A medical history is a report that includes information gained from a patient's medically relevant recollections (e.g., symptoms, concerns, past diseases) and questioning regarding their concerns. While a physician should generally take their time to take a thorough history, situations such as medical emergencies may only provide enough time for a short history to avoid delaying potentially vital interventions. Because it takes some practice to distinguish between important and irrelevant information, it is best to follow a set protocol in the beginning. Medical history provides the basis on which diagnosis and treatment are developed. An uninterrupted setting in a quiet room with only the examiner and the patient present ensures that patients can openly discuss their concerns and reinforces the patient-physician relationship. This article provides an overview of what a general medical history should cover.

Basics of history taking
Description: The patient's medical history is typically the first contact between the physician and patient.
Objectives
Establish a good physician-patient relationship
Precise documentation of symptoms -A history gives other members of the treatment team an overview of the patient's presentation on admission. Standardized forms are generally readily available and help ensure proper documentation.
Develop a differential diagnosis

Optimal setting
Uninterrupted environment: a quiet room without other patients, if possible
Only the patient should be present, unless:
The patient requests the presence of a trusted individual
In children, the presence of a parent or guardian is important or mandatory and, in most cases, simplifies taking the patient's history.
If there is a language barrier between the patient and yourself, you are required to organize an interpreter, either via phone, video, or in person.

<u>KEY ELEMENTS</u>
BIODATA
PRESENTING COMPLAINTS
HISTORY OF PRESENTING COMPLAINTS
PAST MEDICAL HISTORY
DRUG AND ALLERGY HISTORY
FAMILY HISTORY
SOCIAL HISTORY AND LIFESTYLE
SYSTEMIC REVIEW
SUMMARY

Types of health history
Problem-focused: only includes CC and brief HPI; usually taken in an emergency setting.

Expanded problem-focused: includes CC, brief HPI, and pertinent ROS; usually when a patient is already under the ongoing care of a provider or presents with a specific CC.
Comprehensive: covers all key elements (mentioned above); usually performed on new, non emergency patients.

A thorough medical history is the basis for diagnosis. At the beginning of your clerkship, it is recommendable that you take a history according to a standardized scheme that covers the key elements. The more experience you acquire in taking a patient's medical history, the more you will be able to readily determine what areas to focus on.

BIODATA

Name of patient
Age
Sex
Address
Tribe
Religion
Marital status
Occupation

PRESENTING COMPLAINT(S)

- **Description**: the **main reason** for the patient's visit [1]
- **Goal**: Record the chief concern clearly in the **patient's own words**, e.g.,“knee hurts,” “upset stomach,” “runny nose.”
- When taking the patient's medical history, the first question should be as open as possible in order to enable the patient to freely describe their concerns. Examples include:
    - ”How may I help you?”
    - ”What brings you here today?”

HISTORY OF PRESENTING COMPLAINTS
Description: a detailed description of the chief concern and progression of the symptoms

Goals
Provide comprehensive details of the patient's present illness from the initial symptoms or from the previous encounter.
Determine which systems should be assessed carefully in the review of systems and physical examination.

Key elements
Onset of symptoms (context and location)
Quality and intensity of symptoms (scale from 1 to 10, with 1 indicating a low amount and 10 the maximal intensity of symptoms)
Course (sudden, gradual, constant, or on and off)
Duration of symptoms
Associated symptoms
Factors that improve or exacerbate symptoms
Triggers or the patient's own explanation of the cause of the symptoms

Types of HISTORY of Presenting Complaints
Brief HPC: includes 1–3 elements
Example: "Dull pain in my left knee over the past 2 weeks."
Extended HPC: includes ≥ 4 elements
Example: "Dull pain in left knee over the past 2 weeks. Patient stated pain started after his fall during the football game. The pain is relieved by sitting, warm compress, and ibuprofen and aggravated by walking or standing."

To remember the key points for evaluating pain, the most common reason for patients to see a physician, recall the mnemonic SOCRATES.

Site/Location
Onset - Not only is the entire period of pain relevant here, but also whether the pain is permanent or if there are pain-free intervals.
Character (e.g., sharp, aching, burning, pressure-like pain)
Radiation A typical example is radiating pain in myocardial infarction, which is often to the left arm but can also be to the jaw or upper abdomen.
Alleviating Factors E.g., fasting usually alleviates pain in biliary colic.
Timing
Exacerbating Factors E.g., fatty foods usually aggravate pain in biliary colic.
Severity (on a scale of 1 to 10) Note that pain intensity cannot be measured objectively and a patient's perception of discomfort may not be consistent with the severity of a condition.

Another useful mnemonic to help remember the key points of HPC is COLD REARS SIT.
COLD
Character of chief complaint (severity, type)
Onset
Location
Duration (+ progression)

REARS
Radiation

Exacerbating factors or triggers
Alleviating factors
Related symptoms
Severity

SIT
Sick contacts/Similar symptoms previously
Insight into cause
Treatments tried/Travel

PAST MEDICAL HISTORY
Description: a patient's health status prior to the current visit

Goals
Identifying important clues and contributing factors regarding the current concern.
Developing a holistic approach to patient care

Key Elements
Childhood illnesses

Major adult illnesses- It may be helpful to go through the organ systems with the patient (e.g., "Do you have any cardiovascular, gastrointestinal tract, or lung conditions?" etc.) and the most common diseases (possibly avoiding technical terms, e.g., COPD, coronary artery disease, hyperthyroidism) to ensure nothing is accidentally omitted. Try to maintain chronological order in documentation and note pertinent information at the time of diagnosis.

Past surgical history, including type, date, and location of past surgical procedures – This is important because it may influence the surgical approach. For example, preceding abdominal operations predispose to adhesions, which will make laparoscopic procedures more difficult

Medications – When documenting medication, the name of the active agent should be noted, in addition to dose, frequency of intake, and administration form. E.g., aspirin100 mg 1-0-0-0 PO (the numbers indicate the dose and the time of day a medication is taken: morning-midday-evening-night). Women should be asked whether they take the contraceptive pill, as patients may forget that it, too, is a medication.

