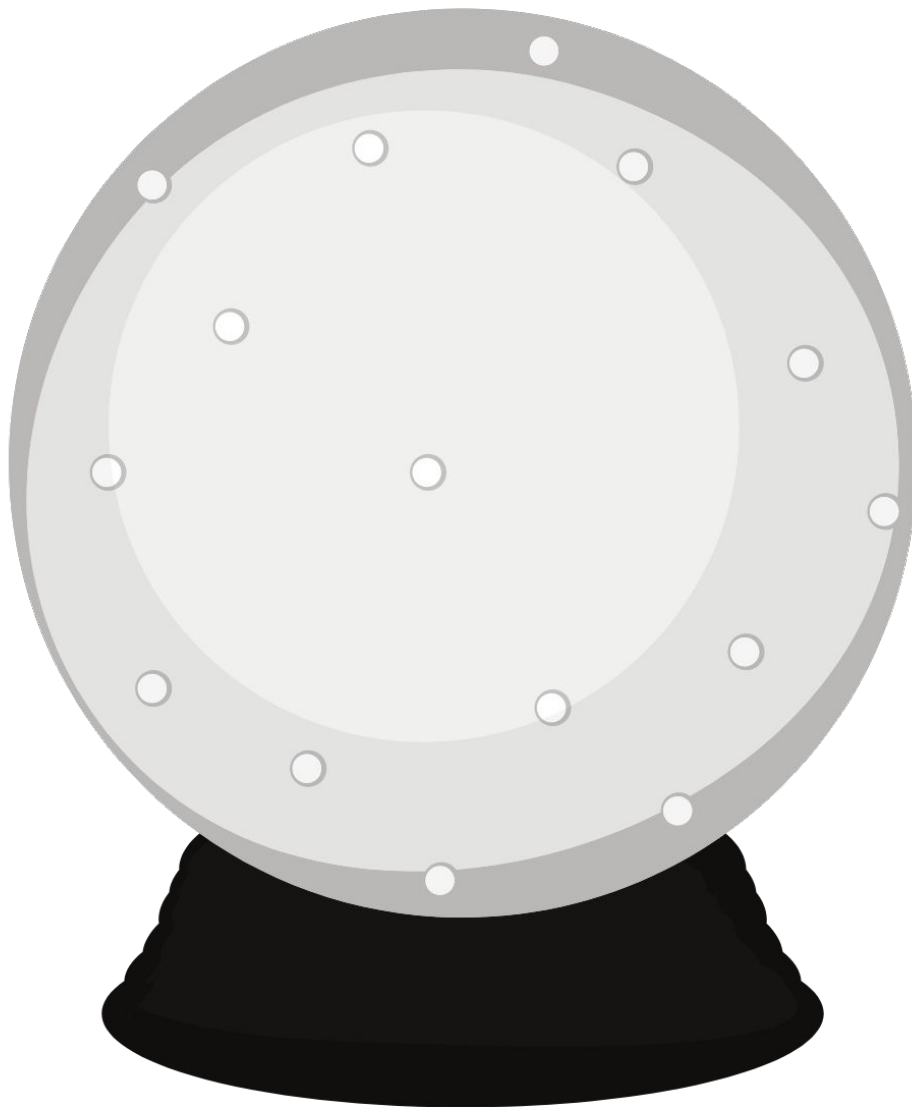


PLABABLE

GEMS 

VERSION 2.5

CRYSTAL CLEAR



Addressing the questions that you have asked
in a concise and clear manner

Paediatric Abdomen

The mother of a 6 month old boy brings him in for the swelling pictured below. What is the SINGLE most appropriate management?



- A. Elective herniotomy in 6 weeks
- B. Urgent herniotomy within 2 weeks
- C. Abdominal ultrasound
- D. No intervention required
- E. Apply silver nitrate

Answer is D. Most umbilical hernias close before a child's first birthday. Some take longer, but surgery is not usually recommended until 3-4 years of age.

Hallucinations

A 72 year old man with shuffling gait presents to the GP complaining that for the past month he has been seeing people walking in and out of his walls. He knows that this is impossible but is still concerned. He has no auditory hallucinations. His eye examination done one month ago was normal. What is the SINGLE most appropriate next investigation?

- A. Serum sodium
- B. Repeat eye examination
- C. CT of the head
- D. MRI of the head
- E. Nerve conduction tests

Answer is D. The combination of shuffling gait and visual hallucinations suggests Lewy Body Dementia.

Giant Cell Arteritis

A 56 year old woman complains of right-sided jaw pain. She reports that the pain is worse whenever she eats or combs her hair. You take initial blood samples and refer to secondary care. What is the SINGLE most appropriate management?

- A. Obtain a temporal artery biopsy
- B. Prescribe amitriptyline
- C. Prescribe carbamazepine
- D. Prescribe prednisolone
- E. Prescribe aspirin

Answer is D. Though all options have a role in managing GCA, prednisolone is the mainstay of treatment and should be started immediately.

Post-Operative Complication

You are called to assess a postoperative patient who is now having trouble opening her right eye. She underwent shoulder arthroplasty a few hours ago under interscalene nerve block. On examination, you notice she has ptosis and miosis. What is the most likely cause of this person's complication?

- A. Incomplete reversal of anaesthetic agent
- B. Left-sided stroke
- C. Traumatic injury during anaesthesia
- D. Parasympathetic blockade
- E. Myasthenia Gravis

Answer is A. Anaesthetic solution may cause a temporary block in the sympathetic nerves which leads to Horner syndrome. It resolves within hours.

Acute Asthma

A 17 year old asthmatic presents to the Accident and Emergency with difficulty breathing. Only quiet breath sounds are heard on auscultation. An ABG was done which shows respiratory acidosis with a pH of 7.1. Nebulized salbutamol and IV hydrocortisone were administered however the patient remains in distress. What is the SINGLE most appropriate management?

- A. Immediate intubation and ventilation
- B. Give 24% oxygen via venturi mask
- C. Give an additional dose of hydrocortisone
- D. Administer intravenous aminophylline
- E. Administer intravenous magnesium sulphate

Answer is A. High pCO₂ seen in respiratory acidosis + quiet breath sounds → Signs of poor ventilation and impending respiratory failure. Intubate!

Hyperkalemia

You are reviewing the blood results for a patient who had a renal transplant a few hours ago. His blood results reveal elevated potassium, creatinine and urea. In the nurses' notes, his urine output is charted at 15 ml/hour. What is the SINGLE most appropriate management?

- A. Intravenous furosemide
- B. Intravenous fluid challenge
- C. Insulin and 50% dextrose infusion
- D. Haemofiltration
- E. Calcium resonium

Answer is D. It may take several days before newly transplanted kidneys begin to function properly. Such cases may require temporary dialysis.

Eye Discharge

A 3 week old child is brought to the GP by his mother. She says that for the past 2 days she has noticed that his eyes are red and have a sticky discharge coming them. She reports that the child is feeding well and has normal activity levels. What is the SINGLE most appropriate management?

- A. Clean using cotton wool soaked in water
- B. Topical antibiotics
- C. Topical steroids
- D. Topical antifungal
- E. Refer to an ophthalmologist

Answer is E. Ophthalmia neonatorum must be considered for red eyes + eye discharge up to day 28 of life. It should be dealt with in secondary care.

Eczema

A mother brings her 4 year old son to you for an acute flare of his eczema. The child has previously been assessed as having moderately severe eczema. She asks which treatment modality has the best efficacy in managing eczema. Which of the following would you suggest to her?

- A. Topical antihistamine
- B. Topical emulsifying ointments
- C. Topical hydrocortisone
- D. Topical fusidic acid
- E. Topical clobetasone

Answer is E. Emollients are used in all stages of eczema. Given the choice, pick a moderate potency steroid over emollients as it has a better efficacy.

Tongue Rash

A child known to have eczema presents with multiple red patches on the tongue. She is otherwise well. What is the SINGLE most appropriate management?



- A. Oral nystatin
- B. Oral miconazole
- C. Prednisolone
- D. Amoxicillin
- E. No treatment required

Answer is E. Benign migratory glossitis (geographic tongue) is associated with atopy and psoriasis and can occur at any age. No treatment is required.

Sickle Cell Disease

A 23 year old lady with a past medical history of sickle cell anaemia attends her General Practice regarding restarting a medication she had stopped taking. She has managed her sickle cell well and has not had any sickle cell crisis in over two years. As a patient with sickle cell disease, which life long medication is recommended for her to be taking?

- A. Penicillin 500 mg OD
- B. Codeine 20 mg OD
- C. Doxycycline 500 mg OD
- D. Methotrexate 2.5 mg OD
- E. Antibiotics are not recommended

Answer is A. Patients with sickle cell anaemia are recommended to take lifelong antibiotic prophylaxis due to their increased susceptibility to infection.

Needle Stick Injury

While performing phlebotomy, your colleague sustains a needle stick injury. The patient is a known heroin user. After washing the wound, what is the next best step in management?

- A. Advise colleague to inform consultant
- B. Arrange for Hepatitis B and HIV tests to be taken in 3 months
- C. Arrange for colleague to commence HIV post-exposure prophylaxis (PEP)
- D. Investigate patient's status using the collected sample
- E. Advise colleague to speak with Occupational Health and Safety Control team tomorrow

Answer is C. The donor is high risk. Post-exposure prophylaxis (PEP) can be started up to 72 hours after exposure but should ideally be started within 24 hours.

UTI In Pregnancy

A 26 year old pregnant woman at 10 weeks gestation presents to you with suprapubic pain, dysuria and increased urinary frequency. A urinalysis was done which was positive for leukocytes and nitrites. A urine culture was then taken. What is the SINGLE most appropriate management?.

- A. Amoxicillin
- B. Trimethoprim
- C. Doxycycline
- D. No treatment required
- E. Await results of urine culture before starting treatment

Answer is A. Trimethoprim is contraindicated in the first trimester. Doxycycline is not to be used in pregnancy.

Infectious Disease

A 21 year old woman presents to you with jaundice. She gives a history of sore throat, fatigue and malaise. On examination, you note cervical lymphadenopathy and an enlarged liver and spleen. A full blood count shows elevated neutrophils and lymphocytes. What is the SINGLE most appropriate diagnostic test?

- A. Antistreptolysin O antibodies (ASO)
- B. Monospot test
- C. HIV serology
- D. Direct Coombs test
- E. Hepatitis A serology

Answer is B. This woman has all the signs and symptoms of infectious mononucleosis. The monospot test is diagnostic for this.

Opioid Dependence

A 28 year old man has been feeling withdrawn and apathetic for the past 6 months. He used cocaine and heroin for the past three years but stopped two weeks ago. He has a medical history of supraventricular tachycardia. What is the SINGLE most appropriate management?

- A. Lorazepam
- B. Sertraline
- C. Methadone
- D. Naltrexone
- E. Amitriptyline

Answer is D. Naltrexone and methadone are both used opioid dependency, however, methadone is used with caution for patients with cardiac disease.

Rectal Bleeding

A 30 year old man presents to you with a history of rectal bleeding. On examination, you notice a mass in the lower right quadrant of his abdomen. What is the SINGLE most appropriate diagnostic test to perform for this patient?

- A. Colonoscopy
- B. Flexible sigmoidoscopy
- C. Faecal occult blood
- D. Faecal calprotectin
- E. Abdominal ultrasound

Answer is A. Top differentials for this case are Crohn's disease and colorectal carcinoma. Both can be diagnosed by biopsy done at time of colonoscopy.

Poor Weight Gain

A 10 month old boy was referred to the outpatient paediatric clinic for failure to thrive. His weight is below average and a full blood count reveals a microcytic anaemia. What is the SINGLE most appropriate test to perform for this patient?

