unrelated to your previous bowel cancer."*
  4. **List Other Differentials (Benign Liver Lesions):**
     - *"While cancer is my main concern, there are other, less serious possibilities for a single lesion in the liver."*
     - *"These include a **haemangioma** (a collection of blood vessels), a **liver abscess** (a collection of pus), a **liver cyst** (a fluid-filled sac), or a benign growth like an **adenoma**."*
- **C. Further Investigations (If asked):**
  - **Tumour Markers** (CEA for colon cancer, AFP for HCC).
  - **Colonoscopy** (to check for local recurrence of the colon cancer).
  - **Liver Biopsy** (to get a definitive tissue diagnosis of the liver lesion).
  - Triple-phase CT or MRI for better characterization of the liver lesion.

**IV. Key Learning Points for Liver Metastasis Cases:**

- **Recognize Metastatic Patterns:** "Cannonball" appearance (multiple, round lesions) on CT is classic for metastases.
- **Break Bad News Systematically:** Use a structured approach like SPIKES (or a simplified version) to deliver serious news with empathy.
- **The Primary is the Target:** The main goal of further investigation is to find the primary source of the cancer (e.g., with endoscopy/colonoscopy).
- **Single vs. Multiple Lesions:** Multiple lesions are almost always metastases. A single lesion has a broader differential, including primary liver cancer and benign lesions, but metastasis is still a top concern in a patient with a history of cancer.
- **Follow-up is Key:** A history of a previous cancer with poor follow-up is a major red flag for recurrence or metastasis.
- These cases test your ability to interpret complex imaging, handle a difficult communication task (breaking bad news), and formulate a logical plan for further investigation.

Renal colic

AMC Recalls: Acute Flank Pain (Renal Colic)

*I. Introduction & The Diagnostic Challenge*

- **The "Design" of the Case:** This case is designed to test your ability to recognize a classic clinical pattern (renal colic) through focused history taking. It challenges you to prioritize the KUB (Kidney, Ureter, Bladder) system over the GI system based on the pain characteristics.
- **The Key Cue:** The stem often includes the phrase "the pain has now improved." The tutor highlights this as a specific instruction to the candidate: **Do not get sidetracked by offering painkillers.** Your primary task is to proceed with history and examination to establish the diagnosis.

- **The Clinical Trap:** The case may include renal angle tenderness on examination. The challenge is to differentiate uncomplicated renal colic from pyelonephritis by correctly identifying the absence of a key feature: **fever**.

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*II. Case [Number]: The Classic Renal Colic Presentation*

**Stem Summary:**

- 40-year-old man.
- Presents to your general practice.
- Complaint: A very sudden onset of abdominal pain.
- Key information: "His pain has now improved."

**Tasks:**

1. Take a history (4 minutes).
2. Ask for physical examination findings from the examiner.
3. Explain your diagnosis and your differentials.
4. Request further investigations.

**Tutor's Diagnostic Reasoning:**

- The history is paramount. The classic triad of **1) sudden, severe flank pain that migrates to the groin**, **2) comes in waves (colicky)**, and is associated with **3) hematuria** is virtually diagnostic of renal colic.
- The absence of fever is the critical finding that separates this from an infected, obstructed kidney (pyelonephritis), which is a urological emergency.
- Renal angle tenderness can be present in uncomplicated colic due to the stretching of the renal capsule and ureter; it is not exclusive to infection.

*A. Structured Clinical Approach*

- **(Opening & Priorities)**
  - Start with an open-ended question: *"Hello, I'm one of the doctors. I understand you've had some severe pain. Can you tell me more about what happened?"*
  - Reassure the patient: *"That sounds very distressing. I'm going to ask a few questions to get to the bottom of this."*
  - **Tutor's Tip:** Mentally check the most critical vital sign for this case: **Temperature**.
- **(Pain Assessment - AS CORA)**
  - **Site:** "Can you show me exactly where the pain started, and where you feel it now?" (Looking for flank-to-groin migration).
  - **Onset/Timing:** "When did it start? Is the pain constant, or does it **come and go in waves**?" (This is the key "colicky" question).
  - **Character:** "What does the pain feel like? Is it sharp, stabbing, cramping?"
  - **Radiation:** "You mentioned it moved. Does it travel down towards your groin?"
  - **Intensity:** "On a scale of 1 to 10, how bad was the pain at its worst?" (Expect 8-9/10).
  - **Aggravating/Alleviating:** "Does anything make it better or worse?" (Patient is often restless, can't find a comfortable position).
  - **Medication:** "Have you taken any painkillers, and did they help?"
- **(Systemic & KUB Questions - High Yield)**
  - **CRITICAL QUESTION:** "Have you had any **fever** or chills?"
  - **Associated GI:** "Any nausea or vomiting with the pain?"
  - **Urinary Symptoms (must ask):**
    - "Have you seen any **blood in your urine**?"
    - "Any pain or burning when you pass urine?" (Dysuria)

        - "Are you needing to go to the toilet more often?" (Frequency)
        - "Do you get a sudden, strong urge to go?" (Urgency)
        - "Have you noticed any dribbling?"
- **(Ruling Out Differentials - Time Permitting)**
    - **Past History:** "Have you or anyone in your family ever had **kidney stones** before?"
    - **Hernia:** "Have you noticed any lumps or swelling in the groin?"
    - **Gallbladder:** "Is the pain related to eating fatty foods?"
    - **Testicular:** "Any pain or swelling in your private parts?"

- **What to Ask For:** "I would like the patient's general appearance and a full set of vital signs. Then I will perform a full abdominal examination, including checking the inguinal region. As a special test, I will check for **renal angle tenderness**. Finally, I would like to perform a **urine dipstick**."
- **Expected Findings in this Case:**
    - **Vitals:** Temperature is **normal**.
    - **Abdomen:** May be soft, non-tender, or have some mild tenderness in the lumbar region/flank.
    - **Special Test: Positive** renal angle tenderness (costovertebral angle tenderness).
    - **Office Test:** Urine dipstick is **positive for blood**.

- **(Explain the Condition Simply)**
    - "Based on my assessment, the most likely diagnosis is a condition called **renal colic**."
    - "This means a small **kidney stone** has likely started moving from your kidney down the narrow tube that carries urine to your bladder. The pressure and muscle spasms in that tube are what cause the severe, wave-like pain."
- **(Provide Your Reasons)**
    - "There are three main reasons I believe this is the case:"
    2. "First, the way your pain started in your side and moved down to your groin is very typical."
    3. "Second, the fact that the pain comes in severe waves is the classic feature of this condition."
    4. "And third, we found traces of blood in your urine, which is very common as the stone passes."
- **(List Your Differentials - Prioritized)**
    - "While a kidney stone is most likely, we must consider other possibilities."
    - **KUB Differentials:** "My main concern would be a kidney infection, which we call **pyelonephritis**, but this is less likely as you don't have a fever. We also have to think about other kidney issues, like a **kidney cancer**, although that's less common."
    - **Right-Sided Differentials:** "Because the pain started on the right, I also considered problems with your **liver or gallbladder**."
    - **Other Differentials:** "I also thought about an **appendicitis**, a **hernia** in the groin, or even problems in the testicles like an infection."

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*III. Key Learning Points for Renal Colic Cases*

- **The "Pain Has Improved" Cue:** This is a direction from the examiner to prioritize diagnosis over immediate pain management.
- **The Diagnostic Triad:** The history of **flank-to-groin migration**, **colicky (wave-like) pain**, and **hematuria** is the cornerstone of the diagnosis.
- **Fever is the Triage Point:** Fever changes the diagnosis from uncomplicated renal colic to a complicated, infected stone (pyelonephritis/pyonephrosis), which requires urgent admission and intervention.
- **Don't Forget Key Exam Steps:** You must specifically ask for **renal angle tenderness** and a **urine dipstick** to complete the physical assessment.
- **Prioritize Differentials Logically:** Start with the KUB system (pyelonephritis, cancer) before moving on to GI (gallbladder, appendicitis) and other regional causes (hernia, testicular).

Renal colic

AMC Recalls: Acute Flank Pain (Renal Colic) - Part 2: Management

*I. Case [Number] (Version 2): The Management & Counseling Station*

**Stem Summary:**

- 40-year-old man.
- Presents to your general practice with sudden onset abdominal pain.
- **Information Provided in Stem:**
    - Pain started in the right flank and now radiates to the groin.
    - Urine dipstick shows blood.
    - A CT scan with a visible stone is provided.

**Tasks:**

1. Explain your CT scan findings to the patient.
2. Explain the diagnosis.
3. Outline your **management plan**.

**Tutor's Diagnostic Reasoning:**

- This version of the case is not about reaching a diagnosis (which is given), but about communicating it effectively and formulating a safe, comprehensive management plan.
- **The Core Challenge:** The exam will **intentionally not provide the size of the stone**. This is a cue that you must explain the *entire management pathway*—what you would do if the stone is small, and what you would do if it is large.
- **The #1 Priority:** Before any management is decided, you must rule out a concomitant Urinary Tract Infection (UTI). An obstructed *and* infected kidney is a urological emergency that can lead to urosepsis.

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*II. A Structured Clinical Approach (The Counseling Task)*

- **(Setting the Stage - Do Not Jump Straight In)**
    - Start with an open-ended question: *"Hello James, please have a seat. I have your results here, but first, can you tell me in your own words what has been happening?"*
    - Listen to their story and then provide reassurance: *"I'm so sorry you've been through such a painful experience. I have your scan results here, and my goal today is to explain what we've found and discuss a clear plan to manage it."*
- **(Explaining the CT Scan in Layman's Terms)**
    - "This is your CT scan. Think of it as a detailed slice looking at your abdomen."
    - "Here, I can see your hip bones, and this large circle is your bladder."
    - "Now, there are two thin tubes, called **ureters**, that connect your kidneys down to your bladder."
    - (Pointing to the scan image) "Do you see this small, bright shiny circle right here? **That is a stone**."
    - "It is located in the tube on the right side, right at the spot where the tube connects to your bladder. We call this the vesicoureteric junction, or VUJ."

- "This finding on the scan confirms the diagnosis. You have a condition called **ureteric colic**, which is commonly known as a kidney stone."
- "The reason you are having such severe pain is that the stone is moving down this narrow tube. The pressure and muscle spasms it causes result in the pain you're feeling."
- "This also explains your other symptoms, like the pain starting in your side and moving down, the wave-like nature of the pain, and the blood we found in your urine."

- **(The Crucial First Step - Ruling out Infection & Checking Function)**
    - "The very first thing we must do, before we decide on the best treatment, is to make sure there is no infection. A stone combined with an infection can be serious."

    - "To do this, I will need a **urine sample** to send to the lab for culture."
    - "I will also arrange a **blood test** to check your kidney function and make sure your kidneys are coping well."
- **(The Fork in the Road - Explaining Both Pathways)**
    - "Now, the next steps in your management will **depend on the size of the stone**."
- **Pathway 1: If the Stone is Small (e.g., less than 5-7 mm)**
    - "If the stone is small, there is a very high chance it will pass by itself. We call this **conservative management**."
    - **1. Pain and Symptom Control:**
        - "We will give you strong **painkillers**. We usually start with anti-inflammatories like Ibuprofen, but we can give you stronger options if needed."
        - "We will also give you medication for any **nausea**."
        - "I will also prescribe a medication called **Tamsulosin**. This medicine helps to relax and dilate the tube, making it easier for the stone to pass. A minor side effect can be dizziness, so be careful when standing up."
    - **2. Safety Netting (CRITICAL):**
        - "While you are at home, you must come back to the emergency department immediately if you develop a **fever**, if the **pain becomes uncontrollable**, or if you **stop passing urine**."
    - **3. Patient's Role:**
        - "I will ask you to **strain your urine** every time you go to the toilet to try and **catch the stone**. If you catch it, we can send it for analysis to find out what it's made of, which helps prevent future stones."
    - **4. Follow-up:**
        - "I will review you in 2 to 3 days to see how you are progressing."
- **Pathway 2: If the Stone is Large (e.g., more than 5-7 mm)**
    - "If the stone is larger, there is a low chance that it will pass by itself. In this case, we need to help get it out. I will refer you to a specialist called a **urologist** to discuss the options."
    - "The main options are:"
        - **1. Shockwave Treatment (ESWL):** "This is a non-invasive procedure where we use focused sound waves from outside your body to break the stone into smaller, passable pieces."
        - **2. Laser Treatment (Laser Lithotripsy):** "This involves passing a very thin camera up through your water pipe into the ureter. We then use a laser to break up the stone and remove the fragments."
        - **3. Surgery:** "In some cases, surgery may be needed to remove the stone, but this is less common."

- "Once this stone has passed, we can talk about preventing them in the future."
- **General Advice:** "The most important things are maintaining **good hydration** by drinking plenty of water and following a **low-salt diet**."
- **Investigations:** "We will also do some blood tests to check for underlying causes, looking at your **calcium**, **uric acid**, and **parathyroid hormone** levels. The stone analysis will also give us important clues."

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*III. Key Learning Points for This Case*

- **The Size Dilemma:** The exam won't give you the size, so you *must* explain both the conservative and interventional pathways.
- **Infection is Priority #1:** Always state that you will rule out a UTI before starting any management plan. This is a critical safety step.
- **Layman's Terms are Essential:** This is a counseling station. The tutor's simple explanations ("shiny circle," "crush the stone") are the model to follow.
- **Safety Netting is Non-Negotiable:** Clearly state the red flag symptoms for the patient to return to the hospital.
- **CT KUB is Gold Standard:** Reiterate this point from the investigations section. Ultrasound is reserved for specific populations (e.g., pregnant women).

Hepatitis

AMC Recalls: Jaundice & Acute Hepatitis (Travel-Related)

*I. Introduction & The Diagnostic Challenge*

- **The "Design" of the Case:** This case is designed to test your ability to adapt your standard "abdominal pain" script in real-time. It starts with a common complaint but introduces a major red flag—**travel history**—that must completely change the direction and focus of your history taking.
- **The Key Cue:** The patient's opening statement includes, "I've had a recent travel to Southeast Asia." This is an immediate trigger to deploy a specific travel history mnemonic and broaden your differentials beyond common local causes.
- **The Clinical Trap/Dilemma:** The patient presents with jaundice and has had a previous cholecystectomy (gallbladder removal). This is a critical piece of information. It means you cannot default to a simple diagnosis of gallstone disease (cholelithiasis/choledocholithiasis) and must thoroughly explore other causes of liver inflammation and obstruction.

