

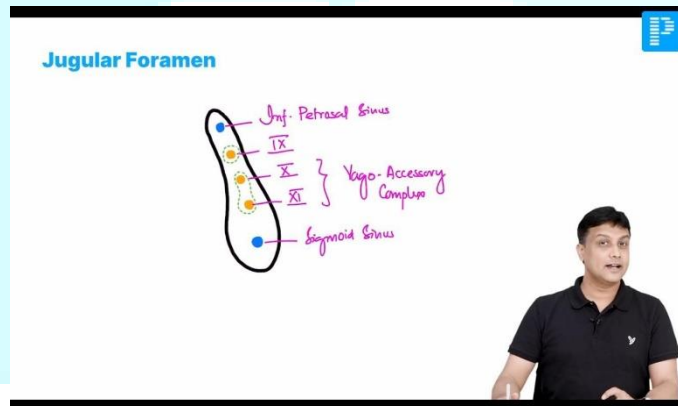
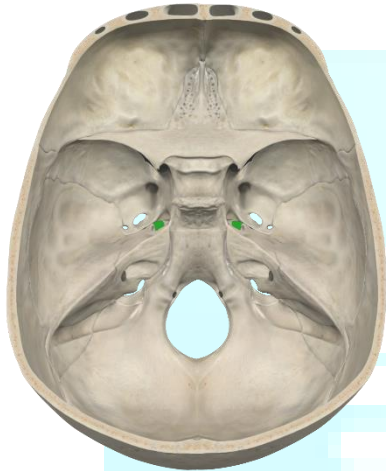


NEETPG 2025 Recall Questions

Anatomy

Q. The image below highlights the jugular foramen. Which of the following does NOT pass through this foramen?

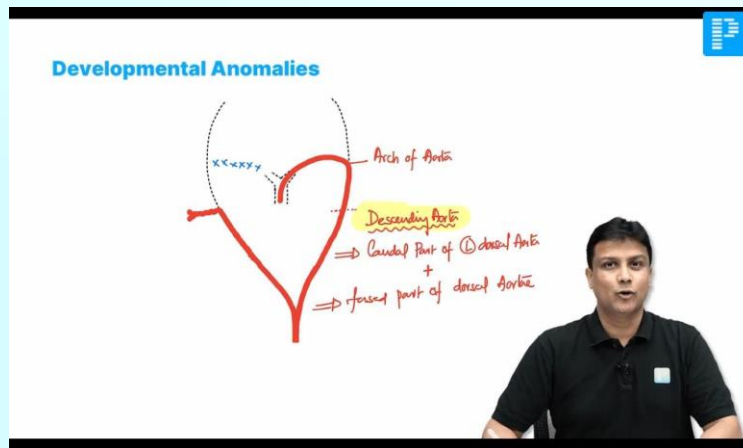
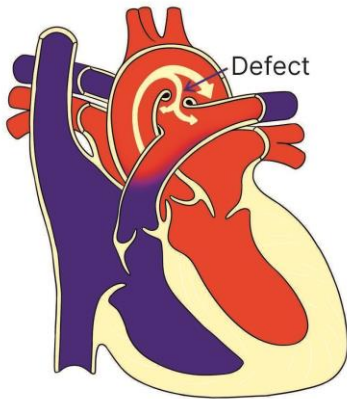
- A. **Hypoglossal nerve**
- B. Accessory nerve
- C. Glossopharyngeal nerve
- D. Vagus nerve



Q. The image shows a congenital cardiac defect. Abnormal development of which branch of aortic arch leads to this defect?

- A. Right 4th aortic arch
- B. **Left 6th aortic arch**
- C. Right 6th aortic arch
- D. Left 4th aortic arch

Patent ductus Arteriosus

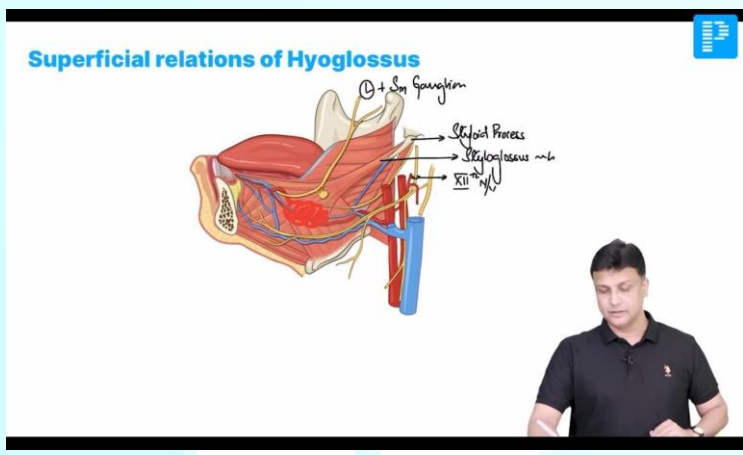
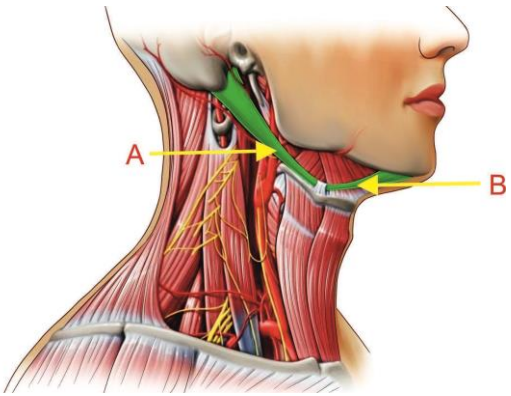


Q. During a neck dissection, a nerve was identified and marked that is most likely the vagus nerve (CN X). Which of the following is NOT a functional component of the vagus nerve?

- A. General visceral afferent
- B. General somatic efferent
- C. General visceral efferent
- D. General somatic afferent

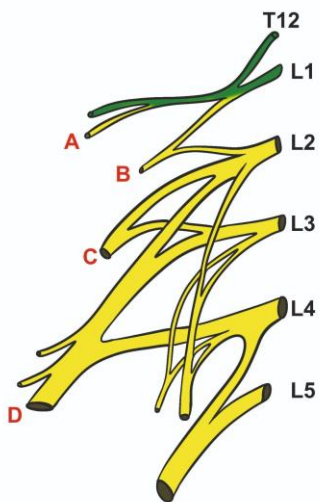
Q. What is the correct nerve supply to the muscles labelled as A and B?

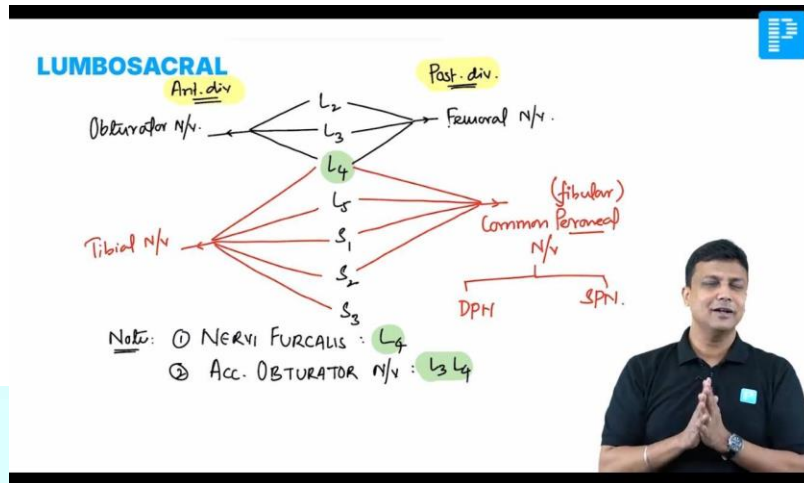
- A. A - facial nerve, B- Nerve to mylohyoid
- B. A - facial nerve, B- spinal accessory nerve
- C. A- Mandibular, B-Facial Nerve**
- D. A - Spinal Accessory, B-Mandibular nerve



Q. A patient present with meralgia paresthetica, Based on the diagram, identify the nerve involved in this condition.

1. A
2. B
3. C
4. D





Q. A Patient presents with ankle pain and swelling after a forceful eversion injury. Based on the mechanism of injury, which ligament is most likely to be damaged?

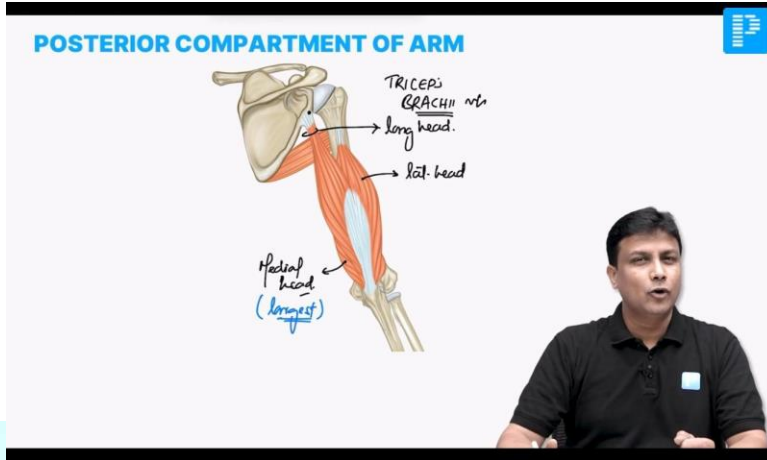
- A. Anterior talofibular ligament
- B. Calcaneofibular ligament
- C. Deltoid ligament**
- D. Posterior talofibular ligament

Medial ligament of ankle (Deltoid Ligament)	Lateral ligament of ankle (Collateral Ligament)
<ul style="list-style-type: none"> • Anterior Tibiotalar ligament • Posterior Tibiotalar ligament • Tibiocalcaneal ligament • Tibionavicular ligament 	<ul style="list-style-type: none"> • Anterior Talofibular ligament • Posterior Talofibular ligament • Calcaneofibular ligament

Note : Most stable position of foot is DORSIFLEXION.

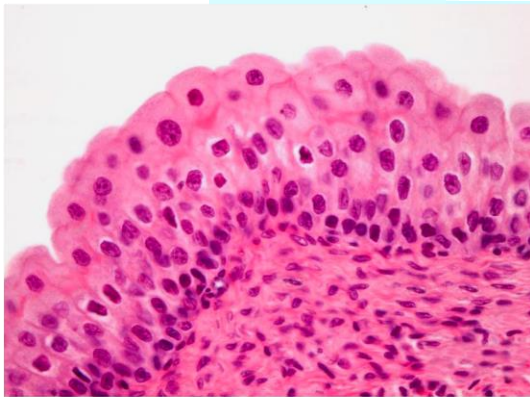
Q. During hyperextension, the long head of triceps gets detached from which site?

- A. Infraglenoid tubercle**
- B. Supraglenoid tubercle
- C. Shaft of humerus
- D. Olecranon process



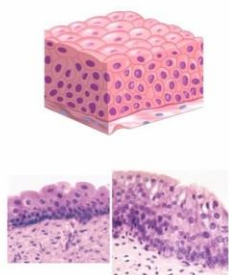

Q. Which of the following organs does this epithelium most likely belong to?

- A. Ureter
- B. Gallbladder
- C. Trachea
- D. Intestine



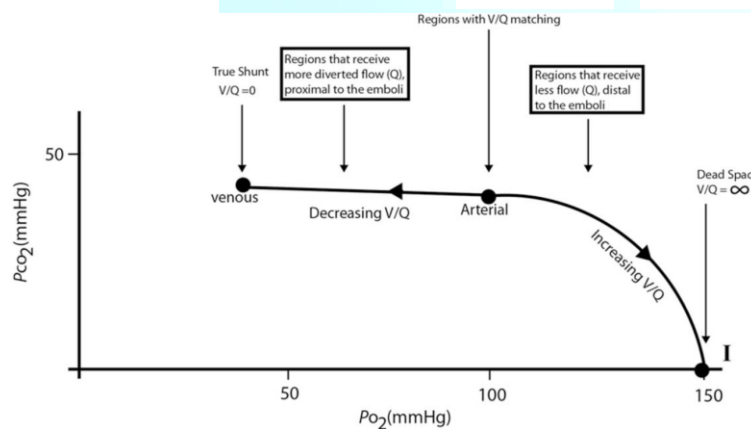
*** Transitional epithelium / Urothelium**

Features	Transitional, Urothelial cells
Apical layer	Umbrella/Inverted 'U' shaped cells
Intermediate layer	Polygonal cells
Basal layer	Columnar cells
Examples	<ul style="list-style-type: none"> • Ureter • Urinary bladder • Prostatic urethra

Physiology

Q. Effect of pulmonary embolism on graph of V/Q

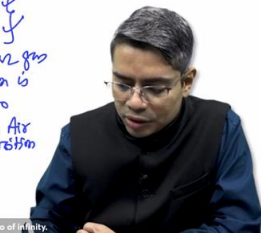


V-Q IN PATHOLOGY

The diagram shows a branching system representing lung pathology:

- Left branch (FB/Tumour):** A box shows $\frac{V}{Q} = \frac{0}{Q} = 0$. Below it, text states: "Alveolar gas composition similar to venous blood ($P_{O_2} = 40$, $P_{CO_2} = 46$)".
- Right branch (Embolism):** A box shows $\frac{V}{Q} = \frac{V}{0} = \infty$. Below it, text states: "Alveolar gas composition is similar to Inspired Air composition ($P_{O_2} = 149$, $P_{CO_2} = 0.3$)".
- Central point:** Shows $P_{O_2} = 149$ and $P_{CO_2} = 0.3$.

is 0.3. And this is happening with an V/Q ratio of how much? V/Q ratio of infinity.



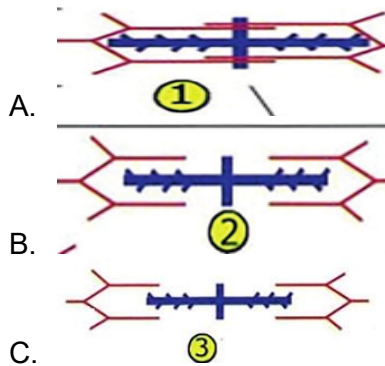
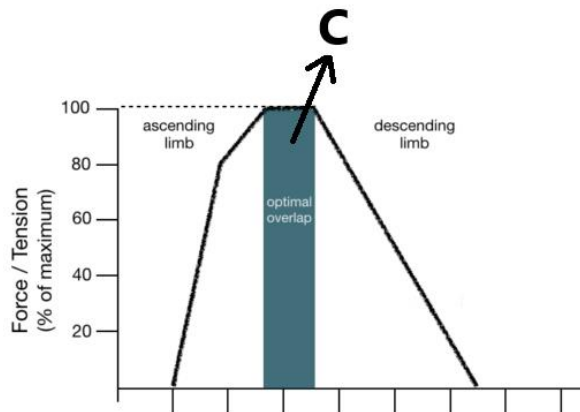
Q. By what primary mechanism does hydrochlorothiazide help prevent the formation of calcium stones?

- A. It increases the urinary excretion of citrate, which acts as a chelating agent.
- B. **It increases calcium reabsorption in the distal convoluted tubule, leading to a decrease in urinary calcium excretion.**
- C. It increases the filtration of calcium at the glomerulus, thereby reducing serum calcium levels.
- D. It directly dissolves existing calcium stones by altering urinary pH and increasing their solubility.

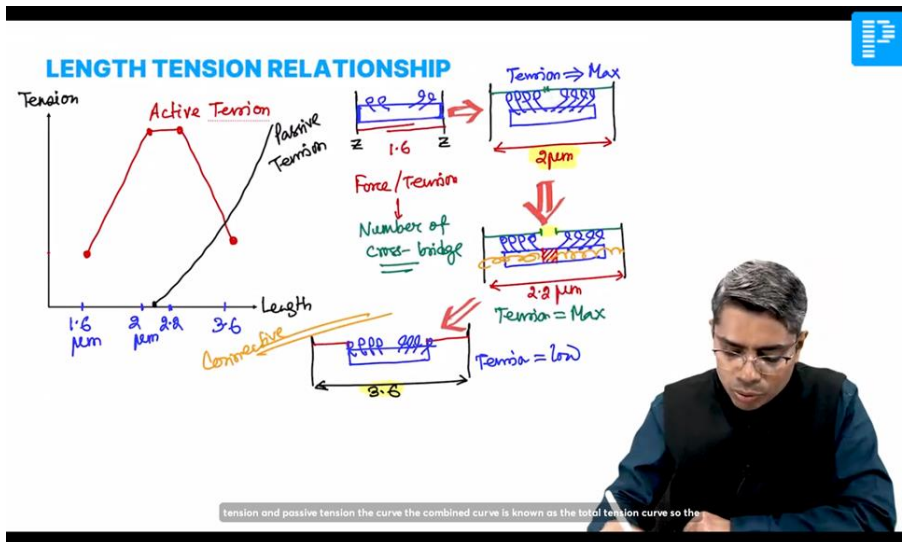
Na⁺ REABSORPTION: DCT

The diagram illustrates the mechanism of Na⁺ reabsorption in the distal convoluted tubule (DCT). It shows a cell with an apical membrane and a basolateral membrane. On the apical membrane, there is an NCC (Na-Cl cotransporter) and a TRPV5 channel. On the basolateral membrane, there is a Na-K-ATPase pump and an NCX (Na-Ca exchanger). Handwritten notes indicate that Thiazide inhibits NCC, PTH stimulates TRPV5, and Calcitriol stimulates NCX. The diagram also shows the movement of Na⁺, Cl⁻, Ca²⁺, and K⁺ ions.

Q. At point c what is the length tension relationship of sarcomere



D.



Q. Which of the following is Mitochondrial inheritance disorder

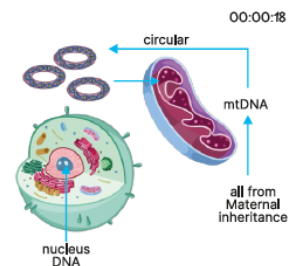
- A. **Kearns-Sayre syndrome**
- B. Williams syndrome
- C. Achondroplasia
- D. Cystic fibrosis

MITOCHONDRIAL INHERITANCE

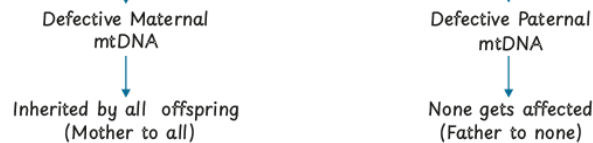
- Mitochondria have circular DNA: Mitochondrial DNAs (mtDNA)
 - 100% Maternal inheritance

HUMAN MITOCHONDRIAL GENOME ENCODES

- 13 proteins
- 2 Ribosomal RNAs (rRNAs)
- 22 mitochondrial transfer RNAs



POINT MUTATION



EXAMPLES

MELAS

M/c Mitochondrial disease

- Mitochondrial Encephalopathy,
- Lactic Acidosis,
- Stroke-like episodes

KSS

- Kearns Sayre Syndrome
- Pearson Syndrome if progress to adolescents/adulthood CNS involvement

Q. A man is climbing a mountain for trekking. Based on his physiological response to the high altitude, what is the most likely primary acid-base abnormality in his blood?

- A. Metabolic acidosis
- B. Metabolic alkalosis
- C. Respiratory acidosis
- D. Respiratory alkalosis**

DECREASED PARTIAL PRESSURE

Mount Everest, 8849m (29,029 ft): $P_B = 253 \text{ mmHg}$

Composition
 $N_2 \rightarrow 79\%$
 $O_2 \rightarrow 21\%$
 $CO_2 \rightarrow 0.04\%$

Same

Partial Pressure = $(P_B \times \%)$

$\downarrow P_{O_2}$ $\downarrow P_{N_2}$ $\downarrow P_{CO_2}$ at high Altitude


At Mt. Everest

$$P_{O_2} = (253 \times \frac{21}{100}) = \sim 53 \text{ mmHg (160)}$$

$$P_{iO_2} = (253 - 47) \times \frac{21}{100} \approx 43 \text{ mmHg (150)}$$

$$P_{AO_2} \approx 40 \text{ mmHg (100 - 104 mmHg)}$$

to 104 mm of mercury. Now, you compare that whenever you are ascending at the top of the



Q. A 68-year-old male with a history of COPD presents to the emergency room with severe dyspnea and altered mental status. An arterial blood gas (ABG) is drawn with the following results:

pH: 7.28
 PaCO₂: 60 mmHg
 HCO₃⁻: 28 mEq/L
 Na⁺: 142 mEq/L
 Cl⁻: 100 mEq/L

Based on these results, what is the calculated anion gap?