- A. Tissue transglutaminase antibodies
- B. Stool reducing sugars
- C. Stool culture
- D. Anti endomysial antibodies
- E. Thyroid function tests

Answer is A. TTG antibodies are helpful in investigating coeliac disease. Coeliac disease may cause either a macrocytic or a microcytic anaemia.

Anxiety Spectrum Disorder

A 26 year old woman presents to her GP with a history of having to return home to close her locks as she is fearful of burglars. She reports that she has to do this more than 30 times a day and it has been making her late for work. What is her most likely diagnosis?

- A. Generalised anxiety disorder
- B. Panic disorder
- C. Obsessive-compulsive disorder
- D. Mania
- E. Post-traumatic stress disorder

Answer is C. The irresistible need to fulfil a particular action (compulsion) makes obsessive-compulsive disorder the most likely diagnosis.

Anxiety Spectrum Disorder

A 23 year old male presents to his GP because he is afraid of going to the bus stop. A few years ago he was assaulted while waiting for a bus to go home. What is the SINGLE most likely diagnosis?

- A. Agoraphobia
- B. Post-traumatic stress disorder
- C. Adjustment disorder
- D. Anxiety disorder
- E. Generalised anxiety disorder

Answer is B. His avoidance of triggers related to a traumatic event in the past makes PTSD the most likely diagnosis.

Ankle Oedema

A 64 year old man with a BMI of 37 presents to his GP complaining of ankle swelling. His medical history includes renal cell carcinoma and hypertension for which he takes amlodipine. What is the most likely cause of this patient's ankle swelling?

- A. Lymphoedema
- B. Superior vena cava obstruction
- C. Side effect of medication
- D. Heart failure
- E. Morbid obesity

Answer is C. Ankle oedema is a recognized long-term side effect of calcium channel blockers.

Hypertension

A 56 year old man attends your general practice for a medication review. His past medical history includes hypertension which he takes ramipril. He also states that for the past couple of weeks he has experienced a gradual onset of headaches. His BP was 200/120 mmHg. Retinal haemorrhage is seen on fundoscopy. What is the most appropriate next step in management?

- A. Add second antihypertensive agent
- B. Make an urgent referral to the BP clinic
- C. Refer patient to the Acute Medical Unit
- D. Reassure and follow up in 7 days
- E. Double dose of ramipril

Answer is C. This is a hypertensive emergency as he has a BP $\geq 180/120$ mmHg and has retinal haemorrhages.

Stroke Management

A 62 year old woman is brought to the Accident and Emergency Department by her husband for a facial droop six hours after its onset. A CT brain was done which excluded any intracranial bleeding. What is the SINGLE most appropriate initial management for this patient?

- A. Alteplase
- B. Low molecular weight heparin
- C. Warfarin
- D. Aspirin
- E. Clopidogrel

Answer is D. Aspirin 300 mg should be given orally or rectally once a haemorrhagic stroke has been excluded.

Visual Pathway

A 52 year old woman presented to the Accident and Emergency Department because she crashed into a car while reversing. She tells you that she was not able to see the car behind her. On examination, it was discovered that she could not see the left side of her visual field in either eye. This defect includes the macula. Which anatomic structure is most likely affected?

- A. Optic nerve
- B. Optic chiasma
- C. Optic tract
- D. Visual cortex
- E. Retina

Answer is C. The visual defect being described here is homonymous hemianopsia with macula involvement.. This corresponds to the optic tract.

Estimating Blood Loss

A 22 year old man presents to the Accident and Emergency Department after being involved in a road traffic accident. His vitals on presentation are a pulse rate of 105 bpm and a blood pressure of 108/74 mmHg. There is an obvious deformity of his femur. What is the estimated blood loss for this patient?

- A. 300 ml
- B. 500 ml
- C. 1000 ml
- D. 2100 ml
- E. 3500 ml

Answer is C. A PR of 105 corresponds to a 15-30% percentage loss. 1000 ml is equivalent to 20% of 5000 ml (average blood volume for an adult).

Types Of Shock

You are called to the ward to assess a postoperative patient who was noted to be hypotensive. You arrive and take note of his vitals. He has a pulse rate of 107 bpm, blood pressure of 87/64 mmHg, cardiac output of 3 L/min and a pulmonary capillary wedge pressure of 20 mmHg. What is the most likely cause for this presentation?

- A. Neurogenic shock
- B. Hypovolemic shock
- C. Septic shock
- D. Cardiogenic shock
- E. Anaphylactic shock

Answer is D. Cardiogenic shock can easily be differentiated from other types of shock if an elevated PCWP is noted (>18 mmHG).

Hiccups

A 78 year old palliative patient with known metastatic hepatocellular carcinoma develops intractable hiccups. What is the SINGLE best medication to prescribe for this patient?

- A. Midazolam
- B. Hyoscine butylbromide
- C. Atropine
- D. Haloperidol
- E. Chlorpromazine

Answer is E. Chlorpromazine is highly effective in treating intractable hiccups. In peripheral causes, metoclopramide is better but it is not an option here.

Colonoscopy

A 68 year old woman with a known history of ulcerative colitis underwent a colonoscopy. An ulcerated mass was found. What is the most likely diagnosis?

- A. Squamous cell carcinoma
- B. Adenocarcinoma
- C. Lymphoma
- D. Diverticular pouch
- E. Villous adenoma

Answer is B. Adenocarcinoma is the most common type of colon cancer.

Colonoscopy

A 59 year old man has a history of weight loss. A full blood count reveals a microcytic anaemia. He reports no history of rectal bleeding. A colonoscopy was done and a mass consistent with colorectal carcinoma was found. What is the SINGLE most likely site for this cancer?

- A. Caecum
- B. Transverse colon
- C. Descending colon
- D. Sigmoid colon
- E. Rectum

Answer is A. Due to its position and large diameter cancers of the caecum usually present with weight loss and anaemia rather than visible rectal bleeding.

Croup

An 18 month old boy is brought to the Accident and Emergency department for a barking cough. Intermittent stridor is heard when the child cries. What is the most likely outcome if this condition is left untreated?

- A. Bronchiectasis
- B. Laryngomalacia
- C. Complete resolution
- D. Tracheal stenosis
- E. Respiratory failure

Answer is C. Mild episodes of croup can be managed by caregivers at home with conservative measures. Most cases are likely to resolve.

Connective Tissue Disorder

A 22 year old gentleman is seen in the Cardiology clinic. He is a very tall and slim man with a wide arm span. On general examination, he has a sunken chest, on auscultation a mid systolic click followed by a late systolic murmur is heard. He is otherwise well in himself. What is the most likely diagnosis of your cardiovascular findings?

- A. Aortic stenosis
- B. Mitral valve prolapse
- C. Mitral valve regurgitation
- D. Aortic regurgitation
- E. Tricuspid regurgitation

Answer is B. The patient has Marfan's syndrome - a connective tissue disorder. He has presented with a mitral valve prolapse as a result of this condition.

Swollen Feet

A 52 year old diabetic presents with a two day history of swelling and pain to her right foot. What is the most appropriate management?



- A. Therapeutic doses of heparin
- B. High dose aspirin
- C. Flucloxacillin
- D. Clarithromycin
- E. Oral NSAIDS

Answer is C. Diabetes mellitus predisposes individuals to developing cellulitis. Flucloxacillin is the drug of choice for this condition.

Ulcers

An elderly male presents to his GP with an ulcer just above his medial malleolus. On inspection, you notice haemosiderin deposition around the ulcer. Weak distal pulses could be felt. What is the SINGLE most likely diagnosis?

- A. Diabetic ulcer
- B. Venous ulcer
- C. Peripheral arterial disease
- D. Pressure ulcer
- E. Squamous cell carcinoma

Answer is B. Most venous ulcers are located above the medial malleolus. Furthermore, haemosiderin deposition is associated with venous ulcers.

Anorexia Nervosa

A 17 year old girl is brought to the GP by her mother because of her persistent desire to lose weight. She has a BMI of 17 kg/m^2 as well as thickened calluses on her knuckles. Her blood pressure is 96/65 mmHg. What is the SINGLE most appropriate management?

- A. Advise patient to keep a food diary
- B. Refer to psychiatry
- C. Admit to medical ward
- D. Refer to the eating disorder unit
- E. Refer to a dietician

Answer is D. This is a stable patient with a BMI $>15 \text{ kg/m}^2$ but $<17.5 \text{ kg/m}^2$. There is no indication for admission. An EDU referral is appropriate.

Postoperative Complication

A man who underwent surgery 24 hours ago, now on patient-controlled analgesia, develops shortness of breath. His SpO₂ was found to be 92% and supplemental oxygen commenced. An ABG done reveals respiratory alkalosis. On examination, you hear decreased air entry to both lung bases. What is the SINGLE most appropriate next step in management?

- A. Continuous positive airway pressure
- B. Chest physiotherapy
- C. Stop analgesia
- D. Administer naloxone
- E. Therapeutic dose of heparin

Answer is A. Both A and B have a role in the management of atelectasis. Physiotherapy is vital for prevention of atelectasis and CPAP for treatment.

Low Neutrophils

A 51 year old woman who is currently on infliximab treatment for rheumatoid arthritis presents to you feeling unwell and febrile. A full blood count reveals low haemoglobin, low white blood cells, low neutrophils and low platelets. Blood and urine cultures are taken. What is the SINGLE most appropriate management?

- A. Broad spectrum IV antibiotics
- B. Wait for culture results
- C. IV granulocyte colony-stimulating factor
- D. Transfuse whole blood
- E. Perform lumbar puncture

Answer is A. Febrile neutropenia must be considered for any ill patient on chemotherapy drugs. Tazocin plus piperacillin should be started immediately.

Headaches

A 39 year old obese woman presents to her GP with a history of frontotemporal headaches which are worse in the mornings. These headaches are associated with tinnitus. On fundoscopy, bilateral papilloedema is noted. What is the most likely diagnosis?

- A. Migraine
- B. Idiopathic intracranial hypertension
- C. Cluster headaches
- D. Tension headaches
- E. Chronic sinusitis

Answer is B. IIH is most common in middle aged, overweight women. Papilloedema and a number of neurological symptoms may be associated.

Lower Limb Weakness

A 27 year old woman with a history of sore throat a few weeks ago presents with weakness which began in her feet and ascended upwards. Reflexes are diminished. Upper limb examination is normal. What is the SINGLE most likely diagnosis?

- A. Transverse myelitis
- B. Amyotrophic lateral sclerosis
- C. Guillain–Barré syndrome
- D. Myasthenia gravis
- E. Lambert-Eaton syndrome

Answer is C. GBS is a demyelinating condition often precipitated by a viral illness. It presents with ascending motor weakness.

Enlarged Goitre

A 52 year old woman presents to the GP with complaints of weight gain and thinning of her hair. On examination, you note a painless, diffuse enlargement of the thyroid gland. A thyroid function test shows low free thyroxine (T4) and high TSH. What is the SINGLE most likely diagnosis?

- A. Grave's disease
- B. Subacute thyroiditis
- C. Toxic nodular goitre
- D. Hashimoto's disease
- E. Thyroid adenoma

Answer is D. Hashimoto's disease is an autoimmune cause of hypothyroidism. On examination, a painless and enlarged goitre may be felt.

Seizures

A 22 year old woman is brought to the neurologist by her husband because she has been having seizures for a month since the passing of mother. During the seizures, her eyes are tightly closed. There is no history of urinary incontinence during the seizures. What is the SINGLE most appropriate diagnostic test to arrange?