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*II. Case [Number]: The Hepatitis Presentation (Travel History)*

**Stem Summary:**

- 40-year-old lady.
- Presents with abdominal pain.
- Looks "a little bit yellow" (jaundiced).

**Tasks:**

1. Take a history (a long 6-minute station).
2. Explain your diagnosis and differentials.

**Tutor's Diagnostic Reasoning:**

- The combination of a travel history to a high-risk area (Southeast Asia), consumption of street food, and a clinical presentation of right upper quadrant (RUQ) pain with jaundice is highly suggestive of an infectious, food-borne viral hepatitis (Hepatitis A or E).
- The previous cholecystectomy makes obstructive jaundice from a simple gallstone less likely, elevating viral and other forms of hepatitis on the list of differentials.
- The absence of fever makes acute cholangitis (Charcot's triad) less probable, further strengthening the case for a primary viral hepatitis.

*A. Structured Clinical Approach*

- **(Opening & Priorities)**
  - Start with hemodynamic stability (mental check of vitals).
  - Use an open-ended question: *"How can I help you today?"*
  - Listen for the key cue in the opening statement: **the travel history**.
  - Provide a reassuring statement: *"I'm so sorry to hear that. We will figure this out and make the best management plan for you."*
- **(Initial Pain Assessment - AS CORA)**
  - Briefly explore the pain. The key finding here will be its location: **Right Upper Side (RUQ)**.
- **(Exploring the Red Flag: Travel History - ABCDEF Mnemonic)**
  - **A: A**ctivities / Where did you go?
  - **B: B**ushwalking / Insect **B**ites.
  - **C: C**ontact with sick people or animals.
  - **D:** Illicit **D**rug use.
  - **E: E**xposure to blood (piercing, tattooing, medical procedures).
  - **F: F**ood and **W**ater (street food, unbottled water).
  - **GP:** Did you see your **GP** before travelling (for vaccinations)?

    - **Positive Finding in this Case: Patient has eaten street food.**
- **(Exploring the Jaundice: Hepatitis Risk Factors - ABP FIT NO SEX Mnemonic + Tutor's Additions)**
    - *This is the core framework for any hepatitis case.*
    - **A: A**lcohol / **A**ntibiotics (or any recent new medications).
    - **B: B**lood transfusions.
    - **P: P**iercing / Tattoos.
    - **F: F**ood.
    - **I: I**V Drugs.
    - **T: T**ravel.
    - **NO: N**eedle-stick injuries / **O**ccupation.
    - **SEX: Sex**ual History (sexually active? use of protection?).
    - **Tutor's Additions: "CGS"** (Critical for rounding out differentials)
        - **C - Cancer:** Ask red flags (Weight loss, appetite loss, lumps/bumps) and **family history of cancer** (especially bowel cancer, given liver mets recall).
        - **G - Gallbladder:** Ask about a history of RUQ pain or cramps after eating fatty meals.
        - **S - Surgery:** Ask specifically about any previous abdominal surgeries.
    - **Positive Finding in this Case: Patient has had a cholecystectomy.**
- **(Ruling Out Other Upper Abdominal Differentials - Use the extra time)**
    - **Pancreatitis:** Re-ask about alcohol, ask about trauma.
    - **Peptic Ulcer Disease/GORD:** Ask about heartburn, acid taste, relation to specific foods.
    - **Cardio-Respiratory:** Ask about chest pain, shortness of breath, cough (pneumonia is a valid differential in a returned traveller).
    - **Other GI:** Ask about blood in stools (fresh or dark).

- **(Explain the Condition Simply)**
    - "Based on my assessment, the most likely diagnosis is a condition called **hepatitis**."
    - "This simply means that **your liver is inflamed**."
- **(Link to the Cause - But Keep it Broad Initially)**
    - "Although there can be different causes for this, in your situation, it is most likely caused by a **virus** that you contracted from the street food you ate while travelling. We call this Hepatitis A or E."
- **(Provide Your Reasons)**
    - "I've made this diagnosis based on several things: your pain is in the area of your liver; your skin has a yellow colour which we call jaundice; you've noticed dark urine and pale stools; and crucially, your recent travel history where you ate street food, which is a known risk factor for these viruses."
- **(List Your Differentials - Prioritized Structure)**
    - "While a viral infection is most likely, we must consider other possibilities."
    - **1. Other Causes of Hepatitis:** "It's important to know that hepatitis can also be caused by other things, such as an **autoimmune** condition, a reaction to **medications or antibiotics**, or from heavy **alcohol** use."
    - **2. Cancers:** "Less commonly, this picture can be caused by **cancers** in the liver, or even the pancreas which is nearby."
    - **3. Other Biliary Issues:** "We also think about problems like **gallbladder stones**, though this is less likely as I know you've had your gallbladder removed. An infection in the ducts called **cholangitis** is also a possibility."
    - **4. Other Regional Causes:** "Finally, I was also thinking about other causes of pain in that area, like **pancreatitis**, a **peptic ulcer**, or even a lower-lobe **pneumonia**."

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*III. Key Learning Points for Hepatitis Cases*

- **Travel History is a Game-Changer:** It requires a specific, structured approach (**ABCDEF mnemonic**) and immediately brings infectious causes to the forefront.
- **Use the Hepatitis Mnemonic:** For any case with jaundice or suspected hepatitis, **ABP FIT NO SEX** is your go-to framework to screen for all common risk factors.
- **Don't Forget the "CGS" Additions:** The tutor's additions (**Cancer, Gallbladder history, Surgery**) elevate the standard mnemonic and are crucial for complex cases and ruling out other serious pathology.

- **Structure Your Differentials:** When explaining, start with other causes of the primary diagnosis (hepatitis) before moving to other organ systems. This demonstrates organised thinking.
- **Previous Surgery Matters:** A cholecystectomy is not just a piece of past history; it's an active clinical finding that significantly alters the probability of your differentials.

LFT

AMC Recalls: Hepatitis Part 2 - Interpreting Liver Function Tests (LFTs)

*I. Case [Number] (Version 2a): The "Massive Hepatitis" Presentation (Hepatocellular Pattern)*

**Stem Summary:**

- Patient presents with abdominal pain.
- Looks yellow (jaundiced).
- **Investigations Provided:** Liver Function Tests (LFTs) show a **massive increase** in liver enzymes (e.g., AST/ALT are >5x the upper limit of normal).

**Tasks:**

1. Take a history (6 minutes).
2. Explain diagnosis and differentials.

**Tutor's Diagnostic Reasoning:**

- This is a **hepatitis case**, not an abdominal pain case. The massively deranged LFTs are the central feature. The pattern is **hepatocellular**, indicating widespread, acute injury to liver cells.
- Your primary goal is not to rule out peptic ulcer disease or ACS; it is to perform a comprehensive screen for *all possible causes of acute hepatitis*.
- The history finding in this specific recall is that the patient has been **"taking care of a sick toddler of my neighbor."** This points towards a community-acquired viral cause.

*A. Structured Clinical Approach*

- **(Opening & Priorities)**
  - Standard opening (open-ended question, reassurance).
  - Briefly explore the RUQ pain (AS CORA).
  - Ask general GI questions, especially **fever**.
- **(Core Task: The Full Hepatitis Screen)**
  - This case requires the full, systematic application of the hepatitis risk factor screen.
  - **Symptoms:** Ask about jaundice, dark urine, pale stools, itchiness.
  - **Causes/Risk Factors (ABP FIT NO SEX + CGS):**
    - **A:** Alcohol / Antibiotics (or any new medications).
    - **B:** Blood transfusions.
    - **P:** Piercing / Tattoos.
    - **F:** Food (street food).
    - **I:** IV Drugs.
    - **T:** Travel.
    - **NO:** Needle-stick injuries / Occupation.
    - **SEX:** Sexual History.
    - **C: C**ancer Red Flags (weight loss, etc.) & Family History.
    - **C: C**ontact with sick people (The key question for this recall).
    - **G:** Gallbladder history.
    - **S:** Previous Surgery.

- **Positive Finding:** Patient has been in close contact with a sick toddler.

- **(Explain the Condition Simply)**
  - "Based on your symptoms and the blood test results, you have a condition called **hepatitis**, which means there is significant inflammation in your liver."
- **(Link to the Cause)**
  - "I suspect this is most likely caused by a **virus**. Given your recent contact with a sick child, it could be a number of viruses, such as Hepatitis A, or even other common viruses like EBV (the virus that causes glandular fever), which can also inflame the liver."
- **(List Your Differentials - Structured)**
  - **1. Other Viruses:** "We also need to consider other viral causes like Hepatitis B and C, which are transmitted differently."
  - **2. Other Causes of Hepatitis:** "It's important to rule out other causes of liver inflammation, including heavy **alcohol** use, a reaction to **medications**, **autoimmune** conditions where the body attacks its own liver, and less commonly, **cancers**."
  - **3. Other RUQ Pain Causes:** "We also keep in mind other problems like a severe gallbladder infection (**cholecystitis**), an infection in the bile ducts (**cholangitis**), and **pancreatitis**."

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AMC Recalls: Hepatitis Part 3 - The "Fatty Liver" Presentation (Mild Derangement)

*I. Introduction & The Diagnostic Challenge*

- **The "Design" of the Case:** This is a subtle case designed to test your ability to interpret a *mildly* abnormal LFT pattern in conjunction with other metabolic clues. The abdominal pain is a potential red herring, as the main diagnosis is often asymptomatic.
- **The Key Cue:** The LFTs show only a mild increase (e.g., <2x the upper limit of normal). Critically, the stem also provides a **high triglyceride and cholesterol level**.
- **The Clinical Trap:** Incorrectly diagnosing a serious acute hepatitis based on the enzymes alone, without noting their mild elevation and the significance of the lipid profile. The challenge is to pivot from the "acute hepatitis" script to a "metabolic/lifestyle" script when the history comes back negative for major risk factors.

*II. Case [Number] (Version 2b): Fatty Liver Disease*

**Stem Summary:**

- 35-year-old man.
- Presents with abdominal pain.
- **Investigations Provided:**
  - LFTs: Mild increase in AST/ALT (e.g., <2x ULN).
  - Lipid Profile: High Triglycerides and Cholesterol.

**Tasks:**

1. Take a history.
2. Explain the investigations to the patient.
3. Explain the diagnosis and differentials.

*A. Structured Clinical Approach*

- **(Initial Screen)**
  - Begin with the same comprehensive hepatitis screen (ABP FIT NO SEX + CGS). In this case, expect the answers to be **negative**. This is your cue to dig deeper.
- **(The Pivot: Adding Lifestyle & Metabolic Questions)**
  - Since the common causes are ruled out, you must add questions targeting the likely diagnosis:
  - **1. Lifestyle:**

        - **Diet:** "Could you describe a typical day's diet for me? Do you eat a lot of fatty foods or takeaways?"
        - **Exercise:** "How much physical activity or exercise do you get in a typical week?"
    - **2. Medications:** Re-ask specifically about medications known to affect metabolism (e.g., steroids).
    - **3. Other Metabolic/Genetic Conditions:**
        - **Hemochromatosis:** "Have you noticed any joint pain or any 'tanning' of your skin without sun exposure?"

- "I have the results of your blood tests here, including your liver function."
- "I can see that your **liver enzymes**—specifically the AST, ALT, and GGT—are **slightly increased**."
- **(For the Examiner):** "This is a mild increase, as they are less than five times the normal limit."
- **(For the Patient):** "This tells me there is some **mild inflammation** in your liver."
- "Separately, your tests also show that the **fats in your blood**, your cholesterol and triglycerides, are high."

- **(Explain the Condition Simply)**
    - "Based on all this information, the most likely diagnosis is a condition called **Non-alcoholic Fatty Liver Disease**."
    - "This happens when the fats in your blood are high, often from diet and lack of exercise. The extra fat gets stored in your liver, and this causes the mild inflammation we are seeing on your tests."
- **(Acknowledge the Pain Paradox)**
    - The tutor notes that NAFLD is usually painless. While this case presents with pain, you must stick to the diagnosis that all the evidence points to.
- **(List Your Differentials)**
    - "Even though fatty liver is the most likely cause, it's my job to consider everything. We still think about other causes of hepatitis like **viral infections**, **alcoholic liver disease** (if there is any alcohol intake), **autoimmune** causes, and problems with the **gallbladder**."

Dark Urine

AMC Recalls: The "Dark Urine" Cluster

*I. Introduction & The Diagnostic Challenge*

- **The "Design" of the Case:** This cluster is designed to test your ability to differentiate between the two major causes of dark urine: **KUB (kidney/urological) problems** and **Liver (hepatobiliary) problems**.
- **The Key Differentiating Question:** The entire case pivots on one critical question you must ask early: **"Have you noticed if your stools have become pale in colour?"**
    - **Answer is "NO" (Normal coloured stools):** This points strongly towards a **KUB/urological** cause (like glomerulonephritis, stones, or cancer). Your history must then focus on the urinary tract.
    - **Answer is "YES" (Pale stools):** This indicates **obstructive (cholestatic) jaundice**, pointing strongly towards a **liver/hepatobiliary** cause. Your history must then focus on the liver and its risk factors.
- **The Clinical Trap:** Incorrectly assuming all "dark urine" cases are liver-related and launching into a full hepatitis screen without first asking about stool colour. This demonstrates a failure to logically narrow the differential diagnosis.

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*II. Case [Number] (Version 1): The KUB Pathway (Glomerulonephritis)*

**Stem Summary:**

- 32-year-old lady.
- Presents to general practice.
- Complaint: "Dark urine."

**Tasks:**

1. Take a history (4 minutes).

2. Ask for physical examination findings.
3. Explain your diagnosis and differentials.

**Tutor's Diagnostic Reasoning:**

- This version of the case directs you down the KUB pathway. The patient will report **normal coloured stools**.
- The key positive finding in the history is a **sore throat that occurred a few days ago**.
- The short time frame between the sore throat and the onset of dark urine (hematuria) is the classic distinguishing feature of **IgA Nephropathy** versus Post-Streptococcal Glomerulonephritis (PSGN), which has a longer latency period (2 weeks).