Prescription drugs
Over-the-counter drugs
Herbal remedies
Doses and frequencies

Allergies

Drugs or environmental factors - Drug allergies and allergies to iodine (used for sterilization), latex (contained in gloves), and other materials the patient may come in contact with during or after a procedure (e.g., allergies to metals relevant for implants).
Reaction to each allergen - Ask about reactions prior to the administration of any medications (e.g., administration of penicillin may lead to severe allergic reactions or even anaphylactic shock)
Food intolerance - A distinction between allergies and intolerance, e.g., against food or medication, is clinically relevant. Intolerance usually manifests with gastrointestinal symptoms, e.g., nausea and abdominal pain after ingestion, whereas food allergies usually manifest with respiratory or skin symptoms, e.g., shortness of breath and hives, or more serious reactions like anaphylactic shock. However, food intolerance does not predispose patients to hypersensitivity reactions or anaphylactic shock.
Prior injuries (e.g., motor vehicle accidents, falls)
Prior hospitalizations and/or transfusions
Immunizations
Screening exams (e.g., Pap smear, mammogram, colonoscopy)
Psychiatric illnesses, including any psychological intervention or hospitalization

To remember the key points of past medical history, recall the mnemonic PAM HITS FOSS.
PAM HITS FOSS
Past medical history
Allergies including drug names and associated adverse effects
Medications, including over-the-counter as well as prescription medications, and compliance
Hospitalization in the past
Ill contacts
Trauma
Surgery
Family history
OB/GYN procedures
Sexual history
Social History

Family history
Description: a history of disease in first- and second-degree blood-relatives that reaches back at least two generations
Goals
Detecting hereditary patterns of disease
Identifying contagious diseases
Analyzing risks and providing preventive measurements

Key elements [2]
Age and health status of first-degree blood relatives

List of major medical conditions of first-degree blood relatives – Pay extra attention to conditions such as coronary artery disease, cancer, epilepsy, Alzheimer disease, diabetes mellitus, kidney diseases, asthma, allergic disorders, anemia, contagious diseases (e.g., TB), and mental illnesses.
Age of onset
Progression

Genetic defects (e.g., cystic fibrosis, beta thalassemia, hemophilia, Huntington disease, glycogen storage diseases)
If the patient has a family history of disease, a family tree should be drafted to clarify genetic inheritance.

Living status of first-degree blood relatives
If deceased, note age at death and cause of death
If alive but ill, mention their diseases and prognosis
If alive and in good health, note “alive and well (A&W)”

Social history

Description: a part of a medical history that addresses social aspects (e.g., occupation, socioeconomic status, drug use) of the patient's life that might be pertinent to the current medical condition

Goals
Getting to know a new patient as a person
Acquiring enough information to support accurate decision-making and choosing an appropriate treatment option
Promoting healthy behaviors and lifestyle

Key elements
Personal data (e.g., place of birth, history of childhood and adolescence, level of education, and marital status)
Occupation and current job - Work is a major stress factor for many patients. Moreover, various occupations are associated with health hazards (e.g., exposure to heavy metals or carcinogenic materials).
Socioeconomic status and living situation
Safety and health counseling on lifestyle hazards
Social support – Does the patient live alone or do they have the support of children or a spouse/partner?
Diet
Exercise and sports
Sleep
Stressors
Interests and hobbies including recent travel and recreational activities

Sexual history
Current/past contraception methods (if any)
Current/past sexual partners: male, female, or both
History of postcoital vaginal bleeding
History of sexual dysfunction (e.g., dyspareunia)
History of sexually transmitted diseases
Safer sex practices
History of sexual abuse

Drug and alcohol use
Alcohol
Type of alcohol used (e.g., vodka, beer)
Number of drinks per day/week including binge drinking
Quantify size of glass/bottle per drink
Time/date of last drink
Tobacco use (quantity in pack-years) – Daily consumption in packs multiplied by the number of years smoking. If a patient has smoked 2 packs daily for 2 years, this amounts to 4 pack years)
Recreational drug use
Names of drugs used
Frequency of use
Time/date of last use
IV drug use
Religion and spiritual beliefs

Review of systems (ROS)
Description: a list of questions, arranged by organ systems, to help establish the causes of signs and symptoms
Goals
Systematic approach to establish the correlation of symptoms to organ systems
Identifying potential or underlying concerns that the patient did not report while taking an HPI or PMH
Establishing positive and negative organ-specific findings

Types of Systematic Reviews
Comprehensive: covers all organ systems; usually done during an initial general health maintenance visit when the patient has no specific complaints.
Focused: covers only the specific organ systems most likely to be connected to the presenting complaint

You do not have to ask every question; tailor the questionnaire to the patient and their presenting complaints (e.g., sexual history may not be relevant if the reason for the visit is an ankle fracture follow-up). Use your best judgment about what to ask and what to leave out, keeping in mind you generally have no more than 10–15 minutes per interview.

Review of Systems

Constitutional symptoms

- General state of health including energy, strength, exercise tolerance?
- Fever or chills? Fever is defined as an elevation of normal body temperature, which can vary based on a number of factors (e.g., the time of day, geographical location, degree of exertion). In general, fever is defined as a temperature > 38°C (100.4°F). Fever is a nonspecific symptom that may be caused by infectious and noninfectious conditions, including malignancies, systemic rheumatic diseases, and drug reactions. History and physical examination alone are often sufficient to diagnose uncomplicated infectious causes of fever (e.g., URI, gastroenteritis). Laboratory tests and imaging should be guided by the pretest probability of the differential diagnoses. Antipyretics and tepid sponging may be used to decrease body temperature, but treatment of the underlying cause is the main goal when managing febrile patients
- Differential Diagnoses of Fever By Course

Type of Fever	COURSE	Associated Diseases
Continuous fever– Also known as sustained fever	Temperature permanently over 38°C (100.4°F); daily fluctuations < 1°C (1.8°F)	Viral and bacterial infections (e.g., typhoid fever, lobar pneumonia), Kawasaki disease
Remittent fever	Temperature permanently over 38°C (100.4°F); daily fluctuations ≥ 1°C (1.8°F)	Viral infections, acute bacterial endocarditis

Intermittent fever	High spike and rapid defervescence Often referred to as a hectic or spiking fever	Pyogenic/focal, TB juvenile idiopathic arthritis, infective endocarditis, malaria, leptospira, borrelia, schistosomiasis, lymphoma
Recurrent fever	Relapsing fever Days of fever followed by an afebrile period of several days and then a relapse into additional days of fever, usually after 14–21 days	Tick-borne relapsing fever and louse-borne relapsing fever - Caused by various spirochete species of the Borrelia genus
	Pel-Ebstein fever Fever lasting 1–2 weeks followed by an afebrile period of 1–2 weeks	Hodgkin lymphoma
	Periodical Fever – Fever that recurs over months or years in the absence of associated viral or bacterial infection or malignancy	Periodic fever syndromes (e.g., familial Mediterranean fever, hyper-IgD syndrome)
	Others	Still disease, Crohn disease, Behcet disease, relapsing malaria (tertian malaria, quartan malaria), drug fever, factitious fever
Biphasic Fever	A fever that breaks and returns once more	Dengue fever Two febrile periods separated by an afebrile interval of 1–3 days (saddleback fever)., leptospirosis

Undulant Fever	Temperature rises gradually and falls (like a wave) over days to weeks.	Brucellosis
Postoperative fever	Has a highly variable course and many different causes; discussed in the article on perioperative management	

- Differential Diagnoses By Affected System

SYSTEM	INFECTIOUS CAUSES	NONINFECTIOUS CAUSES
HEENT (HEAD,EYES,EARS,NECK AND THROAT)	Otitis media Otitis externa Mastoiditis Epiglottitis Sinusitis Pharyngitis Laryngitis Abscess (e.g., peritonsillar or retropharyngeal) Ludwig angina	Trauma Malignancy
Pulmonary	URI Bronchitis Pneumonia E.g., bacterial pneumonia, influenza infection, Mycoplasma pneumonia, Legionnaires disease Pulmonary abscess Empyema Pulmonary tuberculosis Q fever Loeffler syndrome Acute schistosomiasis Leptospirosis Middle East respiratory syndrome	Pulmonary embolism Pulmonary infarction Pleuritis Pneumonitis (e.g., chemical pneumonitis) ARDS Diffuse alveolar hemorrhage Lung cancer E-cigarette or vaping-associated lung injury (EVALI)