- A. MRI of the head
- B. Electroencephalogram (EEG)
- C. Video electroencephalogram (EEG)
- D. CT of the head
- E. Toxicology screen

Answer is C. Non-epileptic attack disorder may be triggered by stress. Tightly closed eyes and intact continence help to differentiate this from epilepsy.

Red Hands

A 16 year old who worked over the summer as a dishwasher complains of redness and burning to both hands. What is the most likely diagnosis?



- A. Fungal infection
- B. Contact dermatitis
- C. Scabies
- D. Atopic dermatitis
- E. Psoriasis

Answer is B. Repeated exposure to water and detergents is a strong risk factor for contact dermatitis.

Dementia

A 67 year old man with dementia who is admitted to the general medical ward constantly wanders off the ward. What is the SINGLE most appropriate next action?

- A. Relocate patient to a different ward
- B. Obtain legal paperwork to allow keeping him in hospital
- C. Sedate patient as necessary
- D. Restrain physically
- E. Allow patient to leave

Answer is B. This patient should be detained under the Mental Health Act to have his mental condition assessed before any other decision is made.

Burn Complications

A 36 year old chronic alcoholic who sustained 55% partial thickness burns is admitted. While admitted, the patient has three episodes of vomiting bright red blood. The decision was made to carry out endoscopy. Endoscopy reveals multiple ulcers in the stomach. What is the SINGLE most appropriate treatment?

- A. Acetazolamide
- B. Antacids
- C. Terlipressin
- D. Oral proton pump inhibitor
- E. IV proton pump inhibitor

Answer is E. Curling ulcers, also known as stress ulcers, may form in the context of severe burns. IV PPI is appropriate in such cases.

Cervical Cancer

A 27 year old woman who takes combined oral contraceptive pills asks what she can do to reduce her risk of cervical cancer? She is known to smoke and drink. Which of the following is the SINGLE best advice to offer?

- A. Stop smoking
- B. Stop taking combined oral contraceptive pills
- C. Stop using tampons
- D. Reduce alcohol intake
- E. Consider intrauterine system (Mirena coil)

Answer is A. Smoking is much more strongly correlated to cervical cancer than taking the combined oral contraceptive pills.

Mouth Ulcer

A 62 year old man presents with a mouth ulcer and firm cervical lymphadenopathy. The mouth ulcer has been seen growing for the past year and is now 3 cm in diameter. The ulcer was biopsied. What is the SINGLE most likely diagnosis?

- A. Lichen planus
- B. Lymphoma
- C. Granuloma
- D. Adenocarcinoma
- E. Squamous cell carcinoma

Answer is E. The examination findings are suggestive of an oral cancer. The most common subtype is squamous cell carcinoma.

Lower Limb Pain

A 22 year old male was kicked in the shin while playing football and presents to the Emergency Department 24 hours after the incident because his legs continue to swell and have become increasingly more painful. An x-ray of the lower legs shows no evidence of fractures. The pain is not improved by morphine. Passive movement of his toes further aggravates the pain. What is the SINGLE most appropriate action?

- A. Urgent decompression
- B. CT scan to investigate possible occult tibia fracture
- C. Admit and review in less than 12 hours
- D. Administer local anaesthetic
- E. Apply splint

Answer is A. This patient is suffering from compartment syndrome and requires urgent fasciotomy to prevent permanent ischaemic damage.

Enuresis

A 6 year old girl was brought to the outpatient clinic because she had urinary incontinence three times during the day. What is the SINGLE most appropriate management?

- A. Enuresis alarm
- B. Bladder training
- C. Duloxetine
- D. Desmopressin
- E. Fluid restriction

Answer is B. A child older than 5 years old with daytime urinary symptoms should commence bladder training.

Incontinence

A 36 year old diabetic woman presents to her GP complaining of constant dribbling of urine. No neurologic defects are noted on examination. She previously received radiotherapy for cervical cancer. What is the SINGLE most likely diagnosis?

- A. Stress incontinence
- B. Urge incontinence
- C. Neurogenic bladder
- D. Vesicovaginal fistula
- E. Overactive detrusor

Answer is D. Radiotherapy predisposes this patient to developing a vesicovaginal fistula.

Endocrinology

A 42 year old woman is being seen by an endocrinologist. She has patches of hypopigmentation around her mouth and on her hands. Previous electrolyte testing shows hyponatremia and hyperkalemia. What test will confirm the most likely diagnosis?

- A. Short synacthen test
- B. CT of adrenal glands
- C. Aldosterone levels
- D. Dexamethasone suppression test
- E. CT-KUB

Answer is A. Addison's disease is confirmed by a short synacthen test. The hypopigmentation suggests vitiligo, another autoimmune condition.

Alcohol Abuse

A 46 year old man presents to you in the Accident and Emergency Department because he is depressed and expresses that he needs help. He is unkempt and has a history of excessive use of alcohol. He has no thoughts of suicide and reports that he does not want to be admitted. What is the SINGLE most appropriate management?

- A. Advise patient to reduce alcohol intake and to follow up with GP
- B. Refer patient to a specialist alcohol dependency group
- C. Administer acamprosate
- D. Compulsory admission for detoxification
- E. Commence sertraline

Answer is B. Referral to specialist group is appropriate as they are equipped to manage both his depression and alcohol dependency.

Skin Fold Rash

A 30 year old woman presents with an itchy rash in the skin folds of her breasts as pictured below. What is the most likely diagnosis?



- A. Atypical eczema
- B. Periductal mastitis
- C. Scabies
- D. Cellulitis
- E. Intertrigo

Answer is E. Intertrigo refers to rashes that form within intertriginous areas (groin, axilla, skin folds). Bacterial or fungal infections may superimpose here.

Postpartum Mood Disorders

A 24 year old woman who is 4 weeks postpartum seeks the help of her GP because she is worried about whether or not she will be able to care for her daughter. She occasionally has thoughts of harming the child. What is the SINGLE most likely diagnosis?

- A. Postpartum blues
- B. Postpartum depression
- C. Postpartum psychosis
- D. Psychotic depression
- E. Schizophrenia

Answer is B. Thoughts of harming the child may be seen in postpartum depression or psychosis. The absence of psychotic features excludes option C.

Tongue Deviation

A 64 year old patient who recently underwent a right submandibular gland excision presents to the Oral and Maxillofacial surgery outpatient clinic for follow up. On protrusion, his tongue deviates to the right. What is the SINGLE most likely affected nerve?

- A. Hypoglossal nerve
- B. Facial nerve
- C. Lingual nerve
- D. Buccal nerve
- E. Glossopharyngeal nerve

Answer is A. Damage of the hypoglossal nerve results in ipsilateral tongue deviation on protrusion.

Syncope

A 65 year old man was working in his garden when he suddenly collapsed. When reviewed in the Emergency department his blood pressure was 138/84 mmHg and his pulse rate was 92 bpm. An ejection systolic murmur is heard on auscultation. What is the SINGLE investigation most likely to lead to the diagnosis?

- A. ECG
- B. 24-hour ambulatory ECG monitoring
- C. Echocardiogram
- D. Coronary angiogram
- E. Exercise testing

Answer is C. An echocardiogram is the key diagnostic tool for aortic stenosis. Exercise testing is contraindicated in symptomatic AS patients.

Benign Breast Disease

A 42 year old woman presents to the GP with redness around her right areola. She had a similar episode in the past which somewhat improved on antibiotics. A lump was noted on examination. Aspiration of the lump yields green fluid. What is the SINGLE most likely diagnosis?

- A. Paget's disease
- B. Breast abscess
- C. Duct papilloma
- D. Duct ectasia
- E. Periductal mastitis

Answer is E. Periductal mastitis may mimic a breast abscess. The history of periareolar inflammation in this case makes it the more likely diagnosis.

Breast Disease

A 50 year old perimenopausal woman who did a mammogram a few months ago now presents for a 2 cm hard breast lump. The lump is non-tender and there are no overlying skin changes. What is the SINGLE most appropriate action?

- A. Repeat mammogram
- B. Urgent referral to surgeons
- C. Ultrasound of breast
- D. Review in 3 months
- E. Routine referral to surgery

Answer is B. Any unexplained breast lump in patients over the age of 30 should be seen urgently on the cancer pathway.

Pulmonary Embolism

A 37 year old lady attends the Emergency Department with a one day history of shortness of breath and chest pain on inspiration. She reveals that she recently returned from her holiday in Jamaica 3 days ago. On examination, she has a heart rate of 105 beats/minute, a blood pressure of 110/67 mmHg and a respiratory rate of 22 breaths/minute. Her left calf is swollen and tender. Given her likely diagnosis, what is the most appropriate initial management?

- A. Low molecular weight heparin
- B. Alteplase
- C. Unfractionated heparin
- D. Warfarin
- E. Rivaroxaban

Answer is E. DOACs were recently updated in the NICE guidelines (June 2020) as the new first line treatment for PE and DVT.

Contraception

A 21 year old woman presents to the family planning clinic inquiring which contraceptive method can reduce her risk of developing cervical cancer. Which of the following would you advise her to use?

- A. Intrauterine system (Mirena coil)
- B. Combined oral contraceptive pill
- C. Condoms
- D. Progesterone only pill
- E. Intrauterine copper device

Answer is C. Male condoms provide partial protection against HPV. Women should be informed, however, that it does not provide full protection.

Hip Arthroplasty

A 42 year old woman presents to the Accident and Emergency in pain. She underwent a total hip arthroplasty a few months ago and reports that the pain began while bending down to tie her shoes. Her left leg appears internally rotated and there was numbness and bruising in the gluteal area. What is the SINGLE most appropriate initial investigation?

- A. Ultrasound scan
- B. CT scan of the hip
- C. Doppler ultrasound
- D. X-ray of the hip
- E. D-Dimer

Answer is D. One possible complication of hip arthroplasty is hip dislocation, particularly in the first few months. Confirm position with x-ray.

Skull Fracture

A 28 year old male was involved in a road traffic accident half an hour ago. On examination, hemotympanum as well as bruising on the mastoid area are noted. Which bone is most likely fractured?

- A. Parietal
- B. Temporal
- C. Ethmoid
- D. Maxillary
- E. Sphenoid

Answer is B. Hemotympanum and mastoid bruising (Battle sign) are features of basal skull fracture which most commonly involves the temporal bone.

Hyperemesis Gravidarum

A 28 year old pregnant woman admitted to the obstetric ward hyperemesis gravidarum continues to vomit despite receiving several anti emetics. She is not able to tolerate food or drink. What is the SINGLE most appropriate management for her vomiting?

- A. Corticosteroids
- B. Thiamine
- C. Terminate pregnancy
- D. Parenteral feeding
- E. High dose folic acid

Answer is A. Corticosteroids are used in cases of hyperemesis gravidarum that do not respond to standard therapies.

Headache In Pregnancy

A 28 year old lady who is 32 weeks pregnant attends her GP surgery complaining of recurrent migraines. She has a previous history of migraines and has been taking paracetamol, avoiding potential triggers and practising relaxation techniques however none of which are helping to alleviate her symptoms. She denies any ankle swelling or right upper quadrant pain. On examination, her blood pressure is 122/75 mmHg. She would like to know if she can be prescribed any migraine medication. What is the most appropriate treatment for her?

- A. Propranolol
- B. Ibuprofen
- C. Aspirin
- D. Paracetamol
- E. Paracetamol and Ibuprofen

Answer is D. First line treatment of acute migraine in pregnancy is paracetamol only. In pregnancy, there are many medications that are contraindicated.

Palliative Care

A 76 year old woman with oesophageal cancer is being seen by palliative care. She complains of severe difficulty in swallowing both food and liquids and has lost significant weight. What is the SINGLE most appropriate management for this patient?