*A. Structured Clinical Approach*

- **(Opening & Exploring the Complaint)**
  - Standard opening (open-ended question, reassurance).
  - **Explore the Dark Urine (CC-COAT):**
    - **C**olour: "Can you describe the colour? Is it brownish, dark red, like Coca-Cola?"
    - **C**hange: "Does the colour change? Is it there at the beginning, end, or throughout the stream?"
    - **C**ontents: "Are you seeing any visible blood streaks or clots?"
    - **O**dour: "Have you noticed any bad smell?"
    - **A**ssociated Symptoms / **T**iming: "How long has this been happening? Is it getting worse?"
- **(The Pivotal Question)**
  - **"Have you noticed any change in the colour of your bowel motions? Have they become pale?"**
  - **Patient's Answer: "No, my stools are a normal colour."**
- **(Briefly Rule Out Liver Symptoms)**
  - Quickly ask: "Any yellowish discoloration of your skin (jaundice)? Any itchiness?" (Expect "No").
- **(Focus on KUB Differentials - Systematic Approach)**
  - **1. Glomerulonephritis (GN):**
    - "Have you had a **recent sore throat or flu-like illness**?" (Key question).
    - "Did you take any antibiotics or medications for it?"
    - "Have you noticed any **swelling in your legs**?"
  - **2. KUB Cancers:** Ask standard cancer red flags (weight loss, appetite loss, family history).
  - **3. Stones (Renal Colic):** "Have you had any pain in your abdomen or your flanks (sides)?"
  - **4. Infection (UTI/Pyelonephritis):**
    - "Any pain or burning when you pass urine?" (Dysuria)
    - "Are you needing to go more frequently?" (Frequency)
    - "Do you feel a sudden, strong urge to go?" (Urgency)
    - Ask about **fever**.
  - **5. Other Causes:**
    - **Trauma:** "Any recent trauma or injury to your abdomen?"
    - **Rhabdomyolysis:** "Any recent excessive, strenuous exercise? Are you on any medications like statins?"
    - **Pseudohematuria:** "Have you eaten a large amount of beetroots recently?"

- **What to Ask For:**
  - "I would like the patient's **general appearance**, looking for jaundice, edema, and pallor."
  - "I need a full set of **vital signs**, paying close attention to **blood pressure** and **temperature**."
  - "I'd perform an **ENT examination**, looking at the throat for exudates and checking for cervical lymph nodes."
  - "I'd do a **full abdominal examination**, specifically asking to ballot the kidneys and palpate for a suprapubic (bladder) mass, and check for renal angle tenderness."
  - "Finally, and most importantly, I need the result of a **urine dipstick**."
- **Expected Findings in this Case:**
  - **BP:** High (e.g., 150/90).
  - **General:** May have some lower limb edema. No jaundice.
  - **Abdomen:** Unremarkable (no masses, no tenderness).

- **Urine Dipstick: Positive for blood**.

- **(Explain the Condition Simply)**
  - "Based on everything we've discussed, the most likely diagnosis is a condition called **IgA nephropathy**."
  - "This can be a bit tricky to explain, but in simple terms, in response to your recent sore throat, your body's immune system produced particles called antibodies. For some reason, these particles have travelled to your kidneys and caused inflammation there. This inflammation is what's causing the blood to appear in your urine."
- **(Provide Your Reasons)**
  - "I'm thinking this is the cause because you had a **sore throat just a few days** before the dark urine started."
  - "The examination also shows you have **high blood pressure** and some **swelling in your legs**, which can happen with kidney problems."
  - "And most importantly, the test of your urine confirmed that there is **blood** in it."
- **(List Your Differentials - Prioritized)**
  - **1. Other KUB Causes (Top Tier):**
    - "My main other thought is a similar condition called **Post-Streptococcal Glomerulonephritis (PSGN)**."
    - "We also have to consider **KUB cancers** (kidney or bladder cancer)."
    - "**Infections** like a kidney infection (pyelonephritis)."
    - "A **kidney stone**."
  - **2. Other Less Common Causes:**
    - "Less likely causes include trauma to the kidney, muscle breakdown from excessive exercise, or even certain foods like beetroot."
  - **3. Mention Liver (as a ruled-out cause):**
    - "Finally, we also consider **liver problems** like hepatitis, but this is much less likely in your case as you don't have pale stools or jaundice."

Dark urine

AMC Recalls: The "Dark Urine" Cluster

*I. Introduction & The Diagnostic Challenge*

- **The "Design" of the Case:** This cluster is designed to test your ability to differentiate between the two major causes of dark urine: **KUB (kidney/urological) problems** and **Liver (hepatobiliary) problems**.
- **The Key Differentiating Question:** The entire case pivots on one critical question you must ask early: **"Have you noticed if your stools have become pale in colour?"**
  - **Answer is "NO" (Normal coloured stools):** This points strongly towards a **KUB/urological** cause (like glomerulonephritis, stones, or cancer). Your history must then focus on the urinary tract.
  - **Answer is "YES" (Pale stools):** This indicates **obstructive (cholestatic) jaundice**, pointing strongly towards a **liver/hepatobiliary** cause. Your history must then focus on the liver and its risk factors.
- **The Clinical Trap:** Incorrectly assuming all "dark urine" cases are liver-related and launching into a full hepatitis screen without first asking about stool colour. This demonstrates a failure to logically narrow the differential diagnosis. A second major trap is diagnosing "Post-Cholecystectomy Syndrome," which is a description of symptoms, not a final diagnosis.

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*II. Case [Number] (Version 2): The Liver Pathway (Drug-Induced Hepatitis)*

**Stem Summary:**

- 45-year-old lady.
- Presents with dark urine.
- Stem provides a key piece of history: **She had a sore throat two weeks ago.**

**Tasks:**

1. Take a history (4 minutes).
2. Ask for physical examination findings.
3. Explain your diagnosis and differentials.

**Tutor's Diagnostic Reasoning:**

- This version directs you down the **Liver Pathway**. The patient will report having **pale stools**.
- The sore throat is a red herring designed to make you think of PSGN. However, the true culprit is the **treatment she took for the sore throat**.
- The key positive finding is that she took an antibiotic (e.g., **Augmentin**), a well-known cause of drug-induced cholestatic hepatitis.

*A. Structured Clinical Approach*

- **(Opening & Exploring the Complaint)**
  - Standard opening, then explore the dark urine (Colour, Contents, Timing, etc.).
  - **Explore the Sore Throat:** "I see you had a sore throat two weeks ago. How are you feeling now? And did you take any treatment or medication for it?"
  - **Patient's Answer: "Yes, I took Augmentin."**
- **(The Pivotal Question)**
  - **"Along with the dark urine, have you noticed if your stools have become pale?"**
  - **Patient's Answer: "Yes, they are a pale, clay colour."**
- **(Focus on Liver Differentials - Systematic Approach)**
  - **1. Symptoms:** Ask about jaundice, itchiness, abdominal pain, nausea/vomiting.
  - **2. Risk Factors (ABP FIT NO SEX + CGS):**
    - **A:** Alcohol / **Antibiotics** (already identified as positive).
    - **B:** Blood transfusions.
    - **P:** Piercing/Tattoos.
    - **F:** Food (street food).
    - **I:** IV Drugs.
    - **T:** Travel.
    - **NO:** Needle-stick injuries.
    - **SEX:** Sexual History.
    - **C:** Cancer red flags.
    - **G:** Gallbladder history (pain with fatty meals).
    - **S:** Previous Surgery.
  - **3. Rule out Cholangitis: "Have you had any fevers?"** (This is a critical question).

- **What to Ask For:**
  - "I'd like the patient's **general appearance**, looking for **jaundice** and **scratch marks**."
  - "A full set of **vital signs**, especially **temperature**."
  - "A full **abdominal examination**, asking specifically for **hepatomegaly** (a large liver), splenomegaly, and any tenderness."
  - "Finally, the result of a **urine dipstick**."
- **Expected Findings in this Case:**
  - **General:** Jaundice is present.
  - **Abdomen:** A tender, enlarged liver (hepatomegaly) may be found.
  - **Urine Dipstick: Positive for bilirubin**. Blood will be negative.

- **(Explain the Condition Simply)**
  - "Based on my assessment, you most likely have a condition called **hepatitis**, which means your liver is inflamed."
  - "In your case, this has most likely been caused as a side effect of the **antibiotic** you took for your sore throat. This is a known but uncommon reaction."
- **(List Your Differentials - Prioritized)**

- **1. Other Causes of Hepatitis/Cholestasis:**
  - "We also have to consider all the other causes of liver inflammation, such as a **viral hepatitis** (like A, B, or C), **alcoholic hepatitis**, or an **autoimmune** condition."
- **2. Obstructive Causes:**
  - "I was also thinking about a blockage from **gallbladder stones** or an infection in the bile ducts called **cholangitis**."
  - "Less likely, but important to consider, are **cancers** of the liver or pancreas."
- **3. Mention KUB (as ruled-out):**
  - "Finally, we also think about kidney problems, but this is much less likely given that you have pale stools and jaundice."

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*III. Case [Number] (Version 3): The Malignancy Pathway*

**Stem Summary:**

- 50-year-old lady.
- Complaints: **Dark urine** and **epigastric pain**.

**Tasks:**

1. Take a history (4 minutes).
2. Ask for physical examination findings.
3. Explain your diagnosis and differentials.

*A. Structured Clinical Approach*

- **(Opening & Exploring Complaints)**
  - Explore both the dark urine and the epigastric pain (focusing on radiation to the back and relationship to food/position).
- **(The Pivotal Question)**
  - **"Have you noticed if your stools have become pale?"**
  - **Patient's Answer: "Yes."** (This confirms the liver pathway).
- **(Focus on Liver & Pancreatic Red Flags)**
  - Launch the **ABP FIT NO SEX + CGS** screen. The key positive findings will be revealed here:
    - **C (Cancer):** Patient reports **significant weight loss** (e.g., 6kg in 2 months) and a **family history of colon cancer**.
    - **S (Surgery):** Patient has had a **cholecystectomy** (gallbladder removed).
- **Key Findings Summary:** Dark urine, pale stools, epigastric pain radiating to the back, significant weight loss, family history of colon cancer, and a previous cholecystectomy.

- **Expected Findings:** Similar to Version 2 - jaundice, a tender and enlarged liver (hepatomegaly), and positive bilirubin on the urine dipstick. Temperature is normal.

- **(Explain the Condition - Start with the Syndrome, then the Cause)**
  - "Based on all your symptoms, you have a condition we call **obstructive jaundice**."
  - "To explain, the liver produces a substance called bile to help digest food. In your case, the tubes that carry this bile appear to be blocked or obstructed."
  - "Given the blockage, the weight loss, and your pain, I am concerned about the possibility of a **cancer** that is pressing on and blocking these tubes."
- **(Explain the Uncertainty of the Source - This is CRITICAL)**
  - "We cannot be certain where this started without more tests. It could be a cancer in the **pancreas**, a new cancer in the **liver** itself, or possibly a **spread from a bowel cancer** to your liver, which is something we consider carefully given your family history."
- **(List Your Differentials)**
  - **1. Other Obstructive Causes (Non-Malignant):**

        - "While cancer is my main concern, other things can cause a blockage. I'm thinking of an infection in the ducts (**cholangitis**), although this is less likely as you don't have a fever."
        - "It's also possible to have a **retained stone** in the duct from your previous surgery, or a **narrowing of the duct (a stricture)**."
    - **2. Other Hepatitis Causes:** Briefly mention other causes like viral or alcoholic hepatitis.
    - **3. Other KUB Causes:** Briefly mention kidney causes as ruled-out differentials.
- **(The Joke/Trap to Avoid):** The tutor emphasizes that you must **NEVER** give a diagnosis of "Post-Cholecystectomy Syndrome." You diagnose the *underlying cause* of the symptoms.

Chronic Liver Disease

AMC Recalls: Chronic Liver Disease Part 1 - Hepatic Encephalopathy

*I. Introduction & The Diagnostic Challenge*

- **The "Design" of the Case:** This case is not just about identifying the obvious diagnosis of Hepatic Encephalopathy (HE). The core task, as designed by the examiner, is to demonstrate a systematic approach to a patient with known cirrhosis who is decompensating. Your primary goal is to explore **all potential complications of cirrhosis** and identify the **trigger** for the current decline.
- **The Key Cues:** A known diagnosis of cirrhosis is provided in the stem. The informant is a family member (the husband), not the patient. The presenting complaint is neurological (memory and behavior changes).
- **The Clinical Trap:** The stem explicitly states the patient "has not been on alcohol since then." The major trap is to accept this statement at face value and not re-ask about alcohol intake. The tutor reveals that in the recall, the husband admits he thinks his wife has resumed drinking secretly. **Always re-confirm critical information, even if it's in the stem.**

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*II. Case [Number] (Version 1): The Hepatic Encephalopathy Presentation*

**Stem Summary:**

- 72-year-old lady.
- Diagnosed with alcoholic cirrhosis two years ago.
- The stem states she has been sober since her diagnosis.
- Her spouse presents to the GP, concerned about his wife's recent memory and behavior changes.
- The husband has authority/consent to discuss her care.

**Tasks:**

1. Take a focused history from the husband (6 minutes).
2. Explain the likely diagnosis and the differentials with reasons.