	Acute histoplasmosis Acute coccidioidomycosis Psittacosis Melioidosis	
Cardiovascular	Infectious endocarditis Marantic endocarditis Pericarditis Myocarditis Aortitis	Acute myocardial infarction Pericarditis Myocarditis Vasculitides Postcardiotomy syndrome syndrome
Abdominal	Peritonitis SBP Acute cholangitis Acute cholecystitis Appendicitis Diverticulitis Hepatitis Pyelonephritis Intra-abdominal abscess Infectious colitis Gastroenteritis	Acute pancreatitis Pancreatic cancer Colon cancer Inflammatory bowel disease Mesenteric carcinomatosis
Urologic/Pelvic	Tubo-ovarian abscess Fournier gangrene Urinary tract infection Pyelonephritis Epididymitis Acute prostatitis STI PID TTP-HUS Retained products of conception	Prostate cancer Cervical cancer Endometrial cancer RCC AIN Vasculitides
Neurologic/psychiatric	Typhus Poliomyelitis Rabies Japanese encephalitis West Nile encephalitis Tick-borne encephalitis Meningococcal	Intracranial hemorrhage Stroke Cavernous sinus thrombosis Hypothalamic dysfunction Anti-NMDA encephalitis

	meningitis Eosinophilic meningitis Trypanosomiasis Angiostrongyliasis Brain abscess	Factitious fever CNS lymphoma NMS
Skin and soft tissue/bone/lymphatic	Erysipelas Cellulitis Abscess Necrotizing fasciitis Herpes virus infection Lymphangitis Vasculitides Cat scratch fever Scarlet fever Osteomyelitis	Thrombophlebitis Lymphangitis Mycosis fungoides Vasculitides DRESS Sweet syndrome Sarcoma
Rheumatologic	Septic arthritis Septic bursitis Lyme disease Chikungunya fever Dengue fever Zika virus Parvovirus Ross River virus Rubella Mycobacterial infection	Rheumatoid arthritis Juvenile idiopathic arthritis SLE Gout Pseudogout Reactive arthritis Traumatic arthritis
Hematologic	HIV infection CMV infection Mononucleosis Malaria	Leukemia Lymphoma Multiple myeloma Myelodysplastic syndromes Thrombosis Autoimmune hemolytic anemia Transfusion reaction
Endocrine	Subacute thyroiditis Thyroid storm	Thyroid storm Acute adrenal insufficiency

DIFFERENTIAL DIAGNOSES BY ASSOCIATED FINDINGS

Associated Finding	Differential Diagnoses
Jaundice	Acute viral hepatitis Hepatitis A, hepatitis B, hepatitis C, hepatitis E Yellow fever Malaria Leptospirosis Acute cholangitis Pyogenic abscess
Bradycardia	Typhoid fever Brucellosis Leptospirosis Lyme disease Viral myocarditis Endocarditis Malaria Babesiosis Ehrlichiosis Anaplasmosis Q fever Drug fever Factitious fever
Rash	▪ Bacterial infection Meningococcemia Leptospirosis Lymphangitis Cellulitis Erysipelas Typhoid fever Rocky Mountain spotted fever Acute rheumatic fever Infectious endocarditis Toxic shock syndrome ▪ Viral infection Measles Rubella Mononucleosis Enteroviral encephalitis Dengue fever Chikungunya fever Zika fever Acute HIV infection

	HSV infection Shingles ▪ Noninfectious causes Drug fever SLE Rheumatoid arthritis Sarcoidosis Crohn disease disease
Eosinophilia- increase in the number of Eosinophils in the peripheral circulation	▪ Parasitic infections Strongyloidiasis Schistosomiasis Trichinellosis Drug fever DRESS
Leukopenia	Typhoid fever Typhus Chikungunya infection Zika fever Acute HIV infection Viral hemorrhagic fevers Dengue fever Lassa fever Ebola fever Crimean-Congo hemorrhagic fever Hanta fever Yellow fever
Anemia	Malaria Parvovirus infection Sickle cell disease Anaplasmosis

-
- Night sweats? Night sweats may be considered constitutional in certain individuals (e.g., obese patients). However, the physician should note if the patient's night sweats are newly occurring and strong enough to require changing sheets or pajamas.

- Fatigue
- Changes in weight? Rapid weight gain is often caused by edema and occurs in, e.g, cardiac failure. Rapid (unintentional) weight loss (weight loss > 10% in the last 6 months) may indicate a malignant disease or tuberculosis.
- Changes in appetite?
- Trouble sleeping? Sleep disturbances may be a sign of depression. In suspected cases, the patient should be further questioned on their mental state and potential loss of drive and interest.

EYE

Glasses or contacts?

Change in visual acuity?

Blurry or double vision? - A condition of double vision that can be monocular (due to disorders of the crystalline lens) or binocular (eg due to strabismus)

Pain?

Photophobia? - symptoms of eye pain associated with exposure to bright light. Associated with migraine headaches and meningitis.

Ability to see at night?

Ocular discharge/excessive tearing?

Flashing lights, floaters, or blind spots?

Yellowish discoloration of sclera?

Redness?

Glaucoma?

Cataracts?

Last eye exam?

HEAD AND NECK

Headache? – Headache is a symptom commonly encountered in everyday clinical practice, and, according to the WHO, one of the ten most common causes of functional disability. It may be primary (e.g., tension-type headaches, migraine) or secondary (e.g., following head trauma or infections) in nature. Although most episodes of headache are harmless, potentially life-threatening causes (e.g., subarachnoid hemorrhage, meningitis) should always be considered. Identifying the cause of headaches is often difficult and requires a detailed clinical history as well as a thorough physical examination. Additional diagnostics, e.g., imaging, are only indicated if headaches persist despite treatment or if specific clinical features are present that are signs of an underlying disease

APPROACH TO MANAGEMENT

Check vital signs.
Perform focused history and examination.
If red flags are present:
Obtain brain imaging (either CT or MRI brain with and/or without contrast) based on the red flag symptoms. [1]
Perform further targeted diagnostics (see below).
If no red flags are present and suspicion for life-threatening causes is low:
Perform a detailed history and clinical exam.
Consider whether further diagnostic testing is necessary.
Provide supportive care.
Identify and treat the underlying cause.