- A. Parenteral nutrition
- B. Oesophageal stenting
- C. Nasogastric tube feeding
- D. Percutaneous endoscopic gastrostomy tube
- E. Chemotherapy

Answer is B. Stenting is the most appropriate answer. It will improve the patient's comfort and will allow for her nutritional status to be maintained.

Genitourinary Medicine

A 30 year old man presents to the genitourinary medicine clinic with a penile ulcer. The ulcer is painless. Further examination reveals inguinal lymphadenopathy. What is the SINGLE most likely causative organism?

- A. Haemophilus ducreyi
- B. Molluscum contagiosum
- C. Chlamydia trachomatis
- D. Herpes simplex virus
- E. Treponema pallidum

Answer is E. Primary syphilis usually presents as a single painless ulcer known as a chancre. The causative organism is Treponema pallidum.

Facial Pain

A 26 year old woman presents to her GP complaining of severe headaches. These headaches are worse on leaning forward. Examination reveals tenderness overlying the maxilla. What is the SINGLE most appropriate investigation?

- A. Nasal swab for culture
- B. MRI of the head and sinuses
- C. CT the head and sinuses
- D. Plain x-ray of the sinuses
- E. Plain x-ray of the skull

Answer is C. CT is most appropriate for chronic sinusitis. There is no value in x-rays and MRIs are reserved for invasive neoplasia or fungal disease.

Renal stones

A 37 year old man presents to the Accident and Emergency Department in severe loin pain. His temperature on examination is 38.2°C. A CT-KUB was done and shows an 11 mm renal stone and evidence of hydronephrosis. What is the SINGLE most appropriate management?

- A. Percutaneous nephrostomy
- B. Suprapubic catheter
- C. Extracorporeal shock-wave lithotripsy
- D. Percutaneous nephrolithotomy
- E. Ureteric stent

Answer is A. This patient is acutely ill due to the obstruction caused by the renal stone. His renal system needs to be decompressed via nephrostomy.

Rash

A child presents with the rash below. It appeared after having hydrocortisone applied to his face for three weeks. What is the most likely diagnosis?



- A. Erythema infectiosum
- B. Rosacea
- C. Eczema herpeticum
- D. Perioral dermatitis
- E. Impetigo

Answer is D. Long term use of topical steroids should be avoided on delicate skin such as the face as it may precipitate a dermatitis.

Murmur

A 35 year old man presents to the Accident and Emergency Department feeling unwell. He complains of shortness of breath, cough and chills. His temperature is noted to be 38.1°C. On auscultation, a murmur and bibasal crackles were heard. What is the SINGLE most likely diagnosis?

- A. Mitral valve prolapse
- B. Pericarditis
- C. Atypical pneumonia
- D. Infective endocarditis
- E. Atrial myxoma

Answer is D. A history of fever + new onset murmur strongly suggests IE. The crackles are due to left ventricular failure, a possible complication.

Eye Infection

A 2 year old girl presents to her GP surgery with her mother. She has had a 1 day history of a red left eye. Her mother explains the eye has been sticky in the mornings and the patient is also complaining of irritation in the eye. She has no issues with her vision, no fevers and has no past medical history. What is the next most appropriate step in management?

- A. Flucloxacillin
- B. Chloramphenicol 0.5% eye drops
- C. Fusidic acid 1% eye drops
- D. Saline eye drops
- E. Reassure as self limiting condition

Answer is E. First line for acute bacterial conjunctivitis is to reassure the condition is self limiting and will usually resolve within 5 to 7 days. A delayed prescription of chloramphenicol or fusidic acid eye drops can be given to start if no improvement within 3 days.

Hypertrophic Cardiomyopathy

A 15 year old man is seen in the cardiology clinic after being referred by his GP due to having a murmur. The murmur he has is associated with a high risk of sudden cardiac death. In order to distinguish the type of murmur, the consultant asks the patient to perform some manoeuvres. Which of the following would be heard on auscultation?

- A. Intensity of the murmur increases with squatting
- B. Intensity of the murmur decreases with standing
- C. Intensity of the murmur decreases with exercise
- D. Elevating his legs while supine increases the intensity of the murmur
- E. Intensity of the murmur increases with the Valsalva manoeuvre

Answer is E. Hypertrophic cardiomyopathy has an ejection systolic murmur which would INCREASE with Valsalva manoeuvre which decreases preload causing a smaller left ventricle volume and an increase in obstruction.

Dementia

A 66 year old woman known to have dementia is locked in at home by her husband when he goes to the supermarket. He reports that he has to do this to prevent her from wandering when he leaves. What is the SINGLE most appropriate action to take?

- A. Inform police
- B. Inform local safeguarding team
- C. Advise husband not to leave home for more than 30 minutes at a time
- D. Advise husband to leave an extra key at the house in case of an emergency
- E. Advise husband to install CCTV cameras in the house

Answer is B. Involving the safeguarding team is best. They will identify and address the needs of the patient (which may or may not require the police).

Neonatal Jaundice

A 3 week old baby, who developed jaundice on the second day of life, is still jaundiced. The baby has a history of passing pale stools. What is the SINGLE most appropriate next investigation?

- A. Liver biopsy
- B. Direct Coombs test
- C. Conjugated bilirubin
- D. Full blood count
- E. Abdominal ultrasound

Answer is C. Any neonate with prolonged jaundice (>14 days) should have a conjugated bilirubin sample taken to assess for biliary atresia (elevated).

Social Development

A preschool boy is brought to the GP by his parents who are concerned that he does not respond when called. He shows no interest in playing with other children. He has a large collection of toy cars that he repeatedly arranges and rearranges. What is the SINGLE most likely diagnosis?

- A. Normal social development
- B. Normal variant of social development
- C. Attention deficit disorder
- D. Autism spectrum disorder
- E. Serous otitis media

Answer is D. Autism spectrum disorders are characterized by abnormal social development, language difficulties and repetitive behaviours.

Oligomenorrhoea

A 24 year old woman with a BMI of 29 kg/m² complains of being amenorrhoeic for the past 6 months. On examination, you note acne of the forehead and back as well as hirsutism involving the jaw and chest. Recent lab results show elevated testosterone and a LH: FSH ratio of 3:1. Normal estradiol and prolactin levels are noted. What is the SINGLE most likely diagnosis?

- A. Polycystic ovarian syndrome
- B. Premature ovarian failure
- C. Hypopituitarism
- D. Late onset congenital adrenal hyperplasia
- E. Turner's syndrome

Answer is A. Features of PCOS include oligomenorrhoea, hyperandrogenism and insulin resistance. A LH:FSH ratio >2 is a must know.

Asthma Severity

A 19 year old asthmatic presents to the Emergency Department for an asthma attack. Nebulized salbutamol and intravenous hydrocortisone are both administered however there is no improvement. The patient is becoming increasingly drowsy. On auscultation, only quiet breath sounds are heard. What is the SINGLE most appropriate investigation to determine the severity of the attack?

- A. Spirometry
- B. Peak flow measurement
- C. Arterial blood gases
- D. Chest x-ray
- E. Electrocardiogram

Answer is C. An ill patient may not be able to comply with PEFR measurements. An ABG is appropriate in cases such as this.

Painful Eye

A child presents for pain to the right eye for the past 2 days. On examination, a localized swelling is found. What is the most appropriate next step?



- A. Prescribe oral antibiotics
- B. Apply warm compress twice daily
- C. Refer to ophthalmology
- D. CT of the orbit
- E. Admit for intravenous antibiotics

Answer is B. Styes (hordeolums) are usually self limiting and resolve after spontaneous rupture or fine needle rupture. Apply warm compress until resolved.

Rash

A fully immunized child presents with a fever and rash. A mixture of papules and vesicles are noted on examination. What is the most likely diagnosis?



- A. Roseola
- B. Rubella
- C. Impetigo
- D. Measles
- E. Chickenpox

Answer is E. Chickenpox is usually macular, then papular, then vesicular. Distribution, appearance and immunization make the other options less likely.

Penetrating Injury

A 23 year old male presents to the Accident and Emergency Department after being stabbed in the neck. On presentation, you hear stridor and observe asymmetrical rise and fall of the chest. Which of the following structures was most likely injured?

- A. Recurrent laryngeal nerve
- B. Accessory nerve
- C. Vagus nerve
- D. Phrenic nerve
- E. Superior laryngeal nerve

Answer is D. Phrenic n. injuries may result in asymmetric movement of the diaphragm. Stridor may be caused by damage to a number of structures.

Genetics

A couple present to the GP seeking advice. They are known to be carriers of cystic fibrosis. Their first child is healthy. What is the chance of their next child being affected by cystic fibrosis?

- A. 1:2
- B. 1:4
- C. 1:8
- D. 1:25
- E. 1:3

Answer is B. Cystic fibrosis is an autosomal recessive disease. Future children will therefore have a 1:4 chance of inheriting the disease.

Chest Pain

A 55 year old presents to the Accident and Emergency with severe chest pain. His pulse rate is 92 bpm and his blood pressure was noted to be 156/92 mmHg in his right arm and 96/64 in his left arm. Radiofemoral delay noted on examination. What is the SINGLE most appropriate initial management?

- A. Hydralazine
- B. Labetalol
- C. Amlodipine
- D. Adrenaline
- E. Morphine

Answer is B. Some aortic dissections can be medically managed. Beta blockers are used to manage elevated BP and prevent further damage.

Alzheimer's Disease

A 66 year old man presents for treatment of his Alzheimer's disease. He is known to have hypertension, hyperlipidaemia and a first degree heart block. What is the drug of choice for treatment of his Alzheimer's disease?

- A. Rivastigmine
- B. Donepezil
- C. Memantine
- D. Galantamine
- E. Olanzapine

Answer is C. Though options A,B and D are first line treatments, acetylcholinesterase inhibitors should be used with caution for pts with co-existing heart block.

Facial Droop

A 30 year old woman presents with a facial droop which developed over the last 48 hours. She is unable to puff her cheeks and to raise her left eyebrow. What is the SINGLE most appropriate treatment to offer?

- A. Aciclovir
- B. NSAIDS
- C. Prednisolone
- D. Aspirin
- E. No treatment required

Answer is C. Bell's palsy is a lower motor neuron lesion, hence the inability to raise one eyebrow. Prednisolone is useful when started within 72 hours.

Nerve Palsy

A 46 year old man known to be an alcoholic fell asleep drunk on a chair. He woke up unable to extend his wrist. What structure is most likely to be involved?

- A. Brachial plexus
- B. C8 nerve root
- C. Ulnar nerve
- D. Median nerve
- E. Radial nerve

Answer is E. A Saturday night palsy occurs when the radial n. is compressed, usually found in intoxicated persons who slept with an arm hung over a chair.

Rash

A mother brings her six year old daughter to the GP because of a rash on both cheeks. The rash spares the nasolabial fold. The mother reports that there was a child at school one week before with a similar rash. What is the SINGLE most appropriate management?

- A. Reassure and allow to school
- B. Prescribe antibiotics
- C. Stay away from school for 5 days
- D. Lumbar puncture
- E. Prescribe NSAIDS

Answer is A. The slapped cheek appearance and contact history point to erythema infectiosum. As the rash has appeared the child is no longer infectious.

Inflammation

A 58 year old woman presents with diplopia after 5 days of a constant left sided headache. She denies any preceding aura or photophobia. She has had no nausea, vomiting, neck stiffness or fevers. The headache is not related to her position. She feels 'run down' in herself. She has a good appetite but remarks that chewing has been hurting. She has a past medical history of osteoarthritis, polymyalgia rheumatica and depression. On examination she is alert and appears well. Of note, when you palpate her left temple she grimaces. How should she be managed in the first instance?