*A. Structured Clinical Approach*

- **(Opening & Priorities)**
    - Do not ask for hemodynamic stability as the patient is not present.
    - Start with a good open-ended question to the husband: *"I understand you're concerned about your wife. Can you tell me more about the changes you've observed?"*
    - Provide a strong reassuring statement: *"I'm so sorry to hear you're both going through this. Thank you for coming in. I'll ask you a few questions to better understand the situation."*
- **(Explore the Complaint - The Neurological Changes)**
    - **Describe:** "Can you describe exactly what you mean by memory and behavior changes? Is she forgetting things, not recognizing people, or acting strangely in other ways?"
    - **Timing:** "When did this start? Are the symptoms there all the time or do they come and go? Are they getting worse?"
- **(The Core Task: Systematic Cirrhosis Review)**

    - **1. Basic Cirrhosis History:**
        - "What treatment is she currently on for her liver?"
        - "Is she able to take her medications regularly (compliance)?"
        - "Is she having regular follow-ups with her GP and specialist?"
    - **2. Screen for ALL Complications:**
        - **Symptoms of Decompensation:** "Have you noticed any yellowish discoloration of her skin (jaundice), any easy bruising, or is she more tired than usual?"
        - **Hepatic Encephalopathy (HE):** "How is her sleep pattern? Is she sleeping well at night and awake during the day? Has she had any problems with her balance or walking? Any weakness or numbness?"
        - **Spontaneous Bacterial Peritonitis (SBP):** "Has she complained of any abdominal pain or had any fever or chills?"
        - **Cancer (HCC):** "Has she been losing weight or has her appetite been poor?"
        - **Hepato-renal/Hepato-pulmonary Syndromes:** "Have you noticed any decrease in the amount of urine she passes? Any shortness of breath or cough?"
    - **3. Screen for Decompensation Triggers (CRITICAL):**
        - **Alcohol:** "I know the records say your wife stopped drinking, but just to be absolutely sure, is there any chance she may have started drinking alcohol again?" (This is the key question that unlocks the case).
        - **Medications:** "Has she started any new medications recently?"
        - **Infections:** "Has she had any recent illness, like a flu or a cold?"
        - **Constipation:** "Has she had any problems with constipation recently?"
    - **4. Geriatric Screen (Time Permitting):**
        - **Falls:** "Has she had any falls lately?"
        - **Home/Support:** "Does she have enough support at home?"
        - **Diet:** "Could you describe her diet for me?"
        - **Activities of Daily Living (ADLs):** "Is she able to manage her daily activities like dressing and washing by herself?"
        - **Mood:** "How has her mood been?"

- **(Explain the Condition Simply)**
    - "Based on what you've told me, it is most likely your wife is experiencing a condition called **Hepatic Encephalopathy**."
    - "This is a known complication of cirrhosis. In simple terms, because her liver is not working well, it can't remove toxins from the blood. These toxins can then build up and affect the brain, causing the confusion, memory problems, and behavior changes you're seeing."
- **(Provide Your Reasons - Link to the Trigger)**
    - "The main reason this is likely happening now is the possibility that she has started drinking **alcohol** again. For someone with cirrhosis, even a small amount of alcohol can be enough to trigger this serious complication."
- **(List Your Differentials - Prioritized Structure)**
    - "While HE is the most likely diagnosis, my first priority is to rule out **other serious complications of cirrhosis**."
        - "I am also concerned about a **bacterial infection** in the fluid in her abdomen, which we call SBP, as this can also cause confusion."
        - "We also have to consider a **liver cancer**, which is a risk for people with cirrhosis."
    - "After that, we consider all the other general causes of confusion in an older person, which we call **delirium**. This could be from another **infection** somewhere else in her body, a side effect of a **medication**, or an **electrolyte imbalance**."

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AMC Recalls: Chronic Liver Disease Part 2 - Spontaneous Bacterial Peritonitis

*I. Introduction & The Diagnostic Challenge*

- **The "Design" of the Case:** This case tests the ability to integrate clinical history (leg swelling, bruising), a key new risk factor (resumed drinking), and investigation findings (high WBC/neutrophils) to pinpoint a specific, life-threatening complication: Spontaneous Bacterial Peritonitis (SBP).
- **The Key Cues:** The constellation of symptoms (bruising, swelling, "tummy getting bigger" = ascites) and the provided lab results showing clear signs of bacterial infection.

- **The Clinical Trap:** Getting lost in the many symptoms (bruising, swelling) and not recognizing that the high WBC count, high neutrophils, and fever are the most critical findings pointing directly to SBP.

*II. Case [Number] (Version 2): The SBP Presentation*

**Stem Summary:**

- 45-year-old man.
- Known cirrhosis for two years, had stopped drinking.
- Presents with leg swelling and bruising.
- Opening statement reveals he **started drinking again** six months ago and his **"tummy is getting bigger."**
- Investigations provided show low albumin, high INR, low hemoglobin, and **high WBCs with high neutrophils**.

**Tasks:**

1. Take a history (4 minutes).
2. Explain the investigation results to the patient.
3. Explain the diagnosis with reasons.

*A. Structured Clinical Approach*

- **(Opening & Exploring Complaints)**
    - Standard opening and reassurance.
    - **Leg Swelling:** "How long has this been happening? Is it getting worse? Is it in one leg or both? How high up does it go?"
    - **Bruising:** "Does the bruising happen easily after a small bump, or does it appear spontaneously without any injury?"
- **(The Core Task: Abbreviated Cirrhosis Review)**
    - **1. Basic Cirrhosis History:** Treatment, compliance, follow-up.
    - **2. Complications Screen:** Run through the same list as the HE case, but the key questions will be around SBP: **"Have you had any abdominal pain? Any fevers or chills?"**
    - **3. Decompensation Triggers:** Alcohol is already admitted. Briefly ask about new medications and constipation.

- "I have your blood test results here. As you know, you have cirrhosis, which means the liver tissue has been damaged from long-term alcohol use. The results show a few things related to this."
- **Albumin:** "Your albumin, which is a key protein made by the liver, is low. This shows the liver isn't able to produce proteins properly."
- **INR/Platelets:** "Your blood is also taking longer than usual to clot. This is because the liver has stopped making the special factors needed for clotting."
- **Hemoglobin:** "Your hemoglobin, the protein that carries oxygen, is also a bit low."
- **WBC/Neutrophils (THE KEY POINT):** "Most importantly, your white blood cells, which are part of your immune system, are high. Specifically, a type called neutrophils are high. This is a very strong sign that you have a **bacterial infection** somewhere in your body."

- **(Explain the Condition Directly)**
    - "Based on all this information, I am suspecting you have a condition called **Spontaneous Bacterial Peritonitis**, or SBP."
    - "This means that you have developed an **infection in the fluid** that has collected in your stomach due to the cirrhosis."
- **(Provide Your Reasons)**
    - "There are several clear reasons for this diagnosis:"
    2. "You have a **fever**."
    3. "Your blood tests clearly show a **bacterial infection** (the high white blood cells)."
    4. "On examination, you have fluid collected in your stomach."
    5. "And finally, restarting **alcohol** has likely worsened your liver condition, making you more vulnerable to this type of infection."

Red urine

AMC Recalls: The "Red Urine" Cluster (Hematuria)

*I. Introduction & The Diagnostic Challenge*

- **The "Design" of the Case:** This case is designed to test your ability to construct a broad, logical, and well-prioritized list of differential diagnoses for hematuria in an older male. The primary skill being assessed is your systematic approach to history-taking to cover all major causes, from the most dangerous (cancer) to the most common (BPH, infection).
- **The Key Cue:** The presenting complaint is "red urine," "pink urine," or "blood in the urine." Unlike "dark urine," which has a wide differential including liver disease, "red urine" almost exclusively points to a problem within the **KUB (Kidney, Ureter, Bladder) and prostate system**.
- **The Clinical Trap:**
    1. Focusing too narrowly on one diagnosis (like a UTI) and failing to ask the comprehensive questions needed to rule out cancer and significant prostate disease.
    2. Panicking when multiple positive findings are revealed (e.g., the patient has BPH symptoms, is on aspirin, *and* has a history of kidney stones). The tutor emphasizes that these are not meant to confuse you, but are **gifts** to help you build a richer, more intelligent list of differentials.

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*II. Case [Number]: The BPH Presentation with Hematuria*

**Stem Summary:**

- 55-year-old man.
- Presents with "red urine."

**Tasks:**

1. Take a history (4 minutes).
2. Ask for physical examination findings from the examiner.
3. Explain your diagnosis and your differentials.

**Tutor's Diagnostic Reasoning:**

- In a man of this age, the history will almost certainly lead towards a prostate-related cause. The core of the history is to elicit the classic Lower Urinary Tract Symptoms (LUTS) associated with BPH.
- However, the most critical part of the process is to systematically rule out more sinister causes, with **cancer (prostate, bladder, kidney)** being the top priority that must be addressed in your questioning.

*A. Structured Clinical Approach*

- **(Opening & Exploring the Complaint)**
    - Standard opening (open-ended question, reassurance).
    - **Explore the Red Urine (CC-COAT):**
        - **C**olour: "Can you describe the colour? Is it bright red, or more pinkish?"
        - **C**ontents: "Are you seeing any visible **blood streaks** or **clots** in the urine?"
        - **C**haracter/Timing in stream: "Is the blood there at the **beginning**, at the **end**, or **throughout** the entire stream?"
        - **O**dour: "Have you noticed any bad smell?"
        - **A**ssociated Symptoms / **T**iming: "When did this start? Is it there every time you pass urine? Is it getting worse?"
- **(Systematic Differential-Based Questioning - Prioritized)**
    - **1. Cancers (Top Priority):**

        - Ask standard cancer red flags: "Have you had any unexplained **weight loss**? Loss of **appetite**? Feeling unusually tired? Any **lumps or bumps**?"
        - "Have you had any **abdominal or flank pain**?"
    - **2. Prostate Disease (BPH, Prostatitis):**
        - **Obstructive Symptoms (Storage):**
            - "Do you have a **weak urinary stream**?"
            - "Do you experience any **dribbling** of urine after you've finished?"
            - "Do you ever feel that your **bladder hasn't emptied completely**?"
            - "Do you have to **strain or push** to start urinating?"
        - **Irritative Symptoms (Voiding):**
            - "Do you ever feel a **sudden, strong urge** to pass urine?" (Urgency)
            - **Nocturia (KEY QUESTION):** "Do you have to **wake up at night** to pass urine? If so, **how many times**?"
    - **3. Infections (UTI, Pyelonephritis, Urethritis):**
        - "Have you had any **fever** or chills?"
        - "Any **pain or burning** when you pass urine?" (Dysuria)
        - "Are you needing to go more **frequently** than usual?"
        - "Have you noticed any **discharge from your penis**?" (For Urethritis)
        - Brief sexual history: "Are you sexually active? Do you use protection?"
    - **4. Stones (Renal Colic):**
        - "Do you have any past or family history of **kidney stones**?"
        - (Re-ask about flank pain if not already covered).
    - **5. Glomerulonephritis (GN):**
        - "Have you had a **recent sore throat or flu-like illness**?"
    - **6. Other Important Causes (The "Long Tail"):**
        - **Trauma:** "Any recent trauma or injury to your abdomen?"
        - **Rhabdomyolysis:** "Any recent **excessive, strenuous exercise**?"
        - **Bleeding Disorders/Medication:** "**Are you taking any blood thinners** like Aspirin or Warfarin? Do you **bruise easily**?"
        - **Polycystic Kidney Disease (PCKD):** "Do you have a **family history of kidney disease**? Do you have a history of **high blood pressure**?"
        - **Pseudohematuria:** "Have you eaten a large amount of **beetroots** recently?"
        - **Travel:** "Have you had any recent **overseas travel**?"

- **What to Ask For:**
    - **General Appearance:** Looking for pallor (blood loss), signs of pain, edema (kidney disease).
    - **Vital Signs:** A full set is required.
    - **Abdominal Examination:**
        - Palpation for tenderness, especially **suprapubic tenderness** (bladder) and **renal angle tenderness** (kidney).
        - Ballot the kidneys and check for a **suprapubic mass** (a full, obstructed bladder).
    - **Digital Rectal Examination (DRE) (THE KEY EXAM):**
        - "I need to perform a DRE. I am assessing the prostate for four key characteristics:"
        2. **Size:** (Enlarged in BPH/Cancer)
        3. **Consistency:** (Normal/firm in BPH; **hard/stony** in cancer)
        4. **Surface/Nodularity:** (Smooth in BPH; **irregular/nodular** in cancer)
        5. **Median Sulcus:** (Palpable in BPH; **obliterated/lost** in cancer)
        - Also ask for **tenderness** (for prostatitis).
    - **Urine Dipstick:** "Finally, I need the result of a urine dipstick."
- **Expected Findings in this Case:**
    - **History:** LUTS symptoms (nocturia, weak stream, urgency), on aspirin, history of high blood pressure and kidney stones.
    - **DRE:** Prostate is **enlarged**, but **smooth**, **firm**, with a **palpable median sulcus**.
    - **Abdomen:** May have a palpable (full) bladder.
    - **Urine Dipstick: Positive for blood**.

- **(Explain the Most Likely Diagnosis - BPH)**

- "Based on my assessment, the most likely cause of your symptoms is a condition called **Benign Prostatic Hyperplasia**, or BPH."
- "The prostate is a small, walnut-shaped gland that sits just below your bladder. As men get older, it's very common for this gland to get larger. In your case, this enlargement can cause some bleeding, which explains the red urine. It can also press on the urinary tube, which is causing your other symptoms like the weak stream and waking up at night."

- **(Use the Other Findings to Build Your Differential List)**
  - "However, while BPH is the most likely cause, there are other important factors we need to consider, especially given the other things we found:"
    - **Medication:** "You are taking **aspirin**, which is a blood thinner, and this can certainly contribute to or worsen any bleeding."
    - **Stones:** "Your previous history of **kidney stones** is also important, as a new stone could be the cause."
    - **Cancer (Must be mentioned):** "Most importantly, in any man your age with blood in the urine, we have to be very careful to rule out **cancers** of the prostate, bladder, or kidney. While your examination didn't suggest this, it is something we must investigate thoroughly."
    - **Infection:** "We also considered an infection, but this is less likely as you don't have a fever or pain on urination."

CKD

AMC Recalls: Chronic Kidney Disease (CKD)

*I. Introduction & The Diagnostic Challenge*

- **The "Design" of the Case:** This is a newer, knowledge-based case designed to test your understanding of Chronic Kidney Disease (CKD), specifically its diagnosis, risk factors, and how to communicate complex lab results. It moves away from a simple symptom-based diagnosis to an investigation-based one.
- **The Key Cues:** The patient has a known history of **Type 1 Diabetes**. The provided investigations show a **high Urine Albumin-to-Creatinine Ratio (Urine ACR)** and elevated Urea/Creatinine, but **no eGFR is given**.
- **The Clinical Trap:**
  1. **Premature Diagnosis:** The biggest trap is telling the patient they definitively have CKD based on a single set of blood tests. The tutor emphasizes that you **cannot diagnose CKD from one result**. You must explain the need for repeat testing over three months.
  2. **Ignoring the Urine ACR:** Failing to recognize the significance of the Urine ACR as a key indicator of kidney damage, even if the eGFR isn't provided.
  3. **Not Knowing the Basics:** This case relies on your foundational knowledge of CKD risk factors (especially diabetes and hypertension) and the meaning of key lab tests (eGFR, Urine ACR, HbA1c).