Headache is a pain related to irritation and/or inflammation of intracranial or extracranial structures with pain receptors (e.g., meninges, cranial nerves, blood vessels).
Primary headache: a headache that is not caused by another underlying condition [4]
Includes migraine headache, tension headache, trigeminal autonomic cephalalgias (e.g., cluster headache)
Secondary headache: a headache that is caused by another underlying condition (e.g., trauma, space-occupying lesion)

Clinical Features of Headache

1. History of Presenting Complaint of Headache

   Timing
   Duration of a single episode
   Frequency
   Clinical course (e.g., chronic, acute)

   Nature of Headache
   Localization - E.g., unilateral, bilateral, orbital
   Character - E.g., pulsating, stabbing
   Intensity - Rated on a pain scale ranging from 0–10

Radiation of pain
Severity (e.g., impact on patient's life)

Triggers & Exacerbating Factors

- Physical exertion
- Altered sleep wake cycle
- Stress
- Certain types of food or alcohol
- Fluctuations in hormone levels: oral contraceptives, menstruation
- Lying down or standing up — Standing/sitting up makes low intracranial pressure headaches (e.g., following lumbar puncture) worse, while lying down increases headache that is caused by raised intracranial pressure.
- Recent trauma – May indicate intracranial bleeding
- Environmental exposures – E.g., to potential sources of carbon monoxide poisoning

Associated Symptoms

_____ Nausea/vomiting Consider migraine, but also more serious causes of headache (e.g., brain tumor, meningitis, intracranial bleeding).

- Horner syndrome - Consider cluster headache.
- Aura - A group of paroxysmal, reversible, neurological symptoms that typically precede an attack of migraine or seizures vary in magnitude and duration.
- Photopsia, photophobia – Most often related to migraine but can be a sign of meningitis as well
- Neck stiffness
- Neck pain – Acute headache radiating to the neck may suggest carotid or vertebral artery dissection
- Seizures
- Change in vision - Consider migraine and glaucoma, but also more serious causes of headache (e.g., brain tumor)
- Lacrimation, rhinorrhea – May indicate cluster headache
- New skin lesions – May indicate herpetic neuralgia

- Allodynia of the head region — Patients sometimes describe this as a feeling of acid being poured on their scalp. Allodynia may indicate migraine or cluster headache

Maintain a high index of suspicion for secondary headache in patients with a new, sudden-onset severe headache.

Past medical history, social history, and family history

Past medical history (e.g., hypertension, hypothyroidism, seizures, migraine, infections)

Medications (e.g., anticoagulants(Increase the risk of ICH) , analgesics, OCPs)

Allergies

Caffeine intake

Substance use

Alcohol consumption

Smoking

Family history – E.g., familial headache syndromes, malignancies, migraine

TYPES of Primary HEADACHES

Characteristics	TENSION TYPE HEADACHE	MIGRAINE HEADACHE	CLUSTER HEADACHE	MIXED TYPE HEADACHE
Epidemiology	♀ > ♂	♀ > ♂	♂ > ♀ (3:1)	♀ > ♂
Triggers/exacerbating factors	Stress, anxiety, depression Lack of sleep, fatigue Poor posture	Stress Fluctuation in hormone levels: oral contraceptives, menstruation Certain types of food (e.g.,	Alcohol	Stress Lack of sleep, fatigue Poor posture Fluctuation in hormone levels: oral contraceptives,

		those containing tyramines or nitrates such as processed meat, chocolate, cheese) Exacerbated by exertion		menstruation Certain types of food (e.g., those containing tyramines or nitrates such as processed meat, chocolate, cheese) Exacerbated by exertion
Attack duration	30 minutes to 7 days	4–72 hours A headache that lasts more than 72 hours is unlikely to be a migraine	15–180 minutes Short, recurring attacks	Hours to days
Frequency	Occasionally to daily (usually at the end of the day) Episodic or chronic	Occasionally to several times a month Episodic or chronic	1–3 episodes every 24 hours (Attacks can occur up to 8 times per day.) Usually occur in a cyclical pattern (cluster periods) with remissions lasting ≥ 3 months (i.e., episodic CH),	Episodic or chronic

			but may also occur with remissions lasting < 3 months or no remission (i.e., chronic CH)	
	Holocephalic - A descriptor for involvement of the entire head. or bifrontal	60% of cases are unilateral.	Exclusively unilateral Localized to the periorbital and/or temporal region	Holocephalic, bifrontal, or unilateral.
Character	Dull, non pulsating, band-like or vise-like pain Constant	Pulsating, boring/hammering pain	Often burning or piercing pain Attacks develop within minutes Often wakes patients up from sleep	Features of migraine and tension-type headache Either pulsating or non pulsating
Intensity	Mild to moderate	Moderate to severe	Severe, agonizing pain Because of the severity of pain, some patients may develop suicidal ideation (hence the name "suicidal h	Mild to severe
Additional	Either	Nausea,	Ipsilateral	Nausea,

symptoms	photophobia or phonophobia (but not both) The presence of both phonophobia and photophobia suggest migraine rather than tension-type headache. No nausea, vomiting, or aura Tightness in the posterior neck muscles Pericranial tenderness	vomiting Hyperacusis Photophobia Phonophobia Preceding aura Prodrome (e.g., excessive yawning, difficulty writing or reading, sudden hunger or lack of appetite, mood changes)	autonomic symptoms: conjunctival injection and/or lacrimation, rhinorrhea, and nasal congestion Partial Horner syndrome: ptosis and miosis, but no anhidrosis	vomiting Hyperacusis Photophobia Phonophobia Tightness in the posterior neck muscles Pericranial tenderness

SECONDARY HEADACHES

Diagnosis	**Clinical Features**	**Diagnostic Findings**
Meningitis	Classic triad: fever, headache, and neck stiffness (nuchal rigidity) Meningism (e.g., photophobia) Dull, diffuse (holocephalic) headache that worsens over hours/days Altered mental status Nausea, vomiting Seizures	↑ WBC, ↑ procalcitonin (if bacterial) CSF analysis Bacterial: WBC ≥ 1000 cells/μL (predominantly neutrophils), elevated protein, low glucose, positive gram stain Viral: WBC 10-500 cells/μL (predominantly lymphocytes), normal-elevated protein, normal glucose

Intracerebral Hemorrhage	Acute, severe, nonspecific headache Focal neurological signs and symptoms Nausea and vomiting Confusion and loss of consciousness Seizures	**C**T head without contrast: hyperdense lesion with hypodense perifocal edema
Subarachnoid Hemorrhage	Acute onset of a thunderclap headache Focal neurological deficits Meningism Impaired consciousness, rapidly worsening neurological status Seizures	CT head without contrast: blood in subarachnoid space (hyperdense) Lumbar puncture : ↑ RBC count
Subdural Hematoma	Diffuse headache that is worst on the side of the hematoma Impaired consciousness and confusion Focal neurological deficits (e.g., hemiparesis , gait, speech, visual impairment, personality changes, dilate**d** pupil , or nonreactive pupil) Signs of increased intracranial pressure Chronic subdural hemorrhage : psychomotor impairment, memory loss	CT head without contrast: crescent-shaped, concave, hyperdense hemorrhage that crosses suture lines but not the midline
Epidural Hematoma	Headache localized to the side of the hematoma Contralateral focal symptoms/hemiplegia Impaired mental status, loss of consciousness, seizures, nausea, and vomiting Nearly half of patients who lose consciousness will have a lucid interval	CT head without contrast: biconvex, hyperdense lesion