- A. Urgent CT scan of the head
- B. Simple analgesia with antiemetics
- C. High dose corticosteroids
- D. Broad-spectrum antibiotics
- E. Intravenous antivirals

Answer is C. The treatment to prevent irreversible blindness is high dose corticosteroids, which must be started immediately as she has already developed double vision. She will need a temporal artery biopsy to confirm the diagnosis.

Osteoporosis

An elderly post-menopausal woman presents to you for routine follow up. Which of the following is most appropriate to determine her risk of osteoporotic fracture?

- A. X-ray of the hip
- B. Skeletal survey
- C. MRI of the hip
- D. DEXA bone scan
- E. Serum alkaline phosphatase

Answer is D. DEXA scans usually follow a QFracture or FRAX assessment. If the bone mineral density is < -2.5 standard deviation start bone protection.

Sensory Loss

A 22 year old gravid woman presents to you with loss of sensation over the lateral aspect of her left thigh. On examination, her left lower limb has power 5/5 throughout. Which of the following structures was most likely affected?

- A. Lateral femorocutaneous nerve
- B. Sciatic nerve
- C. Femoral nerve
- D. Obturator nerve
- E. Sural nerve

Answer is A. Meralgia paresthetica refers to the symptoms caused by compression of the lateral femoral cutaneous nerve. Pregnancy is a risk factor.

Vision Loss

A 50 year old woman presents to the Emergency department for sudden painless loss of vision. A fundoscopy is carried out which reveals flame haemorrhages and macular oedema noted in all quadrants. What is the SINGLE most likely cause of her vision loss?

- A. Central retinal artery occlusion
- B. Branch retinal artery occlusion
- C. Central retinal vein occlusion
- D. Branch retinal vein occlusion
- E. Amaurosis fugax

Answer is C. A blood and thunder fundoscopy (flame haemorrhages) is characteristic of venous occlusion. All quadrants are involved indicating it is central.

Hyponatremia

A four year old child with meningitis becomes obtunded while admitted to the paediatric ward. Blood samples taken reveal elevated white blood cells and hyponatremia. What is the SINGLE most likely cause?

- A. Dehydration hyponatremia
- B. SIADH
- C. Polydipsia
- D. Laboratory error
- E. Overload of intravenous normal saline

Answer is B. SIADH is a known complication of meningitis. An obtunded child is unlikely to be able to overdrink.

DVLA

A woman with Alzheimer's Disease continues to drive despite previously being advised to stop. What is the SINGLE most appropriate action?

- A. Advise her to resit driving test
- B. Inform the police
- C. Advise her to only drive when accompanied
- D. Inform the DVLA
- E. Assess her competency

Answer is D. All efforts are made to respect a patient's autonomy, however, when an individual fails to self report to DVLA then the physician must do so.

Liver Metastases

A 73 year old female known to have colon cancer with liver metastases has been experiencing a dull, aching pain in his right upper quadrant despite taking panadol. What is the SINGLE most appropriate medication to add for management of his pain?

- A. Morphine
- B. Tramadol
- C. Naproxen
- D. Amitriptyline
- E. Codeine

Answer is C. Stretching of the liver capsule by metastases can be quite painful. NSAIDs are first line treatment for this type of pain.

Post-Operative Complication

A 72 year old woman who underwent a hemiarthroplasty a few days ago develops shortness of breath and tachycardia. A chest x-ray was done and was normal. What is the most appropriate next action?

- A. D-dimer
- B. Troponin levels
- C. Arterial blood gas
- D. Electrocardiogram (ECG)
- E. CT pulmonary angiogram (CTPA)

Answer is E. This is a PE. A CTPA would show this definitively. D-dimer is not appropriate given that the Well's score is greater than 4.

Sore Throat

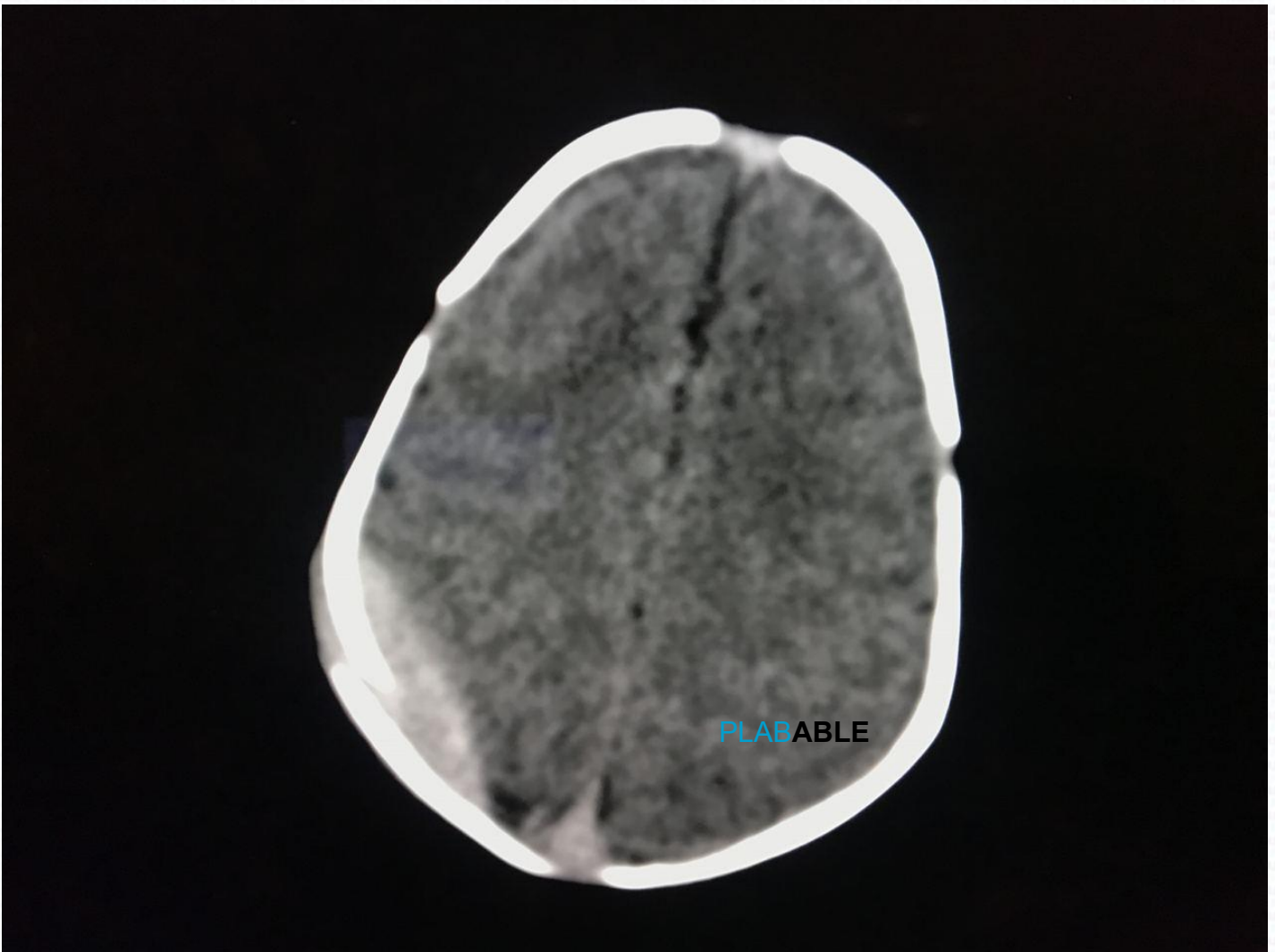
A 6 year old boy is brought to the GP clinic for recurrent episodes of sore throat. His mother reports that he has already had three episodes of sore throat this year and that his latest episode started two days ago. He does not have a cough. You examine his throat and find mild inflammation on his tonsils. He has a temperature of 37.4°C. What is the SINGLE most appropriate management?

- A. Start low dose antibiotics
- B. Refer to ENT for prophylactic tonsillectomy
- C. Reassure and prescribe delayed antibiotics
- D. Refer to ENT for urgent tonsillectomy
- E. Full blood count

Answer is C. A patient with a FeverPAIN score of 2 can be reassured and given a prescription to be filled only if symptoms do not resolve in 3-5 days.

Traumatic Head Injury

A 6 month old was accidentally dropped from his mother. A CT brain was ordered and is shown below. What is the most likely diagnosis?



- A. Subdural haematoma
- B. Extradural haematoma
- C. Intracranial haemorrhage
- D. Subarachnoid haematoma
- E. Concussion

Answer is B. Extradural haematomas are usually caused by trauma to the head and are convex in shape. There is also a skull fracture in this image.

Cot Death

A couple of first time parents who recently heard of cot death ask for your advice to prevent this. What piece of advice would you give to them?

- A. Place baby on back at foot of the cot
- B. Place baby on back at the head of the cot
- C. Place baby on chest at the head of the cot
- D. Lay baby on the side at the foot of the bed
- E. Lay baby on chest with a pillow

Answer is A. Placing babies in this position is reduces the likelihood of Sudden Infant Death Syndrome.

Contraception

A woman who is now six weeks postpartum is seeking advice about contraception. She is currently breastfeeding her baby and expresses her wish for contraception that can be reversed in 6 months as she would like to conceive again soon. She does not want to take an injection. Which of the following contraceptive methods would you recommend to her?

- A. Combined oral contraceptive pills
- B. Intrauterine system (Mirena ®)
- C. Depot medroxyprogesterone acetate (DMPA)
- D. Progestogen only pill
- E. Nexplanon ®

Answer is D. POP is the only suitable contraception for her. An IUS can provide contraception for 5 years and it would be a waste to remove it after 6 months.

Menopause

A 50 year old woman presents with a one year history of hot flushes, amenorrhea and mood swings. What is the SINGLE most appropriate management to offer to this patient?

- A. Selective serotonin reuptake inhibitor (SSRI)
- B. Primrose oil
- C. Topical oestrogen cream
- D. Hormone replacement therapy
- E. Progestogen-only pill

Answer is D. Menopausal women with vasomotor symptoms such as hot flushes, mood and sleep disturbances require hormone replacement therapy.

Haemoptysis

A health care worker presents to her GP with a six week history of fatigue, haemoptysis and fever. A chest x-ray is ordered showing extensive left sided infiltrates with nodes and cavitation. What is the SINGLE most appropriate investigation needed to make a diagnosis?

- A. Blood culture
- B. SARS-CoV-2 testing
- C. Polymerase chain reaction (PCR)
- D. Bronchoalveolar lavage
- E. Pleural tap

Answer is D. This is tuberculosis. Acid fast bacilli is the investigation of choice, however, bronchoalveolar lavage is the most appropriate option provided here.

Contraception

A 29 year old sexually active woman presents to her GP for dysuria, suprapubic pain and frequent urination. A urinalysis was done showing the presence of leukocytes and urine was subsequently sent for culture. She is prescribed oral amoxicillin empirically. She is currently taking the combined oral contraceptive pills. What is the SINGLE most appropriate action to take in regards to amoxicillin?

- A. Co-prescribe clavulanic acid
- B. Stop combined oral contraceptive pills for 7 days
- C. Add barrier contraceptives for 7 days
- D. Change to intrauterine system (Mirena ®)
- E. No additional precaution is required

Answer is E. Remember to look out for P450 enzyme inducers when prescribing COCP. Amoxicillin does not fall in this category of drugs.

UTI (Paediatric)

A 6 year old with dysuria was investigated by urine culture which indicates the presence of Escherichia coli. She has no history of previous urinary tract infection and was already placed on oral antibiotics. What is the SINGLE most appropriate next step in management?