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*II. Case [Number]: The CKD Counseling Station*

**Stem Summary:**

- 52-year-old lady.
- Presents to your GP for a routine blood test follow-up.
- Known case of Type 1 Diabetes, on insulin.
- **Investigations Provided:**
  - HbA1c: Slightly high (e.g., 7.2%).
  - Fasting Blood Sugar (FBS): Within target range (4-7 mmol/L).
  - Urea & Creatinine: A little high.
  - **Urine ACR: High** (e.g., 100 mg/mmol; normal <3).
  - **No eGFR is given.**

**Tasks:**

1. Explain the results to the patient.

2. Take a relevant history.
3. Explain the diagnosis to the patient.

*A. Structured Clinical Approach*

- **(Opening the Consultation)**
  - Start by letting the patient speak: *"Hello, I have your results here. What was your understanding of why we were doing these tests?"*
  - Patient will state it was a routine check-up for their diabetes.
- **(Go Through the Results Systematically)**
  - **1. Sugar Levels:**
    - "Let's start with your sugar levels. Your **fasting blood sugar** on the day was in the target range, which is good."
    - "The **HbA1c**, which checks your sugar control over the last three months, is **slightly higher** than our target goal of 7%."
  - **2. Salts and Minerals:**
    - "We also checked the salts and minerals in your blood, like sodium and potassium, and they are all **normal**."
  - **3. Kidney Tests (The Core of the Explanation):**
    - **Urine ACR:** "We did a urine test to check if your kidneys are leaking any protein. This test is called a Urine ACR. Your result is high, which means we can see an **increased amount of protein in your urine**."
    - **Urea & Creatinine:** "Next, we checked for certain toxins and waste products in your blood, like urea and creatinine. The kidneys are responsible for removing these from the body. In your case, these levels are **higher than they should be**."
- **(Transition to History Taking)**
  - "These results suggest there might be an issue with your kidney function. Is it okay if I ask you a few questions to get a better understanding of the situation?"

- *This history is not to find a diagnosis, but to assess the patient's status, symptoms, and risk factors.*
- **(Box 1: Symptoms of CKD - Mostly Asymptomatic)**
  - "Have you noticed any itchiness, unusual tiredness, loss of appetite, shortness of breath, nausea, or any swelling in your legs?"
  - "Have you noticed any decrease in the amount of urine you pass, or any blood in your urine?"
  - "Do you have any past or family history of kidney disease?"
- **(Box 2: Diabetes Review - The 4 Questions)**
  - **Duration:** "How long have you had diabetes for?"
  - **Treatment:** "Can you confirm you are on insulin?"
  - **Compliance:** "Are you able to use your insulin regularly as prescribed?"
  - **Follow-up/Complications:** "Are you having your regular follow-ups with your GP and specialist? Have you had your regular eye and foot checks? Any numbness in your legs or blurry vision?"
- **(Box 3: Other CKD Risk Factors - THE KEY POINTS)**
  - **Smoking:** "Do you smoke?"
  - **Hypertension/CVD:** "Do you have any history of **high blood pressure** or any **heart disease**?"
  - **Obesity:** "Are you currently overweight?"

- **(The Cautious Opening - Show Your Knowledge)**
  - "Based on these initial results, I am **concerned about the possibility** of a condition called **Chronic Kidney Disease**, or CKD."
  - "**However**, it is very important to understand that we **cannot confirm this diagnosis from a single test**. To be certain, we will need to **repeat these tests** in about three months."
- **(Explain the Mechanism in Simple Terms)**
  - "CKD is a known complication of long-term diabetes. Over time, high blood sugar levels can damage the small blood vessels in the kidneys."
  - "This damage is why your kidneys have started to **leak protein** into the urine, and why they are not as efficient at **clearing waste products** from your blood."
- **(Link to Diabetes)**

- "Diabetes is the most common cause of this condition in Australia, so managing your blood sugar is the most important step we can take."
- **(Outline the Next Steps)**
  - "For now, we will focus on getting your blood sugar and blood pressure under tight control. We will repeat the urine and blood tests in three months. If at least two out of three tests are abnormal, then we can confirm the diagnosis and talk about further management."

Ovarian cancer

AMC Recalls: The "Bloating" Cluster (Ovarian Cancer)

*I. Introduction & The Diagnostic Challenge*

- **The "Design" of the Case:** This case is notoriously difficult and designed to test your ability to maintain a broad differential diagnosis for vague, non-specific GI symptoms in an older woman. It is a classic "trap" case where the final diagnosis (Ovarian Cancer, the "silent killer") is not immediately obvious from the initial complaint.
- **The Key Cue:** The combination of persistent **bloating** and **constipation** in a post-menopausal woman. While these symptoms are common, their persistence and worsening are red flags. The physical exam finding of **ascites (shifting dullness)** is the definitive clue that pushes you towards the final diagnosis.
- **The Clinical Trap:**
  1. **Prematurely diagnosing Ovarian Cancer:** The tutor stresses that even if you know the recall, you **must** approach the case as a "bloating" case first. You will fail if you jump to ovarian cancer questions without systematically ruling out more common GI causes.
  2. **Getting lost in the two complaints:** The tutor advises choosing **bloating** as the primary complaint to explore, as its differential list is broader and encompasses most causes of constipation.

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*II. Case [Number] (Version 1): The "Bloating & Constipation" Presentation*

**Stem Summary:**

- 60-year-old lady.
- Presents with **bloating** and **constipation**.

**Tasks:**

1. Take a history (6 minutes).
2. Physical examination and investigation findings are provided.
3. Explain the diagnosis and differentials.

**Provided Findings:**

- **Physical Exam:** Ascites is present (positive shifting dullness).
- **Investigations:** Ultrasound shows a right ovarian mass with septations.

*A. Structured Clinical Approach*

- **(Opening & Exploring the Complaint)**
  - Standard opening and reassurance.
  - **Explore Bloating:**
    - "Can you describe what you mean by bloating? Do you feel you have excess gas, or that your stomach is distended and looks bigger?"
    - **Timing:** "How long has this been happening? Is it there all the time? Is it getting worse?"
    - **Alleviating/Aggravating Factors:** "Is it related to any specific **foods**? Is it better after **opening your bowels**?"

- **(General GI Symptoms)**
    - "Any nausea or vomiting? Any diarrhea (alternating with the constipation)? Are you still able to pass wind?" Ask about **fever**.
- **(Systematic Differential-Based Questioning - GI First)**
    - **1. Cancers (Top Priority - GI):**
        - **Bowel Cancer:** Ask full red flags: **Weight loss, appetite loss, blood in stools (fresh or dark), change in bowel habit, family history of bowel cancer.** "Have you done your national bowel cancer screening?"
    - **2. Inflammatory Bowel Disease (IBD):** "Any abdominal pain, mouth ulcers, joint pain, or rashes?"
    - **3. Malabsorption (Lactose Intolerance & Celiac Disease):**
        - "Do the symptoms get worse after eating **dairy products**?"
        - "Have you noticed if your stools are greasy, hard to flush, or float? Any family history of celiac disease?"
    - **4. Bowel Obstruction:** "Have you had any previous abdominal **surgeries**?"
    - **5. Irritable Bowel Syndrome (IBS) (Diagnosis of Exclusion):**
        - "Is the bloating associated with any abdominal pain or cramps?"
        - "Is there a link to **stress**?"
    - **6. Other Chronic Conditions:**
        - Ask about a history of **diabetes** or **thyroid** problems.
- **(The Pivot: Exploring Gynaecological Causes - Ovarian Cancer)**
    - *After exhausting the main GI differentials, you move to the next system.*
    - **Menstrual/Bleeding History:** "When was your last menstrual period? Have you had any spotting or **vaginal bleeding** since your periods stopped?"
    - **Early Satiety:** "Do you feel **full quickly**, even after eating only a small amount of food?"
    - **Urinary Symptoms:** "Have you noticed you are needing to pass urine more **frequently**, or feeling a **sudden urge** to go?"
    - **Shortness of Breath:** (A late sign due to ascites/pleural effusion).

- **(Acknowledge the Vagueness & Deliver the Warning Shot)**
    - "Your symptoms of bloating and constipation can be caused by many different things. However, based on the examination and the ultrasound results, I am **concerned about the possibility of ovarian cancer**."
- **(Explain the Reasoning)**
    - "The reason for my concern is that ovarian cancer often presents with these non-specific symptoms like bloating and constipation."
    - "Most importantly, the examination revealed that you have **fluid in your abdomen**, which we call ascites, and the ultrasound has shown a **mass on your ovary**."
- **(List Your Differentials - Show Your Work)**
    - "Before we reached this conclusion, I was considering all the other possibilities. My top thoughts were:"
    - **GI Cancers:** "First and foremost, **bowel cancer**."
    - **Other GI Conditions:** "I was also thinking about other GI causes like **Inflammatory Bowel Disease (IBD)**, malabsorption problems like **celiac disease**, or even a **bowel obstruction**."
    - "I also considered common conditions like **Irritable Bowel Syndrome (IBS)**."

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*III. Case [Number] (Version 2): The "Increased Abdominal Girth" Presentation*

- **Key Difference:** The primary complaint is more specific: "my tummy is getting bigger" or "increased abdominal girth." This points more directly to ascites.
- **The Approach is the Same:** You must still approach the case systematically.
- **Expand Your "Ascites" Differentials:** When asking questions, you need to broaden your screen for causes of ascites beyond just ovarian cancer:
    1. **Liver Disease (Cirrhosis):** Ask about jaundice, dark urine, pale stools, alcohol history, viral hepatitis risk factors.
    2. **Heart Failure:** Ask about chest pain, shortness of breath (especially on exertion or lying flat), how many pillows they use at night, and leg swelling.
    3. **Kidney Disease (Nephrotic Syndrome):** Ask about leg swelling and urinary problems.

- **The Weight Gain Paradox:** The tutor makes a critical point: ovarian cancer is one of the few cancers where a patient might report **weight gain**, not weight loss. This is due to the weight of the large tumour itself, plus the fluid from ascites and potential pleural effusions. If the patient reports weight gain, do not be falsely reassured—it is a red flag in this context.

GERD

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AMC Recalls: GERD & Esophagitis Counseling

*I. Introduction & The Diagnostic Challenge*

- **The "Design" of the Case:** This is primarily a **counseling and management station**, not a diagnostic one. The endoscopy results are provided upfront. The challenge lies in your ability to explain complex medical findings in simple terms, take a focused history for risk factors, and formulate a comprehensive, multi-faceted management plan.
- **The Key Cues:** The stem provides a definitive endoscopy report (hiatus hernia, esophagitis, no ulcers, no Barrett's, no *H. pylori*). This means your job is to interpret these findings for the patient and act on them.
- **The Clinical Traps:**
    1. **Incorrectly Blaming the Hiatus Hernia:** The tutor repeatedly emphasizes that you must state clearly that the hiatus hernia is **not the cause** of the esophagitis, though it may be associated or worsen symptoms. This is a critical point.
    2. **Wrong Initial Medication:** Giving simple antacids (like Gaviscon) is incorrect. The presence of **esophagitis** (inflammation) on endoscopy mandates starting with a Proton Pump Inhibitor (PPI).
    3. **Forgetting Non-Pharmacological Management:** A major part of this station is counseling on lifestyle, especially **weight loss**, which the tutor highlights as a key point that is often forgotten.
    4. **Getting Sidetracked:** The tutor warns not to get drawn into a detailed discussion about alternative treatments for other conditions (e.g., migraine). The focus must remain on managing the GERD.

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*II. Case [Number]: The GERD/Esophagitis Counseling Station*

**Stem Summary:**

- 35-year-old man.
- Presents with worsening heartburn for several months.
- An endoscopy has already been performed.
- **Endoscopy Findings:**
    - Small sliding hiatus hernia.
    - Esophagitis.
    - No ulcerations.
    - No Barrett's esophagus (pre-cancerous changes).
    - *H. pylori* test is negative.

**Tasks:**

1. Explain the endoscopy results to the patient.
2. Take a relevant, focused history.
3. Explain the diagnosis and its complications.
4. Outline the management plan.

*A. Structured Clinical Approach*

- **(Opening the Consultation)**

    - Start by letting the patient speak: *"Hello, I have your endoscopy results here. Can you tell me what has happened so far from your perspective?"*
- **(Explain the Procedure Simply)**
    - "As you know, we performed an endoscopy, which involved passing a thin camera down your food pipe to take a look at the lining of your food pipe and stomach."
- **(Go Through the Findings Systematically)**
    - **1. Esophagitis:** "The main finding was that we saw some **inflammation** in the lining of your food pipe. We call this **esophagitis**."
    - **2. The Good News (Negative Findings):** "The good news is that we did not see any **ulcers**, and we also checked for any pre-cancerous changes, which we call Barrett's esophagus, and we **didn't find any**."
    - **3. Hiatus Hernia (The Tricky Part):**
        - "We also saw that you have a small **hiatus hernia**. This is a condition where the very top part of your stomach slides up through the muscle that separates your chest and your abdomen." (The tutor suggests drawing a simple diagram can be very helpful here).
        - **CRITICAL CLARIFICATION:** "It is very important for you to know that this hernia is **not the cause** of the inflammation and symptoms you are having, although it might sometimes make them a bit worse."
    - **4. *H. pylori*:** "Finally, we took a sample to test for a common stomach bug called *H. pylori*, and your test was **negative**."

- *The goal here is not diagnosis, but to identify risk factors to address in your management plan.*
- **(Start with the Symptom)**
    - "Can you tell me a bit more about your heartburn? How long have you had it? Have you tried any treatments for it so far?"
- **(Systematically Ask About Risk Factors)**
    - **Lifestyle:** "Do you **smoke**? Do you drink **alcohol**?"
    - **Diet:** "Do you eat a lot of **takeaway, fatty, or spicy foods**?"
    - **Drinks:** "Do you drink a lot of coffee, tea, cola, or other **caffeinated or fizzy drinks**?"
    - **Medications:** "Are you taking any regular medications, especially any **anti-inflammatories** like Nurofen, or **aspirin**?"
    - **Weight:** "Are you currently overweight?" (This is a direct question the tutor says you must ask).
    - **Stress:** "Have you been under any significant stress lately?"