	followed by clinical deterioration due to further expansion.	
Cerebral venous sinus thrombosis	Nonspecific headache (acute, subacute, or chronic) Cranial nerve symptoms (e.g., diplopia, tinnitus, unilateral deafness, facial palsy) Cavernous sinus syndrome Focal neurological deficits Seizures Impairment in consciousness and awareness Signs of increased intracranial pressure (e.g., nausea, vomiting) Risk factors: pregnancy, prothrombotic states, vasculitis, smoking, use of oral contraceptives	Labs: ↑ WBC , ↑ D-dimer Fundoscopy: papilledema MRI/MRV or CT/CTV: direct or indirect signs of thrombus Cerebral venography: filling defect [25
Giant cell arteritis	Unilateral headache over the temporal/occipital area Prominent, tender temporal artery Jaw claudication, scalp tenderness Constitutional symptoms: fever, malaise, fatigue If temporal arteritis is associated with polymyalgia rheumatica: shoulder/pelvic pain, depression, tiredness, fever, weight loss Partial or complete vision loss (unilateral or bilateral),	Anemia, ↑ ESR ≥ 40–50 mm/hour , ↑ CRP, ↑ IL–6 Temporal artery biopsy (gold standard): segmental vasculitis with predominant mononuclear cells or granulomatous inflammation MRI with contrast: enhancement of the temporal artery

	amaurosis , diplopia	
Hypertensive crises	Diffuse (sometimes bifrontal), pulsating headache that is exacerbated by physical activity Hypertension > 180/120 mm Hg Signs **of** end-organ damage (e.g., chest pain, dyspnea, oliguria, altered mental status**)**	Clinical diagnosis: elevated BP with or without signs of end-organ damage Labs: anemia, ↑ creatinine, ↑ BNP, proteinuria, hematuria ECG: left ventricular hypertrophy, signs of cardiac ischemia (e.g., ST depressions or elevations) Chest x-ray: cardiomegaly, pulmonary edema
Ischemic Stroke	Tension-type headache Focal neurological deficits Altered mental status	• CT head without contrast: hyperdense occluded vessels, hypodense parenchyma, effacement of the sulci and loss of corticomedullary differentiation • CTA head and neck: vessel occlusion DW-MRI: T1 hypointense signal, T2 hyperintense signal in the area of the infarction
Intracranial space-occupying lesions (e.g., brain tumors)	• A dull headache that is usually bifrontal and worsens over weeks/months • Signs of increased intracranial pressure	T1-weighted MRI brain with gadolinium: hypo-, hyper-, or isointense mass lesion with peritumoral edema CT brain with IV contrast: mass lesion, commonly

	(e.g., papilledema) • Focal neurological deficits, altered mental status, seizures, nausea and vomiting	with contrast enhancement
Concussion (e.g., mild traumatic brain injury)	Headache of variable intensity Confusion Retrograde amnesia and/or anterograde amnesia Nausea, vomiting, dizziness Ageusia , anosmia, tinnitus, photophobia, blurring of vision Loss of consciousness (rare) History of trauma	**Clinical diagnosis** CT head without contrast: usually normal
Acute angle-closure glaucoma	Sudden onset of unilateral, severe ocular pain or headache Impaired, blurry vision with halos around lights Palpation of the eye: hard Fixed mid-dilated pupil Conjunctival hyperemia, hazy cornea Nausea, vomiting	Increased IOP (> 21 mm Hg) Gonioscopy: visualization of angle closure Slit-lamp examination: shallow anterior chamber Visual field losses
Trigeminal Neuralgia	Paroxysmal (seconds to 2 minutes) and stabbing pain Unilateral facial pain, strictly localized to the distribution of the branches of the trigeminal nerve Frequency and intensity of episodes usually increase	Clinical diagnosis MRI brain: vascular compression of the trigeminal root

	over time Tender trigger points Triggered by chewing, talking, cold, and touching specific areas of the face No neurological deficits	
Medication overuse headache	Headache with variable characteristics History of analgesic overuse Autonomic symptoms (e.g., nausea) Cognitive or behavioral symptoms (e.g., comorbid depression)	**Clinical diagnosis**

Neck stiffness?

Neck pain or tenderness?

Neck lumps?

Head injury?

CARDIOVASCULAR

Chest pain or tightness (on exertion or at rest)?

CHEST PAIN – Non Traumatic chest pain is one of the most common reasons that patients visit the emergency department; it is also frequently encountered in both the inpatient and outpatient settings. The differential diagnosis is broad and includes cardiac (e.g., acute coronary syndrome, pericarditis), gastrointestinal (e.g., gastritis, peptic ulcer disease), pulmonary (e.g., pulmonary embolism, tension pneumothorax), musculoskeletal (e.g., costochondritis, rib contusion), and psychiatric (e.g., generalized anxiety disorder, panic disorder) etiologies. Patients with red flag features suggestive of life-threatening causes (e.g., acute coronary syndrome, pulmonary embolism) and those who are hemodynamically unstable require immediate assessment. Once life-threatening causes have been ruled out (either by patient history, examination, or

rapid diagnostics), a more thorough history and examination should be performed to narrow the differential diagnosis and guide further diagnostic workup and therapy.

CARDIOVASCULAR CAUSES OF CHEST PAIN

Causes	Characteristic Clinical Features	Diagnostic Findings
STEMI	Heavy, dull, pressure/squeezing sensation Substernal pain with radiation to left shoulder Nausea, vomiting Diaphoresis, anxiety Dizziness, lightheadedness, syncope Pain may improve with nitroglycerin.	Labs: ↑ Troponin ECG: ST-segment elevation/depression, T-wave inversions, Q waves TTE: hypokinesis, regional wall motion abnormalities
NSTEMI/UA	Heavy, dull, pressure/squeezing sensation Substernal pain with radiation to left shoulder Nausea, vomiting Diaphoresis, anxiety Dizziness, lightheadedness, syncope Pain may improve with nitroglycerin.	Labs: Increased or normal troponin ECG: nonspecific changes, including T-wave inversions, ST-depressions TTE: Regional wall motion abnormalities may be present.
Aortic dissection	Sudden onset of severe, sharp tearing chest or abdominal pain that radiates to the back Hypertension or hypotension Asymmetrical blood pressure, pulse deficit New diastolic murmur Symptoms of myocardial ischemia Syncope, neurological symptoms	Labs: Elevated D-dimer ECG: nonspecific ST-segment changes CXR: widening of the aorta CTA chest, abdomen, and pelvis: intimal flap with false lumen TEE: proximal aortic dissection, tamponade, aortic regurgitation
Cardiac tamponade	Tachypnea, dyspnea Tachycardia Pulsus paradoxus	ECG: low voltage, electrical alternans CXR: enlarged cardiac