- A. Ultrasound scan within 6 weeks
- B. Micturating cystourethrogram
- C. Ultrasound scan during infection
- D. No further action required
- E. DMSA scan

Answer is D. A child older than 3 years old with a straightforward UTI does not require additional intervention.

Heart Defect

You are assessing a premature baby for discharge to home today. Three days ago, at the time of birth, a systolic murmur could be heard along the left sternal edge. On today's examination, no additional heart sounds were heard. What is the SINGLE most likely cause of the cardiac murmur?

- A. Ventricular septal defect
- B. Patent ductus arteriosus
- C. Atrial septal defect
- D. Eisenmenger syndrome
- E. Tricuspid regurgitation

Answer is B. 65% of babies born below 28 weeks will have a PDA. Spontaneous closure is quite common.

Mental Capacity

A schizophrenic patient presents to the outpatient surgical clinic to continue his assessment for an elective cholecystectomy. He is compliant with his medication and has not experienced a hallucination in over a year. Before providing consent, who should conduct the initial assessment of the patient's capacity?

- A. General practitioner
- B. Psychiatrist
- C. Surgeon
- D. Anaesthetist
- E. Next of kin

Answer is C. The Mental Capacity Act applies to a number of healthcare workers. These healthcare workers have a duty be familiar with its usage.

Urine Output

You are called to assess a post-operative patient who is complaining of severe suprapubic pain. He had a major abdominal surgery five hours ago and is now on patient controlled analgesia with morphine. His blood pressure is 111/74 mm Hg and his pulse rate is 89 beats/minute. He has an indwelling catheter in place which has been empty for the last two hours. Before this, his urine output was 56 ml/hr, 60 ml/hr and 72 ml/hr respectively. What is the SINGLE most likely cause for this patient's pain?

- A. Inadequate pain control
- B. Ureteric injury
- C. Opioid induced urinary retention
- D. Blocked catheter
- E. Inadequate fluid resuscitation

Answer is D. The others can be ruled out. (A) Patient controlled analgesia. (B) Normal output was established. (C) Catheter in situ (E) Normotensive

Small Kidneys

A 65 year old male attends the nephrology clinic. He is a known hypertensive with stage 4 chronic kidney disease. On urinalysis, he is noted to have 1+ protein and 1+ blood. A recent ultrasound reveals reduced renal parenchymal volume. What is the SINGLE most likely diagnosis?

- A. Rhabdomyolysis
- B. Chronic glomerulonephritis
- C. Unilateral renal artery stenosis
- D. Chronic pyelonephritis
- E. Acute kidney injury

Answer is B. Options B and D can both result in bilateral small kidneys, however, the absence of recurrent infections excludes chronic pyelonephritis.

Abdominal Injury

A 16 year old boy is brought to the Emergency Department after involvement in a road traffic accident. On examination, there are bruises on his left flank along with abdominal tenderness. His BP is 104/72 mmHg and HR is 92 bpm. A CT scan of the abdomen reveals a subcapsular splenic haematoma. What is the SINGLE most appropriate management for this patient?

- A. IV Fluids
- B. Refer to surgical team for observation
- C. Urgent laparotomy
- D. Discharge with analgesia
- E. Outpatient department referral

Answer is B. A hemodynamically stable patient with a splenic haematoma does not require operative intervention but should be monitored.

Death Certificate

A 81 year old man is admitted to the hospital with fever, chest pain and difficulty breathing. He has a history of COPD and has suffered a stroke in the past. A chest x-ray revealed bilateral upper lobe capacities. Despite medical management his kidney function significantly worsened and he died a few days after admission. What should be written in part 1(a) of the death certificate?

- A. Pneumonia
- B. COPD
- C. Old Age
- D. Chest infection
- E. Stroke

Answer is A. The condition directly leading to death should be written in part 1(a). Remember to be as specific as possible when writing death certificates.

Frank Haematuria

A 60 year old man with a history of frank haematuria presents to urology clinic. He has no history of dysuria, fever or flank pain and his full blood count returned normal. He is booked for flexible cystoscopy. What additional investigation would be appropriate to request in this appointment?

- A. CT kidney ureter bladder (KUB)
- B. Renal biopsy
- C. Coagulation profile
- D. 24 hour urinary collection for protein
- E. CT urogram

Answer is E. Persons >40 with frank haematuria should have cystoscopy to look for bladder cancers and CT urogram for renal and ureteric cancers.

Hormonal Imbalance

A 35 year old woman presents with a history of irregular menstrual cycles and low moods. She has been trying to have a child for the past two years. Her LH and FSH levels were found to be reduced while investigating her infertility. Further tests reveal the following: low TSH, low T4, low sodium and low potassium. What is the SINGLE most likely diagnosis?

- A. Secondary hypothyroidism
- B. Primary hypothyroidism
- C. Cushing's disease
- D. Hypopituitarism
- E. Addison's disease

Answer is D. There is a decrease in all hormones produced by the pituitary gland: LH, FSH, TSH and ACTH resulting in the presentation of this patient.

COPD

A 67 year old male known presents to the Emergency Department for an acute exacerbation of COPD. A chest x-ray was ordered, which reveals a right-sided pneumothorax. He is being given 5 L/min of oxygen via nasal cannula and maintains an oxygen saturation of 98%. What is the SINGLE most appropriate next step?

- A. Perform arterial blood gas
- B. Continue management
- C. Administer oxygen at 2 L/min
- D. Insert chest drain
- E. Change nasal cannula to face mask

Answer is C. For COPD patients aim for oxygen saturation of 88-92%. This can be given via a nasal cannula (1-2 L/min) or Venturi face mask (24-28%).

Vomiting Child

A 4 week-old baby is brought to the Emergency Department for recurrent episodes of non-bilious vomiting. The mother reports that the child has still appeared eager to feed despite the persistent vomiting. Biochemistry reveals hypokalaemia. What is the SINGLE most likely diagnosis?

- A. Malrotation
- B. Hypoadrenalism
- C. Pyloric stenosis
- D. Duodenal atresia
- E. Hypothyroidism

Answer is C. Pyloric stenosis is most common between 3-8 weeks. The vomit is non-bilious and the child's appetite is not usually affected.

Vaginal Discharge

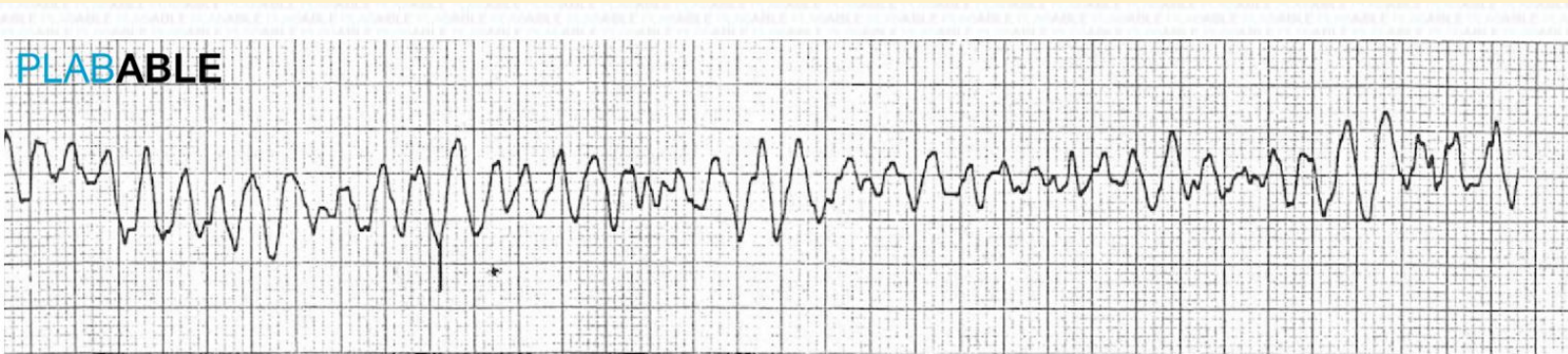
A 28 year-old woman presents to the sexual health clinic with malodorous vaginal discharge. The discharge is thin and a vaginal pH of 5.2 was recorded. High vaginal swabs were taken and sent for culture. What is the SINGLE most likely causative organism?

- A. *Candida albicans*
- B. *Gardnerella vaginalis*
- C. *Trichomonas vaginalis*
- D. *Chlamydia trachomatis*
- E. *Neisseria gonorrhoeae*

Answer is B. Bacterial vaginosis is known to present with a thin, watery, fishy-smelling discharge. Other possible hints include clue cells or positive whiff test.

Cardiac Arrhythmia

A 68-year old male was brought to the Emergency Department for severe chest pain. He suddenly becomes unconscious and is noted to be pulseless. Cardiac monitoring reveals the below rhythm. What is the SINGLE most likely diagnosis?



- A. Ventricular tachycardia
- B. Supraventricular tachycardia
- C. Ventricular fibrillation
- D. Atrial fibrillation
- E. Atrial flutter

Answer is C. Sudden collapse and pulselessness should raise suspicion of VF. Note the chaotic, irregular waveform with no clear P, QRS or T waves.

Anti-hypertensives

A 70 year old female is seen in the GP clinic for a review. She has been recently diagnosed with heart failure and will be started on ramipril. What is the SINGLE most important investigation to perform for this patient?

- A. Liver function test
- B. Full blood count
- C. Brain natriuretic peptide
- D. Urea and electrolytes
- E. Thyroid function test

Answer is D. Renal function and electrolytes should be checked before starting ramipril and rechecked after 1-2 weeks followed by at least once annually.

Confusion In Elderlies

A 72 year old male presents to the Emergency Department with confusion for the past 2 days. His blood test shows high white blood cells and his urine test was positive for nitrites. His daughter mentions that he has not been passing urine recently. What is the cause of his confusion?

- A. Benign prostatic hyperplasia
- B. Delirium due to acute infection
- C. Lewy body dementia
- D. Normal pressure hydrocephalus
- E. Alcohol withdrawal

Answer is B. Urinary tract infection is a cause of delirium in elderly. The most likely cause of his UTI is urinary retention due to underlying BPH. BPH is not the answer as it is not directly causing the delirium.

Confusion In The Elderly

A 77 year old male underwent an elective TURP. A week later, the patient developed confusion and seizures. The patient was admitted to the Emergency Department and his blood tests showed: Sodium 118 mmol/L Potassium 6.1 mmol/L fasting blood sugar 7.9 mmol/L and ECG showed sinus rhythm. The patient was started on 3% NaCl. What is the next most appropriate step in the management of this patient?

- A. Glucose-insulin infusion
- B. IV furosemide
- C. 0.9% normal saline
- D. IV calcium chloride
- E. Nebulised salbutamol

Answer is B. There is no need for either IV calcium, insulin, or salbutamol nebs. This is moderate hyperkalaemia without ECG changes. The more important management is to treat the overload from all the fluid by giving IV furosemide.

Contraception

A 22 year old woman presents to the Emergency Department with severe unilateral headache, nausea and vomiting. The headache started 3 hours ago and it was preceded by photophobia and unilateral weakness. Body weakness has resolved and CT scan is normal. She is currently taking COCPs. What is the most important step of action after acute treatment of headache?

- A. Stop COCP
- B. Start prophylactic propranolol
- C. Start prophylactic topiramate
- D. Start gabapentin
- E. Give triptan

Answer is A. The patient is having symptoms of migraine with aura. COCPs come under UKMEC 4 for patients of migraine with aura which represents an absolute contraindication.

Outcome Of Meningitis

A 7 year old boy was treated for meningitis with antibiotics for 7 days. The patient is well now. What is the most likely outcome?

- A. Full recovery
- B. Blindness
- C. Deafness
- D. Cerebral palsy
- E. Epilepsy

Answer is A. Full recovery is the most common outcome of a patient with uncomplicated and simple course of meningitis. Deafness is the most common delayed complication.