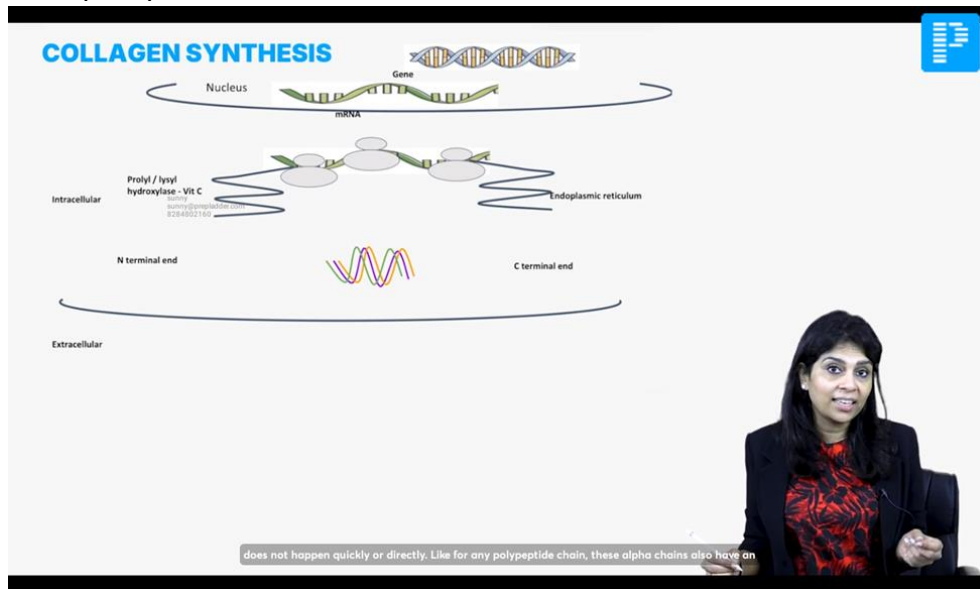
- A. 10 mEq/L
- B. 14 mEq/L
- C. 18 mEq/L
- D. 24 mEq/L**

- To check for compensation: Expected and actual pCO₂ values should be matching
 - Expected pCO₂ = HCO₃ + 15 = 16 + 15 = 31 mm Hg
 - Actual pCO₂ = 31 mm Hg
- Anion gap: Na⁺ - (Cl⁻ + HCO₃⁻) = 132 - (92 + 16) = 24 meq/L

Biochemistry

Q. A child presents with a history of fractures, multiple petechiae, perifollicular hemorrhages, and gum bleeding. Which of the following enzyme defects is involved?

1. Lysyl oxidase
2. **Prolyl hydroxylase**
3. Tyrosinase
4. Alkaline phosphatase



Q. A person with jaundice presented with a history of bleeding and symptoms normalised after giving Vitamin K injection. The probable cause is?

- A. **Biliary obstruction**
- B. Alpha antitrypsin deficiency
- C. Autoimmune hepatitis
- D. Factor XI deficiency

Location and Function
Cystic Fibrosis Transmembrane Conductance Regulator (CFTR) Protein

Always liver, pancreas, male & female reproductive

Sweat gland
 $Cl^- / HCO_3^- Na^+ H_2O$

Mucus layer
Bacteria
Cell membrane
Cilia
CFTR
Inside cell
Chloride ion
Bicarbonate
ATP

clog or blockage of airway, blockage of ducts of exocrine glands. So, what are the manifestations

Q. A man is trapped in a tunnel for 5 consecutive days without access to food but survives. What is the primary source of energy for his brain during this period?

- A. Gluconeogenesis
- B. Glycogenolysis
- C. **Ketosis**
- D. Lipolysis

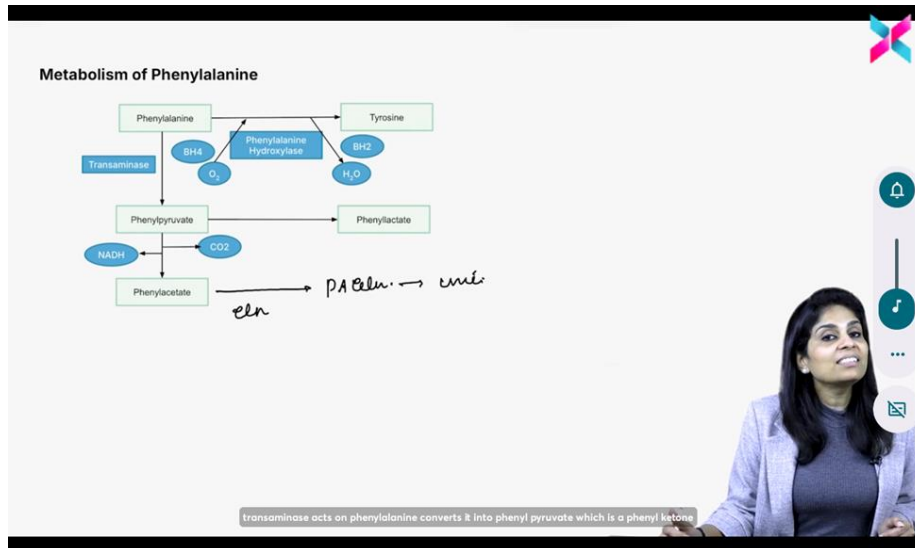
PREFERRED FUELS

etc. ketosis

Cell	Fed state	Fasting state	Starvation
RBC	glu	glu	glu.
Neurons	glu	glu	KB.
Red muscle fibres	FA	FA	KB.
White Muscle fibres	glu	glu	glu.
Cardiac Muscle fibres	FA	FA	KB
Liver	AA	AA	FA

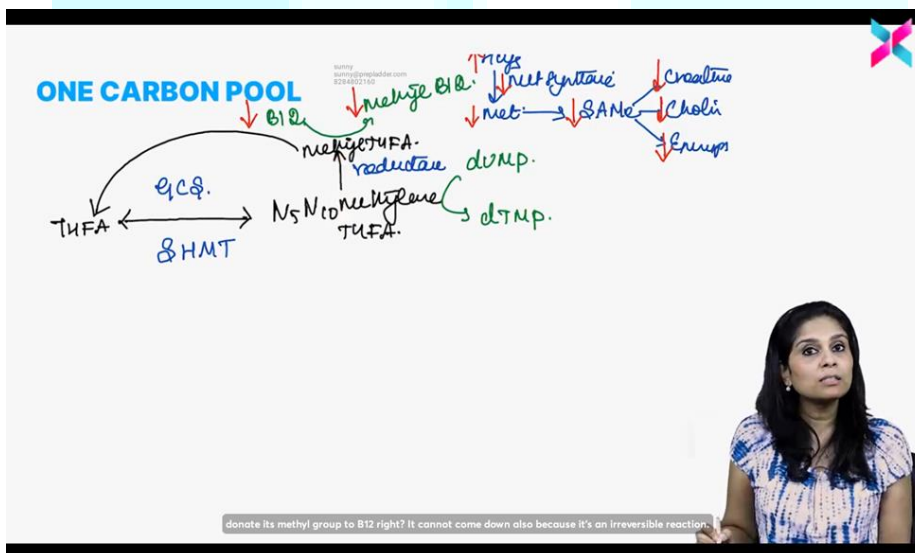
Q. A patient has elevated phenylalanine levels (40 mg/dL), but phenylalanine hydroxylase enzyme levels are normal. Which cofactor deficiency is most likely responsible for this condition?

- A. Tetrahydrofolate
- B. **Tetrahydrobiopterin (BH4)**
- C. Thiamine
- D. Pyridoxine



Q. A patient presents with anemia, positive Romberg sign, and other neurological findings suggestive of vitamin B12 deficiency. Laboratory findings show elevated homocysteine levels. Which amino acid is likely to be deficient in this patient?

- A. Cysteine
- B. Methionine**
- C. Tyrosine
- D. Glutamate



Q. A neonate presents with seizures and is found to have a cherry red spot on fundus examination. Enzyme assay reveals deficiency of hexosaminidase A. Which of the following substances is most likely to be accumulated in this patient?

- A. GM1 ganglioside
- B. GM2 ganglioside**
- C. Sphingomyelin
- D. Glucocerebroside

Cer - Gal - Gal - NANA

~~Galactosaminidase~~

~~Hexosaminidase A~~

Tay Sachs disease | E₁N₂ ganglioside

Now let's assume that this hexosaminidase A is intact, okay?

Q. A patient on long-term hydrochlorothiazide therapy presents with features of neuropathy, heart failure, and symmetrical tingling sensations. Which of the following nutrient deficiencies is most likely responsible?

- A. Selenium
- B. Thiamine**
- C. Vitamin B12
- D. Zinc

THIAMINE DEFICIENCY

Wof hen

- Oxidative decarboxylation
 - PDH

hypotension ↑HR.

Edema.

is characterized by hypotension, tachycardia, high output cardiac failure and peripheral edema

Q. A frameshift mutation occurs due to the insertion of a new nucleotide at the 4th position of an mRNA sequence with 900 nucleotides. What is the most likely outcome of this mutation?

- A. No change in the final protein
- B. Partial protein production
- C. Complete change in protein production**

D. No change due to RNA editing

TYPES OF MUTATION - NUCLEOTIDE SEQUENCES

```
graph TD
    Root[TYPES OF MUTATION - NUCLEOTIDE SEQUENCES] --> Point[Point  
(Substitution)]
    Root --> Frameshift[frameshift mutati.]
    Point --> Transition[Transition]
    Point --> Transversion[Transversion]
    Transition --> T1[Pu -> Pu]
    Transition --> T2[Pyr -> Pyr]
    Transversion --> TV[Pu <-> Pyr]
    Frameshift --> Deletion[Deletion]
    Frameshift --> Insertion[Insertion]
```

Point (Substitution)

Transition

$Pu \rightarrow Pu$

$Pyr \rightarrow Pyr$

Transversion

$Pu \leftrightarrow Pyr$

frameshift mutati.

Deletion

Insertion

Q. A patient presents with skin cancer and hyperpigmentation that worsens with sunlight exposure. Which of the following DNA repair mechanisms is most likely defective in this condition?

- A. Nucleotide excision repair
- B. Base excision repair
- C. Non-homologous end joining (NHEJ)
- D. Mismatch repair

NUCLEOTIDE EXCISION REPAIR

Xeroderma pigmentosa

5' 3'

Helicase

5' 3'

UV Specific endonuclease or excinuclease

5' 3'

DNA Polymerase α/β

5' 3'


Q. A 22-year-old tall male presents with long limbs, increased arm span, hypermobile joints, and high-arched palate. On examination, he has lens subluxation and a diastolic murmur suggestive of aortic root dilation. Which of the following genes is most likely mutated in this condition?

- A. Fibrillin-1 (FBN1)
- B. COL4A5

- C. COL1A1
- D. Elastin

MARFAN'S SYNDROME

- Genetics?
 - CHROMOSOME = chr 15
 - GENE DEFECT = FBN 1 (FIBRILLIN 1)
 - DEFECTIVE PROTEIN = FIBRILLIN protein } aka
 - NEGATIVELY AFFECTED PROTEIN



for a study partner. Same way fibrillin says I don't want to study and work alone. I want to

Q. A patient presents with orange-colored tonsils. Laboratory investigations reveal triglyceride level of 140 mg/dL and HDL cholesterol of 5 mg/dL. What is the most likely diagnosis?

- A. Familial hypercholesterolemia
- B. Tangier disease
- C. Type I hyperlipoproteinemia
- D. Abetalipoproteinemia


DISORDERS OF HDL METABOLISM

LCAT Deficiency

- Partial LCAT deficiency – Fish eye disease
- Complete LCAT deficiency
 - Hemolytic anemia and renal failure
 - LpX detected on electrophoresis

ABCI Mutation: Tangier's disease

- Hepatosplenomegaly
- Greyish Orange Tonsils
- Mononeuritis multiplex



grayish orange tonsils, hepatosplenomegaly and mononeuritis multiplex, okay? So,

Q. A patient presents with elevated total cholesterol, subcutaneous xanthomas, and a positive family history of similar findings. Triglyceride levels are normal (<140 mg/dL). What is the most likely type of familial dyslipidemia?

- A. Type I
- B. Type IIa**
- C. Type IIb
- D. Type II

HYPERLIPOPROTEINEMIAS

- Hypercholesterolemia
- Hypertriglyceridemia
- Both

Handwritten notes on the whiteboard:

- Autosomal Dominant
- Negative $< 8\%$
- Defective $< 25\%$

Printed text on the whiteboard:

- Type IIa
- Familial hypercholesterolemia
- LDL Receptor Defect

Small text box at the bottom: of LDL receptor and this was recently asked in INICT. Right? Type 2a. They did not give you the

Pathology

Q. Which of the following types of cell death involves activation of caspase enzymes?

- A. Necrosis and Apoptosis
- B. Apoptosis and Pyroptosis**
- C. Apoptosis and necroptosis
- D. Apoptosis only

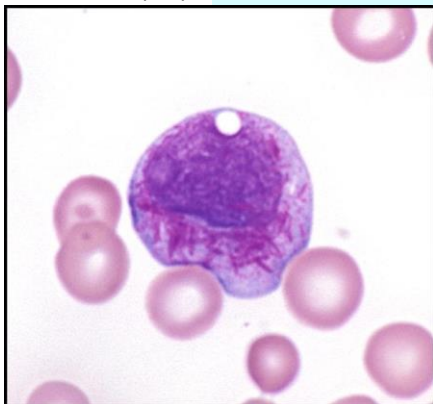
PYROPTOSIS
 ✓ FEVER + CELL DEATH ✓

Bact eg: Shigella
 Salmonella

NOD Re → activate INFLAMMASOME
 ↓
 activates CASPASES
 ↓
 IL 1 → FEVER
 1 }
 4 }
 5 }
 11 } → cell death

Q. A 68-year-old man presents with bleeding manifestations. Peripheral smear shows the presence of cells shown below. Which of the following is the most common chromosomal abnormality seen in this condition?

- A. t(8;21)
- B. t(15;17)**
- C. t(14;18)
- D. inv(16)



AML $M_0 \rightarrow M_7$

FAB Classification

AML M_0 : AML UNDIFFERENTIATED (MPO -ve)

AML M_1 : AML WITHOUT MATURATION

AML M_2 : AML WITH MATURATION

AML M_3 : APML (ACUTE PROMYELOCYTIC LEUKEMIA)

- ↳ MIC
- ↳ t(8:21) RUNX1-RUNX1T1 Fusion
- ↳ t(15:17) PML-RARA Fusion
- ↳ M/E: FRAGGOT CELLS, PHI BODIES
- ↳ ONLY LEUKEMIA w/ DIC
- ↳ R: ATRA + ARSENIC TRIOXIDE
- all trans retinoic acid

trioxide. But this is all medicine part, treatment and all. What do you see in pathology? In

Q. A lymphoma characterized by the presence of centrocytes and centroblasts, along with BCL2 positivity and CD10 expression, is most commonly associated with which chromosomal translocation?

- A. t(2;5)
- B. t(11;14)
- C. t(14;18)
- D. t(11;14)

BNHL

① Follicular Lymphoma : OR1A

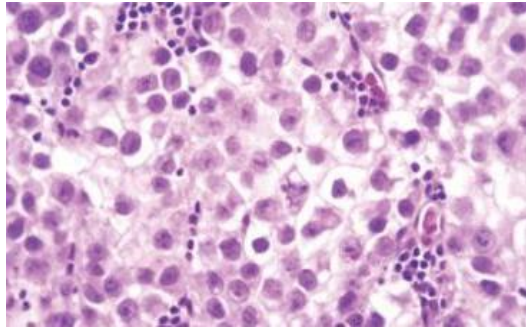
- Most common indolent lymphoma 😊
- Translocation = t(14:18)
 - ↳ Bcl 2 ↑ : ↑anti-apoptotic factor ⇒ FL
- Lymph node biopsy = CENTROCYTE & CENTROBLASTS
 - ↳ CLEAVED NUCLEI = BUTTOK CELLS
- Bone marrow involvement - PARATRABECULAR
- Markers
 - CD19+
 - CD20+
 - Bcl 2+

Now, what I have already taught you that what is the origin of follicular lymphoma? It is,

Q. A 30-year-old man presents with a painless testicular mass. An ultrasound shows a well-circumscribed, homogeneous, non-hemorrhagic testicular tumor. Which of the following is the most likely diagnosis?

- A. Yolk sac tumor
- B. Choriocarcinoma

- C. Teratoma
- D. Seminoma



Germ Cell Tumors


Tumors	Gross	Microscopy	Tumor Marker	
mic Dysgerminoma (~seminoma)	CUT POTATO	FRIED EGG CELLS FIBROUS SEPTA L-P INFILTRA	LDH PLAP	βHCG +/-
Yolk Sac Tumor/				
Endodermal sinus tumor (<)				
Choriocarcinoma				
Teratoma				

minus tumor marker may be increased in 30% cases. And there's a question that came on this, which I

Q. A child presents with visual disturbances and delayed growth. Imaging reveals a suprasellar mass, and histopathology shows the presence of "wet keratin" (compact, eosinophilic anucleate keratin). What is the most likely diagnosis?

- A. Craniopharyngioma
- B. Medulloblastoma
- C. Glioma
- D. Pituitary adenoma

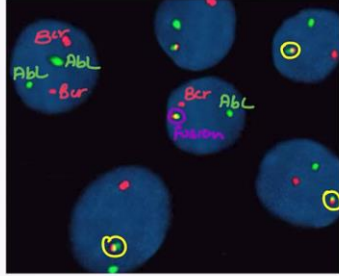
- B. Western blot
- C. Flow cytometry**
- D. Immunohistochemistry



IOC : FISH

Red = Bcr
Green = Abl

ALL = FISH
AML = FISH
M3 = FISH
CLL = FISH
CML = FISH



cytometry but for CML, translocation 922 is needed and that is why the diagnosis of choice is going

Q. A patient presents with a mass in the front of the neck, along with odynophagia and dyspnea. Histopathology reveals tumor cells positive for TTF-1, synaptophysin, and chromogranin, and there is evidence of amyloid deposition. What is the most likely diagnosis?

- A. Papillary thyroid carcinoma
- B. Follicular thyroid carcinoma
- C. Medullary thyroid carcinoma**
- D. Anaplastic thyroid carcinoma

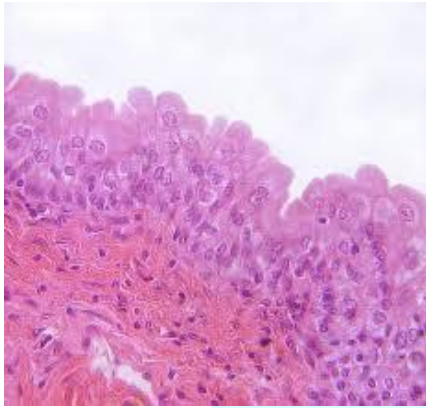
- Tumor marker: ↑ calcitonin → ACAL
- Microscopic examination: **PINK EXTRACELLULAR ACAL**
- ↓ Congo Green stain
- ↓ Apple Red Birefringence on polarising microscopy
- Markers: NE m




Also, I want to remind you that all of your neuroendocrine markers are going to be positive in medullary carcinoma.

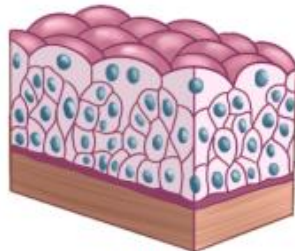
Q. This type of epithelium is most likely found lining which of the following structures?

- A. Esophagus
- B. **Urinary bladder/ ureter**
- C. Small intestine
- D. Trachea

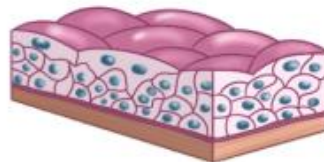


TRANSITIONAL EPITHELIUM (UROTHELIUM)

- Found in the urinary tract
- Characterized by layers transitioning from cuboidal to **umbrella-shaped cells** at the surface.
 - Umbrella-shaped cells in transitional epithelium cover multiple underlying cells.
- While stretching → The umbrella-shaped cells give the appearance of flattened squamous cells
 - Stratified squamous epithelium → Many layers of cells
 - Transitional epithelium while stretching → Thin

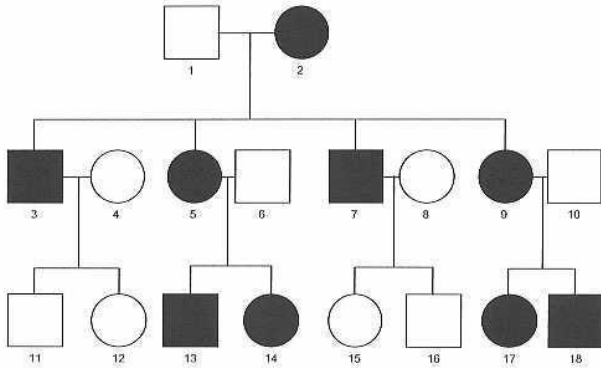


Relaxed



Stretched

- Q. Which of the following conditions is most likely to follow this pattern of inheritance?
- A. Duchenne muscular dystrophy
 - B. Huntington's disease
 - C. **Kearns-Sayre syndrome**
 - D. Marfan syndrome



⑥ LEIGH'S SYNDROME

⑦ PEARSON SYNDROME (INICET) — CHILDHOOD ONSET

→ Anemia

→ Ringed sideroblasts

→ Erythroid cell vacuolisation

→ Pancreatic exocrine deficiency

→ prog. to adults

⑧ KEARN'S SAYRE SYNDROME

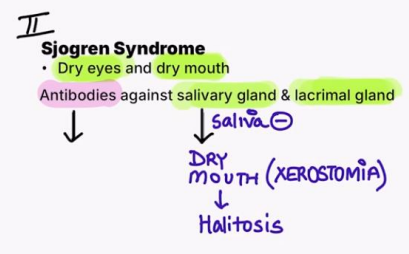

CNS +

and that will be known as the Kearns Sire syndrome so the same Pearson syndrome if it progresses to

Q. A middle-aged woman presents with dry eyes and dry mouth. Laboratory tests reveal positive anti-Ro (SSA) and anti-La (SSB) antibodies. What is the most likely underlying pathological mechanism?