- **(Explain the Diagnosis)**
    - "Based on your symptoms and the endoscopy findings, you have a condition called **Gastroesophageal Reflux Disease**, often known as GERD."
    - **Simple Mechanism:** "There is a 'gateway' or valve between your food pipe and your stomach. In your case, this gateway isn't functioning perfectly, which allows some of the acid from your stomach to move back up into your food pipe. This acid irritates the lining and causes both the heartburn you feel and the inflammation (esophagitis) we saw on the camera."
- **(Explain the Complications of NOT Treating It)**
    - "It's important we treat this because if left untreated, the constant inflammation can lead to several problems:"
        - **Ulcers:** It can cause sores or ulcers in the food pipe.
        - **Bleeding:** These ulcers can bleed.
        - **Strictures:** It can cause scarring and narrowing of the food pipe, making it hard to swallow.
        - **Cancer:** Over a very long time, this chronic inflammation increases the risk of developing cancer of the food pipe.

- *The tutor emphasizes using clear, bullet-point-like sections for this part.*
- **1. Medication (Pharmacological):**
    - "The first step is to start you on a strong anti-acid medication. We will use a group of medicines called **PPIs**, for example, **Omeprazole**."
    - "These work by effectively stopping the acid production in your stomach, which will allow the inflammation in your food pipe to heal and will control your symptoms."
    - "Because you have esophagitis, we will start you on a **high dose**, usually taken twice a day, for about 4 to 8 weeks."
- **2. Lifestyle Modifications (Non-Pharmacological):**
    - **Dietary:** "We need to work on your diet. This means avoiding your trigger foods, such as fatty and spicy foods, coffee, chocolate, fizzy drinks, and alcohol."
    - **Weight Loss:** "Losing weight is one of the most effective things you can do to reduce reflux."
    - **Smoking Cessation:** "Stopping smoking is also crucial."

- **Medication Review:** (If applicable) "We need to stop the [e.g., Nurofen] and find a safer alternative for your back pain."
- **3. General Advice / Patient Education:**
  - "I also have some general advice that can help:"
    - "Eat smaller, more frequent meals."
    - "Avoid lying down for 2 to 3 hours after eating."
    - "Try elevating the head of your bed with a few extra pillows."
- **4. Follow-up and Red Flags:**
  - "We will review you after the course of medication is finished. We may also need to do **follow-up endoscopies** in the future, perhaps every 1-2 years, to monitor the situation."
  - "You must come back to see me immediately if you develop any **difficulty or pain when swallowing**, have **dark, tarry stools**, or are **losing weight** without trying."

Diarrhea

AMC Recalls: The "Diarrhea" Cluster

*I. Introduction & The Diagnostic Challenge*

- **The "Design" of the Case:** This is a pure history-taking station (6 minutes) designed to test your ability to construct and navigate a comprehensive list of differential diagnoses for diarrhea. The primary skill assessed is your logical sequence of questioning, starting with acute causes and moving to chronic ones, while systematically ruling out red flags.
- **The Key Cue:** The presenting complaint is simply "diarrhea." The duration (e.g., six days) is a guide but should not stop you from asking about chronic causes and red flags.
- **The Clinical Trap:**
  1. **Memorizing the Recall:** The tutor explicitly warns against this. This case is famous for having **multiple positive findings** (e.g., travel, plus recent antibiotics, plus a family history of cancer). A candidate who only asks about travel (because that was the "old" recall) will fail. You must ask about everything.
  2. **Not Having a Structure:** Panicking because there's no obvious single diagnosis. The goal is to demonstrate a thorough, structured thought process.
  3. **Misdiagnosing *C. difficile*:** The tutor clarifies that not all antibiotic-associated diarrhea is pseudomembranous colitis (*C. difficile*). Simple antibiotic-induced diarrhea is a common side effect, while *C. difficile* is a more severe complication.

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*II. Case [Number]: The Diarrhea History-Taking Station*

**Stem Summary:**

- 37-year-old lady.
- Presents with diarrhea.

**Tasks:**

1. Take a history (6 minutes).
2. Explain the diagnosis and differentials.

*A. Structured Clinical Approach*

- **(Opening & Exploring the Complaint)**
  - Standard opening and reassurance.
  - **Explore the Diarrhea (Timing & Character):**
    - **Timing:** "How long have you had it for? Is it constant or on-and-off? Is it getting worse?"
    - **Frequency (KEY):** "How many times a day are you opening your bowels?"

        - **Character/Contents (KEY):** "Can you describe the stool? Is it watery or just loose? Have you seen any **blood** or **mucus** in it?"
        - **Volume:** "Do you pass a large, bulky amount each time?"
        - **Nocturnal Diarrhea (Red Flag):** "Does the diarrhea wake you up from sleep at night?"
- **(General GI Symptoms)**
    - "Any nausea or vomiting? Any abdominal pain or bloating? Are you still able to pass wind? Any **fever**?"
- **(Systematic Differential-Based Questioning - From Acute to Chronic)**
    - **1. Infections (Gastroenteritis / Travel-Related):**
        - **Travel (KEY):** "Have you had any recent **overseas travel**?" (If yes, explore with ABCDEF).
        - **Food:** "Have you eaten any takeaway or unusual food recently?"
        - **Hepatitis A/E Screen:** "Any yellowish skin, itchiness, dark urine, or pale stools?"
    - **2. Medications (KEY):**
        - "Are you taking any medications? Specifically, have you taken any **antibiotics** recently? What about anti-acids like Nexium, or any other new medications?" (The tutor notes that Metformin is also a classic cause).
    - **3. Inflammatory Bowel Disease (IBD):**
        - "Have you had any joint pain, mouth ulcers, blurry vision, or rashes?"
    - **4. Malabsorption (Lactose Intolerance & Celiac Disease):**
        - "Do the symptoms get worse after eating **dairy products**?"
        - "Are your stools greasy, hard to flush, or do they float? Any family history of celiac disease?"
    - **5. Cancers (Must Ask Red Flags):**
        - "Have you had any unexplained **weight loss**? Loss of **appetite**? Feeling unusually tired?"
        - (Re-ask about **blood in stool** if not already covered).
        - "Do you have any **family history of bowel cancer**?"
    - **6. Hyperthyroidism:**
        - "Do you have a preference for hot or cold weather? Any tremors or racing heart?"
    - **7. Irritable Bowel Syndrome (IBS) (For chronic cases):**
        - "Is the diarrhea associated with abdominal pain that gets better after opening your bowels? Is there a link to **stress**?"

- *The key here is to acknowledge the multiple potential causes found in the history.*
- **(Choose a "Most Likely" Diagnosis, but Don't Be Dogmatic)**
    - "Based on what you've told me, there are a few possibilities for what's causing your diarrhea. The most likely cause is probably **gastroenteritis**, which is an infection in your bowel, likely from your recent travel to Bali and the food you ate there."
- **(Acknowledge and List the Other Possibilities - Show Your Work)**
    - "However, we cannot ignore the other things we've discussed, which could also be contributing."
    - **Antibiotic-Associated Diarrhea:** "There is also a strong possibility that the **antibiotic** you recently took is causing the diarrhea as a side effect."
    - **Medication-Induced Diarrhea:** "The other medication you are taking (e.g., Nexium) is also known to sometimes cause diarrhea."
    - **Other Differentials:** "While less likely given the short duration, we always keep in mind other causes like **Inflammatory Bowel Disease (IBD)**, food intolerances, and we always screen for the red flags of **bowel cancer**, although I am not concerned about this at present."
- **(Explaining IBS - If applicable for a chronic case)**
    - "IBS is a condition where **stress** can affect the movement of your bowels, leading to symptoms like diarrhea, pain, and bloating. We consider this when all other causes have been ruled out."

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*III. Key Learning Points for the Diarrhea Case*

- **Expect Multiple Positive Findings:** This case is designed to test your ability to handle a complex history with several potential causes. Do not panic; use the findings to build your list of differentials.
- **Structure is Everything:** Follow a logical sequence from acute (infection, travel) to chronic (IBD, celiac, cancer). This demonstrates a safe and professional thought process.

- **Prioritize Red Flags:** Questions about blood in the stool, weight loss, and nocturnal symptoms must be asked in every diarrhea case, regardless of the duration.
- **Don't Over-diagnose *C. difficile*:** Remember that simple antibiotic-induced diarrhea is common. Pseudomembranous colitis is a specific, more severe complication.
- **History is the Main Event:** With 6 minutes dedicated to history, this is where you pass or fail. A thorough, systematic, and well-structured history is the entire point of the station.

Pseudomembranous Colitis

AMC Recalls: Diarrhea Part 2 - Pseudomembranous Colitis (*C. difficile*)

*I. Introduction & The Diagnostic Challenge*

- **The "Design" of the Case:** This case is designed to test your knowledge of a specific, serious complication of antibiotic use: **Pseudomembranous Colitis** (also known as *Clostridium difficile* or *C. diff* colitis). Unlike the first diarrhea case, which was about broad differential diagnosis, this is a "pattern recognition" case where the history points strongly towards one dangerous condition that you must name and manage appropriately.
- **The Key Cues:** The stem provides a classic triad: 1) recent **antibiotic use** (Amoxicillin for bronchitis), 2) onset of **watery diarrhea** a few days later, and 3) **abdominal cramps**.
- **The Clinical Trap:**
    1. **Under-diagnosing:** The biggest trap is to simply diagnose "antibiotic-induced diarrhea." The tutor stresses that while this is technically correct, the case is designed for you to consider and name the more severe possibility of **Pseudomembranous Colitis**. You will not pass if you do not mention this specific diagnosis.
    2. **Assuming it must be severe:** Another trap is thinking *C. diff* colitis is always a life-threatening emergency with bloody diarrhea and high fever. The tutor explains there is a **mild-to-moderate** form (which this case represents) with watery diarrhea and low-grade or no fever.
    3. **Forgetting to stop the offending agent:** The single most important first step in management is stopping the inciting antibiotic (Amoxicillin).

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*II. Case [Number]: The* C. difficile *Counseling Station*

**Stem Summary:**

- 40-year-old man.
- Presents with diarrhea for 3 days.
- **Details:** Watery stools, 6 times/day, with abdominal cramps. No blood, no travel.
- **Key History:** Had bronchitis recently and started a course of **Amoxicillin** five days ago.
- **Examination:** Dehydrated (dry mucous membranes), but vital signs are stable and the abdomen is soft and non-tender.

**Tasks:**

1. Explain the diagnosis and differentials.
2. Explain your further investigations.
3. Explain your management plan.

*A. Structured Clinical Approach*

- **(Opening the Consultation)**
    - This is a counseling station, so you start after the history is "taken" (it's provided in the stem). Begin with a reassuring statement: *"Thank you for coming in. I understand this must be very distressing. Let me explain what I think is happening, and we'll make a clear plan together."*

- **(Name the Suspected Condition Directly)**
  - "Based on your symptoms, I am **concerned** that you might have a condition called **Pseudomembranous Colitis**."
- **(Explain the Mechanism in Simple Terms)**
  - "Taking antibiotics can sometimes affect the normal, healthy bacteria in your bowels."
  - "This allows a specific type of bug, called **Clostridium difficile**, to overgrow."
  - "This bug then produces toxins that irritate the bowel lining, causing the watery diarrhea and cramping you're experiencing."
- **(Provide Your Reasons)**
  - "The main reason I'm concerned about this is that your symptoms started just a few days after you began taking the **Amoxicillin** antibiotic, which is a classic trigger for this condition."
- **(List Your Differentials - Show You've Considered Other Causes)**
  - **Simple Antibiotic-Associated Diarrhea:** "It's also possible this is just a simpler form of diarrhea caused by the antibiotic as a side effect, without the specific *C. difficile* bug being involved."
  - **Gastroenteritis:** "We also have to consider a standard case of gastroenteritis, or a stomach bug, that you may have picked up from somewhere."
  - **Other GI Causes:** Briefly mention other causes like IBD, food intolerances, and IBS, but frame them as less likely given the acute onset and clear link to the antibiotic.

- *The purpose here is to confirm the suspected diagnosis.*
- **The Key Test (Must be named specifically):**
  - "To confirm if this is Pseudomembranous Colitis, the most important test is a **stool test**."
  - "Specifically, we will send the sample to the lab to test for the **Clostridium difficile toxin PCR**."
- **Other Supporting Tests:**
  - "We will also do a more general stool test (**Stool MCS**) to rule out other common bacterial or viral infections."
  - "I will also order some **blood tests**, including a **Full Blood Count** to check for signs of infection, and **Urea, Electrolytes, and Creatinine (UEC)** to check your hydration and kidney function, as you are a bit dehydrated."

- *The tutor emphasizes a clear, step-by-step plan.*
- **1. Stop the Offending Agent (CRITICAL First Step):**
  - "The very first and most important thing we need to do is for you to **stop taking the Amoxicillin** immediately."
- **2. Targeted Treatment (Conditional on Confirmation):**
  - "If the tests confirm that this is Pseudomembranous Colitis, we will need to start you on a **different, specific antibiotic** called **Metronidazole**. This antibiotic is designed to kill the *C. difficile* bug that is causing the problem."
- **3. Symptomatic Management & Hydration:**
  - "**Good hydration** is essential. I need you to start drinking plenty of oral rehydration fluids, like Gastrolyte or Hydralyte, which you can get from the pharmacy."
  - "If you have any fever, you can take simple Paracetamol."
  - (If applicable): "For your nausea, I can give you an anti-nausea medication like Ondansetron."
- **4. Follow-up and Review:**
  - "This is a condition we can manage at home as your case appears to be mild-to-moderate. I will need to **review you in 48 hours** to check on your progress and get the results of the tests."
- **5. Safety Netting / Red Flags (ESSENTIAL):**
  - "Because we are sending you home, it is vital that you go **straight to the hospital emergency department** if any of the following happen:"
    - "You develop a **high fever**."
    - "The **abdominal pain becomes severe**."
    - "You start noticing any **blood in your stools**."
    - "You are unable to keep any fluids down."