Outcome Of Meningitis

A 6 year old girl was admitted to the medical ward and treated for meningitis. She is now ready for discharge. What is the SINGLE most appropriate investigation to perform?

- A. CT scan
- B. Lumbar puncture
- C. Full blood count
- D. Optic nerve test
- E. Hearing test

Answer is E. Decreased hearing, or deafness is one of the most common delayed complications of meningitis. People who have had meningitis will usually have a hearing test after a few weeks to check for any problems.

Pulmonary Embolism

A 22 year old woman presents to the Emergency Department with shortness of the breath. She has a history of having panic attacks. An ABG was done: pH 7.50 / PaO₂ 7.5 kPa / PaCO₂ 3.5 kPa / HCO₃⁻ 23 mmol/L. What is the most likely diagnosis?

- A. Panic attack
- B. Pulmonary embolism
- C. Drug reaction
- D. Muscle strain
- E. Munchausen syndrome

Answer is B. The ABG shows respiratory alkalosis with hypoxia. Out of the options, pulmonary embolism is most likely to show such ABG results. There is no hypoxia in panic attacks.

Proximal Muscle Weakness

An 80 year old man patient was presented to the GP clinic with proximal muscle pain. The patient's ESR is 53 mm/hr, CRP 20.5 mg/mL. Creatinine kinase is normal. What is the most likely diagnosis?

- A. Ankylosing spondylitis
- B. Polymyositis
- C. Duchenne muscular dystrophy
- D. Chronic kidney disease
- E. Polymyalgia rheumatica

Answer is E. Polymyalgia rheumatica often presents as painful proximal muscle weakness in elderlies, along with ESR>30, and CRP >6, with normal CK.

Proximal Muscle Weakness

A 40 year old man presents to the GP clinic with proximal muscle weakness and a polymorphic rash on shoulders. His creatinine kinase is raised. What is the most likely diagnosis ?

- A. Ankylosing spondylitis
- B. Dermatomyositis
- C. Duchenne muscular dystrophy
- D. Chronic Kidney disease
- E. Polymyalgia rheumatica

Answer is B. The patient has a rash and proximal muscle weakness. Dermatomyositis is supported by his age and his raised CK.

Oncology

A 63 year old woman with a medical history of breast cancer presents to the Emergency Department complaining of back pain that radiates to her left leg, along with numbness in her left leg. Over the past few days, she has found it difficult to walk. There is no history of trauma. What the the most appropriate next step?

- A. Bone scan
- B. MRI of spine within 7 days
- C. Mammogram
- D. MRI of spine within 24 hours
- E. X-ray spine

Answer is D. Given a history of breast cancer, pain and neurological symptoms, urgent MRI is used to detect metastatic spinal cord compression.

Emergency

A 30 year old patient presented to the Emergency Department after a road accident with bleeding at his thigh. His heart rate is 120 beats/minute and blood pressure is 80/50 mmHg. What is the initial step in the management?

- A. Normal saline intravenously
- B. Blood transfusion
- C. CT scan
- D. Magnetic resonance imaging
- E. Urine catheter

Answer is A. Intravenous fluids is first choice for any patient who is haemodynamically unstable. Blood can be given afterwards.

Emergency

A 6 year old child brought to the Emergency Department with shortness of breath, generalized rash, and tongue swelling. He has difficulty breathing. What is the most appropriate management?

- A. IV adrenaline
- B. IM adrenaline
- C. Chlorphenamine
- D. IV fluids
- E. Oxygen

Answer is B. The child is experiencing signs and symptoms of anaphylaxis. The most appropriate step of management is to give adrenaline intramuscularly in the anterolateral aspect of the middle third of the thigh.

Emergency

A 34 year old man brought to the Emergency Department with on and off seizure for last 40 minutes. He has no history of trauma and no history of epilepsy. What is the initial step of management?

- A. Diazepam
- B. IV fluid
- C. Lorazepam
- D. Secure airway
- E. CT scan

Answer is D. The initial step of management for any patient who is having seizures is to secure his airway before giving any drug.

Meningitis Management

A 34 year old man brought to the Emergency Department with fever, headache and neck stiffness. What is the SINGLE most appropriate next step in management?

- A. IV cefotaxime
- B. IM benzylpenicillin
- C. Chloramphenicol
- D. Rifampicin
- E. Ciprofloxacin

Answer is A. A third generation cephalosporin intravenously is the antibiotic of choice for any patient presents to the hospital with meningitis. IM benzylpenicillin can be used in cases of presentation to a pre-hospital setting.

Dementia

A 65 year old male patient. He walks in a shuffling gait and accompanied by his wife. His wife mentioned that he has become increasingly forgetful. She has been seeing an imaginary friend who had died recently. What is the most likely type of dementia that the patient is having?

- A. Alzheimer
- B. Vascular dementia
- C. Lewy body dementia
- D. Parkinson
- E. Normal pressure hydrocephalus

Answer is C. The hallmark of lewy body dementia is dementia with visual hallucinations along with fluctuating levels of attention, and signs of mild parkinsonism.

Dementia

A 76 year old man has rigidity in his neck and trunk. His family reports that he has recently been showing inappropriate behaviour with inappropriate sexual comments. He also has had a few episodes of falling backwards. On examination reveals restricted downgaze. Which condition is described here?

- A. Shy-Drager syndrome
- B. Vascular dementia
- C. Lewy body dementia
- D. Progressive supranuclear palsy
- E. Normal pressure hydrocephalus

Answer is D. Characteristics of SNP includes axial rigidity, restricted downgaze, falling backwards due to axial rigidity and inappropriate behaviour.

Dementia

A 66 year old male presents with a history of falls over the past 10 months. Lately, he has had enuresis episodes. Moreover, his family have noticed a strange behaviour lately. On examination he has a clumsy gait. What is the single most likely diagnosis?

- A. Alzheimer
- B. Vascular
- C. Lewy body dementia
- D. Parkinson
- E. Normal pressure hydrocephalus

Answer is E. Normal pressure hydrocephalus characterised by a triad of gait abnormality, urinary incontinence and dementia.

A 53 year old woman presents with hoarseness of voice for more than 4 weeks. She also mentions that there was an incident of hemoptysis and has lost some weight. The patient smokes 20 cigarettes a day for the last 20 years. What is the SINGLE most likely diagnosis?

- A. Nasophranging carcinoma
- B. Paranasal carcinoma
- C. Laryngeal carcinoma
- D. Dysfunctional dysphonia
- E. Post viral infection

Answer is C. Chronic hoarseness is the most common early symptom of laryngeal cancer. History of smoking is a major risk factor.

Breast Pathology

A 34 year old woman went to her GP with a sore nipple. On examination, she has pruritic, scaly and erythematous skin over her right nipple which is spreading to the areola along with some bloody discharge from the right nipple. Her BMI is 34. What is the most likely diagnosis?

- A. Fat necrosis of the breast
- B. Paget's disease of the breast
- C. Fibroadenoma
- D. Intraductal papilloma
- E. Breast abscess

Answer is B. The skin appearance presents like eczema. Cracked, scaly skin over nipple along with bloody discharge are important signs to identify Paget's disease of the breast.

Breast Pathology

A 22 year old female presents to the GP clinic as she has been feeling a mobile mass in her left breast. The lady mentioned that the mass is more obvious before her menstrual cycle and it disappears after her menstrual cycle. On examination, the mass is in the upper outer quadrant, is firm and regular. What is the most likely diagnosis?

- A. Fat necrosis of the breast
- B. Paget disease of the breast
- C. Fibroadenoma
- D. Intraductal papilloma
- E. Breast abscess

Answer is C. Fibroadenomas present as painless, firm and mobile masses. Fibroadenomas tend to become prominent/slightly tender right before the period and disappear right after the period.

Breast Pathology

A 43 year old woman presents to the GP clinic as she has been having painful purulent discharge from her nipple from the left breast. On examination, she is febrile with a temperature of 39°C. Erythematous skin changes over the left nipple is seen and a fluctuant subareolar mass has been felt. What is the most single diagnosis?

- A. Fat necrosis of the breast
- B. Paget disease of the breast
- C. Fibroadenoma
- D. Intraductal papilloma
- E. Breast abscess

Answer is E. Out of the given options, the cause of her symptoms is likely to be an abscess. A breast abscess usually presents with breast pain, purulent discharge, fluctuant breast lump and fever.

Breast Pathology

A 43 year old female presents to the GP clinic as she has been having painful purulent discharge from the periareolar region following an abscess drainage. What is the most likely diagnosis?

- A. Fat necrosis of the breast
- B. Ductal fistula
- C. Fibroadenoma
- D. Intraductal papilloma
- E. Breast abscess

Answer is B. It is a communication between the duct and skin near usually near areola resulting in discharge from the periareolar region. Risk factors include previous incision and drainage of abscess.

Psychiatry

A 33 year old lorry driver developed a rash on his shin 4 weeks ago. Antibiotics were prescribed and the rash disappeared. He came to his GP anxiously asking for a test for HIV. 2 previous HIV tests done in the last few weeks have been negative. He is extremely distressed and insists for a repeat HIV test. What is the most likely diagnosis?

- A. Factitious disorder
- B. Hypochondriasis
- C. Malingering
- D. Generalised anxiety disorder
- E. Lewy body dementia

Answer is B. Hypochondriasis is a condition in which a person is excessively worried and has a persistent about having an underlying serious illness.

Ovarian Cancer

A 76 year old woman presents to her GP with bloating, abdominal pain and urinary frequency. She was successfully treated for breast cancer 15 years ago. She has a history of smoking and her BMI is 32 kg/m². She complains of tiredness and losing weight in the last 3 months. What is the most appropriate initial investigation?

- A. Alpha fetoprotein (AFP)
- B. CA-125
- C. CT pelvis
- D. Pelvic ultrasound
- E. Beta-hCG

Answer is B. Measure serum CA-125 in primary care and if the level is 35 IU/ml or greater, arrange an ultrasound scan of the abdomen and pelvis.

Antidepressants

A 35 year old female presents with depressed mood and lack of sleep for the last 8 weeks. She also feels tired throughout the day and has lost weight recently. She is guilty that this has decreased her performance at work. She has a history of migraine and has been prescribed sumatriptan. What is the SINGLE most appropriate drug to prescribe to this patient?

- A. Sertraline
- B. Fluoxetine
- C. Amitriptyline
- D. Mirtazapine
- E. Citalopram

Answer is D. SSRIs are avoided in patients receiving 'triptan' drugs for migraine. Mirtazapine is a safer alternative preferred in such patients.

Antidepressants

A 31 year old woman presents with low mood and difficulty in sleeping at night. She complains of hearing voices including the voice of her boyfriend who died 8 months ago. What is the SINGLE most likely diagnosis?

- A. Adjustment Disorder
- B. Atypical depression
- C. Psychotic depression
- D. Post traumatic stress disorder
- E. Nihilistic delusion

Answer is C. Psychotic depression is a subtype of major depression that occurs when a severe depressive illness includes some form of psychosis. The psychosis could be hallucinations and/or delusions.

Neurology

A 42 year old man diagnosed with epilepsy has been put on sodium valproate. Which of the following lab values should be monitored?

- A. Liver function test
- B. Renal function test
- C. ECG
- D. Plasma-valproate concentrations
- E. International normalised ratio (INR)

Answer is A. Monitor liver function before therapy and during first 6 months when the patient is put on sodium valproate due to the risk of hepatic impairment.

Ethics

A 31 year old woman who is in a sexual relationship with her boyfriend has tested positive for HIV.

Despite being persuaded by her GP, she has refused to disclose this information to her partner. What is the next step the GP should take?