- A. Destruction of exocrine glands by neutrophils
- B. IgE-mediated hypersensitivity reaction
- C. Lymphocytic infiltration and destruction of salivary and lacrimal glands**
- D. Deposition of amyloid in salivary glands

II Sjogren Syndrome
 • Dry eyes and dry mouth
 Antibodies against salivary gland & lacrimal gland
 ↓
 ↓ Saliva ⊖
 DRY MOUTH (XEROSTOMIA)
 ↓
 Halitosis

bad breath because saliva is very important to clear the germs and if saliva is not being produced

Pharmacology

Q. Benralizumab acts on which receptor?

- A. IL 5
- B. IL4
- C. IL1
- D. TNF alpha

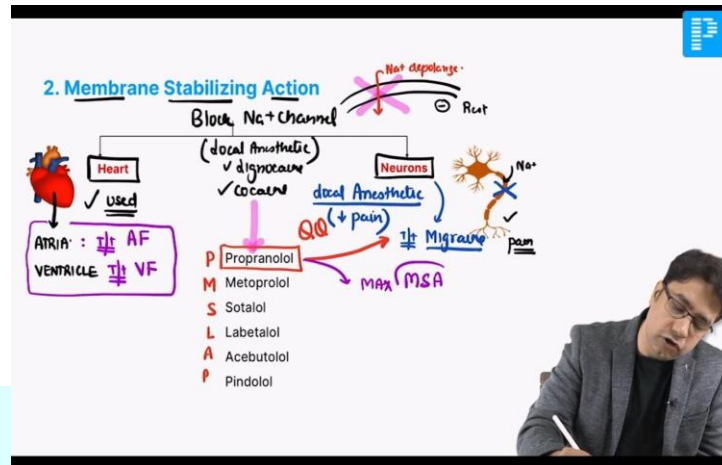
MONOCLONAL ANTIBODIES IN ASTHMA

- ✓ Omalizumab → Block IgE s/c inj. every 4 weeks → Corticosteroid Resistant Asthma
- ✓ Mepolizumab s/c → Block IL-5 → Chronic URINARY ATOPIC dermatitis }
Churg Strauss syndrome
- ✓ Reslizumab i/v → Block IL-5 receptor
- Benralizumab → Block IL-5 receptor
- Dupilumab → Blocks IL-4 receptor
- Tezepelumab → Block TSL (Thymic Stromal Lympho)

Q. A woman diagnosed with migraine and has a family history of coronary artery disease has previously been treated with sumatriptan. What is the drug of choice for migraine prophylaxis?

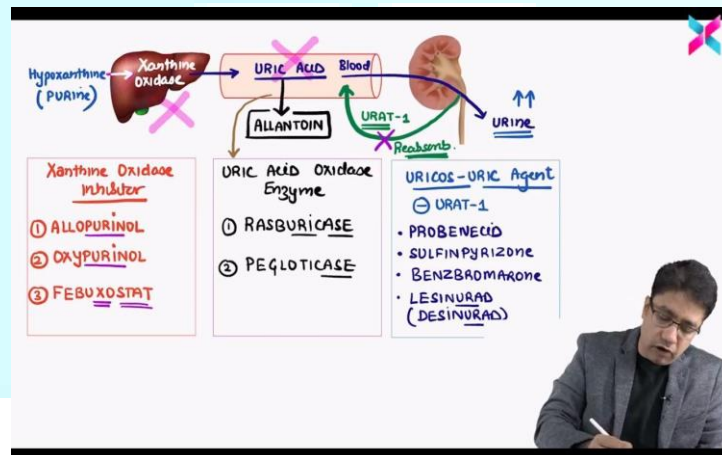
- A. Propranolol
- B. Topiramate
- C. Ergotamine

D. Naratriptan



Q. A patient with tumor lysis syndrome has elevated uric acid levels. What is the mechanism of action of pegloticase?

- A. Xanthine oxidase inhibition
- B. Urat-1 receptor inhibition
- C. Oxidises uric acid**
- D. Excretion of uric acid



Q. A patient presents with GERD. Which drug helps in contraction of LES and increases gastric emptying?

- A. Metoclopramide**
- B. Pantoprazole
- C. Vonoprazan

D. Sodium alginate

· **Domperidone**
 D₂ Antagonist

· **Metoclopramide**
 MOA: 5HT₄ Agonist
 D₂ Antagonist
 ↑↑ Ach

↑ Chemotherapy induced
 Antiemetic
 ↓ Prokinetic
 ↓ [DGE] GASTROPARESIS

A photo shows a patient with a white bandage covering their chest area.

Q. A patient is started on hydrochlorothiazide for hypertension and later develops renal stones. What could be the probable cause?

- A. Increased calcium excretion
- B. Decreased calcium excretion**
- C. Increased oxalate absorption
- D. Decreased citrate excretion

Summary Of Diuretics

Diuretic	Blood Na+	Blood K+	Blood Ca+	Blood Mg+	Blood H+	
Carbonic anhydrase inhibitors ✓	↓	↓ <u>WAA</u>	↓	↓	↑	Hypokalemic Metabolic acidosis
Loop diuretics	↓ <u>MAX</u>	↓	↓	↓	↓	Hypokalemic Metabolic Alkalosis
Thiazides diuretics	↓	↓	↑	↓	↓	
K+ sparing diuretics	↓	↑	↑	↑	↑	Hyperkalemic metabolic acidosis

Q. A patient with HIV develops tuberculosis. When should ART be initiated?

- A. Start ATT, then ART after 2 weeks**
- B. Start ART and ATT simultaneously
- C. Start ART followed by ATT
- D. ART alone

FOR PATIENT WITH HIV TB COINFECTION

- Start ATT first
- 2 weeks later start ART → To prevent immune reconstitution syndrome

Q. A patient with HIV is newly diagnosed with multidrug-resistant tuberculosis. Which of the following is the appropriate regimen, and what should the patient be monitored for?

1. **BPaLM; monitor for immune reconstitution syndrome**
2. INH + Levofloxacin + Pyrazinamide + ethambutol, monitor for hepatotoxicity
3. INH + Levofloxacin + Streptomycin + Ethionamide, monitor for pyridoxine deficiency
4. INH + Clarithromycin + Pyrazinamide + Ethambutol, monitor for optic neuritis

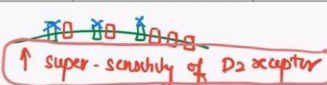
• BPaLM for 6 months


- Started by WHO in 2022
- Adopted by MOHFW (Ministry of health and family welfare) in 2024
- **B**- Bedaquiline (100mg OD) 400mg OD X 2weeks or 200mg OD X 8weeks
- **P**- Pretomanid (200mg OD)
- **L**- Linezolid (600mg OD)
- **M**- Moxifloxacin (400mg OD)

Q. A patient on haloperidol for 2 years presents with orofacial dyskinesia and extrapyramidal symptoms. What is the appropriate treatment?

- A. Acute dystonia - ropinirole
- B. Tardive dyskinesia - valbenazine**
- C. Akathisia - propranolol

Extrapyramidal symptoms	Features	Treatment
<p><u>Tardive Dyskinesia</u></p> <p>* (after years)</p> <p>* <u>LAST EPS</u></p>	<p>Abⁿ excessive movement</p> <p>↓</p> <p>ORO - FACIAL Area.</p> <p>* Lip smacking</p> <p>* pouting (F > M)</p>	<p>STOP All AP</p> <p>↓</p> <p><u>START Clozapine</u></p>

Block D₂ :  ↑ super-sensitivity of D₂ receptor



Q. A patient with paroxysmal supraventricular tachycardia (PSVT) requires treatment for prophylaxis. Which drug is appropriate?

- A. IV adenosine
- B. IV esmolol
- C. Oral phenytoin
- D. **Verapamil**

PSVT
Paroxysmal Supraventricular Tachycardia

Block AV node

Vagal stimulation: Carotid massage, Ocular massage, Valsalva manoeuvre.

Adenosine: Acute PSVT

Beta Blockers: maintenance in Chronic PSVT

CCB (Verapamil/diltiazem): PSVT + Asthma

• Absent P Wave
• Narrow QRS

ACE, V, AV, C.I., Asthma

ECG showing narrow QRS tachycardia with absent P waves.

Q. A patient is on salbutamol and ipratropium but continues to have nocturnal exacerbations of asthma. What is the next step?

- 1. Oral corticosteroids
- 2. **Laba plus inhalation steroids**
- 3. Montelukast
- 4. Increase the dose of salbutamol

Specific Beta 2 agonists

- SABA
 - Salbutamol (ALBUTEROL)
 - Terbutaline
 - Pirbuterol
- LABA
 - Salmeterol
 - Bambuterol
- Ultra-LABA
 - Indacaterol
 - Vilanterol
 - Oladaterol
 - Clenbuterol

Banned
"Anabolic effect"
↳ MISUSE

Microbiology

Q. Group A Streptococcus is the most common cause of bacterial pharyngitis in school-aged children. Which of the following bacterial components is primarily responsible for its attachment to fibronectin on the epithelial lining of the pharynx?

- A. Lipoprotein
- B. Lipoteichoic acid**
- C. Capsule
- D. Flagella

Gram positive	Features	Gram negative
100 layer thick	Thickness	
Peptidoglycan, Lipoproteins, Teichoic acid (ATTACHMENT)	Lipid content Composition	
	Outer membrane	

learning, although it's in Hindi, teichoic acid is for tiline. Tiline means attachment. Overall,

Q. A 25-year-old sewage worker presents with fever for 1 week and weakness for 1 day. Laboratory evaluation reveals elevated bilirubin and decreased urine output. Conjunctival redness? What is the most likely diagnosis?

- A. Brucellosis
- B. Weil's disease**
- C. Enteric fever

	First stage/septicemic phase	Second stage/immune phase
Duration	3-10 days	10-30 days
Features	<ul style="list-style-type: none"> • High grade fever • Jaundice • Raised liver enzymes • Haemorrhages- pulmonary, skin, conjunctival • Renal- raised creatinine <p> ◦ CONJUNCTIVAL ◦ SUPPURATION ◦ FAGET'S SIGN </p>	Similar to first stage
Sample	Blood, CSF (1 st week)	Urine (2 nd week)
Serology	IgM absent	Present
Antibiotics	Doxycycline	<ul style="list-style-type: none"> • Refractory • Penicillin

Please note it is icterohemorrhagic fever.

Q. In a village, several people developed dysentery after consuming raw milk. On laboratory examination, gram-negative, curved rods with polymorphonuclear infiltration were found in stool samples. Which of the following is the most likely causative organism?

- A. Clostridium perfringens
- B. Staphylococcus aureus
- C. Vibrio parahaemolyticus

D. Campylobacter jejuni


Campylobacter Jejuni

- Route: **INGESTION (contaminated poultry)**
- Incubation Period: **1-7 days**

Intestinal infection

- **Inflammatory diarrhea**, Abdominal pain, Fever
- Pseudo appendicitis
- Loose stools to **bloody diarrhea**, self-limiting

stools. So that is why I said that you are very, very worried, not just about the food.



Q. A 5-year-old child presents with nocturnal perianal itching. The image below shows the organism identified on an adhesive tape test.

Mother saw a worm??

What is the most likely causative agent?

- A. Enterobius vermicularis**
- B. Ancylostoma duodenale
- C. Hymenolepis nana
- D. Trichuris trichiura



Rubber stopper
Glass rod
Test tube
Rubber band
Cellophane

NIH SWAB (adult)

→ SCOTCH TAPE METHOD
↓
m/E

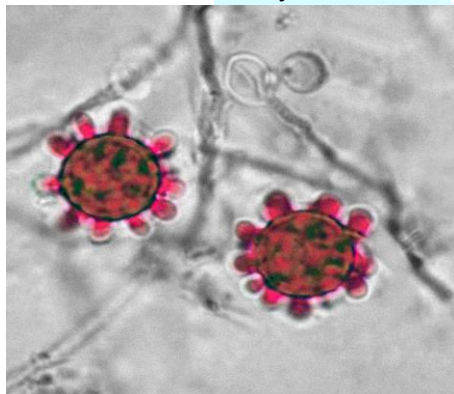
Perianal swab

D
PLANO-CONVEX EGG WITH TADPOLE LARVA

Enterobius vermicularis

Q. A patient presents with low-grade fever, chronic cough, and weight loss. Fungal culture from respiratory secretions shows the following organism with narrow-based budding on microscopy. What is the most likely diagnosis?

- A. Blastomycosis
- B. Histoplasmosis**
- C. Cryptococcosis
- D. Coccidioidomycosis



CULTURE = SDA = SUEDE COLONIES
LPCB = TUBERCULATE MACROCONIDIA

TUBERCULATE MACROCONIDIA
PYS


this is referred to as tuberculate macroconidia which again is a previous year question also

Q. A patient presents with a history of chronic meningitis. Laboratory findings shows Gram-positive, filamentous branching bacteria, Positive ZN stain, Growth on paraffin bait culture. Which of the following is the most likely causative organism?

- A. Actinomyces israelii
- B. Mycobacterium tuberculosis
- C. Nocardia asteroides**
- D. Cryptococcus neoformans

Nocardia	Actinomycetes
C/F : PULMONARY	C/F :
CULTURE : PARAFFIN BAIT TECHNIQUE	CULTURE :
Rx :	Rx :

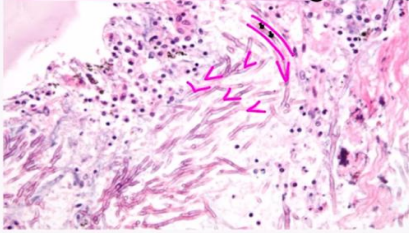

Handwritten notes: "source" with an arrow pointing to "PARAFFIN BAIT TECHNIQUE" and "BAIT" circled in pink.




Q. A male patient presents with fever, cough, and hemoptysis. Bronchoalveolar lavage (BAL) fluid examination shows septate hyphae with acute angle (dichotomous) branching under microscopy. What is the most likely diagnosis?

- A. Mucormycosis
- B. Histoplasmosis
- C. Aspergillosis**
- D. Candidiasis

Handwritten notes: "Aspergillus", "Aspergillus : Acute angle branching", "Dichotomous branching", "Septate hyphae", "Asis: M/E A SPE rgillus".

be acute angle branching and SPE is going to be the septate hyphae. Now of course we move forward




Q. A young adult presents with facial pain and painful vesicular lesions in the mouth. Tzanck smear reveals multinucleated giant cells with intranuclear inclusions. What is the most likely causative organism?

- A. Adenovirus
- B. Cytomegalovirus
- C. Herpes simplex virus**
- D. Epstein-Barr virus

Clinical features

1. **Orofacial Mucosal Lesions** (HSV 1 M/C)

- o Most Common Site: **Buccal Mucosa**
- o Most Common 1° lesion: Gingivostomatitis
- o Most Common Recurrent lesion:



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0989097

mucosa. So what is the lesion that you get to see? We tend to see gingivostomatitis. So you can

Q. A patient presents with recurrent infections with *Neisseria gonorrhoeae*. Which of the following investigations is most appropriate to evaluate the underlying immunodeficiency?

- A. C1 esterase inhibitor assay
- B. Quantitative immunoglobulin levels
- C. Nitroblue tetrazolium test
- D. Terminal complement (C5–C9) assay**

Vaccine

- A, C, Y, W135 valency
- o Not B
- Conjugated with DT/TT
- o Immunogenicity increased

Indications:

- H - Hypogammaglobulinemia (Bruton's) ↓ IgG
- H - HIV
- A - Age (elderly)
- A - Africa
- A - Asplenia (spleen protects ag CAPS ORG)
- T - Terminal complement deficiency (MAC: C5b-C9)

removed and when mac is deficient that is when patients are at a risk of this neisseria meningitidis

Q. A farmer presents with an ulcerative skin lesion showing signs of necrosis. Smear from the ulcer stained with polychrome methylene blue reveals capsulated bacilli that are McFadyean reaction positive. What is the most likely causative organism?

- A. Clostridium perfringens
- B. Bacillus anthracis**
- C. Yersinia pestis
- D. Francisella tularensis

① Bacillus Anthracis

Microscopic examination:

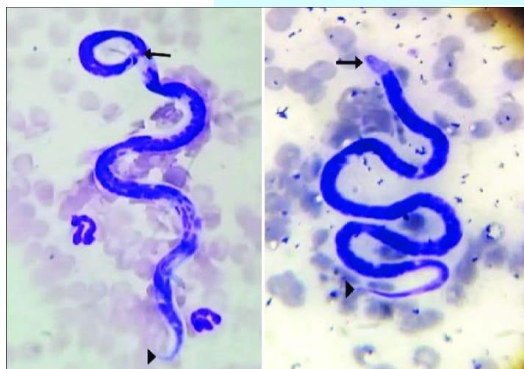
- Appearance: BAMBOO STICK / BOX CAR
- Stain for spore: ZN, MODIFIED ASHBY
- MacFaydean Reaction:

organism + POLYCHROME METHYLENE BLUE
 ↳ PURPLE MATERIAL AROUND BACTERIA.


NOTE: BOX CAR NUCLEI in heart
 = CARBIC HYPERTROPHY

Q. A middle-aged man from an endemic region presents with progressive swelling of the lower limb. A peripheral blood smear shows the following structure. What is the most likely cause of his limb swelling?

- A. Hypoalbuminemia
- B. Lymphatic obstruction**
- C. Hypoproteinemia
- D. increased hydrostatic pressure



- Lymphatic filariasis
- ✓ Acute filariasis – fever, lymphadenitis, lymphangitis
- Chronic filariasis –
 - 10-20 years later due to lymphatic obstruction:
 - Hydrocele:
 - Chyluria: URINE \approx LYMPHATIC FLUID (MILKY)



FMT


Q. A patient is brought to the emergency department with acute onset of severe abdominal pain, throat irritation followed by vomiting that contains blood and bile, and diarrhea that initially appears bloody but later becomes colorless, odorless, and rice-water-like. On examination, a distinct garlicky odor is noted in the breath. Which of the following is the most likely agent responsible for the poisoning?

- A. Arsenic
- B. Phosphorus
- C. Aluminium phosphide
- D. Croton seeds

GASTROENTERIC TYPE ACUTE	CHOLERA
MC	
RESEMBLE \rightarrow CHOLERA	
TVP- THROAT PAIN \rightarrow VOMIT \rightarrow PURGING	PVT
TENESMUS +	-

Rice-water St

This resembles a disease cholera.



Q. A 16-year-old girl and a 23-year-old boy undergo medical examination following allegations of rape made by the girl's parents. The girl states the sexual act was consensual, and no

injuries are found on examination. According to the law, what is the legal status of the consent in this case?

- A. **Consent is invalid as the girl is under 18 years**
- B. No punishment since the act was consensual
- C. No punishment since there are no injuries
- D. Parents must prove that the act was non-consensual

5. **Intoxication/ insane** (influence of drug or alcohol)

6. **With or without her consent when she is under 18 of age** [if it is with consent it is known as Statutory Rape] < 18y

7. **Unable to communicate the consent.**

This is known as statutory rape

Q. During autopsy, a body shows curved scratch marks below the right angle of the mandible, three grouped bruises on the left side of the neck below the thyroid cartilage, and additional bruises over the head, posterior shoulder, backside of the trunk, and hip crests. Fracture of the superior horn of the thyroid cartilage present. What is the most likely cause of death?

- A. **Throttling**
- B. Garroting
- C. Mugging
- D. Ligature strangulation

THROTTLING

- Internal **NECK DISECTION**
- **Bruises/Contusion IN** → **SOFT-TISSUE, NECK MUSCLE, GLANDS**
- Hyoid fracture → **30-50% → ADDUCTION #, INWARD COMPRESSION #**
- Cricoid # → **RARE/SPECIFIC**

Bruises and contusion in soft tissue, neck muscle, gland and tonsil.

Q. What is the Zasko phenomenon?

- A. Tendon reflex occurring after death**
- B. Seeping of blood through wounds around the time of death
- C. Clotting of blood after death
- D. Gaping of wound along skin tension lines

SUPRA-VITAL INTERVAL

① **ORGAN-HARVESTING** ✓

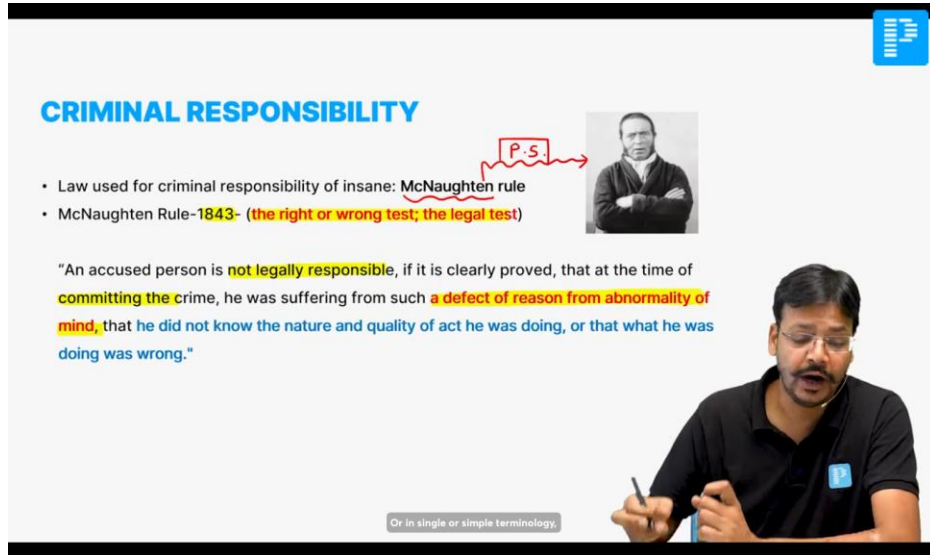
② **Zasko's Phenomenon aka TENDON R.** → Striking the lower one-third of the **QUADRICEPS FEMORIS** muscle with a hammer causes upward movement of patella (**KNEE JERK**).
1-2 hrs after death

Zasko phenomena is known as tendon reaction or knee jerk reaction. What is this? This is Zasko

Q. A man kills his office colleague and later claims he was experiencing delusions of persecution and other psychotic features at the time of the act. He now asserts that he is not guilty by reason of insanity. What is the most appropriate next step under medico-legal protocol?