	Cardiogenic shock Beck triad: hypotension, JVD, muffled heart sounds	silhouette TTE: circumferential fluid layer, collapsible chambers , high EF, dilated IVC Inspiration: Both ventricular and atrial septa move sharply to the left. Expiration: Both ventricular and atrial septa move sharply to the right.
Pericarditis	Sharp, pleuritic, retrosternal chest pain Exacerbated by lying down; improved by leaning forward Not relieved with nitrates High-pitched pericardial friction rub	Labs: ↑ ESR, ↑ CRP, leukocytosis, ↑ troponin [13] ECG: diffuse ST-elevations without reciprocal ST-depressions, PR-segment depression, or T-wave inversions CXR: normal TTE: pericardial effusion may be present.
Heart failure exacerbation	Chest pressure Cough, dyspnea Hypoxemia Crackles, JVD, peripheral edema	Clinical diagnosis Labs: ↑ BNP, ↑ troponin , abnormal BMP CXR: diffuse opacities, Kerley B lines TTE: global or focal wall abnormalities, systolic and/or diastolic dysfunction, decreased LVEF
Takotsubo cardiomyopathy	History of a recent stressful event Retrosternal chest pain, dyspnea, heavy, dull, pressure/squeezing sensation Hypotension, cardiogenic shock Most common in older women	Labs: ↑ Troponin, ↑ BNP ECG: ST-elevations, T-wave inversions TTE: decreased LVEF, regional wall motion abnormalities , apical ballooning cMRI: myocardial edema, regional wall motion abnormalities Coronary angiography: no acute coronary stenosis or occlusion
Thoracic aortic aneurysm	Feeling of pressure in the chest	Chest x-ray: abnormal aortic contour, widened

	Thoracic back pain Features of mediastinal compression or obstruction (e.g., difficulty swallowing, hoarseness) If ruptured: severe chest pain, possible loss of consciousness	mediastinum, tracheal deviation CTA chest: dilation of the aorta, possible mural thrombus, dissection, perforation, or rupture

PULMONARY CAUSES OF CHEST PAIN

Causes	**Characteristic Clinical Feature**	**Diagnostic Finding**
Pulmonary embolism	Pleuritic chest pain Acute onset dyspnea, hypoxemia Cough, hemoptysis Unilateral leg swelling or history of DVT Hypotension, shock (if massive PE)	Labs Elevated D-dimer ↑ Troponin, BNP ECG: normal sinus rhythm (most common), sinus tachycardia, signs of right ventricular strain CTA chest (pulmonary embolism protocol): pulmonary artery filling defect V/Q scan: perfusion-ventilation mismatch TTE: right ventricular hypokinesis with normal apical movement Clinical calculators: Wells score PERC rule PESI
Tension pneumothorax	Severe, sharp chest pain Dyspnea, hypoxemia History of trauma Hyperresonance on percussion, decreased breath sounds, tracheal deviation Tachycardia, hypotension	Clinical diagnosis CXR: absent lung markings, tracheal deviation, pneumomediastinum

Pneumonia	Fever, chills Cough, dyspnea Hypoxemia Crackles, egophony	Labs: leukocytosis, ↑ ESR/CRP, ↑ procalcitonin Positive sputum culture CXR: consolidation, pleural effusion CT chest: hyperdense consolidation
Spontaneous pneumothorax	Sudden, sharp unilateral chest pain Acute dyspnea Hypoxemia Hyperresonance on percussion, decreased breath sounds on the affected side Crepitus History of lung disease or trauma	Inspiratory CXR: increased lucency, displaced lung markings, subcutaneous emphysema POCUS: absent lung sliding on eFAST or lung POCUS
Asthma exacerbation	Dyspnea, cough Tachycardia Tachypnea, hypoxemia Diffuse wheezing Decreased or absent breath sounds Increased work of breathing	Peak expiratory flow: decreased from predicted or personal best ABG: ↓ pH, ↑ $PaCO_2$, ↓ PaO_2 (respiratory acidosis)
COPD exacerbation	Dyspnea, cough Purulent sputum Tachypnea, hypoxemia Diffuse wheezing, decreased breath sounds Increased work of breathing Signs of imminent respiratory arrest: confusion, absent breath sounds, bradycardia	ABG: ↓ pH, ↑ $PaCO_2$, ↓ PaO_2 (respiratory acidosis) Labs: ↑ CRP,↑ Procalcitonin (if underlying bacterial infection) CXR: hyperinflated lungs; signs of pneumonia, pneumothorax, and/or pleural effusion may be present
Pleural effusion	Unilateral, pleuritic chest pain Dyspnea Dry, nonproductive cough Dullness to percussion, decreased breath sounds, decreased tactile fremitus Pleural friction rub	CXR: homogeneous opacity with blunting of the costophrenic angle Lung POCUS: hypoechoic space between the parietal and visceral pleura

GASTROINTESTINAL CAUSES OF CHEST PAIN

Causes	Characteristic Clinical Features	Diagnostic Findings
Esophageal perforation	Retrosternal chest pain, neck pain, epigastric pain with radiation to the back Dyspnea, tachypnea, tachycardia Dysphagia Signs of sepsis triad (chest pain, vomiting, subcutaneous emphysema) Mediastinal crepitus History of recent endoscopy or severe emesis (Boerhaave syndrome)	CXR, upright AXR: mediastinal air and/or subdiaphragmatic air, pleural effusion, pneumothorax Lateral neck x-ray: subcutaneous emphysema Contrast esophagography (gold standard): contrast leak [34] CT chest (with oral contrast) : extraluminal air, esophageal thickening
GERD and erosive esophagitis	Postprandial substernal chest pain, pressure, burning, reflux symptoms Aggravated by lying in the supine position and certain foods (e.g., coffee, spices) Epigastric tenderness	Clinical diagnosis Definitive diagnosis requires EGD and/or 24-hour esophageal pH monitoring
Gastritis	Dyspepsia Postprandial fullness Epigastric tenderness	Clinical diagnosis Follow the test-and-treat strategy for Helicobacter pylori in most patients with upper GI symptoms. Consider EGD with biopsies in selected cases (e.g., patients aged > 60 years
Peptic ulcer disease	Epigastric pain Duodenal ulcer: pain relieved with food, weight gain Gastric ulcer: pain exacerbated by food, weight loss Signs of GI bleed History of frequent NSAID use	Labs: ↓ Hb, ↓ Hct, ↓ RBC count, positive FOBT or melena (in patients with a bleeding ulcer) Urea breath test for H. pylori: positive in most cases of PUD EGD: mucosal erosions and/or ulcers

Acute pancreatitis	Severe epigastric pain that radiates to the back Nausea, vomiting Epigastric tenderness, guarding, rigidity Upper abdominal pain Hypoactive bowel sounds History of gallstones or alcohol use	Labs: ↑ Lipase, ↑ amylase Abdominal ultrasound: pancreatic edema, peripancreatic fluid, gallstones Abdominal CT with IV contrast : pancreatic edema, peripancreatic fat stranding, gallstones
Esophageal hypermotility disorders	Episodic retrosternal chest pain Intermittent dysphagia, globus sensation Reflux symptoms Symptoms aggravated by stress and/or hot and cold food and drink	Upper GI endoscopy: typically normal Barium swallow: normal or corkscrew esophagus appearance Esophageal manometry: premature and/or hypertensive esophageal contractions
Mallory-Weiss syndrome	Epigastric pain that radiates to the back Repeated episodes of severe vomiting Hematemesis Melena, dizziness, syncope	CBC: anemia EGD: longitudinal mucosal tears, typically at the gastroesophageal junction