- A. Take the patient's consent and disclose the information to her partner as he is at a risk of infection.
- B. Do not take the patient's consent and disclose the information to her partner as he is at a risk of infection.
- C. Inform the patient and disclose the information to her partner as he is at a risk of infection.
- D. Do not tell her partner as it her confidential medical information and he has no right to know.
- E. Call the patient and try to persuade her to tell her partner about the test results.

Answer is C. You may disclose information to her partner if you have reason to think that they are at risk of infection, the patient has not informed them and cannot be persuaded to do so. In such cases, you should tell the patient prior to the disclosure, if it is practicable and safe to do so.

Genetics

A 3 year old boy has been diagnosed with Duchenne muscular dystrophy. Her mother is now pregnant with her second child. What is the likelihood of her second child being a carrier of the same condition?

- A. Nil
- B. 25%
- C. 50%
- D. 75%
- E. 100%

Answer is B. It is a X-linked recessive disorder. Since the first child is affected, it means that the mother is a carrier. Since, only one female would be a carrier. Therefore, the overall chances of the unborn child to be a carrier are 25%. If the sex of the unborn child is known to be a female, then chances of being a carrier would be 50%.

Gastroenterology

A 56 year old man presents to his GP with chest pain radiating to his back and fever. He had recently undergone upper gastrointestinal endoscopy for dysphagia. His medical history includes diabetes. What is the single most likely diagnosis?

- A. Aortic dissection
- B. Pneumothorax
- C. Pneumonia
- D. Mediastinitis
- E. Tuberculosis

Answer is D. Oesophageal rupture is the most common cause of mediastinitis. Upper gastrointestinal (GI) endoscopy is a risk factor for oesophageal rupture. The pain in mediastinitis may radiate to the neck and back mimicking angina or aortic dissection.

Respiratory

A 32 year old male who is being treated with for asthma presents to the Emergency Department with acute shortness of breath. He has been given nebulised salbutamol, aminophylline, IV salbutamol, and magnesium sulphate. His labs show:
Potassium 2.9 mmol/L
What is the cause of his deranged lab results?

- A. Aminophylline infusion
- B. Salbutamol
- C. Magnesium sulphate
- D. Respiratory failure type 1
- E. Respiratory failure type 2

Answer is B. Potentially serious hypokalaemia may result from β_2 agonist therapy.

Genitourinary

A 27 year old married man presents with multiple painful ulcers on his glans penis. His wife does not have any lesions. She is pregnant and would like to know the possibility of transmission. What is the SINGLE most appropriate investigation to offer to his wife?

- A. Anti-HSV antibodies
- B. Dark field microscopy
- C. Treponema pallidum serology
- D. HSV viral culture
- E. NAAT testing

Answer is A. Serology - Anti-HSV antibodies are helpful in investigating asymptomatic partners of patients with genital herpes.

Endocrinology

A 40 year old male with chronic kidney disease on haemodialysis presents with oliguria to the renal ward 2 days post his last session. His ECG shows no changes for hyperkalaemia. Lab results show the following:

Serum K⁺ = 6.9 mmol/L

Urea = 13 mmol/L

Creatinine = 342 mmol/L

GFR = 19 ml/h

What is the SINGLE most appropriate management?

- A. Calcium supplement
- B. Urgent haemodialysis
- C. Intravenous calcium gluconate
- D. Salbutamol
- E. Sodium bicarbonate

Answer is B. UK Renal Association mentions that patients on haemodialysis with severe hyperkalaemia with no toxic ECG changes should receive dialysis treatment urgently, provided haemodialysis is immediately available.

Epidemiology

A new screening test for obstructive sleep apnoea syndrome (OSAS) was found positive in 30 patients who were also found positive on the sleep study. 20 patients were found negative but were confirmed to have the OSAS on sleep study. 150 patients were correctly diagnosed as negative by the test. 50 patients were said to be positive but found not to have OSAS on sleep studies. What is the specificity of the screening test?

- A. 50%
- B. 40%
- C. 60%
- D. 25%
- E. 75%

Answer is E. 75%. Specificity correctly identifies those who are Fit. Specificity = $d/(b+d)$ i.e. $150/(150+50) = 75\%$.

Gastroenterology

A 14 year old boy presents with 3 month history of watery stool and vague abdominal pain. He has lost 2 kg weight. On palpation, mild tenderness is noted in the right iliac fossa along with an irregular mass. What is the most likely diagnosis?

- A. Irritable bowel syndrome
- B. Coeliac disease
- C. Crohn's disease
- D. Ulcerative colitis
- E. Meckel's diverticulum

Answer is C. Crohn's disease most commonly affects the ileum and is associated with non-bloody diarrhoea. Tenderness in the right lower abdomen (ileitis) is a common presenting feature.

Psychiatry

A 34 year old man with a history of mania has been started on lithium. He is advised to have a blood test to check lithium levels. When should lithium levels be first checked after starting lithium?

- A. 12 hours
- B. 24 hours
- C. One week
- D. 3 months
- E. Four weeks

Answer is C. Lithium levels are checked a week after initiating lithium. Following that, lithium levels are checked every 3 months. The blood test to check the level should ideally be done 12 hours after the last dose.

Orthopaedics

A 76 year old woman who has been diagnosed with osteoarthritis presents with knee pain. She also complains of tummy pain meals and is awaiting endoscopy. Her current medications include paracetamol and topical NSAID. What is the SINGLE most appropriate medication to add for her knee pain?

- A. Oral NSAIDs
- B. Celecoxib
- C. Tramadol
- D. Codeine
- E. Oral morphine

Answer is D. If the patient is experiencing pain after using paracetamol and topical NSAID, add a weak opioid to paracetamol like codeine. Oral NSAIDs would be avoided in this patient as she is suspected to have gastric ulcers.

Emergency

A worried father presented to the GP with his 7 year old son. He was playing in the garden when he fell, hit his head and suddenly had a seizure lasting for 8 minutes. What is the next most appropriate step in the management?

- A. Refer to the Emergency Department to be seen immediately
- B. Reassure and discharge home
- C. Observe for 24 hours
- D. Perform a lumbar puncture
- E. Administer dexamethasone

Answer is A. The child should be referred to the Emergency Department to be seen immediately. Children with post-traumatic seizure must get a CT head scan done within 1 hour.

Emergency

A 37 year old man presents to the Emergency Department unconscious after falling from a third-floor building. He regains consciousness for an hour in A&E but then becomes drowsy and unconscious. He is intubated and ventilated. A few hours later he dies. What is the likely cause of death?

- A. Cardiac arrest
- B. Brain injury
- C. Extradural haematoma
- D. Subdural haematoma
- E. Respiratory depression

Answer is C. In an extradural haematoma, there is usually a history of trauma and head injury that causes loss of consciousness with lucid intervals.

Obstetrics

A 31 year old woman is planning to get pregnant. She has had 2 miscarriages and previously suffered with pelvic inflammatory disease 2 years ago. She was using Depo-Provera for contraception until a year ago. She has regular periods. She consumes 12 units of alcohol in a week, and her BMI is 30 kg/m². Which is the biggest risk for infertility?

- A. Depo-Provera
- B. Pelvic inflammatory disease
- C. History of miscarriages
- D. Consumption of alcohol
- E. Body mass index (BMI)

Answer is B. A history of PID is highly suggestive of damage to fallopian tubes and is the most common risk factor for infertility in this case.

Paediatrics

A 3 year old child presents to the Emergency Department with sudden onset breathlessness, stridor and drooling of saliva. He is abnormally drowsy. He has a high fever and is tachycardic. There is no rash. What is the next best step in the management?

- A. Nebulised saline
- B. Intubate
- C. IV fluids and IV Antibiotics
- D. IM epinephrine
- E. Humidified oxygen

Answer is B. The patient could have acute epiglottitis. Stridor is a sign of airway obstruction. Call the anaesthetist for immediate intubation.

Pharmacology

A 53 year old man with type 2 diabetes mellitus presents with burning pain in both the lower limbs. His glucose levels have not been well controlled over the past year, and he is currently undergoing investigations for diabetic retinopathy. What is the SINGLE most appropriate management for his pain?

- A. NSAIDs
- B. Paracetamol
- C. Duloxetine
- D. Capsaicin cream
- E. Local anaesthetic nerve block

Answer is C. Duloxetine is licenced for diabetic neuropathy. Capsaicin cream can be used as well if pain is localised and patient is unable to tolerate oral medications.

Pharmacology

An 89 year old woman with advanced breast cancer presents to her GP with back pain that shoots to her left leg. The pain is sharp in nature as can occur several times a day. She does not report any weakness in the leg. What is the SINGLE most appropriate initial management?

- A. Pregabalin
- B. Morphine
- C. Tramadol
- D. Surgical decompression
- E. Topiramate

Answer is A. Pregabalin is the only medication here that is used for neuropathic pain.

Gastroenterology

A 36 year old woman is seen in the Emergency Department with abdominal pain and bloody diarrhoea. She has experienced more than 20 episodes of bloody diarrhoea in the last 24 hours. An X-ray of her chest and abdomen shows enlarged transverse colon. What is SINGLE most likely cause of her symptoms?

- A. Giardia lamblia
- B. Ulcerative colitis
- C. Crohn's disease
- D. Campylobacter jejuni
- E. Pseudomembranous colitis

Answer is B. Ulcerative colitis is the most common cause of toxic megacolon. Transverse colon can appear extremely dilated with loss of the normal haustral folds called lead-pipe colon.

Cardiology

A 75 year old woman is scheduled for elective knee replacement surgery. She is seen in the preoperative clinic for assessment. Her blood pressure was measured 162/102 mmHg. She was reviewed 2 weeks later when her clinic blood pressure was measured to be 148/88 mmHg. What is the SINGLE most appropriate next step in the management of this patient?

- A. Ambulatory blood pressure monitoring (ABPM)
- B. Lifestyle modification
- C. Start an antihypertensive drug
- D. ECG
- E. Echocardiography

Answer is A. NICE recommends offering ABPM or HBPM to any patient with a clinic blood pressure of $\geq 140/90$ mmHg.

Urology

A 45 year old man attends the urology clinic with symptoms of intermittent frank haematuria over the past 3 weeks. What is the SINGLE most appropriate investigation to perform?

- A. CT kidney ureter bladder(KUB)
- B. CT urogram
- C. Cystoscopy
- D. Urine dipstick
- E. Renal biopsy

Answer is C. Cystoscopy must be performed to look for bladder cancer in a patient more than 40 years of age presenting with macroscopic haematuria.

Urology

A 45 year old man attends the urology clinic with symptoms of intermittent frank haematuria over the past 3 weeks. A cystoscopy has been planned. What is the SINGLE most appropriate additional investigation to perform?

- A. CT kidney ureter bladder(KUB)
- B. CT urogram
- C. Cystoscopy
- D. Urine dipstick
- E. Renal biopsy

Answer is B. CT urogram must be performed to look for renal and ureteric cancers in a patient more than 40 years of age presenting with macroscopic haematuria.

Cardiology

A 54 year old man presented with dizziness and chest pain. His ECG demonstrates complete AV dissociation, with independent atrial and ventricular rates. What is SINGLE most appropriate initial management?

- A. Temporary pacemaker insertion
- B. Permanent pacemaker insertion
- C. Atropine
- D. Dopamine
- E. DC shock

Answer is C. Complete heart block is treated acutely with atropine. It is also the most common ECG indication for permanent pacemaker insertion.

More Coming Soon

We continuously update our Question Bank and Gems. Stay tune to have more questions like these. If you enjoy this type of Gems, please let us know on social media icons below (you can click on them). Encouragement always helps us!



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