- A. Refer for psychiatric evaluation to assess if he is fit for trial**
- B. Enroll in an anger management program
- C. He should be sent directly to jail

D. Declare him not guilty and release immediately



CRIMINAL RESPONSIBILITY

- Law used for criminal responsibility of insane: **McNaughten rule** P.S. →
- McNaughten Rule-1843- **(the right or wrong test; the legal test)**

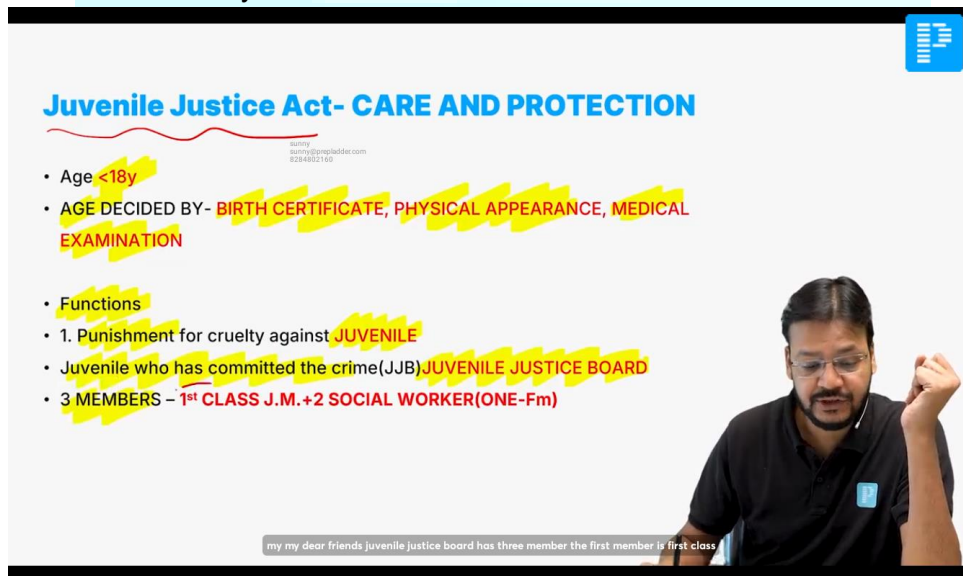
"An accused person is **not legally responsible**, if it is clearly proved, that at the time of **committing the crime**, he was suffering from such **a defect of reason from abnormality of mind**, that he did not know the nature and quality of act he was doing, or that what he was doing was wrong."

Or in single or simple terminology.

my dear friends juvenile justice board has three member the first member is first class

Q. The Protection of Children from Sexual Offences (POCSO) Act covers which of the following groups?

- A. Girls below 18 years
- B. All children below 18 years**
- C. Girls below 16 years
- D. All children below 16 years



Juvenile Justice Act- CARE AND PROTECTION

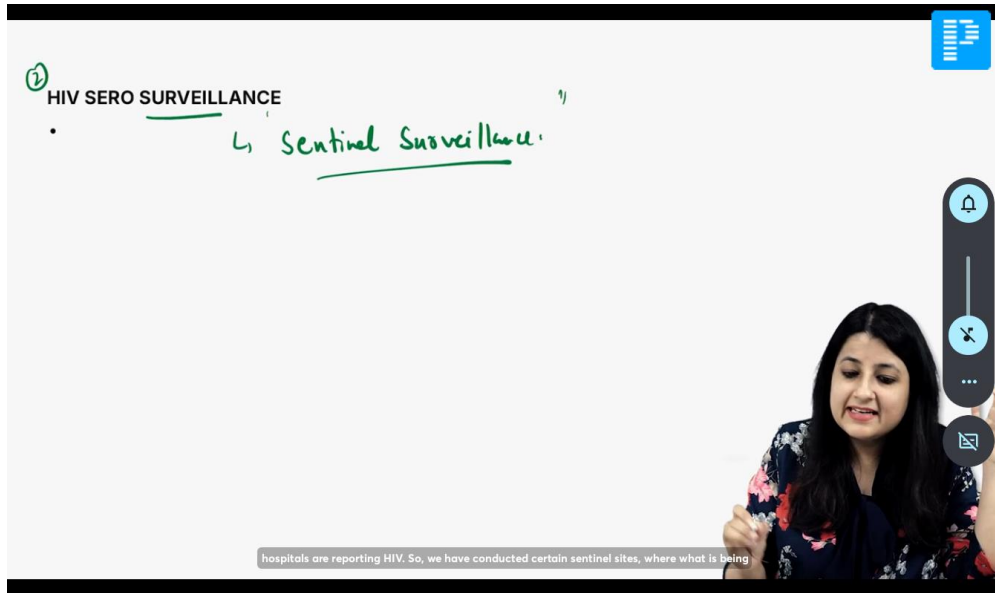
- Age **<18y**
- AGE DECIDED BY- **BIRTH CERTIFICATE, PHYSICAL APPEARANCE, MEDICAL EXAMINATION**
- **Functions**
 - 1. Punishment for cruelty against **JUVENILE**
 - Juvenile who **has committed the crime(JJB) JUVENILE JUSTICE BOARD**
 - 3 MEMBERS - **1st CLASS J.M. +2 SOCIAL WORKER(ONE-Fm)**

my dear friends juvenile justice board has three member the first member is first class

PSM

Q. A diabetic patient with COVID-19 dies in the hospital. Which type of surveillance does this death report fall under?

- A. **Passive surveillance**
- B. Active surveillance
- C. Sentinel surveillance
- D. Syndromic surveillance



Q. In the “De facto” method of census data collection, information is collected based on which of the following?

- A. Place of birth
- B. **Location at the time of enumeration**
- C. Usual place of residence
- D. Place of employment

HISTORICAL BACKGROUND (CENSUS)

- Census in India is a union subject
- Conducted by Prime minister's office under Ministry of Home affairs, PWA.
- Dejure method used
- Census act, 1948 forms the legal bags for the conduct of censuses in India

Handwritten notes:
 ↳ decadal survey
 ↳ once every 10 years.
 De facto method → where a person is at the time of data collection.
 De jure method
 ↳ legal (permanent res.)

the data is collected on the basis of permanent residence, okay. And post 1930, our Census

Q. During a Health Mela organized by a medical college, the Nalgonda technique for water purification was demonstrated. Which two chemicals are used in this technique?

- A. Alum and Gypsum
- B. Alum and Charcoal
- C. Alum and Lime**
- D. Charcoal and Lime

Handwritten notes:
 L → lime
 A → Alum
 B → Bleaching powder

- Genu valgum occurs in people who consume jowar (sorghum), as it promotes greater retention of fluorine

NALGONDA
 ↳ Removes excess of fluoride from water.
 NEERI → Nagpur.

Genu VALGUM
 ↳ Knock knee Syndrome.
 >10g/L.



Q. Which of the following is the correct sequence of steps in a Randomized Controlled Trial (RCT)?

- A. Follow-up → Manipulation → Assessment → Randomisation
- B. Randomisation → Manipulation → Follow-up → Assessment**
- C. Assessment → Randomisation → Follow-up → Manipulation

D. Manipulation → Assessment → Follow-up → Randomisation

STEPS OF AN RCT

- Drawing up a protocol
- Selecting reference and experimental populations
- Randomization
- Manipulation or intervention
- Follow-up
- Assessment of outcome

ABC

A video feed of a woman with long dark hair, wearing a floral patterned jacket, is visible in the bottom right corner of the slide.

Q. A 20-year-old resident of Andhra Pradesh presents with outward bending of the lower limbs and signs of osteoporosis. His diet mainly consists of rice and jowar roti. What should not be done in the management of this patient?

- Provision of running surface water for drinking
- Change the water source
- Fluoride supplementation**
- Add lime and alum to drinking water

• Genu valgum occurs in people who consume jowar(sorghum), as it promotes greater retention of fluorine

*NALWANDA:
Removes excess of
fluorine from water:
NEERI → Nagpur.*

*Genu VALGUM
Knock knee
Syndrome.
>107/L.*

A video feed of a woman with long dark hair, wearing a grey jacket, is visible in the bottom right corner of the slide.

Q. An urban city has a population of 70,00,000, with 30% residing in slum areas. According to NUHM (National Urban Health Mission) norms, how many Urban Primary Health Centres (UPHCs) are required for the slum population?

- A. 22
- B. 32
- C. 42
- D. 52

Health Care Delivery System (Urban Areas)

example of community participation they are voluntary organizations

Q. A study is conducted to compare the mean hemoglobin (Hb) levels between two independent groups. Which statistical test is most appropriate?

- A. Paired t-test
- B. **Unpaired t-test**
- C. Chi-square test
- D. ANOVA

Parametric test (ALPHABETS)

I STUDENT t test

1. Paired t test (Single group)

eg Compare mean & SDs in a single group before and after an intervention.

eg Compare mean Hb in a group of malaria pts before treatment and after treatment.

2. Unpaired t test (Independent t test) (2 groups)

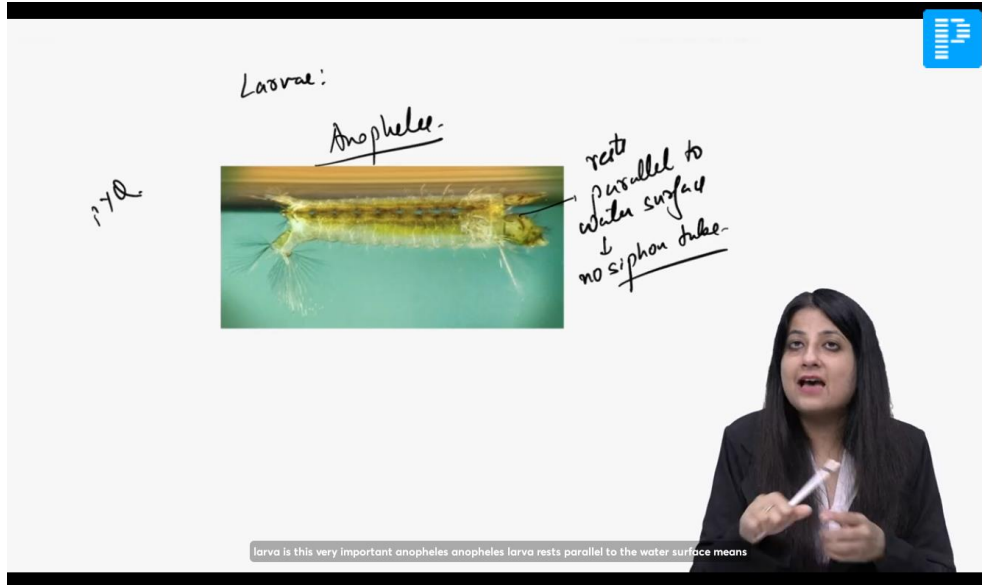
eg Compare mean Hb in a group of malaria pts with degree pts.

Non parametric test (FANCY NAMES)

is student t-test this second one everybody is anova what is the full form of

Q. Which mosquito larva has no siphon and rests parallel to the water surface?

- A. **Anopheles**
- B. Culex
- C. Aedes
- D. Mansonia



Larvae:

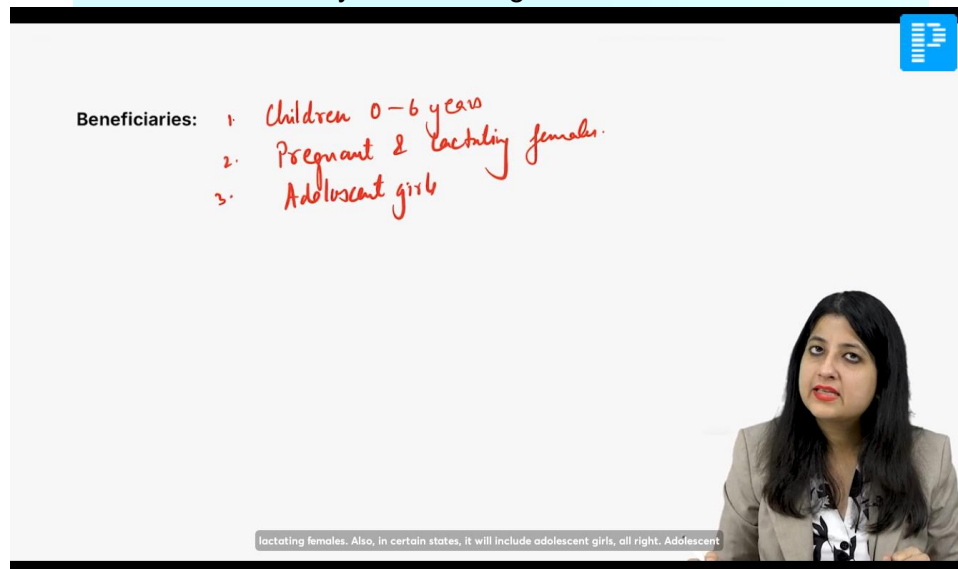
Anopheles-

rest parallel to water surface & no siphon tube

larva is this very important anopheles anopheles larva rests parallel to the water surface means

Q. A 3-year-old child presents with difficulty in walking, bowing of legs, is underweight, and has minimal sun exposure. Which of the following government schemes addresses nutritional deficiencies in children under 6 years of age?

- A. Mid-Day Meal Scheme
- B. Anemia Mukh Bharat
- C. **Integrated Child Development Services (ICDS)**
- D. National Nutritional Deficiency Control Programme



Beneficiaries:

1. Children 0-6 years
2. Pregnant & lactating females.
3. Adolescent girls

lactating females. Also, in certain states, it will include adolescent girls, all right. Adolescent

Q. Under the Weekly Iron and Folic Acid Supplementation (WIFS) scheme, what is the composition of IFA tablets given to children aged 10–19 years?

- A. 60 mg elemental iron + 100 µg folic acid
- B. 100 mg elemental iron + 500 µg folic acid
- C. 100 mg elemental iron + 100 µg folic acid
- D. **60 mg elemental iron + 500 µg folic acid**

Primary -> Prophylactic

Age Group	Iron (Fe)	Folic Acid	Schedule
6-59 months	20mg	100mcg	Bisweekly - 100mcg
5-9 yrs	45mg	400mcg	Pink tabs - weekly
10-19 yrs (boys & girls)	60mg	500mcg	Blue tabs - weekly
Reproductive age females (10-49 yrs)	60mg	500mcg	Red tabs - weekly
Pregnant & lactating females	60mg	500mcg	Red tabs - daily given upto 6 months

has to be given when daily okay and this one should be started from the second trimester

Q. According to the population strategy for prevention of coronary artery disease, what is the recommended dietary cholesterol intake limit per day?

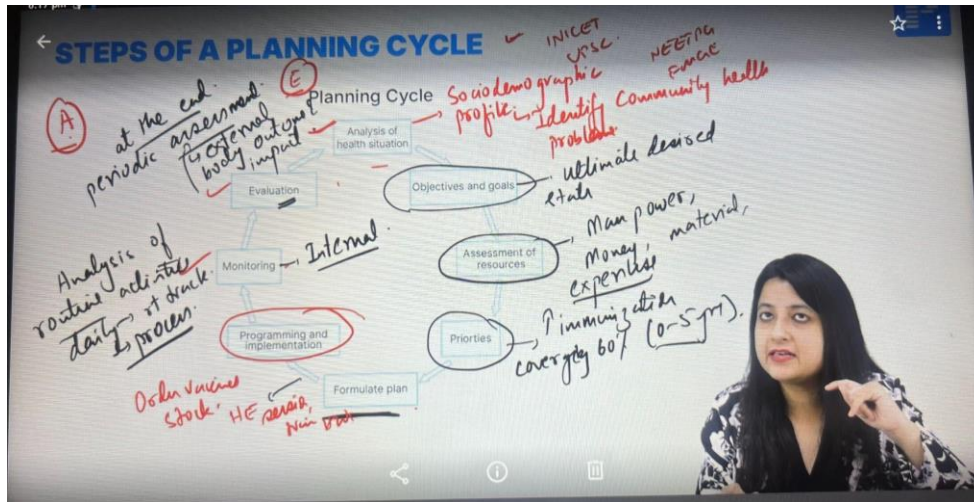
- A. **100 mg / 1000 kcal**
- B. 200 mg / 1000 kcal
- C. 400 mg / 1000 kcal
- D. 500 mg / 1000 kcal

Indicators	Recommended/cut-off values
Threshold level of cholesterol	220 mg/dl
HDL	>40 mg/dl - Good Cholesterol
Cholesterol/HDL fat	>40 mg/dl - Good Cholesterol
Reduction of fat intake	20-30% of total energy intake
Consumption of saturated fats	<10% or 7-10%
Reduction of dietary cholesterol	Below 100 grams/1000 kcal/day
Reduction of salt intake	<5 grams
Hypertension (diagnosed if)	Systolic - >140 mm of Hg Diastolic - >90 mm of Hg

Conception of fat intake, I have already discussed this in protein diet also, 20 to 30 percent of total

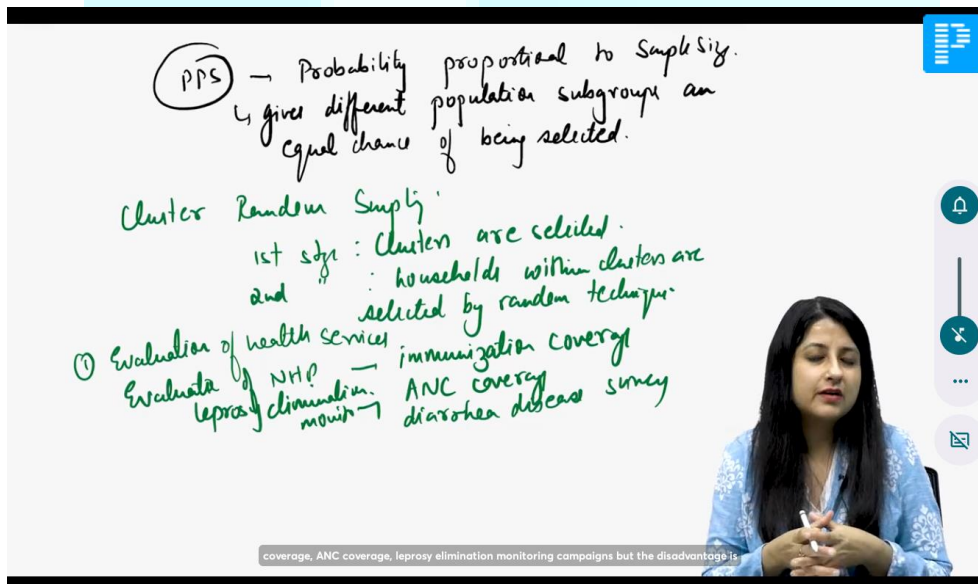
Q. Which of the following is used to measure the degree of objective and target achievement, and assess the quality of results obtained in a health program?

- A. Planning
- B. Surveillance
- C. Monitoring
- D. Evaluation



Q. A new community intervention is initiated to reduce prenatal sepsis. Researchers allocate 20 Primary Health Centres (PHCs) to receive standard care and 20 PHCs to receive a community-based intervention. What type of study design is this?

- A. Cross-sectional study
- B. Case-control study
- C. Quasi-experimental study
- D. Cluster-randomized control trial



coverage, ANC coverage, leprosy elimination monitoring campaigns but the disadvantage is

Q. The time interval between acquiring an infection and reaching the period of maximum infectivity is known as?

- A. **Generation time**
- B. Communicable period
- C. Incubation period
- D. Serial interval

• Median Incubation period : The time taken for 50% of individuals to develop disease following exposure to an infectious agent

• Generation period : The time interval between entry of organism and maximum infectivity

Isolation Vs Quarantine

that is what is generation time, okay? Isolation and quarantine, guys,

Q. In a district-level survey, the introduction of breast cancer screening showed an increased 5-year survival rate, but autopsy data revealed no change in mortality. What type of bias does this represent?

- A. Survival bias
- B. **Lead time bias**
- C. Berksonian bias
- D. Detection bias

✓ **Lead Time Bias:**

- When a disease is detected prior to symptom development but the treatment does not make the patient live longer, it appears like life expectancy increased but really it was simply detected earlier

30 yrs. 40

X → Soybean

test at 30 years the person will still survive till 50 years okay so in real sense if you ask

ENT

Q. A 2-year-old male with a history of recurrent epistaxis presents with nasal obstruction for the past 1 year. On examination the presence of nasal mass and investigation shows bowing of the posterior wall of maxillary sinus. What is the probable diagnosis?

- A. **Nasopharyngeal angiofibroma**
- B. Antrochoanal polyp
- C. Rhinoscleroma
- D. Rhinosporidiosis

CLINICAL FEATURES

✓ Bleeding: → RECURRENT UNprovoked Recurrent

• Obstruction

- Nasal obstruction: ✓
- Eustachian tube obstruction: ✓
- Cranial spread: - 2, 3, 4, 5, 6 -

JUVENILE MALE BLOODING

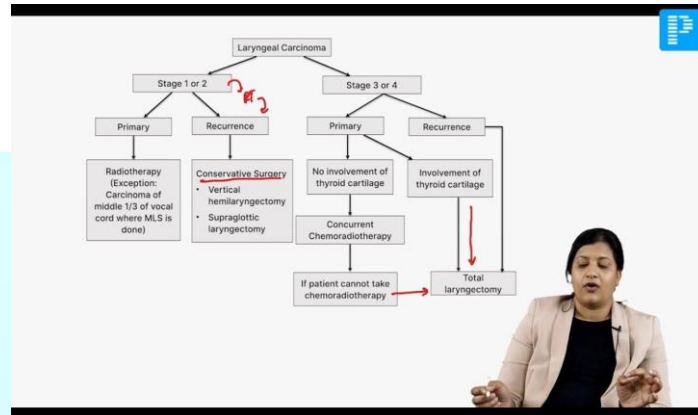
BUZZ

Frontal sinus, Maxillary sinus, Ethmoid, Sphenoid, Pituitary, Mucosa

Q. A 72-year-old female smoker presents with a long history of hoarseness and difficulty swallowing. Laryngoscopy and biopsy confirm a large, advanced squamous cell carcinoma that involves both vocal cords and extends into the subglottic region and the thyroid cartilage. The tumor is not amenable to radiation therapy alone.