Per-Rectal Bleeding

AMC Recalls: Per-Rectal Bleeding (Hemorrhoids)

*I. Introduction & The Diagnostic Challenge*

- **The "Design" of the Case:** This is a classic case designed to test your ability to differentiate the causes of per-rectal bleeding, prioritizing the exclusion of sinister pathology (cancer) before settling on a common, benign cause (hemorrhoids).
- **The Key Cues:** The patient presents with **painless**, **fresh, bright red** bleeding, often noticed on the toilet paper. They may also report feeling a **lump** around the back passage.
- **The Clinical Trap:**
    1. **A "Normal" DRE:** This is the most significant change and trap in the modern recall. Historically, the DRE would reveal "boggy masses." Since 2019, the DRE is often reported as **normal**. A candidate who stops here will fail. You must demonstrate your knowledge by asking for the next logical step: an **office-based proctoscopy**, which will then reveal the internal hemorrhoids.
    2. **Not Asking About Cancer:** The tutor stresses that even with a classic hemorrhoid history, you *must* systematically ask the red flag questions for colorectal cancer. Failing to do this demonstrates an unsafe approach.

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*II. Case [Number]: The Hemorrhoids Presentation*

**Stem Summary:**

- 55-year-old man.
- Presents with "rectal bleeding."

**Tasks:**

1. Take a history (4 minutes).
2. Ask for physical examination findings from the examiner.
3. Explain your diagnosis and differentials to the patient.

*A. Structured Clinical Approach*

- **(Opening & Priorities)**
    - Start by checking for hemodynamic stability (ask for vital signs).
    - Standard open-ended question and reassurance.
- **(Explore the Complaint - The Bleeding)**
    - **Timing:** "When did it start? Does it happen every time you pass a bowel motion? Is it getting worse?"
    - **Character (CCV):**
        - **Colour (KEY):** "Can you describe the blood? Is it fresh, **bright red**, or is it dark?"
        - **Context (KEY):** "Is the blood **mixed in with the stool**, or is it separate, perhaps on the toilet paper or as drops in the bowl?"
        - **Volume:** "Are you passing a large amount of blood, or is it just a few drops?"
- **(Systematic Differential-Based Questioning - Prioritized)**
    - **1. Cancers (Top Priority):**
        - Ask full red flags: **Weight loss, appetite loss, change in bowel habit, family history of bowel cancer.** "Have you done your national bowel cancer screening?"
    - **2. Anal Fissure:**
        - **KEY QUESTION:** "**Is there any pain** when you pass your bowel motions?" (A fissure is typically very painful).
    - **3. Hemorrhoids:**
        - "Have you felt any **lumps** around your back passage?"
        - (If yes): "Is the lump there all the time, or are you able to push it back in?"
        - **Risk Factors:** "Do you suffer from long-term **constipation**? Do you have a chronic **cough**? Do you have to do a lot of heavy lifting at your job? Do you have a habit of **sitting on the toilet for a long time**?"

- **4. Inflammatory Bowel Disease (IBD):**
  - Ask about associated diarrhea, abdominal pain, mouth ulcers, joint pain, etc.
- **5. Diverticulitis / Ischemic Colitis:**
  - Ask about abdominal pain and fever. For ischemic colitis, ask about any history of a racing heart (atrial fibrillation).
- **6. Infections (Gastroenteritis / Proctitis):**
  - Ask about recent travel or contact with sick people.
  - For proctitis, a brief sexual history is warranted ("Are you sexually active? Do you use protection?").
- **7. Bleeding Disorders/Medication:**
  - "Are you taking any **blood thinners**? Do you **bruise easily**?"

- **What to Ask For:**
  - **General Appearance:** Looking for **pallor** (from blood loss).
  - **Vital Signs:** A full set, including an assessment for postural drop if there's concern about significant bleeding.
  - **Abdominal Examination:** A standard full examination is required to rule out masses and tenderness.
  - **Per-Rectal Examination (The KEY EXAM):**
    - "I would like to perform a per-rectal examination. I will start with **inspection**."
    - **Inspection:** "Am I able to see any external lumps, masses, fissures, skin tags, or active bleeding?" (Examiner will likely say "No").
    - **Digital Examination (DRE):** "I will now perform a digital rectal examination. Am I able to feel any masses? Is the exam tender for the patient? Is there any blood on my glove when I withdraw my finger?" (Examiner will likely say "No," "No," and "No").
  - **The Crucial Next Step:**
    - "As the digital rectal examination is normal, I would now like to perform an **office proctoscopy**."
- **Expected Findings in this Case:**
  - **History:** Painless, bright red bleeding on toilet paper, feeling a lump, risk factors like constipation.
  - **DRE: NORMAL**.
  - **Proctoscopy: Reveals three large, bulky internal hemorrhoids.**

- **(Explain the Most Likely Diagnosis - Hemorrhoids)**
  - "Based on my assessment, the most likely cause of your bleeding is a condition called **hemorrhoids**."
  - "Inside your back passage, you have normal cushion-like structures that are made of blood vessels. In your case, these cushions have become swollen and enlarged, and this is what is causing the bleeding."
- **(Provide Your Reasons)**
  - "The reasons I believe this is the case are that your bleeding is painless and bright red, you have felt a lump, and your risk factors like constipation make this more likely. Most importantly, when we performed the short camera test called a proctoscopy, we could clearly see the enlarged hemorrhoids."
- **(List Your Differentials - Show Your Work)**
  - "However, before we reached this diagnosis, it was very important to consider other possibilities."
    - **Cancer (Must be mentioned first):** "My number one concern was to rule out **bowel cancer**. This is less likely in your case as you haven't had any weight loss or other red flags."
    - **Anal Fissure:** "I also thought about an **anal fissure**, which is a small tear, but this is usually very painful, and your bleeding is painless."
    - **Inflammation:** "Finally, we considered causes of inflammation in the bowel like **inflammatory bowel disease** or an **infection**, but again, your other symptoms don't point towards this."

Anal Pain" & "Anal Discharge

AMC Recalls: The "Anal Pain" & "Anal Discharge" Cluster

*I. Introduction & The Diagnostic Challenge*

- **The "Design" of the Case:** This is a focused diagnostic case designed to test your ability to build a good list of differential diagnoses for a specific, localized complaint (pain or discharge in the perianal area). The challenge is moving beyond the obvious (like a fissure) to consider infections, inflammatory conditions, and cancer.
- **The Key Cues:** The primary complaint is either **"pain around the back passage"** or **"discharge on my underwear."** The specific details of the pain (e.g., relationship to defecation) and the discharge (e.g., location, smell, color) are critical clues.
- **The Clinical Trap:** Having too narrow a list of differentials. This case requires a structured approach to rule out several possibilities, including fissure, thrombosed hemorrhoid, abscesses (perianal vs. pilonidal), prostatitis/proctitis, IBD, and cancer.

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*II. Case [Number] (Version 1): The "Anal Pain" Presentation*

**Stem Summary:**

- 35-year-old man.
- Presents with pain in the anal area / around the back passage / on the buttocks.

**Tasks:**

1. Take a history (6 minutes).
2. Explain your diagnosis and differentials.

**Tutor's Diagnostic Reasoning:**

- The history is designed to lead you to one of two main diagnoses depending on the specific findings:
    - **Version 1a (Perianal Abscess):** The patient will report a painful **lump**, associated with **fever**.
    - **Version 1b (Pilonidal Abscess):** The patient will report pain specifically **between the buttocks (in the midline)**, associated with **discharge** on the back of the underwear.

*A. Structured Clinical Approach*

- **(Opening & Exploring the Pain - AS CORA)**
    - Standard opening and reassurance.
    - **Site (KEY):** "Can you describe the location of the pain more precisely? Is it right beside your back passage, or is it higher up on your buttocks, perhaps in the midline?"
    - **Onset/Timing:** Standard questions (when did it start, constant/intermittent, getting worse?).
    - **Character:** "Is it a sharp or a dull pain?"
    - **Radiation:** "Does the pain travel anywhere?"
    - **Aggravating Factors (KEY):** "**Does the pain get worse when you pass your bowel motions?**"
- **(General GI Questions)**
    - Ask about nausea/vomiting, diarrhea/constipation, bloating, and **fever**.
- **(Systematic Differential-Based Questioning)**
    - **1. Cancers / Red Flags (Top Priority):**
        - Ask standard cancer questions: **Weight loss, appetite loss, blood in stools.**
    - **2. Anal Fissure:**
        - (Re-ask about **bleeding** specifically when opening bowels).
        - (Re-ask about a history of **constipation** or **straining**).
    - **3. Hemorrhoids (Thrombosed) / Abscesses:**
        - "Have you felt any **lump or swelling** around your back passage or on your buttocks?"
        - "Have you noticed any **discharge or pus**, perhaps on your underwear?"

        - (Re-ask about **fever**).
    - **4. Prostatitis / Urethritis / Proctitis:**
        - "Have you noticed any **discharge from your penis**?"
        - "Any **pain on passing urine** or needing to go more frequently?"
        - Take a brief, screening sexual history ("Are you sexually active? Do you use protection?").
    - **5. Inflammatory Bowel Disease (IBD):**
        - Ask about extra-intestinal manifestations: "Any joint pain, mouth ulcers, blurry vision, or rashes?"

- **(For a Perianal Abscess)**
    - **Diagnosis:** "Based on your symptoms, you most likely have a condition called a **Perianal Abscess**."
    - **Explanation:** "This is an **infection** that has formed around your back passage, which has led to a **collection of pus** under the skin. This is what is causing the painful lump and the fever."
- **(For a Pilonidal Abscess)**
    - **Diagnosis:** "You most likely have what we call a **Pilonidal Abscess**, which is sometimes known as a **hair cyst**."
    - **Explanation:** "This is a small hole or pocket that forms in the skin in the midline of the buttocks, which can trap hair. When this pocket gets **infected**, it forms an abscess, which causes the pain and the discharge you've noticed."
- **(List of Differentials - Show Your Work)**
    - "Before settling on this, I was considering other possibilities:"
        - "An **anal fissure**, which is a small tear, but that is usually directly related to opening your bowels."
        - "A **thrombosed hemorrhoid**, which is a blood clot in a hemorrhoid, but this is also typically right at the back passage."
        - "An infection in your prostate (**prostatitis**) or rectum (**proctitis**)."
        - "And we always consider more serious things like **cancer**, though this is much less likely."

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*III. Case [Number] (Version 2): The "Anal Discharge" Presentation*

- **Key Difference:** The primary complaint is **discharge**, not pain. The approach is similar, but the questioning is reframed to characterize the discharge and its origin.
- **Key Differentiating Question:** "When you notice the discharge on your underwear, is it more on the **front** or on the **back**?" This helps differentiate a urethral (front) from a perianal/pilonidal (back) source.

*A. Structured Clinical Approach*

- **(Explore the Complaint - The Discharge)**
    - **Timing:** Standard questions.
    - **Character (CC-COV):**
        - **Colour:** "What colour is the discharge? Is it brown, yellow, or clear?"
        - **Consistency:** "Is it watery, or is it thick and sticky like pus?"
        - **Content:** "Have you seen any blood mixed in with it?"
        - **Odour:** "Have you noticed if it has a bad smell?"
        - **Volume:** "Is it a large amount or just a small stain?"
    - **Location:** "Where do you notice the discharge? Is it more on the front or the back of your underwear?"
- **(Systematic Differentials - Similar to Anal Pain Case)**
    - Your questions will be the same, but the emphasis is slightly different. You are screening for:
        1. **Abscesses (Perianal/Pilonidal):** Ask about lumps, swelling, pain, and fever.
        2. **Proctitis/Urethritis:** Take a sexual history and ask about urinary symptoms and penile discharge.
        3. **IBD (leading to a Fistula):** Screen for IBD symptoms.
        4. **Cancer (leading to a Fistula):** Ask red flag questions.
- **The Rare Recall Finding: Anal Fistula**
    - The tutor notes a rare version where the patient describes a chronic, smelly discharge and the exam provides a photo of a fistula opening.
    - **Diagnosis:** "You have a condition called an **Anal Fistula**."

- **Explanation:** "This is a small **tunnel-like passage** that has formed, connecting the inside of your bowel to the skin on the outside. This is why you are getting the discharge."

Leg Swelling

AMC Recalls: Leg Swelling (Lower Limb Edema)

*I. Introduction & The Diagnostic Challenge*

- **The "Design" of the Case:** This station is designed to test your ability to construct and systematically work through a comprehensive list of differential diagnoses for a common but potentially serious symptom. The skill is in asking targeted questions for each of the major systemic causes (the "failures") and not missing the specific "trick" diagnoses.
- **The Key Cues:** The patient presents with "swelling in his legs." The most important initial historical point is determining if the swelling is **unilateral** or **bilateral**, as this significantly changes the differential diagnosis.
- **The Clinical Traps:**
  1. **The Amlodipine Trap:** This is the biggest pitfall. Amlodipine, a common blood pressure medication, is a classic cause of bilateral leg edema. If you fail to ask about medications specifically, you will miss the diagnosis. The tutor emphasizes this repeatedly.
  2. **Narrow Differential:** Focusing on only one cause (e.g., heart failure) and not systematically screening for the other major causes (liver failure, renal failure, hypothyroidism, venous insufficiency, lymphedema).
  3. **Forgetting the Thyroid:** Hypothyroidism is a key differential for edema and must be included in your screening questions.

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*II. Case [Number]: The Leg Swelling Presentation*

**Stem Summary:**

- 45-year-old man.
- Presents complaining of "swelling in his legs."

**Tasks:**

1. Take a history (4 minutes).
2. Ask for physical examination findings.
3. Explain your diagnosis and differentials.

*A. Structured Clinical Approach*

- **(Opening & Exploring the Complaint)**
  - Standard opening and reassurance.
  - **Explore the Swelling (Timing & Character):**
    - **Timing:** "When did it start? Is it there all the time or does it come and go? Is it getting worse?"
    - **Character (KEY):**
      - "Is the swelling in **one leg or both legs**?"
      - "How high up your leg does the swelling go?"
      - "Is the swelling worse in the **morning** or at the **end of the day**?"
  - **Alleviating Factors (KEY): "Is the swelling better after lying down?"**
  - **Other Swelling:** "Have you noticed any swelling elsewhere, like in your arms or puffiness around your eyelids?"
- **(Systematic Differential-Based Questioning)**
  - **1. The "Three Failures" (Top Priority):**
    - **Heart Failure:**
      - "Any **chest pain** or **shortness of breath**, especially when you exert yourself?"