Other causes

Costochondritis [51]

- **Definition**: an inflammation of rib cage cartilage (esp. of the costochondral and costosternal junction)
- **Etiology**: often occurs as a result of excessive exercise or minor chest wall trauma
- **Clinical features**
    - Sharp, **well-localized pain** that is reproducible on palpation of costal cartilage

- History of recent exercise/exertion/chest wall trauma

Musculoskeletal
Costochondritis
Chest trauma
Chest wall pain
Rib fracture
Rib contusion
Osteoarthritis of the sternoclavicular or manubriosternal joint
Osteoarthritis of the shoulder joints
Slipping rib syndrome
Tietze syndrome
Overuse myalgia
Thoracic outlet syndrome

Renal
Renal infarct
Renal capsular hematoma

Dermatological
Herpes zoster
Postherpetic neuralgia

Hematologic/Oncologic
Acute pain crisis
Acute chest syndrome
Malignancy
Malignant pleural effusion
Splenic infarct

Rheumatologic
Rheumatoid arthritis
SLE
Fibromyalgia
Psychiatric
Functional chest pain
Generalized anxiety disorder
Panic disorder, panic attack
Major depressive disorder
Somatic symptom disorder
Substance use disorders (e.g., cocaine, methamphetamines, alcohol)
Illness anxiety disorder

Palpitations (on exertion or at rest)? (awareness of heartbeats): can they tap out the rhythm?

Dyspnea (shortness of breath on exertion or at rest)? quantify exercise tolerance and how it has
changed, eg stairs climbed, or distance walked, before onset of breathlessness

Peripheral edema (leg or ankle swelling)?

Paroxysmal nocturnal dyspnea (sudden awakening from sleep with shortness of breath)?
Orthopnoea, ie breathlessness on lying flat
(a symptom of left ventricular failure): quantify in terms of number of pillows the
the patient must sleep on to prevent dyspnoea.

Orthopnea (shortness of breath when lying down)?

Syncope (dizziness, fainting spells)?

Cyanosis?

Respiratory

Cough (dry or wet, productive)? – Duration? Character (eg barking/hollow/dry)? Nocturnal
(≈asthma, ask about other atopic symptoms, ie eczema,
hay fever)?
Exacerbating factors? Sputum (color? How
much?)
Any blood/haemoptysis? – Always think about TB (recent foreign travel?) and malignancy (weight loss?).
Mixed with sputum? (Blood not
mixed with sputum suggests pulmonary embolism, trauma, or bleeding into a lung cavity.
Melaena? (Occurs if
enough coughed-up blood is swallowed.)

Sputum color, amount, and occurrence (e.g., green/yellow, bloody, particularly after waking up)?

Asthma or wheezing?

Dyspnea (shortness of breath)? – Duration? Steps climbed/distance walked before onset?
NYHA classification ?
Diurnal variation (≈asthma)?
Ask specifically about circumstances in which dyspnoea occurs (eg occupational allergen exposure)

Painful breathing?

Hoarseness?

Past Medical history Ask about: pneumonia/bronchitis; TB; atopy1 (asthma/eczema/hay fever); previous CXR abnormalities; lung surgery; myopathy; neurological disorders. Connective tissue disorders, e.g. rheumatoid, SLE.

Drug history
Respiratory drugs (eg steroids, bronchodilators)? Any other drugs, esp - with respiratory SE (e.g. ACE inhibitors, cytotoxics, -blockers, amiodarone)?

Family history
Atopy?1
Emphysema? TB?

Social history
Quantify smoking in 'pack-years' (20 cigarettes/day for 1 year = 1 pack-year). Occupational exposure (farming, mining, asbestos) has possible compensatory implications. Pets at home (e.g. birds)? Recent travel/TB contacts?

Gastrointestinal

Dysphagia (swallowing difficulties)? Level? Onset? Intermittent? Progressive? Painful swallow (odynophagia)?

Nausea or vomiting? – Timing? Relation to meals? Amount?
Content (liquid, solid, bile, blood)?
History is vital. Associated symptoms and past medical history often indicate cause. Examine for dehydration, distension, tenderness, abdominal mass, succussion splash in children (pyloric stenosis), or tinkling bowel sounds (intestinal obstruction)

Hematemesis (bloody vomiting)? – Frequency? Fresh (bright red)/

dark/'coffee grounds'? Consider neoplasia (weight loss, dysphagia, pain, melaena?), NSAIDS/warfarin? Surgery?
Smoking?

Change in appetite?

Abdominal pain? constant or colicky, sharp or dull; site; radiation; duration; onset; severity; relationship to eating and bowel action; alleviating or exacerbating, or associated features)

Varies depending on the underlying cause. Examples: irritation of the mucosa (acute gastritis), smooth muscle spasm (acute enterocolitis), capsular stretching (liver congestion in CCF), peritoneal inflammation (acute appendicitis) and direct splanchnic nerve stimulation (retro peritoneal extension of tumor). The character (constant or colicky, sharp or dull), duration, and frequency depend on the mechanism of production. The location and distribution of referred pain depend on the anatomical site. Time of occurrence and aggravating or relieving factors such as meals, defecation, and sleep also have special significance related to the underlying disease process. The site of the pain may provide a clue:
• Epigastric Pancreatitis, gastritis/duodenitis, peptic ulcer, gallbladder disease, aortic aneurysm.
• Left upper quadrant Peptic ulcer, gastric or colonic (splenic flexure) cancer, splenic rupture, subphrenic or perinephric abscess, renal (colic, pyelonephritis).
• Right upper quadrant Cholecystitis, biliary colic, hepatitis, peptic ulcer, colonic cancer (hepatic flexure), renal (colic, pyelonephritis), subphrenic/perinephric abscess.
• Loin (lateral ⅓ of back between thorax and pelvis—merges with the fl ank, p567) Renal colic, pyelonephritis, renal tumor, perinephric abscess, pain referred from vertebral column. Causes of flank pain are similar (see index for fuller list).
• Left iliac fossa Diverticulitis, volvulus, colon cancer, pelvic abscess, inflammatory bowel disease, hip pathology, renal colic, urinary tract infection (UTI),
cancer in undescended testis; zoster—wait for the rash! (p458). Gynae: Torsion of ovarian cyst, salpingitis, ectopic pregnancy.
• Right iliac fossa pain All causes of left iliac fossa pain plus appendicitis and Crohn's ileitis, but usually excluding diverticulitis.
• Pelvic Urological: UTI, retention, stones. Gynae: Menstruation, pregnancy, endometriosis (OHCS p288), salpingitis, endometritis (OHCS p274), ovarian cyst torsion.
• Generalized Gastroenteritis, irritable bowel syndrome, peritonitis, constipation.
• Central Mesenteric ischaemia, abdominal aneurysm, pancreatitis.

Remember referred pain: Myocardial infarct epigastrium; pleural pathology

Abdominal distention/bloating?