Based on the extent and location of the tumor, which of the following surgical procedures is most appropriate to ensure complete tumor removal with adequate margins and control the disease?

- A. Partial laryngectomy
- B. **Total laryngectomy**
- C. Emergency tracheostomy
- D. Submental tracheostomy



Q. A 30-year-old male presents to the clinic with a history of recurrent ear infections and a recent "popping" sensation in his left ear. Otoloscopic examination of the left ear reveals a central perforation of the tympanic membrane.

The pure tone audiometry (PTA) results show the following:

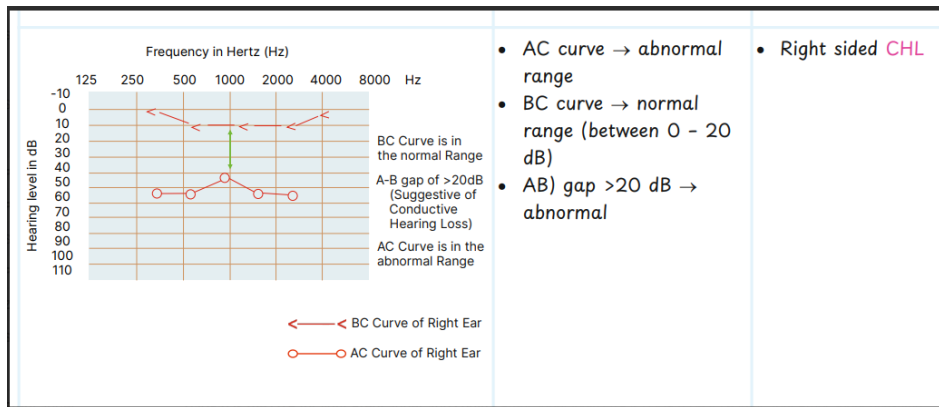
Right Ear: Air conduction and bone conduction thresholds are within normal limits.

Left Ear: A significant air-bone gap is present, with bone conduction thresholds within the normal range.

Based on these findings, what is the most likely diagnosis regarding the type of hearing loss?

- A. **Left conductive hearing loss**
- B. Left sensorineural hearing loss
- C. Right conductive hearing loss
- D. Right sensorineural hearing loss





- AC curve → abnormal range
- BC curve → normal range (between 0 - 20 dB)
- AB) gap >20 dB → abnormal
- Right sided **CHL**

WEBER TEST

- Procedure
 - Vibrating tuning fork placed on midline of head (vertex, glabella, nasion)
 - Ask patient where they perceive the sound

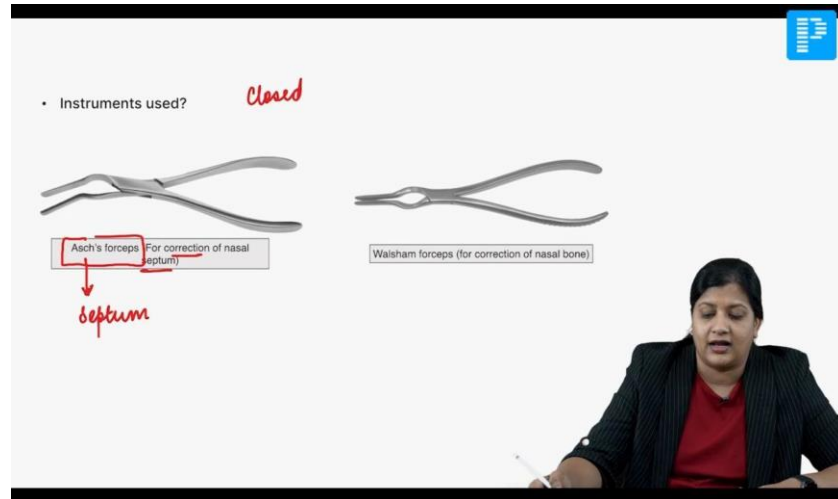


NORMAL	• Sound felt in centre of head → equal distribution of sound to both sides (cochlea)
CONDUCTIVE HEARING LOSS	• Sound lateralized towards diseased ear (Hyperactive cochlea) • Occur only if 5 dB hearing loss difference (between both cochlea)

- **CONDUCTIVE HEARING LOSS**
 - **AC < BC → RINNE negative**
 - Cause: Conductive pathway defect (in AC)

Q. A patient presents to the emergency department with significant nasal trauma after a fall. Examination reveals a deviated nasal pyramid and palpation confirms crepitus and mobility of the nasal bones. A lateral nasal bone X-ray confirms a displaced nasal bone fracture. Which of the following instruments is specifically designed for the closed reduction of a displaced nasal bone fracture?

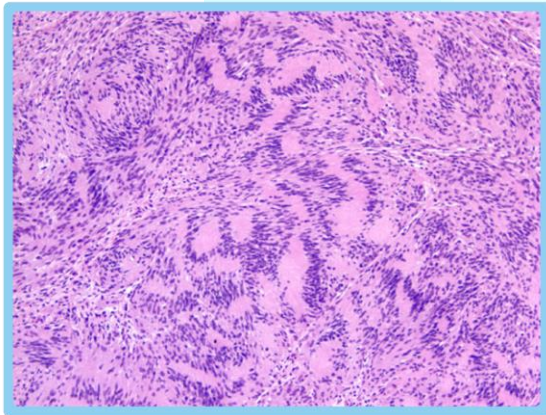
- Tilley's forceps
- Walsham forceps**
- Luc's forceps
- Bayonet forceps



Q. A 45-year-old female presents with a 2-year history of progressive unilateral hearing loss, tinnitus, and unsteadiness. An MRI scan reveals a well-defined tumor located in the cerebellopontine angle (CPA). A surgical resection is performed, and subsequent histopathological examination of the tumor tissue is given below.

Based on these histopathological findings, what is the most likely diagnosis?

- A. Schwannoma
- B. Ependymoma
- C. Meningioma
- D. Neurofibroma





Origin

- Its benign encapsulated extremely slow growing tumour of the 8th nerve
- Originates from schwann cells of the vestibular nerve but sometimes even from the cochlear nerve
- As it expands it causes widening of the canal and appears in the CP angle



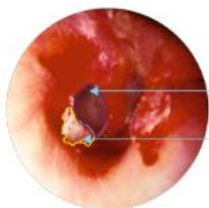
Q. A patient presents to the clinic with a history of chronic ear drainage and hearing loss for several months. Otoscope examination reveals a central perforation of the tympanic membrane. Pure tone audiometry confirms a conductive hearing loss.

Based on these findings, what is the most appropriate next step in the definitive management of this patient's condition?

- A. **Myringoplasty**
- B. Modified radical mastoidectomy
- C. Exploratory tympanostomy
- D. Immediate commencement of broad-spectrum oral antibiotics

TRAUMATIC PERFORATION OF TYMPANIC MEMBRANE

- ↑ pressure trauma → Perforation
- 2^o to trauma

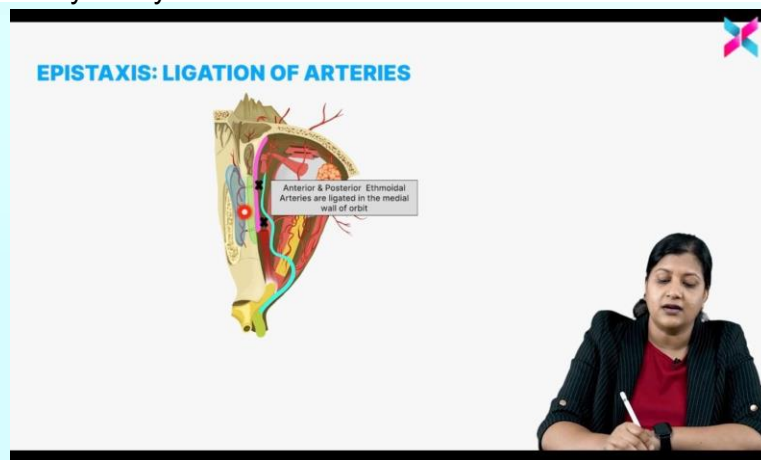


Perforation of Tympanic membrane
Reflected flap of Tympanic membrane

- Pain, CHL, No pus, Blood +
- Wait and watch for 12 weeks → Heal spontaneously
- Failure to heal → Myringoplasty

Q. A 40-year-old patient presents with recurrent and severe nosebleeds from the anterior nasal septum. The bleeding has been refractory to nasal packing and chemical cautery. A decision is made to proceed with surgical ligation to control the bleeding. Which of the following arteries is the primary target for ligation in the management of this patient's anterior epistaxis?

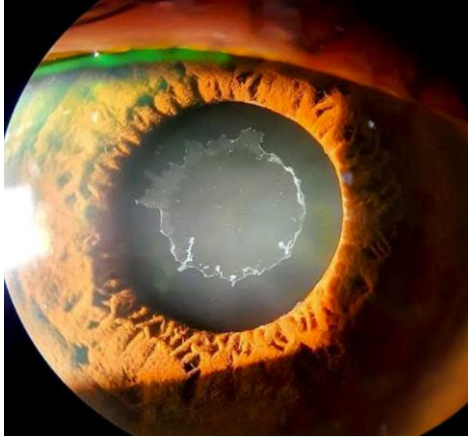
- A. Sphenopalatine artery
- B. **Anterior ethmoidal artery**
- C. Facial artery
- D. Internal maxillary artery



Ophtha

Q. An elderly patient presents with white, dandruff-like deposits on the anterior lens surface, seen during slit-lamp examination. What is the most likely diagnosis?

- A. **Pseudoexfoliation syndrome**
- B. Iris cyst
- C. Persistent pupillary membrane
- D. Pigment dispersion syndrome



PSEUDOEXFOLIATION SYNDROME/ GLAUCOMA CAPSULARE

- Etiology - Genetic, associated with **LOXL1 gene** (Chromosome 15)

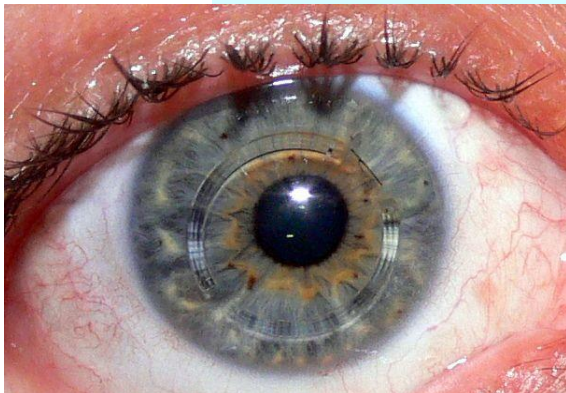
- **M/c** secondary glaucoma.

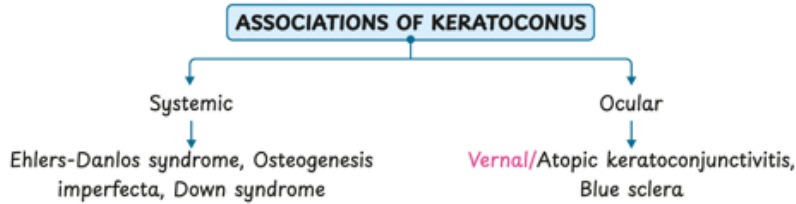


White dandruff like material

Q. Which condition is treated using an Intacs ring, as shown in the image?

- A. **Keratoconus**
- B. Cataract
- C. Corneal ulcer
- D. Glaucoma

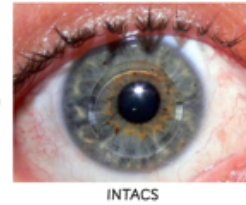




Treatment

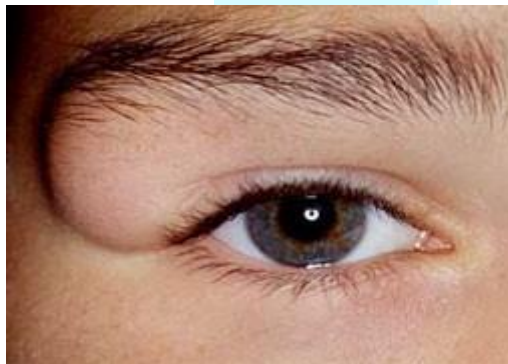
00:09:50

- Spectacles / Toric soft contact lens - For cylindrical correction of astigmatism
- Choice of contact lens - **Rigid gas permeable** / Semi soft contact lens - for **irregular** cornea
- **TOC** -
 - Dresden protocol
 - Instill riboflavin eye drops every 5 minutes, continuing for 30 min
 - Expose to **Ultraviolet A** rays for another 30 min (continuing riboflavin application)
- Keratoplasty
 - Penetrating keratoplasty - best prognosis in non-inflammatory conditions
 - DALK (Deep anterior lamellar keratoplasty)
- For displaced / eccentric cones and non-progressive cases - **INTACS** (Intra corneal segments)



Q. A 15-year-old female presents with a painless, gradually increasing mass located lateral to the lateral canthus, present for the past 10 years. On examination, the mass is non-tender and slowly progressive. What is the most likely diagnosis?

- A. **Dermoid cyst**
- B. Capillary hemangioma
- C. Lacrimal gland tumor
- D. Epidermoid cyst



DERMOID CYST

01:28:43

- 2nd M/c benign intraorbital tumour in children
- **Choristoma** (normal tissue at abnormal place)
- Found along embryonic fissures
- Sequestration of embryonic epithelial cells
- **M/c site** - Superotemporal along frontozygomatic suture
- Investigation- Well defined lesion on CT scan
- T/t- Excision in toto

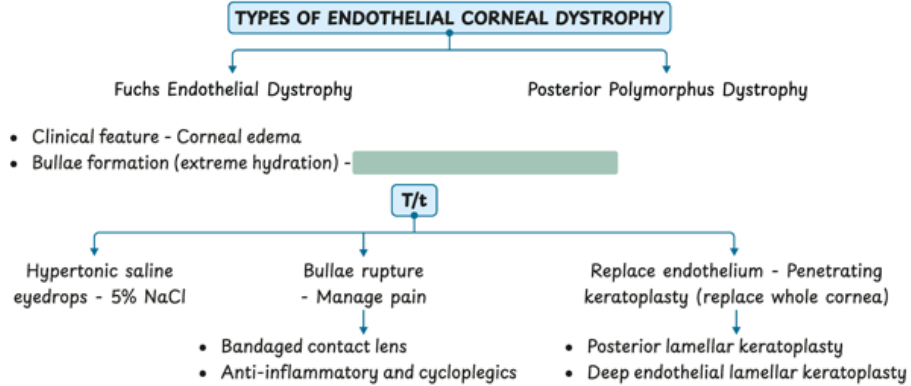


Q. A patient presents with guttate lesions in one eye and bullous keratopathy in the other eye. What is the most likely diagnosis?

- A. Fuchs' endothelial dystrophy
- B. Interstitial keratitis
- C. Viral corneal ulcer
- D. Keratoconjunctivitis

TYPES OF ENDOTHELIAL DYSTROPHY

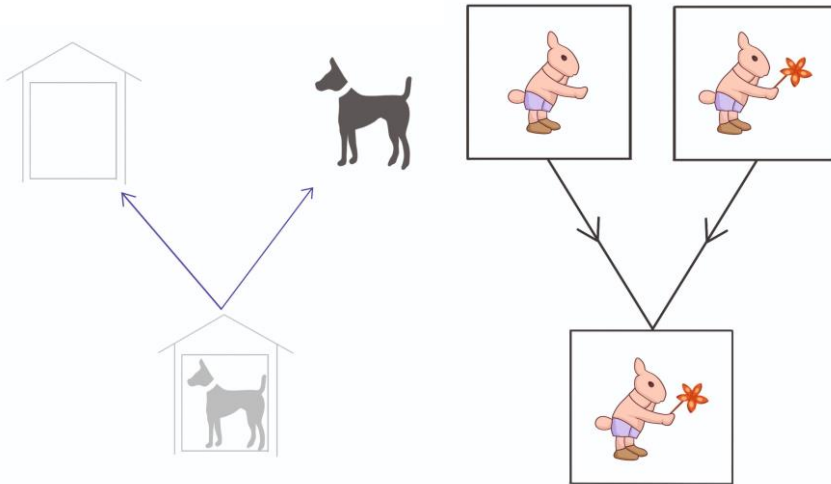
00:26:09



FUCHS ENDOTHELIAL DYSTROPHY	POSTERIOR POLYMORPHOUS DYSTROPHY
<ul style="list-style-type: none"> • M/c • Corneal Guttate (excrescence from DM) <ul style="list-style-type: none"> ◦ Appears as hollow spaces on specular microscopy • Association <ul style="list-style-type: none"> ◦ Female > Male ◦ Open angle glaucoma • Specular microscopy - Beaten bronze appearance on corneal endothelium 	<ul style="list-style-type: none"> • U/L • Presentation - Early childhood • Metaplasia of endothelial cells • Association <ul style="list-style-type: none"> ◦ Glaucoma ◦ ALPORTS syndrome

Q. Binocular single vision consists of the following components:

- A. a. SMP b. Fusion
- B. a. Stereopsis b. Fusion
- C. a. Fusion b. SMP
- D. a. SMP b. Stereopsis



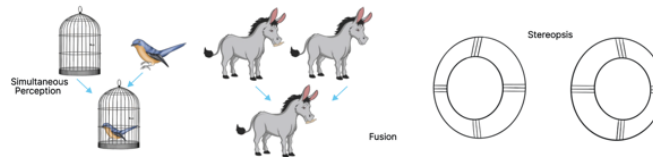
BINOCULAR SINGLE VISION/BINOCULAR FUNCTION

01:01:18

- Faculty of brain to see 2 retinal images as one
- Fusion: Completed by 6 months
- Binocular single vision develops by 6 yrs to 8 years
- Grades

Grade I	Simultaneous perception
Grade II	Fusion
Grade III	Stereopsis (Depth perception)

- Depth perception - d/t 5% aniseikonia (difference between image size between 2 eyes)



TEST TO CHECK BINOCULAR SINGLE VISION (BSV)

- Worth Four Dot Test
- 4 Prism Base Out Test
- Bagolini Striated Glass Test
- Synoptophore Amblyoscope

Q. Which of the following is true about orbital cellulitis?

- It is present anterior to the orbital septum
- Treated effectively with topical antibiotics
- Presents with proptosis, orbital swelling, normal pupil, and extraocular movements
- Ethmoid sinusitis is the most common etiology**

ORBITAL CELLULITIS

00:46:55

- Orbital septum - Space with thin connective tissue between orbital margin and lid with tarsal plate
- Preseptal cellulitis - Inflammation in front of orbital septum
- Orbital cellulitis - Inflammation behind orbital septum

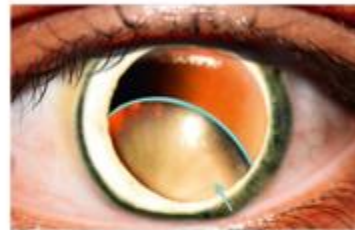
ETIOLOGY	ETIOLOGICAL AGENTS
<ul style="list-style-type: none">• Sinusitis- <i>M/c</i> - Ethmoidal sinusitis• Dental causes• Dacryocystitis• Endogenous cause- Septicemia• Exogenous cause<ul style="list-style-type: none">◦ Trauma, Surgical procedures affecting the orbit	<ul style="list-style-type: none">• Bacterial<ul style="list-style-type: none">◦ Staphylococcus aureus - <i>M/c</i>◦ Streptococcus pyogenes◦ Hemophilus influenzae (in children)• Fungal<ul style="list-style-type: none">◦ <i>M/c</i> - Mucormycosis

Q. A 15-year-old tall boy with long limbs presents to the OPD. On ocular examination, bilateral ectopia lentis is noted. Which gene is most likely affected in this inherited disorder?

- A. COL5A
- B. PAX6
- C. TGF β 2
- D. **FBN1 (Fibrillin-1)**

OCULAR FEATURES OF MARFAN SYNDROME

- Axial myopia
- Megalocornea- Diameter $> 13\text{mm}$ (most prominent)
- Superotemporal ectopia Lentis (M/c)
- Hypoplasia of dilator pupillae
- Cornea plana
- Lattice degeneration -



00:06:59

Subluxation of lens- Golden crescent/fundal glow

37


Pedia

Q. A child presents with developmental delay and coarsefacial features. Enzyme assay reveals a deficiency of α -L-iduronidase. Which of the following substances is most likely to accumulate in this condition?

- A. Dermatan sulfate + Chondroitin sulfate
- B. Only Dermatan sulfate
- C. **Dermatan sulfate + Heparan sulfate**
- D. Heparan sulfate + Chondroitin sulfate

MUCOPOLYSACCHARIDOSIS (MPS)

Type	Name	Enzyme deficient
I	Hurler/Scheie disease	α - L - Iduronidase
II	Hunter disease	Iduronate sulfate sulfatase
III	Sanfilippo disease	Heparan - S - sulfamidase
IV	Morquio disease	N-acetyl - Galactosamine sulfate sulfatase
VI	Maroteaux Lamy disease	Aryl sulfatase B




Q. A 6-month-old infant presents with recurrent infections and failure to thrive. Laboratory investigations reveal a deficiency of adenosine deaminase (ADA). Which of the following immunodeficiency disorders is most likely associated?