        - "Do you get short of breath when **lying down flat**?"
        - "How many **pillows** do you use to sleep at night?"
        - (For COPD link): "Do you have a long-term cough?"
    - **Liver Failure (Cirrhosis):**
        - "Have you noticed any **yellowish discoloration** of your skin or eyes (jaundice)? Any **itchiness**?"
        - "Any change in the colour of your urine (**dark urine**) or stools (**pale stools**)? "
    - **Renal Failure (Kidney Disease):**
        - "Have you noticed any **decrease in the amount of urine** you are passing?"
        - "Any tiredness, nausea, or vomiting?"
        - "Any past or family history of **kidney disease**? Any **blood in your urine**?"
- **2. Hypothyroidism (The "Fourth Failure"):**
    - "Do you have a preference for **hot or cold weather** (feeling the cold more)?"
    - "Have you had any problems with **constipation**?"
- **3. Venous Insufficiency:**
    - "Have you noticed any **bluish discoloration** or varicose veins on your legs?"
    - "Do you get any **pain in your legs**?"
    - "Do you have a past history of **blood clots in your legs (DVT)**?"
- **4. Medications (THE KEY TRAP):**
    - "**Are you taking any regular medications?**" (Especially for blood pressure, like **Amlodipine**).
- **5. Lymphedema (Cancer Screen):**
    - Ask standard cancer red flags: "Any unexplained **weight loss**? Loss of **appetite**? **Lumps or bumps**?"
    - "Any **abdominal or pelvic pain**?"

- **What to Ask For:**
    - **General Appearance:** Looking for jaundice (liver), cachexia (cancer), drowsiness.
    - **Vital Signs:** A full set, with a focus on **blood pressure**.
    - **Thyroid Examination:** "I would like to perform a thyroid examination."
    - **Cardiovascular & Respiratory:** "I'll do a brief cardiovascular and respiratory exam, checking for any murmurs or added sounds in the lungs." (A full exam is needed if heart failure is suspected).
    - **Abdomen:** "I'll examine the abdomen, checking for hepatomegaly and balloting the kidneys."
    - **Lower Limb Examination (THE KEY EXAM):**
        - **Inspection:** "I am inspecting the legs for discoloration, varicose veins, and rashes."
        - **Palpation (KEY):** "I will palpate the edema. Is it **pitting or non-pitting**?"
    - **Urine Dipstick (Office Test):** "Finally, I need the result of a urine dipstick to check for protein and blood."

- **Version 1: The Nephrotic Syndrome Case**
    - **Findings:** Bilateral pitting edema, puffy eyelids, high BP, and **3+ protein** on the urine dipstick.
    - **Diagnosis:** "Based on the findings, you have a condition called **Nephrotic Syndrome**."
    - **Explanation:** "This is a type of kidney disease where your kidneys are **leaking a large amount of protein** into your urine. This loss of protein from your blood is what leads to the swelling in your legs."
- **Version 2: The Amlodipine Case**
    - **Findings:** The *only* positive finding is that the patient is taking **Amlodipine**. The physical exam and all other history are normal.
    - **Diagnosis:** "The swelling in your legs is most likely a **side effect of the blood pressure medication** you are taking, the Amlodipine."
    - **Explanation:** "This medication works by relaxing and dilating the blood vessels in your body. Sometimes this can cause some fluid to leak out into the tissues of your legs, causing the swelling."
- **Version 3: The Cor Pulmonale Case (COPD -> Heart Failure)**
    - **Findings:** Patient has a known history of COPD, has signs of heart failure on examination (e.g., raised JVP, crackles in lungs).
    - **Diagnosis:** "You have developed **heart failure**, which has been **caused by your long-standing lung condition, COPD**."
    - **Explanation:** "Heart failure means your heart is not pumping blood as effectively as it should. Over a long time, the high pressure in the blood vessels between your lungs and your heart (caused by COPD) has put a strain on your heart, leading to this condition. This is why fluid is building up in your legs."

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| Incidental Liver Lesion |

AMC Recalls: The "Incidental Liver Lesion" Case

*I. Introduction & The Diagnostic Challenge*

- **The "Design" of the Case:** This case is designed to test your ability to interpret a complex CT scan report with multiple findings and formulate a safe and logical plan in the face of diagnostic uncertainty. The central challenge is **not to get fixated on the obvious finding (gallstones)** and to recognize the significance of the more sinister, "incidental" finding (the liver lesion).
- **The Key Cues:** The CT report describes three distinct findings: 1) Gallstones without signs of cholecystitis, 2) Diverticulosis without signs of diverticulitis, and 3) a **single, large, hypodense liver lesion**.
- **The Clinical Trap:**
    1. **Diagnosing Biliary Colic:** The biggest trap is to attribute the patient's epigastric pain to the gallstones (biliary colic) and dismiss the liver lesion. The tutor argues against this because a) it was the patient's first episode of pain, and biliary colic is typically recurrent, and b) the presence of a large, unexplained liver lesion is a much more serious concern that must take priority.
    2. **Making a Definitive Diagnosis:** The purpose of the station is to show that you recognize the uncertainty. You **cannot** make a definitive diagnosis from the information provided. The entire goal is to raise concern about the liver lesion and outline the necessary further investigations.

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*II. Case [Number]: The Incidental Finding on CT*

**Stem Summary:**

- 57-year-old man.
- Presents to the Emergency Department with epigastric pain for 2 hours.
- Pain is now better after painkillers.
- This is the first time he has had this pain.
- **CT Scan Report Provided:**
    - Multiple gallstones, but no gallbladder wall thickening or surrounding fluid.
    - Diverticulosis of the sigmoid colon, but no signs of inflammation.
    - A **single, large, hypodense liver lesion**.

**Tasks:**

1. Explain the CT scan results to the patient.
2. State your likely diagnosis and differentials.
3. Request further investigations.

*A. Structured Clinical Approach*

- **(Opening the Consultation)**
    - Start by engaging the patient: *"Hello, I have your scan results here. How are you feeling now? Can you tell me what's happened so far?"*
    - Provide reassurance: *"I understand you've been in a lot of pain and must be concerned. We've done a scan to investigate, and I'm here to go through the findings with you."*
- **(Go Through the Findings Systematically - "Sandwich Technique")**
    - **1. The Gallbladder (The "Good" News):**
        - "First, we looked at your gallbladder, which is a small sac under your liver that helps with digestion. The scan shows you have a **few stones** in your gallbladder."
        - "However, it's important to know that these stones are **not causing any blockage or inflammation** at the moment."
    - **2. The Liver (The "Bad" News):**
        - "Next, when we looked at your liver, we found a **lesion**, which is another word for a **lump or a growth**."

        - "On the scan, this lesion looks a bit darker than the surrounding tissue, which is why the report calls it **'hypodense'**."
        - "There can be a few possible causes for this, which I will explain in a minute."
    - **3. The Bowel (The "Irrelevant" News):**
        - "Finally, the scan also showed some small pouches in the wall of your large bowel. We call this **diverticulosis**."
        - "This is a very common finding as people get older, usually related to long-term constipation. Crucially, these pouches are **not inflamed** and are **not the cause of the pain** you experienced."

- **(The Cautious Opening - Emphasize Uncertainty)**
    - "To find the definite reason for your pain and to understand what the liver lesion is, we **need to do further investigations**."
- **(Address the Gallstones, but Downplay Them)**
    - "Having gallstones can sometimes cause a short-lived pain, which we call biliary colic. While this is a possibility, given that this is your first time having this pain and there are no signs of inflammation, I don't believe this is the most likely cause of your severe pain."
- **(Raise Concern About the Liver Lesion - This is the KEY)**
    - "I am definitely **more concerned about the lump we found in your liver**."
    - "Based on its characteristics on the scan, there is a **possibility that it might be a liver cancer**, or even a **spread of cancer** from somewhere else to your liver."
    - "**However**, it is also very important to know that it could be a **benign (non-cancerous) lump**. These can include things like a cyst, an abscess, or a collection of blood vessels called a hemangioma."
- **(List Other Differentials for the Epigastric Pain)**
    - "We also have to keep in mind all the other causes of pain in that area, such as **cholecystitis** (gallbladder inflammation), **cholangitis** (bile duct infection), **hepatitis**, **pancreatitis**, or a **peptic ulcer**."

- *Your investigation plan must be targeted at characterizing the liver lesion and finding a potential primary cancer.*
- **To Investigate the Liver Lesion (Top Priority):**
    - "The next best step to get a better look at this liver lesion is a different type of scan, an **MRI of the liver**, often done with contrast dye."
    - "Depending on what that shows, we may need to proceed to a **liver biopsy**, which involves taking a small tissue sample from the lesion with a needle to know exactly what it is."
- **To Investigate for a Primary Cancer:**
    - "Because of the concern that this could be a spread of cancer, we also need to check other areas. Therefore, I will arrange for a **colonoscopy** and an **endoscopy** to check your bowel and stomach."
- **Key Blood Tests:**
    - "Of course, we are waiting for your blood test results. I am particularly interested in your **liver function tests (LFTs)**, your **amylase and lipase** (for the pancreas), and specific **tumour markers**, such as **AFP** (for liver cancer)."

The "Urinary Frequency" Case (Prostate Focus)

AMC Recalls: The "Urinary Frequency" Case (Prostate Focus)

*I. Introduction & The Diagnostic Challenge*

- **The "Design" of the Case:** This is a history-taking station designed to test your ability to create a broad differential diagnosis for a common urinary symptom (frequency) while simultaneously addressing a specific and significant patient concern (fear of prostate cancer). The core task is to demonstrate a safe, systematic approach that rules out sinister pathology before arriving at a more benign conclusion.
- **The Key Cues:** The patient is an older male complaining of urinary frequency. Crucially, he explicitly states in his opening that he is **"concerned about prostate cancer."**
- **The Clinical Trap:**
    1. **Ignoring the Patient's Concern:** Failing to directly explore the patient's fear of prostate cancer. Your history *must* include the specific questions for prostate disease and cancer red flags.
    2. **Having Too Narrow a Differential:** Focusing only on the prostate and forgetting other common causes of frequency, such as UTIs, overactive bladder, diabetes (polyuria), and even high fluid intake.
    3. **The "High Fluid Intake" Finding:** The tutor reveals that in the recall, a key finding is that the patient has recently started drinking a large amount of water (5-6 glasses per day). You must identify this as a potential cause but still complete your full differential diagnosis workup.

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*II. Case [Number]: The Urinary Frequency Presentation*

**Stem Summary:**

- 63-year-old man.
- Complains of urinary frequency.
- He is concerned about prostate cancer after hearing about it in the media.

**Tasks:**

1. Take a history (6 minutes).
2. Explain the diagnosis and differentials.

*A. Structured Clinical Approach*

- **(Opening & Exploring the Complaint)**
    - Standard opening. After the patient expresses their concern about cancer, provide strong reassurance: *"Thank you for coming in to discuss this. It's completely understandable to be concerned, and it's the right thing to do to get it checked out. We'll go through some questions together to figure out what's going on."*
    - **Explore Frequency:**
        - **Timing:** "How long has this been happening? Is it getting worse?"
        - **Quantify (KEY):** "On average, how many times are you going to the toilet to pass urine during the day?"
        - **Nocturia (KEY):** "And do you also have to **wake up at night** to pass urine? If so, **how many times**?"
- **(Systematic Differential-Based Questioning - Prioritized)**
    - **1. Infections (UTI / Urethritis):**
        - "Have you had any **fever** or chills?"
        - "Any **pain or burning** when you pass urine?" (Dysuria)
        - "Any **discharge from your penis**?" (For Urethritis)
    - **2. Prostate Disease (BPH / Prostatitis / Cancer Concern):**
        - *This is where you directly address the patient's concern.*
        - **Irritative Symptoms:** "Do you ever feel a **sudden, strong urge** to run to the toilet?" (Urgency)
        - **Obstructive Symptoms:**
            - "Do you have a **weak urinary stream**?"

        - "Do you experience any **dribbling** of urine after you've finished?"
        - "Do you ever feel that your **bladder hasn't emptied completely**?"
        - "Do you have to **strain or push** to start?"
        - "Does it take you a long time to get started?" (Hesitancy)
    - **3. Cancers (Bladder / Prostate Red Flags):**
        - "Have you noticed any **blood in your urine**?"
        - Ask standard cancer red flags: **Weight loss, appetite loss, tiredness, lumps/bumps, family history of prostate or bladder cancer.**
    - **4. Stimulants / High Fluid Intake (Polyuria Causes):**
        - "How much **water or other fluids** do you drink on a typical day?" (This is the key question for this recall).
        - "Do you drink a lot of **coffee, tea, alcohol, or other caffeinated drinks**?"
        - "Are you on any new **medications**, particularly water tablets (diuretics)?"
    - **5. Diabetes (Polyuria):**
        - "Have you noticed you've been feeling unusually **thirsty** lately?"
        - "Have you noticed an increase in the **amount or volume** of urine you're passing each time?"
    - **6. Stones (Renal Colic):**
        - "Have you had any pain in your abdomen or your flanks (sides)? Any past history of kidney stones?"
    - **7. Overactive Bladder / Incontinence:**
        - "Do you ever leak urine, for example when you cough or sneeze?"

- **(Address the Primary Concern First)**
    - "First, let's talk about your main concern, which was **prostate cancer**. Based on our conversation, it is **very unlikely** that this is the cause of your symptoms. The reason I say this is because you are not experiencing the typical red flag symptoms, such as weight loss, blood in the urine, or the severe obstructive symptoms we often see with it."
- **(Provide the Most Likely Diagnosis)**
    - "The most likely reason you are going to the toilet more frequently is simply the **increased amount of water** you have started drinking recently. When you drink more, your body naturally produces more urine, which means you need to go more often."
- **(List Your Differentials - Show Your Work)**
    - "However, it was very important for me to rule out all the other possibilities. We considered:"
        - **Prostate Problems:** "Other non-cancerous prostate issues like an **enlarged prostate (BPH)** or an infection (**prostatitis**)."
        - **Infections:** "A **urinary tract infection (UTI)**, though this is less likely as you don't have pain or fever."
        - **Other Cancers:** "Other cancers, like **bladder cancer**."
        - **Diabetes:** "Conditions that make you produce more urine, like **diabetes**."
        - **Stones:** "A **kidney stone** irritating your bladder."
        - **Overactive Bladder:** "And finally, a condition where the bladder muscle itself is overactive."