Early satiety?

Jaundice (yellow eyes or skin)? – Pruritus? Dark urine? Pale stools?

Rectal pain?

Changes in bowel movement

Diarrhea?

Constipation?

Stools
color, consistency, blood, mucus
• Nausea/vomiting
• difficulty flushing

Change in stool appearance
Clay-colored stools?
Acholic stools (pale/white)?
Tar-colored (black) stools?
Bloody stools?

Past history
Peptic ulcer disease, carcinoma, jaundice, hepatitis, blood transfusions, tattoos, previous operations, last menstrual period (LMP), dietary changes.

Drug history
Especially steroids, NSAIDS, antibiotics.

Family history
Irritable bowel syndrome (IBS), inflammatory bowel disease (IBD), peptic ulcer disease, polyps, cancer, jaundice.

Social history
Smoking, alcohol, recreational drug use, overseas travel, tropical illnesses, contact with jaundiced persons, occupational exposures, high-risk sexual behavior

Genitourinary
• Incontinence (stress or urge, p650).
• Dysuria (painful micturition).
• Urinary abnormalities: color? Haematuria (streaks or pink urine?) Frothy?
• Nocturia (needing to micturate at night).

• Frequency (frequent micturition) or polyuria (the frequent passing of large volumes of urine).
• Hesitancy (difficulty starting micturition).
• Terminal dribbling.
• Vaginal discharge .
• Menses: frequency, regularity, heavy or light, duration, painful? First day of last menstrual period (LMP). Number of pregnancies and births. Menarche. Menopause. Any chance of pregnancy now?

Detecting outflow obstruction
(eg prostatic hyperplasia; stricture;
stone). Ask about LUTS (lower urinary tract symptoms)
• On trying to pass water, is there delay before you start? (Hesitancy)
• Does the flow stop and start? Do you go on dribbling when you think you've stopped? (Terminal dribbling)
• Is your stream getting weaker? (Poor stream)
• Is your stream painful and slow/'drop-by-drop'? (Strangury, eg from bladder stone)
• Do you feel the bladder is not empty after passing water?
i
• Do you ever pass water when you do not want to? (Incontinence)
• On feeling an urge to pass water, do you have to go at once? (Urgency)
• Do you urinate often at night? (Nocturia)

During the day? (Frequency)

How often?

Past history
Renal colic, urinary tract infection, diabetes, BP, gout, analgesic use, previous operations.

Drug history
Anticholinergics.

Family history
Prostate carcinoma? Renal disease?

Social history
Smoking, sexual history

<u>Musculoskeletal symptoms</u>
• Pain, stiffness, swelling of joints.

• Diurnal variation in symptoms (ie worse mornings).
• Functional deficit.
• Signs of systemic disease: rashes, mouth ulcers, nasal stuffiness, malaise and constitutional symptoms.

Thyroid symptoms

• Hyperthyroidism: Prefers cold weather, bad tempered, sweaty, diarrhea, oligomenorrhea, weight (though often appetite), tremor, palpitations, visual problems.

• Hypothyroidism: Depressed, slow, tired, thin hair, croaky voice, heavy periods, constipation, dry skin, prefers warm weather.

Neurological symptoms

• Special senses: Sight, hearing, smell, and taste.
• Seizures, faints, 'funny turns'.
• Headache.
• 'Pins and needles' (paresthesia) or numbness.
• Limb weakness ("Are your arms and legs weaker than normal?"), poor balance.
• Speech problems
• Sphincter disturbance.
• Higher mental function and psychiatric symptoms. The important thing is to assess function: what the patient can and cannot do at home, work, etc.

Neurological History - This should be taken from the patient and if possible from a close friend or
relative as well for corroboration/discrepancies. The patient's memory, perception, or speech may be affected by the disorder, making the history difficult to obtain. Note the progression of the symptoms and signs: gradual deterioration (eg tumor) vs intermittent exacerbations (eg multiple sclerosis) vs rapid onset (eg stroke). Ask about age, occupation and ethnic origin. Right- or left-hand dominant?
about age, occupation and ethnic origin. Right- or left-hand dominant?

Presenting symptoms

• Headache: Different to usual headaches? Acute/chronic? Speed of onset? Single/recurrent? Unilateral/bilateral? Associated symptoms (eg aura with migraine,? Any meningism?
Worse on waking (ICP)?
Decreased conscious level?
Take a 'worst-ever' headache very seriously.

• Muscle weakness: Speed of onset? Muscle groups affected? Sensory loss? Any sphincter disturbance? Loss of balance? Associated spinal/root pain?

• Visual disturbance: eg blurring, double vision (diplopia), photophobia,

visual loss. Speed of onset? Any preceding symptoms? Pain in the eye?

• Change in other senses: Hearing, smell, taste? Abnormalities are not always due to neurological disease, consider ENT disease.
• Dizziness: Illusion of surroundings moving (vertigo)? Hearing loss/tinnitus? Any loss of consciousness? Positional?

• Speech disturbance: Difficulty in expression, articulation, or comprehension (can be difficult to determine)? Sudden onset or gradual?

• Dysphagia: Solids and/or liquids? Intermittent or constant? Difficulty in coordination? Painful (odynophagia)?

• Fits/faints/'funny turns'/involuntary movements: (p472) Frequency? Duration? Mode of onset? Preceding aura? Loss of consciousness? Tongue biting? Incontinence? Any residual weakness/confusion? Family history?

• Abnormal sensations: eg numbness, 'pins & needles' (paresthesia), pain, odd sensations. Distribution? Speed of onset? Associated weakness?

• Tremor: Rapid or slow? Present at rest? Worse on deliberate movement? Taking -agonists? Any thyroid problems? Any family history? Fasciculations?

Cognitive state If there is any doubt about the patient's cognition, an objective measure is a cognitive test—guessing has been shown to be inaccurate!
The following 10 questions comprise the Abbreviated Mental Test Score (AMTS), a commonly used screening questionnaire for cognitive impairment:

1 Tell patient an address to recall at the end (eg 42 West Street)
2 Age
3 Time (to nearest hour)
4 What year is it?
5 Recognize 2 people (eg doctor & nurse)
6 Date of birth
7 Dates of Sierra Leonean Independence
8 Name of current President of Sierra Leone
9 Where are you now? (Which hospital?)
10 Count backwards from 20 to 1

A score of ≤6 suggests poor cognition, acute (delirium), or chronic (dementia). AMTS correlates well with
the more detailed Mini-Mental State
Examination (MMSE™), though recent
copyright means that its use has become more restricted.

NB: deaf, dysphasic, depressed, and uncooperative patients, as well as those who do not understand English, will also get low
scores

History-taking may seem deceptively easy, as if the patient knew the hard facts and the only problem was extracting them; but what a patient says is a mixture of hearsay (“She said I looked very pale”), innuendo (“You know, doctor, down below”), legend (“I suppose I bit my tongue; it was a real fight, you know”), exaggeration (“I didn’t sleep a wink”), and improbabilities (“The Pope put a transmitter in my brain”). The great skill (and pleasure) in taking