- A. **Severe Combined Immunodeficiency (SCID)**
- B. Hypogammaglobulinemia
- C. DiGeorge Syndrome
- D. Wiskott-Aldrich Syndrome

SEVERE COMBINED IMMUNODEFICIENCY (SCID)

Basic Defect

- X-linked**
 - Cytokine receptor R chain defect
 - IL7 defect - T cell affected
 - IL15 defect - NK cell affected
- Autosomal recessive**
 - Adenosine deaminase (ADA) deficiency - Loss of common precursors of B & T cells due to accumulation of deoxyadenosine in immature lymphocytes
 - JAK - 3 defect
 - IL-7 receptor defect




Q. An HIV-positive mother with a viral load of 1200 copies/mL delivers a baby. What is the most appropriate antiretroviral prophylaxis for the newborn?

- A. Nevirapine for 6 weeks
- B. **Nevirapine + Zidovudine for 6 weeks**
- C. Nevirapine for 12 weeks
- D. Zidovudine for 4 weeks

Prophylaxis for infant born to mother with HIV:

- Nevirapine +/- zidovudine for at least 6 weeks
- If safe, sustainable, replacement feeding is available: avoid breastfeeding
- Low resource setting: Exclusive breastfeeding recommended.



Q. A 5-year-old child with chronic kidney disease (CKD) presents with bow legs. Laboratory investigations reveal:

Serum Calcium: 9.1 mg/dL (normal)

Serum Phosphate: 6.9 mg/dL (elevated)

Alkaline Phosphatase: Elevated


25(OH) Vitamin D: Low

What is the most appropriate next step in management?

- A. Calcium supplementation
- B. Phosphate binder
- C. Oral calcium + Vitamin D
- D. Growth hormone therapy

Rx of Chronic Kidney Disease (CKD)

- Anemia → Nutrition; Fe & Vit B12 supplements; Inj. erythropoietin
- Hypertension → Antihypertensive
- Renal osteodystrophy → supplement calcitriol & calcium
- Hyperkalemia → Low K⁺ diet; K⁺ binding resins like kayexalate
- Metabolic acidosis → Sodium bicarbonate




Q. A 3-year-old child is brought to the emergency room with a generalized seizure following a high-grade fever. What is the first-line drug of choice for seizure control in this acute febrile setting?

- A. Diazepam
- B. Valproate
- C. Fosphenytoin
- D. Doxycycline / Amoxicillin

Management of Febrile Seizures

- Make the child lie down in the left lateral position



If seizures lasting >5min

- At home: Buccal/Nasal midazolam or Rectal Diazepam.
- At hospital: IV Lorazepam/Midazolam

Recovery position

Q. A 24-hour-old baby with severe respiratory distress was admitted to the ICU. A chest X-ray of the neonate is given. What is the most probable diagnosis?

- A. Congenital Pulmonary Airway Malformation (CPAM)
- B. Congenital Diaphragmatic Hernia (CDH)**
- C. Congenital lobar emphysema
- D. Neonatal pneumonia



Rate of PPV 40-60/min

Pressure required:

- 1st breath: 30-40 cm H₂O
- Subsequent breaths: 15-20 cm H₂O

Absolute Contraindication to bag and mask ventilation

Cong. Diaphragmatic Hernia




Q. A child presents with neurodegeneration and a cherry-red spot on fundus examination. Enzyme assay reveals hexosaminidase A deficiency. What is the most likely diagnosis?

- A. GM1 gangliosidosis
- B. GM2 gangliosidosis**

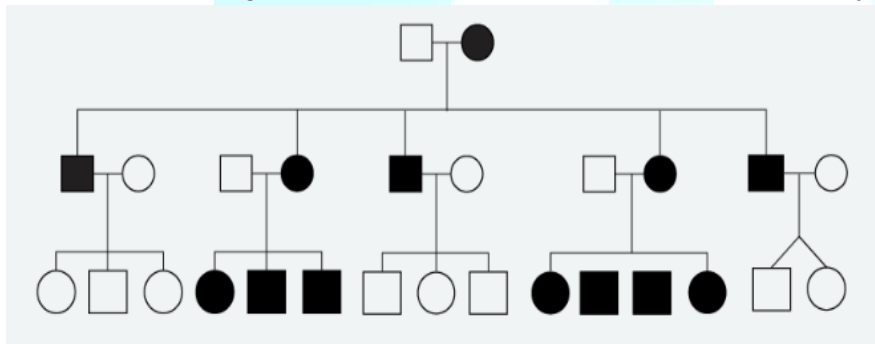
- C. Niemann-Pick disease
- D. Gaucher disease

GLYCOSPHINGOLIPIDOSIS

S.No	Enzyme defect	Disorder	Clinical features
1.	Beta Galactosidase	GM1 Gangliosidosis	Neurological manifestations and Systemic manifestations
2.	Alpha Galactosidase	Fabry's disease	Reddish purple spots, CKD
3.	Hexosaminidase A	Tay Sach's disease	Neurological manifestations, Cherry red spots, No Organomegaly
4.	Hexosaminidase A and B	Sandhoff's disease	Neurological manifestations, Cherry red spots, No Organomegaly – GM2 ganglioside and globoside accumulation
5.	Neuraminidase	Sialidosis	Generalised swelling, Neurological and organomegaly
6.	Beta Glucosidase	Gaucher's disease	Anemia, thrombocytopenia, HSM, Tissue paper cells
7.	Ceramidase	Farber's disease	Granulomatous disorder




Q. The pedigree diagram of a family is shown below. Affected individuals present with progressive external ophthalmoplegia, pigmentary retinopathy, and cardiac conduction defects. Based on the pedigree and clinical features, what is the most likely diagnosis?



- A. Duchenne Muscular Dystrophy
- B. Kearns-Sayre Syndrome**
- C. Friedreich Ataxia
- D. Myotonic Dystrophy

Examples of Mitochondrial Disorders:

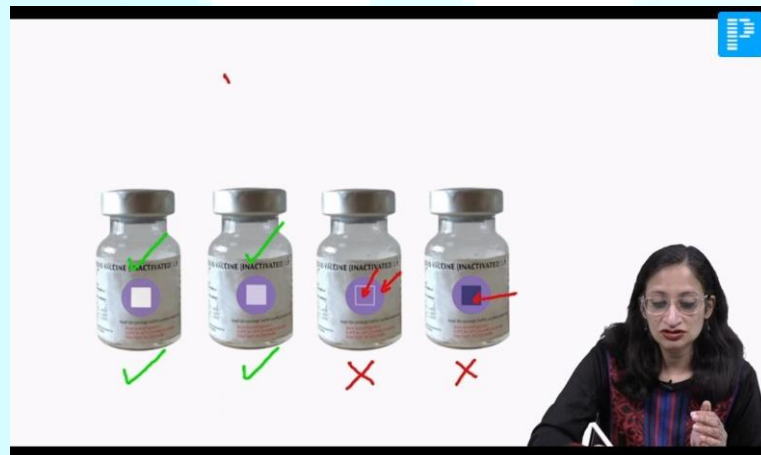
- Kearns Sayre Syndrome
- Leber's Hereditary optic Neuropathy
- MELAS (mitochondrial Encephalomyopathy, Lactic acidosis, Stroke like Episodes)
- MERRF (myoclonic Epilepsy, Ragged Red fibres)



Q. Which of the following vials, as shown in the image, can be used for administering vaccines?



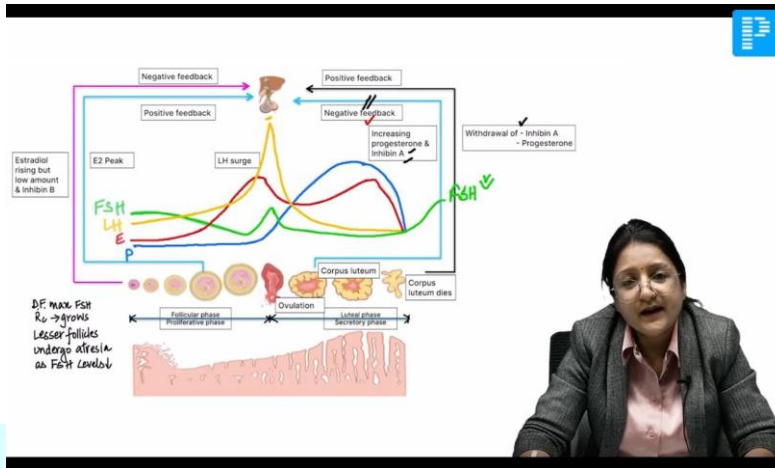
- A. 1, 2, 3, 4
- B. 1, 2**
- C. Only 1
- D. 2, 4



OBG

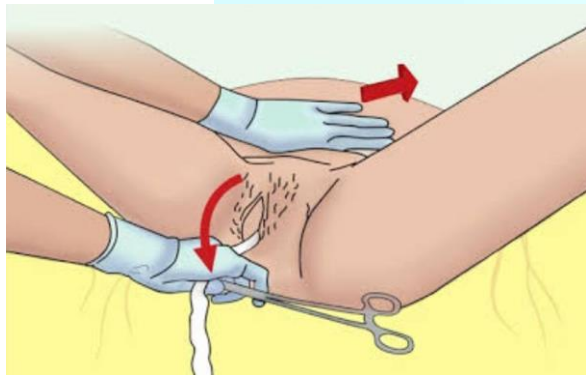
Q. In a woman with a regular 28-day menstrual cycle, which of the following best describes the typical hormonal profile during days 21 to 25 of the cycle?

- A. Low estrogen, high progesterone, low LH and FSH**
- B. Low estrogen, low progesterone, low LH and FSH
- C. Low estrogen, high progesterone, high LH and FSH
- D. High estrogen, high progesterone



Q. During a full-term vaginal delivery, an obstetrics resident is seen applying counterpressure above the pubic symphysis with one hand while gently pulling on the umbilical cord with the other. Which maneuver is being demonstrated in the image?

- A. **Controlled cord traction**
- B. Manual removal of placenta
- C. Uterine massage
- D. Bimanual uterine compression



Controlled Cord Traction Modified Brandt Andrews Method

Image

** done when the uterus contracted*
helps prevent uterine inversion

Q. A 38-week pregnant woman in active labor with 5 cm cervical dilatation and regular contractions suddenly develops umbilical cord prolapse. What is the most appropriate immediate management?

- A. Wait and observe
- B. Manually elevate the presenting part, fill the bladder retrogradely, and prepare for emergency cesarean section**
- C. Perform vaginal packing to protect the cord
- D. Administer oxytocin to expedite labor

Other measures to relieve cord compression

YAGO's method

- ↳ Retrograde filling of bladder with 500 ml saline to lift the presenting part up.
- * Manual relief of cord compression during P/V.
 - Stop oxytocin.

The slide is part of a video lecture. A presenter, a woman with glasses wearing a blue and yellow shawl, is visible in the bottom right corner of the slide frame.

Q. A 46-year-old woman presents with complaints of irregular menstrual cycles and heavy vaginal bleeding for several months. Transvaginal ultrasound reveals an endometrial thickness of 16 mm. What is the most appropriate next step in management?

- A. Hysterectomy
- B. Start combined oral contraceptive pills
- C. Observe and reassess after a few months
- D. Perform an endometrial biopsy**

Indications for endometrial sampling :

- Age > 40 years.
- Endometrial thickness > 12 mm.
- Multiple R/Fs for endometrial hyperplasia.
- Prolonged h/o anovulatory cycles.
- h/o failed medical management.

The slide is part of a video lecture. A presenter, a woman with glasses wearing a grey jacket, is visible in the bottom right corner of the slide frame.

Q. A 36-week pregnant woman is diagnosed with preeclampsia and started on magnesium sulfate therapy. According to the Pritchard regimen, what is the total loading dose of magnesium sulfate administered initially?

- A. 4 grams
- B. 10 grams
- C. 14 grams**
- D. 5 grams

PRITCHARD REGIME

Loading dose: 4 Total v 14g
 • 4 gm (20% wt/vol) slow IV (rate not to exceed 1 g/min)
 • 10 gm (50% wt/vol) IM

Maintenance dose:
 • 5 gm IM on alternate buttock
 • Every 4 hr

Monitor PR

4 vials 8ml

12ml NS + 8ml (4g)

Total 80ml 20ml Over 15-20min

Magnesium Sulfate Injection, USP
 50% 1 gram per 2 mL (500 mg per mL)

Q. A woman develops atonic postpartum hemorrhage (PPH) after vaginal delivery that does not respond to initial medical management. What is the next best step in management in the labour room?

- A. Compression sutures
- B. Bakri balloon tamponade**
- C. Devascularization surgery
- D. Immediate hysterectomy

Uterotonics exhausted
 Uterus still atonic

Ongoing assessment & resuscitation

- Mobilize patient to OT
- Explore the uterus & genital tract

Balloon tamponade * Ideally in OT

Surgical methods (Laparotomy)

- Uterus compression sutures
- Step-wise devascularization

* if successful
 - Leave if in situ for 12 hrs
 - continue oxytocin infusion

Balloon Uterine Tamponade

B. BAKRI BALLOON - capacity ~ 500ml

CONDOM CATHETER

Q. A 65-year-old postmenopausal woman presents with painless vaginal bleeding. She has no history of hormone replacement therapy. What is the most likely diagnosis?

- A. Endometrial carcinoma**

- B. Adenomyosis
- C. Uterine fibroid
- D. Endometriosis

CLINICAL PRESENTATION (Indian ♀ Median age ~54 yrs)

- Average age at presentation 55-70 yrs
- MC presentation Irregular vaginal bleeding
- Most specific complaint post-menopausal bleeding
- Dirty vaginal discharge
- Pelvic pain
- Referred pain in hypogastrium

↳ SIMPSON'S PAIN

Q. A 32-year-old G2P1 woman with a previous cesarean section is undergoing a trial of vaginal delivery at 39 weeks. She is in active labor with 8 cm cervical dilation and fetal station at -1. Continuous fetal monitoring reveals fetal bradycardia, and maternal pulse is 110/min. What is the most appropriate next step in management?

- A. Emergency cesarean section**
- B. Continue monitoring and wait
- C. Administer oxytocin to augment labor
- D. Perform operative vaginal delivery

Management

- Resuscitation + Emergency Laparotomy

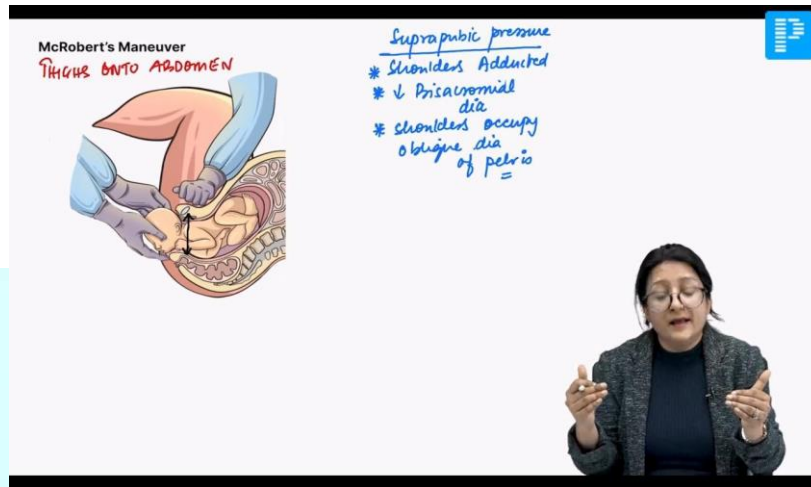
Deliver the baby.
1st => Try to repair the rupture
may need hysterectomy

Q. In managing shoulder dystocia during vaginal delivery, which of the following is the correct sequence of maneuvers?

- A. Zavanelli → Gaskin → Rubin → McRoberts
- B. McRoberts → Rubin → Gaskin → Zavanelli**

C. Rubin → McRoberts → Zavanelli → Gaskin

D. Gaskin → McRoberts → Rubin → Zavanelli



McRobert's Maneuver
THIGH ONTO ABDOMEN

Suprapubic pressure

- * Shoulders Adducted
- * ↓ Priscornoid dia
- * shoulders occupy oblique dia of pelvis

The image shows a medical illustration of a woman in the McRobert's position, with her right thigh bent and resting against her abdomen. To the right, there are handwritten notes in blue ink. Below the notes, a woman is visible in a video feed, gesturing with her hands.

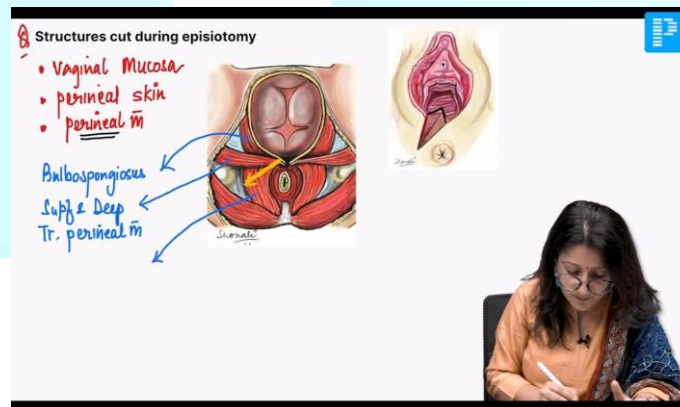
Q. In the repair of a mediolateral episiotomy, what is the correct order of tissue closure?

A. Skin → Muscle → Mucosa

B. Muscle → Mucosa → Skin

C. Mucosa → Muscle → Skin

D. Mucosa → Skin → Muscle



Structures cut during episiotomy

- Vaginal Mucosa
- perineal skin
- perineal m

Anal sphincter
Subf Deep
Tr. perineal m

The image shows a medical illustration of the perineal region during an episiotomy. A yellow arrow points to the incision site. To the right, a woman is visible in a video feed, looking down at a document.

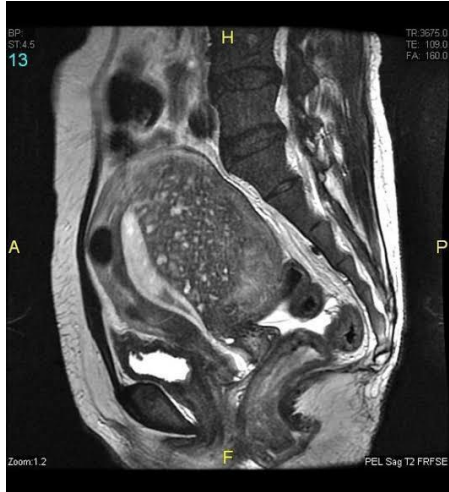
Q. A 42-year-old woman presents with chronic lower abdominal pain and dysmenorrhea. MRI is as shown. What is the most likely diagnosis?

A. Uterine fibroid

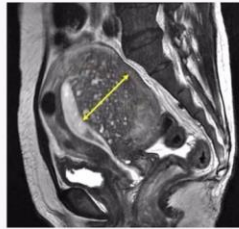
B. Adenomyosis

C. Endometriosis

D. Endometrial carcinoma



MRI findings of adenomyosis

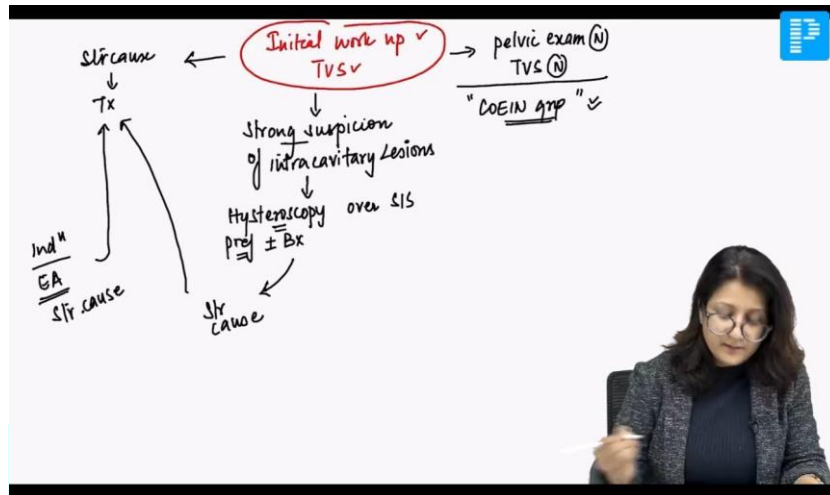


Thickened Inner Myometrium
Junctional zone thickness >12mm
is suggestive of adenomyosis



Q. A 62-year-old postmenopausal woman with a history of hypertension presents with vaginal bleeding. Her blood pressure is 170/100 mmHg. What is the most appropriate next step in management?

- A. Reassure her that this is normal at her age
- B. Immediate pelvic examination, Pap smear, and transvaginal ultrasound**
- C. Refer her to cardiology before any further evaluation
- D. Start antihypertensives and observe for 1 week



Q. A 36-year-old woman presents with secondary amenorrhea for the past 8 months. Laboratory investigations reveal FSH of 36 IU/L and AMH of 0.05 ng/mL. What is the most likely diagnosis?

- A. Polycystic ovary syndrome (PCOS)
- B. Hyperprolactinemia
- C. Premature ovarian insufficiency (POI)**
- D. Hypothalamic amenorrhea

PREMATURE OVARIAN INSUFFICIENCY (POI)

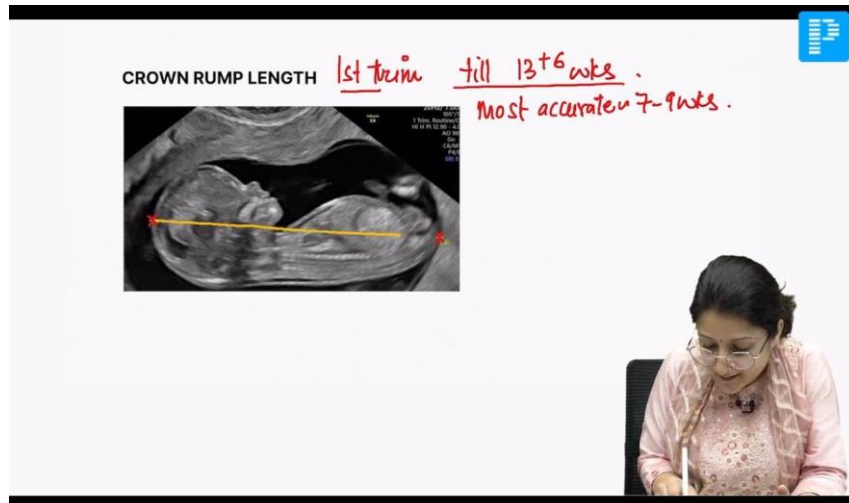
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General

- Incidence-1%
- Persistent hypergonadotropic hypogonadism & amenorrhea before < 40 years of age
- Serum FSH >40 IU/L on at least 2 occasions, at least 1 month apart to make the diagnosis
- In clinical practice
 - Serum FSH levels >20 IU/L- concerning
- Serum AMH (marker for ovarian reserve) levels → low

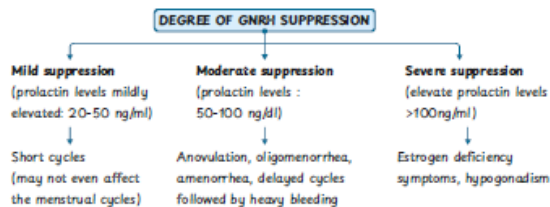
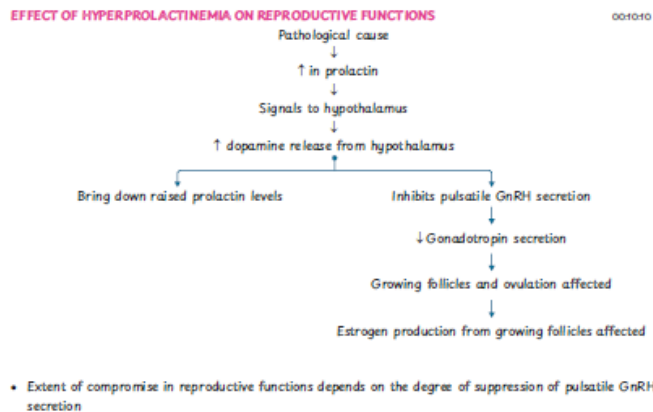
Q. A woman presents for her first antenatal visit and reports that her LMP was approximately 2 months ago. Which ultrasound parameter is the most accurate for dating the pregnancy at this stage?

- A. Biparietal diameter
- B. Mean gestational sac diameter
- C. Abdominal circumference
- D. Crown-rump length**



Q. A woman is diagnosed with a pituitary microadenoma and has elevated serum prolactin levels. She presents with secondary amenorrhea and infertility. What is the most likely mechanism by which hyperprolactinemia causes these symptoms?

- A. Antagonism of estrogen receptors
- B. Decreased GnRH secretion from the hypothalamus**
- C. Increased pulsatile FSH secretion
- D. Increased LH secretion from the pituitary



Q. A woman diagnosed with cervical cancer is found to have unilateral hydronephrosis on imaging due to tumor invasion. What is the FIGO stage of her disease?

- A. Stage IIB
- B. Stage IIIA
- C. Stage IIIB**
- D. Stage IIIC

Symptoms suggestive of advanced stage

- Flank pain
- Lymphedema (leg swelling)
- Sciatica like pain

↓ 50% pelvic side wall involvement
St. III B

Hydronephrosis -
(Increase of size of growth on CX)
St. III B

M/C cause of death in advanced cancer -> ureteral obstruction causing renal failure

Q. A pregnant woman is undergoing a vaginal breech delivery. After delivering the baby's body up to the umbilicus, the obstetrician notices winging of the baby's scapula. To facilitate safe delivery of the baby's shoulders and head, which of the following maneuvers is most appropriate?

- A. Pinard maneuver
- B. Burns Marshall maneuver
- C. Lovset maneuver**
- D. Mauriceau-Smellie-Veit maneuver

Identify the maneuver

Delivery of extended arms / Nuchal arms

Lovset manoeuver

Q. A woman comes to the clinic with breast tenderness, presence of linea nigra on her abdomen, and a bluish discoloration of the cervix. What is the most likely clinical interpretation of these findings?


- A. Probable pregnancy**

- B. Confirmed pregnancy
- C. Normal menstrual cycle
- D. Menopause

PRESUMPTIVE SYMPTOMS & SIGNS

- Amenorrhea
- Nausea & vomiting
- Frequency of micturition
- Fatigue
- **Quickening** *1st perception of fetal movts by the ♀*
- Breast changes
- Pigmentation
- Vascular spider & palmar erythema

spider angiomas



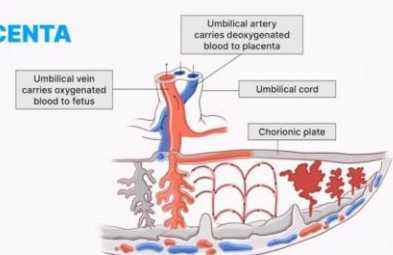
Q. A 28-year-old primigravida woman with a history of preeclampsia undergoes a cesarean section at term. Her BMI is 37. She is currently stable in the postnatal ward. Which of the following is the most appropriate prophylaxis to prevent thrombosis for this patient?

- A. Warfarin
- B. Clopidogrel
- C. Aspirin
- D. **LMWH**

Q. During a clinical examination, a senior resident asks an intern to examine the umbilical cord. How many arteries and veins are normally present in a healthy umbilical cord?

- A. 1 artery and 2 veins
- B. **1 vein and 2 arteries**
- C. 1 artery and 1 vein
- D. 2 arteries and 2 veins

PLACENTA




Umbilical vein carries oxygenated blood to fetus

Umbilical artery carries deoxygenated blood to placenta

Umbilical cord

Chorionic plate



Surgery

Q. A 30-year-old female was brought to EMR after fire on examination of lower limb full-thickness burns and deep partial-thickness burns were present involving it Circumferentially, procedure was performed as given below, identify the procedure?



- A. Escharotomy
- B. Debridement
- C. Excised to healthy tissue fat/fascia
- D. Early skin grafting

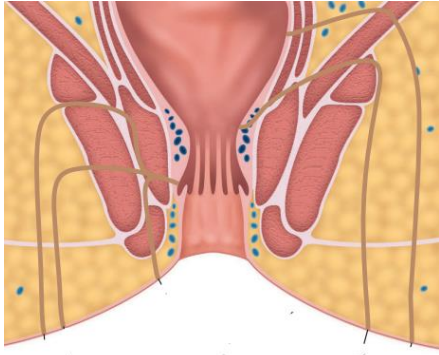
BURN DEPTH

Third Degree Burns: FT BURN

- Involves: EPTA + SIC TISSUE
- Black-colored leathery eschar
- No pain/NO BULLETS!
- Healing occurs with

CIRCUMFERENTIAL ESCHAR
↓
SPONTANEOUS
↓
ESCHAROTOMY

Q. Identify the fistula according to park's classification?



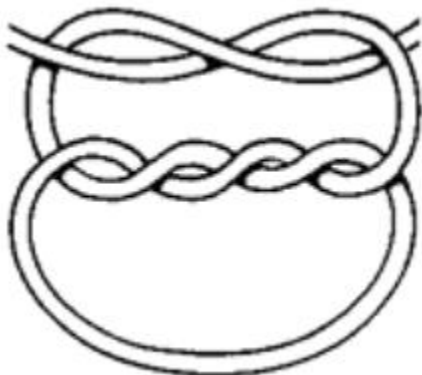
- A. Intersphincteric
- B. Supra-sphincteric
- C. Extra-sphincteric
- D. Trans-sphincteric high

Park's Classification

ITS-EXTRA
I>II>III>IV

<p>Type I: Intersphincteric</p> <p>45%</p>	<p>Type II: Trans-sphincteric</p> <p>30%</p>
<p>Type III: Supra-sphincteric</p> <p>20%</p>	<p>Type IV: Extrasphincteric</p> <p>5%</p>

Q. identify the knot?

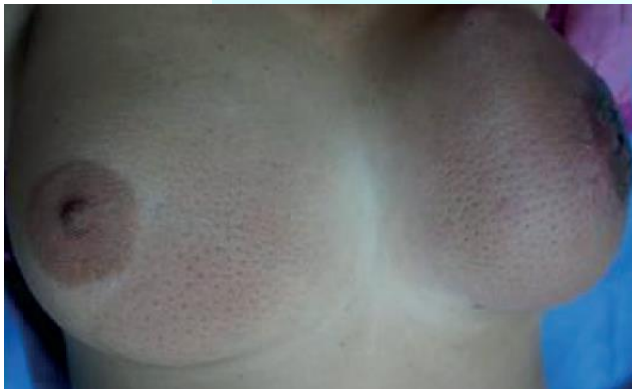


- A. Granny's knot
- B. Reef knot
- C. Double Knot
- D. **Surgeons knot**

Surgeon's Knot

- Consists of: **2 THROWS**
- Two wraps in: **FIRST THROW**
- Single wrap in: **2ND THROW**
- Crossing occurs in: **EACH THROW**

Q. A 43-year-old female present to OPD due changes in breast changes in breast and a lump in breast as given below, what is the diagnosis?



- A. T4d
- B. T4a
- C. T1c
- D. T3

8th AJCC TNM CLASSIFICATION

- T₁: **UP TO 2cm**
- T₂: **>2-5cm**
- T₃: **>5cm**
- T_{4a}: Extension to chest wall → **RIBS + ILC MUSCLES + SERRATUS ANTERIOR**
- T_{4b}: Skin changes
 - **ULCERATION**
 - **EDEMA (PEAU-D'ORANGE)**
 - **LATELITE NODULES**
] → **SAME BREAST**
- T_{4c}: **T4a + T4b**
- T_{4d}: **Inflammatory breast cancer**

Q. A 56 years old man presents with the following pathology, which of the following is correct?



- A. Sclerotherapy is the best treatment
- B. Lipodermatosclerosis/eczema can occurs**
- C. Telangiectasia is rare
- D. No possibility of venous ulcer

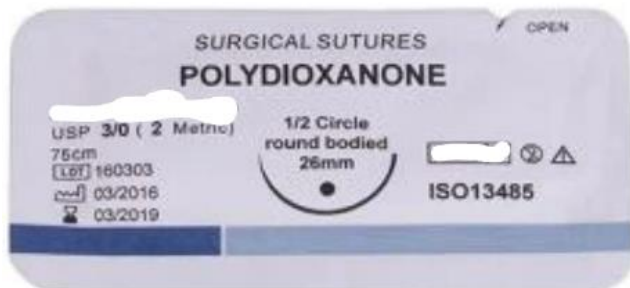
Complications → CHRONIC AMBULATORY VENOUS INSUFFICIENCY

- Hyperpigmentation
- Lipodermatosclerosis
- Eczema
- Venous ulcer

Hyperpigmentation

Venous ulcer

Q. What is correct regarding this suture?



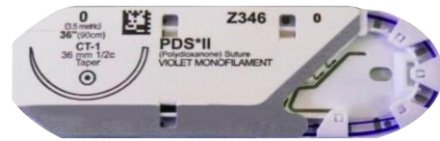
- A. Non absorbable
- B. Monofilament**
- C. Braided multifilament

D. Collagen derived

POLYDIAZONE SUTURE

- Polyester polymer
- Lowest affinity for adherence to *E. coli*, *Staph aureus*
- Absorbed in 180 days
- Used in Whipple's procedure

↓
Pancreaticojejunostomy



Q. A 3-year-old child was brought to OPD with complaint of dysuria and ballooning on micturition and examination as given below, what is the diagnosis?




- A. Balanitis xerotica obliterans
- B. True phimosis**
- C. Recurrent balanoposthitis
- D. Recurrent urinary tract infections

Clinical Features


- Difficulty in passing urine
- Ballooning of Prepuce
- Difficulty in intercourse

Complications:

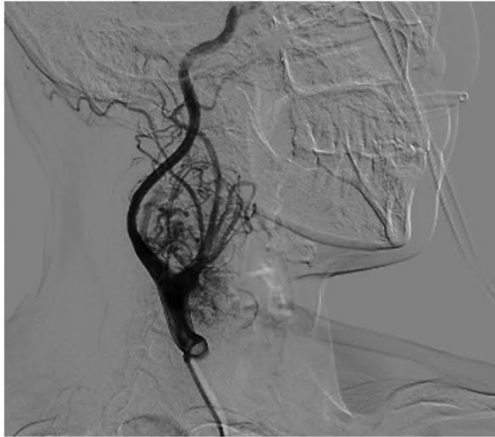
- Balanoposthitis
- Preputial Stone
- Increased risk of



Ballooning of prepuce



Q. History of pulsatile mass in the neck. Digital angiography image shown. Not filling on carotid compression. But refilling on releasing pressure. What is the diagnosis?




- A. Carotid Aneurysm
- B. Carotid Body tumour**
- C. AV fistula
- D. Haemangioma


CAROTID BODY TUMOR

Clinical Features

- Painless swelling
- Slowly enlarging
- Firm
- Pulsatile
- Compressible
- Mobile: *SIDE- TO- SIDE*
- Bruit *+ve*

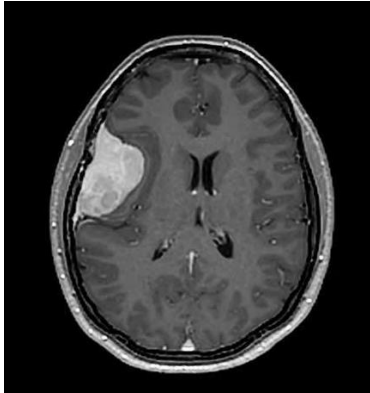


The image shows a clinical photograph of a patient's neck with a green shaded area indicating the location of a carotid body tumor. To the right is a diagram of the carotid bifurcation with a yellow tumor mass at the junction.



A lecturer in a suit and glasses is speaking and gesturing with his hands.

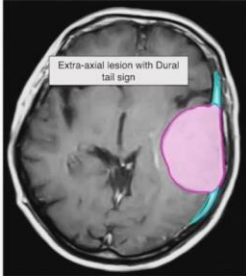
Q. 30-year male old patient presents to OPD with complaints of recurrent headache and nausea, MRI brain shown. What is the diagnosis?



- A. Meningioma
- B. Glioma
- C. Ependymoma
- D. Pilocytic astrocytoma

Diagnosis

- IOC for diagnosis: MRI



Extra-axial lesion with Dural tail sign


The image shows a man in a suit and tie sitting at a desk, presenting a slide. The slide contains the text 'Diagnosis' and a bullet point 'IOC for diagnosis: MRI' with 'MRI' underlined in red. To the right of the text is an axial MRI scan of the brain with a pink highlight on an extra-axial lesion and a label 'Extra-axial lesion with Dural tail sign' pointing to it. A small blue icon is in the top right corner of the slide.


Q. A 25-year old patient who had a Road traffic accident was initially conscious but later became unconscious and subsequently died. On postmortem examination, multiple petechial Others hemorrhages are seen in the corpus callosum, what is the probable diagnosis?

- A. EDH
- B. Diffuse axonal injury
- C. Subdural hematoma
- D. SDH

DIFFUSE AXONAL INJURY

- Widespread axonal damage
- Results from application of:
 - Acceleration/deceleration strain
 - Angular strain
- MC site: **LOBAR WHITE MATTER > CORUS CALLOSUM > BRAIN STEM**

} → SHEARING FORCE → AXONAL INJURY
- Clinical Features:
 - Loss of consciousness
 - MC cause of post-traumatic vegetative state → **DAI**
 - ICT: 




Medicine

Q1. Patient came with severe headache and seizures. Sodium on admission was 98 meq/L. We have started correction with 3% saline and now after 24 hours of infusion sodium is 110 meq/L. Patient develops mutism and altered sensorium. Which investigation will you perform now?

- A. MRI Head
- B. LP for CSF biochemistry
- C. Brainstem evoked potentials
- D. EEG

Osmotic demyelination syndrome
Formerly called Central pontine Myelinolysis


Cause: **FAST CORRECTION of chronic Hyponatremia**



Clinical features
2-3 days after correction for hyponatremia was performed, patient develops

- Confusion, behavioural changes
- Spastic Quadriplegia **CORTICOSPINAL pathway #**
- dysarthria, dysphagia **PONS #**
- Locked in syndrome

Work up **MRI head → TRIDENT SIGN**



Q2. A 30-year-old man with 6 month past history of PND and SOB. On examination, JVP is elevated with irregularly irregular pulse and tender hepatomegaly and MDM. past medical history of ARF. Which of the following is not seen in this patient?

- A. **Presystolic accentuation of mid-diastolic murmur is hallmark feature**
- B. Patient has increased risk of embolic stroke
- C. Absent a wave in JVP
- D. Right heart failure

Atrial Fibrillation
Most common sustained tachyarrhythmia in clinical practice

* P wave ⊖
* Variable R-R interval

Why?
multiple ectopic foci : 300-600/min

SAN 60-100/min

Multiple ectopic foci

Q3. A patient presents with palpitations and an irregularly irregular pulse. He presents within 2 hours of symptom onset, and has no history of diabetes or other comorbidities. What is the most appropriate initial management?

- A. TEE for starting anticoagulation
- B. Cardioversion
- C. Control ventricular rate with verapamil**
- D. Wait and watch

Algorithm for management of long standing atrial fibrillation RACE


1. Rate control
Esmolol | VERAPAMIL, DILTIAZEM | Digoxin
2. Anticoagulation $\left\{ \begin{array}{l} \text{T.T.E : CWTS + in LA} \\ \text{CHADS}_2 \text{ VASC : score } > 2 : \text{ need for OAC} \end{array} \right.$
 - Non-valvular atrial fibrillation NOAC: Arixaban, Dabigatran
 - Valvular atrial fibrillation RHD+MS WARFARIN $\left. \begin{array}{l} \text{factor } \otimes \ominus \end{array} \right\}$
3. Chemical cardioversion (Rhythm control) \rightarrow IV Amiodarone
 \downarrow fails
4. Electrical cardioversion DC SHOCK 200 Joules

Q4. A patient presents with sudden onset aphasia and right sided arm weakness for past 4 hours. Which of the following investigations will be done to determine etiology of this case presentation?

- A. Transthoracic echocardiography
- B. Carotid doppler
- C. Transesophageal echocardiography**
- D. MRI brain

Algorithm for management of long standing atrial fibrillation RACE

1. Rate control
 Esmolol | VERAPAMIL, DILTIAZEM | DIGOXIN
2. Anticoagulation \sim 6wks
 T.T.E : CWTS + in LA
 CHADS₂ VASC : score > 2: need for OAC
 Non-valvular atrial fibrillation NOAC: Arixaban, Dabigatran
 Valvular atrial fibrillation RHD+MS WARFARIN
 factor Xa
3. Chemical cardioversion (Rhythm control) \rightarrow iv Amiodarone
 \downarrow fails
4. Electrical cardioversion DC SHOCK 200 Joules





Q6. A patient presents with salt wasting, craving, hyperkalemia, metabolic acidosis, and skin pigmentation. What is the most likely diagnosis?

- A. Addison's disease**
- B. Cushing's syndrome
- C. Conn's syndrome
- D. Pheochromocytoma

Decreased Cortisol

- ✓ Hypoglycemic attacks *
- emotional lability
- * ⊖ CONTROL OVER VASOPRESSIN
- loss of ⊖ " "
- ADH ↑ : ↑ H₂O:
- HYONATREMIA *
- Eosinophilia *






Loss of sex steroids

- Loss of libido
- Erectile dysfunction
- Loss of pubic hair, axillary hair in females

DHEAS

- ✓ ACTH ↑
- * PARTIAL MSH
- HYPERPIGMENTATION
- KNUCKLES, IPJ
- PALM/SOLE CREASES
- AXILLA
- ORAL MUCOSA

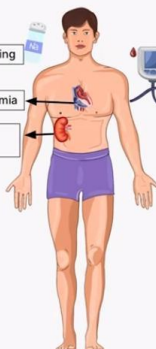


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Clinical Features

- Decreased Aldosterone

1. Salt wasting/Craving
2. POLYURIA
3. Postural hypotension
4. Hyperkalemia
5. wt loss




Salt/H₂O
⊖ ⊕
⊕ ⊖
K⁺/H⁺

CD

Supine → Stand-up
3 min


SBP ↓ ≥ 20 mm Hg
DBP ↓ ≥ 10 mm Hg



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Q7. A known type 1 diabetic presents with glucose 799 mg/dL, Na⁺ 128 mEq/L, Cl⁻ 88 mEq/L, and signs of dehydration. Which of the following is NOT used in the initial management?

- A. 0.9% Normal saline
- B. 3% Saline**
- C. IV infusion insulin
- D. Potassium monitoring



ISPAD GUIDELINES

Diabetic Ketoacidosis; diagnosis confirmed

Shock (reduced peripheral pulses), + level of consciousness/coma

Resuscitation
Airway + NG tube
Breathing (100% oxygen) circulation (0.9% saline 20 ml/kg bolus, repeat until circulation restored) see cerebral injury (CI) Management

Moderate or greater dehydration but not in shock, Acidotic/vomiting

IV Therapy
Saline 0.9% 10-20 ml/kg over 20-30 min; may repeat
Calculate fluid requirements
Correct fluid deficit over 24-48 hours
Add potassium 40 mmol/L fluid

Continuous iv insulin infusion at 0.05-0.1 unit/kg/hr starting 1 hour after iv fluids initiated

Critical Observations/Monitoring
Hourly blood glucose
Hourly fluid input & output
Neurological status at least hourly

Minimal dehydration
Tolerating oral fluid


Therapy
Start with SC insulin
Continue oral hydration

No improvement

Neurological deterioration
WARNING SIGNS
Severe or progressive headache
Inappropriate heart rate slowing, irritability, decreased consciousness
Age-inappropriate incontinence

Warning Signs:

1. Neurological deterioration
2. Severe/progressive headache
3. Decreased consciousness
4. Age-inappropriate incontinence



Q8. Patient in hospital was given IVF and patient develops hyperchloremic metabolic acidosis. Which fluid will cause this?

- RL
- NS
- DNS
- 5% dextrose

↓ (d/t solvent drag)	↓ Cause • Vomiting • Insulin drip	↓ On treatment	↓ On t/t	↑ Shift from 0.9% NS → 0.45% NS	↓
-------------------------	---	-------------------	-------------	------------------------------------	---

- NS excess → Hyperchloremic acidosis
- Chloride excess → ↑ negative charges in blood
- Kidney tries to maintain Electroneutrality → Send HCO₃⁻ inside the cells → ↓ HCO₃⁻ (Acidosis worsens)

Q9. Patient came with fever headache and nuchal rigidity. LP shows gram negative diplococci in gram stain. Which of the following will be used for chemoprophylaxis in close contacts of a patient with meningococcal meningitis?

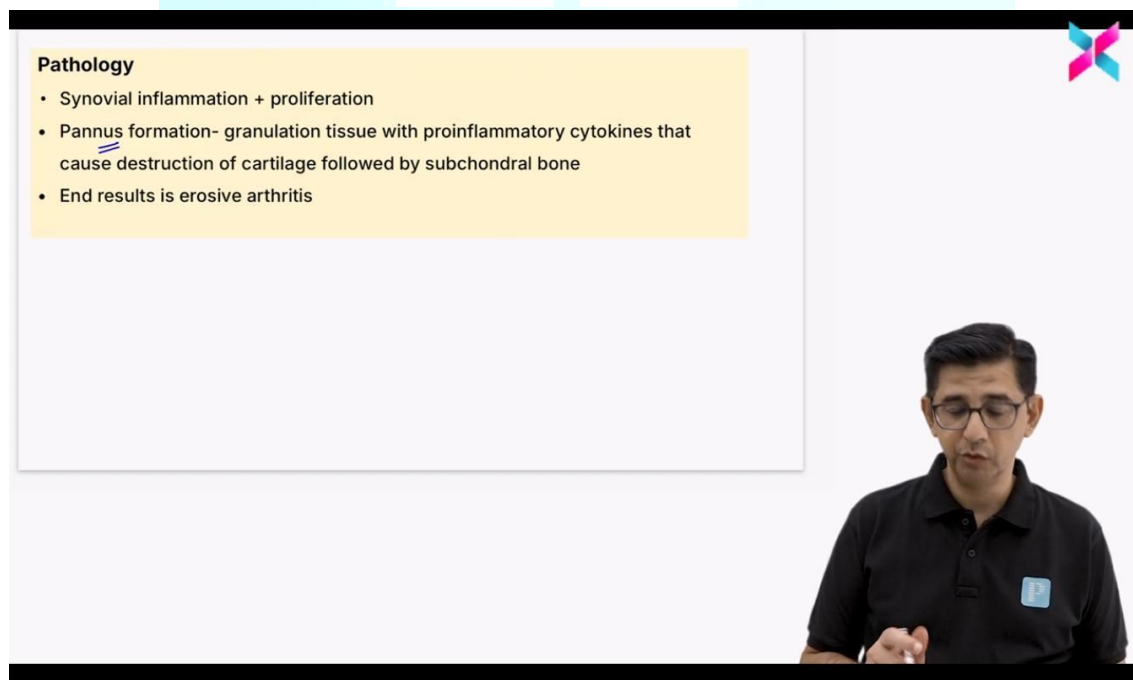
- Amoxicillin
- Doxycycline
- Ethambutol
- Rifampicin

TREATMENT OF MENINGOCOCCAL MENINGITIS

- Causative organism: *Neisseria meningitidis*
- Treatment: IV Ceftriaxone >> Penicillin G
- Prophylaxis: Given in close contacts to eliminate nasal carrier
 - Oral Ciprofloxacin >> Rifampicin
 - Ciprofloxacin is contraindicated in pregnancy & children
 - In pregnancy & children - IM Ceftriaxone is given

Q10. A patient presents with morning stiffness and tests positive for anti-CCP antibodies. Which of the following histological features is most characteristic of the underlying disease?

- A. Pannus formation and erosive joint damage**
- B. Non-caseating granulomas
- C. Subepidermal blister with IgA deposits
- D. Tophi with monosodium urate crystals



The image shows a video lecture frame. On the left, a slide titled "Pathology" lists the following points:

- Synovial inflammation + proliferation
- Pannus formation- granulation tissue with proinflammatory cytokines that cause destruction of cartilage followed by subchondral bone
- End results is erosive arthritis

On the right, a male presenter with glasses and a black polo shirt is visible, looking down at his hands. A small logo is in the top right corner of the slide area.


Q11. Hyperpigmentation in Addison's disease is due to increased secretion of:

- A. Cortisol
- B. ACTH**
- C. Aldosterone
- D. Renin

✓ **Decreased Cortisol**


Hypoglycemic attacks *

- emotional lability
- * \ominus CONTROL OVER VASOPRESSIN
- loss of \ominus " "
- ADH \uparrow : \uparrow H₂O:
- HYONATREMIA *
- Eosinophilia *



✓ **Loss of sex steroids**

- Loss of libido
- Erectile dysfunction
- Loss of pubic hair, axillary hair in females




DHEAS

✓ ACTH \uparrow

* PARTIAL MSH

HYPERPIGMENTATION

- KNUCKLES, IPJ
- PALM/SOLE CREASES
- AXILLA
- ORAL MUCOSA



BOSS

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Q12. Patient presents with dry cough, dyspnea and stridor. HPE of hilar LN shows stellate granulomas with giant cells and circular lamellated concretions on histopathology. Which of the following is the most likely diagnosis?

- A. Sarcoidosis
- B. Tuberculosis
- C. GPA
- D. Hypersensitivity pneumonitis



Pulmonary granuloma in sarcoidosis

Multiple noncaseating granulomas



Keep Hammering

Q15. A 55-year-old man presents with altered sensorium and deep labored breathing. ABG is given below. What is the most likely acid-base disorder?

pH: 7.20

pCO₂: 31 mmHg

HCO₃⁻: 16 mEq/L

Na⁺: 130 mEq/L

Cl⁻: 84 mEq/L

PaO₂: 80 mmHg

- A. Metabolic acidosis
- B. Metabolic alkalosis
- C. Respiratory acidosis
- D. Respiratory alkalosis

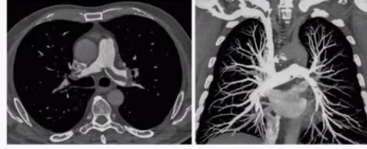
ROME			
pH 1.	pCO2 2.	HCO3 3.	Interpretation
↓	↓	↓	Metabolic acidosis
↑	↑	↑	Metabolic alkalosis
↓ <u> </u>	↑	↑	Respiratory acidosis
↑ <u> </u>	↓	↓	Respiratory alkalosis

Q16. Old man underwent joint replacement surgery 3 days ago. Today he develops SOB with chest pain. O/E : pulse 100/min, BP 100/70 mm Hg, RR28/min and spO₂: 85% room air. D-dimer is elevated. Which is the next best test

- A. V/Q scan
- B. ECG
- C. CXR
- D. CTPA

Invasive imaging

10. Gold Standard investigation for PE : *pulm angiography*



Screening test for PE	<i>D-Dimer Assay</i>
IOC for PE	<i>C.T.P.A</i>
Gold standard for PE	<i>pulm angio</i>

Q17. A 56-year-old diabetic patient is currently on Metformin and Insulin Glargine. His HbA1c is 8.2%, indicating suboptimal glycemic control. Echocardiography reveals a reduced ejection fraction (EF) of 35%. Which of the following is the most appropriate agent to add to his current regimen?

- A. Pioglitazone
- B. Glimepiride
- C. Sitagliptin
- D. **Empagliflozin**

7. SGLT-2 Inhibitors

- MOA: Promotes urinary loss of sugar : *PCT* * *Reduce progression of CKD*
- concomitant loss of salt will reduce SBP by 3-6 mm Hg ↓ *Cardio protective*
- Don't use if eGFR < *30-45 mL/min*

- Drugs

1. Empagliflozin
2. Canagliflozin

Risk: of UTI | mycotic genital infection

We anticipate the lower limit of kidney function below which SGLT-2 inhibitors cannot be started will continue to be challenged. Currently, canagliflozin and empagliflozin initiation is contraindicated if the eGFR is less than 30 mL/min/1.73 m², while dapagliflozin lowered the eGFR threshold to less than 25 mL/minute/1.73 m² as a result of the DAPA-CKD trial.¹³ The Study of Heart and Kidney Protection With Empagliflozin (EMPA-KIDNEY)¹⁴ is recruiting patients whose eGFR can be as low as 20 mL/min/1.73 m².

Q18. A 60-year-old man with chronic kidney disease presents with complaints of increasing fatigue, dyspnea on exertion, and signs of congestive heart failure. On evaluation, he is found to have anemia. What is the most appropriate next step in management?

- A. Oral iron therapy
- B. Intravenous iron infusion**
- C. Blood transfusion
- D. Darbepoetin alfa

5. Erythropoietin Deficiency RBC COUNT ↓ Renin ↓, Epo ↓, vit D ↓

- Elevated PTH: Causes bone marrow fibrosis
- Anemia of chronic disease
- Increased risk of bleeding
- Treatment: Target Hb = 10-10.5 gm


} Normocytic normochromic anemia
main cause: Epo ↓

A. IV iron (build up stores)

B. ESA: Erythropoietin stimulating agents (inj)

- Darbepoetin S/E: HTN
- Epoetin

C. Hypoxic induced factor - prolyl hydroxylase ⊖ HIF-PH stabilizer
L ROXADUSTAT (oral)




Q19. Patient with COPD presents with progressive dyspnea. ABG shows pH:7.32, pCO2 60 mm Hg and HCO3⁻. which of the following is seen in

- A. Acute respiratory acidosis
- B. Chronic respiratory acidosis**
- C. Metabolic acidosis
- D. Metabolic alkalosis

ROME

pH 1.	pCO2 2.	HCO3 3.	Interpretation
↓	↓	↓	Metabolic acidosis
↑	↑	↑	Metabolic alkalosis
↓	↑	↑	Respiratory acidosis
↑	↓	↓	Respiratory alkalosis



Q20. Patient arrives at the emergency department with sudden onset palpitations and chest tightness. ECG confirms a diagnosis of PSVT. Which of the following is the most appropriate preventive treatment?

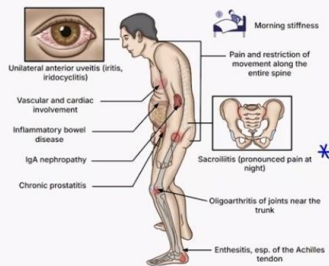
- A. IV lignocaine
- B. Oral Verapamil**
- C. IV Adenosine
- D. Oral Nifedipine

Treatment		
Prevention of episodes of PSVT	Management of acute episode with SBP > 90/60 mm Hg	Management of acute episode with SBP < 90/60 mm Hg
<p>Recurrent episodes Cath ablation</p> <p>Sporadic episodes "Pill in the pocket approach" ↓ Verapamil ↑ A-V nodal delay: MoA</p>	<p>1. Vagus ⊕ CAROTID Sinus M face ice pack</p> <p>2. iv Adenosine 6 mg (normal saline push) 12 mg</p>	<p>Synchronised DC SHOCK</p> <p>↑ fails</p>

Q21. A young man presents with chronic lower back pain and morning stiffness and pain on bending that improves with activity. X ray of LS spine is normal. Ocular examination shows anterior uveitis. Which diagnostic modality will pick up the disease process at the earliest?

- A. Anti CCP antibody
- B. MRI of the sacroiliac joints**
- C. CT scan of the sacroiliac joints
- D. Bone scan

Axial Spondyloarthritis



Q23. A patient with a known history of bronchial asthma is currently on salbutamol and ipratropium via MDI. He now presents with nocturnal worsening of symptoms and night time awakening. What is the next best step in management?

- A. Start L.A.B.A + inhaled corticosteroids
- B. Increase the dose of salbutamol
- C. Add theophylline
- D. Add Montelukast

Management

- Mild to Moderate asthma attack
 - β_2 agonist formoterol + Inhaled corticosteroids
 - Formoterol: LABA with rapid onset
- Severe acute Asthma: Admit to urgent care centre
 1. **NEBULIZATION & SALBUTAMOL**
 - Humidified Oxygen-driven nebulization
 - Air-driven nebulization causes ventilation-perfusion mismatch
 2. IV **HYDROCORTISONE**: Inhibits Phospholipase A2 causing inhibition of leukotriene production
 3. Anticholinergic nebulization
 - 4.

USE of SABA alone discouraged ☹️



Q25. The patient presents with fatigue and pruritus. LFT shows gross SALP elevation and elevated conjugated bilirubin. AMA is seen with liver biopsy shows florid bile ductular lesions. Diagnosis is

- A. PBC
- B. PSC
- C. UC
- D. CD

Work up


1. LFT: Bilirubin: ↑, Fluctuating levels SAP: > 4x ↑
Conj
2. AMA ⊕: M₁-Mg antigens AMA PROFILES
 - ANA present in 20 – 50% of the patients
3. PT/INR ↑
- *4. Platelet ↓
5. Lipid profile LDLc ↑
6. USG abdomen to rule out extrahepatic causes of causes
7. Liver biopsy: Investigation of choice and shows granulomas around small interlobular bile ducts

Q26. A 30-year-old man develops an increase in shoe size with coarse facies and large hands. IGF-1 is elevated. What is the investigation of choice?

- A. IGF-1 levels
- B. Failure to suppress GH by OGTT
- C. Failure to suppress IGF-1 by OGTT
- D. GH levels

Work up

- Screening: IGF-1 level ↑
- Investigation of choice: ORAL GLUCOSE TOLERANCE TEST
- Prolactin levels: ↑ 75gm glucose: suppress GH
- * FAILURE TO SUPPRESS GH LEVELS TO < 0.4 µg/L



Q27. A patient on hydrochlorothiazide develops renal stones. What explains this adverse effect?

- A. Increase urinary calcium
- B. Decrease urinary calcium
- C. Decreased urinary citrate**
- D. Increased urinary citrate


5. THIAZIDES (CHLORTHALIDONE)

- helps to reduce recurrence by 50%

(Furosemide: Increases urinary Ca²⁺ excretion, increases recurrence)

6. DASH diet

pH **insensitive** kidney stone: Calcium oxalate stone



Radiology

Q. What is true about the investigation shown below?



- A. **Invasive procedure.**
- B. Non invasive procedure to visualize ureteropelvic junction
- C. Gold standard for bladder cancer
- D. Done percutaneously

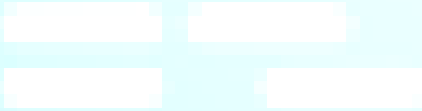
INTRAVENOUS PYELOGRAM

The image displays two views of an intravenous pyelogram (IVP). The top view is labeled "Pyelogram" and the bottom view is labeled "Intravenous Pyelogram". Both views show the urinary tract, including the kidneys, ureters, and bladder, with contrast enhancement. A woman is visible in the bottom right corner of the frame, likely a presenter or instructor.

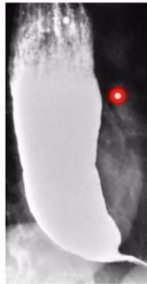
Q. "Based on the image provided, what is the most appropriate confirmatory investigation?"



- A. **Manometry**
- B. pH monitoring
- C. Upper GI Endoscopy
- D. Barium swallow study



Achalasia Cardia



Q. What is the most probable diagnosis based on the image provided?



- A. **RUL collapse.**
- B. RUL consolidation
- C. Bronchogenic carcinoma
- D. Lung abscess

RUL collapse

Right upper lobe pathology
UL
HF
no shift
consolidation

Right horizontal fissure

Displaced right horizontal fissure

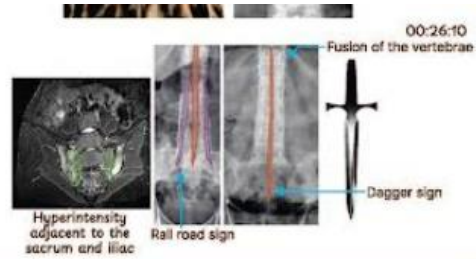
The slide features two chest X-rays side-by-side. The left X-ray shows a normal right horizontal fissure (HF) with a yellow highlight and a red line. The right X-ray shows a displaced right horizontal fissure (HF) with a blue highlight and a red line. Handwritten red notes include 'RUL collapse' at the top, 'Right upper lobe pathology' with 'UL' and 'HF' and 'no shift consolidation' written vertically on the left, and 'Right horizontal fissure' and 'Displaced right horizontal fissure' below the respective images. A small blue logo is in the top right corner. A woman is visible in the bottom right corner of the slide.

Q. Which is the earliest imaging modality used to detect ankylosing spondylitis?

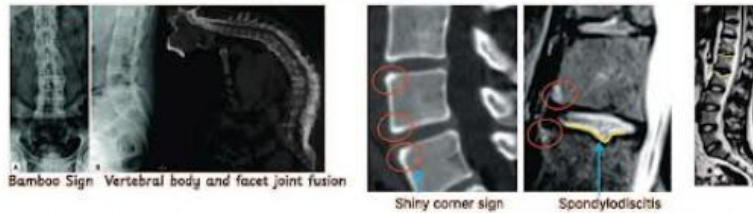
- A. **MRI sacroiliac joint**
- B. CT sacroiliac joint
- C. X ray
- D. Bone scan

ANKYLOSING SPONDYLITIS

- HLA B27 +ve
- Starts in sacroiliac joint
- Extra - articular manifestations :
Uveitis, Red eye
- MRI : **Most sensitive** → Early sacroiliitis involving bone marrow edema
- X - ray → fusion in later stages



Dagger sign	White line in the center of vertebrae due to calcification
Bamboo spine	Fusion of all vertebrae by Syndesmophytes
Railroad /trolley track appearance	Ossification along peripheral annulus fibrosus
Romanus sign/lesion	Shiny corner sign : Earliest sign
Anderson lesion	Disc involvement



Anaesthesia

Q. A 35-year-old male undergoing abdominal surgery under general anaesthesia develops sudden generalized muscle rigidity, rapid increase in body temperature, and tachycardia shortly after administration of sevoflurane and succinylcholine. His end-tidal CO₂ is rising despite controlled ventilation. What is the most appropriate immediate treatment?

- Dantrolene
- Diazepam
- Pancuronium
- Vecuronium

DIAGNOSIS AND MANAGEMENT

- Best screening test: creatine kinase test
- Best diagnostic test – **Halothane caffeine test**
- Serum calcium
- Serum potassium
- If malignant hyperthermia is diagnosed, then:
 - Stop all inhalation agents
 - **Inj. Sodium Dantrolene**- 2 mg/kg every 5 min (maximum - 10 mg/kg)



Q. A patient undergoing surgery receives a muscle relaxant and soon develops flushing and rashes over the neck and anterior chest. Which of the following muscle relaxants is most commonly associated with this reaction?

- A. Atracurium
- B. Cisatracurium
- C. Vecuronium
- D. Pancuronium

Atracurium:
• Metabolised by Hoffman's elimination. It is a non-enzymatic spontaneous degradation of drug.
• It is indicated in renal failure, liver failure, neonates, infants, and elderly.
Side effects
1) LAUDONSINE IS FORMED ON LONG TERM INF
2) HISTAMINE RELEASE

HOFFMAN DEGRADATION
WAS MR OF CHOICE FOR D G FAILURE
B

Q. After a building collapse, a patient presents with airway obstruction and mouth filled with concrete debris. BP is 90/60 mmHg, HR 105/min. The given procedure is performed (image shown). Which of the following statements regarding this procedure is true?



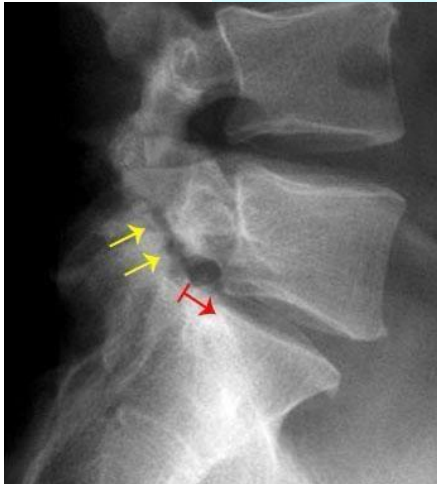
- A. It provides adequate ventilation for up to 6 hours
- B. It must be followed by a formal tracheostomy
- C. It allows for removal of large foreign bodies from the airway
- D. It can be safely used for prolonged airway management without further intervention

Severe Maxillofacial Injuries

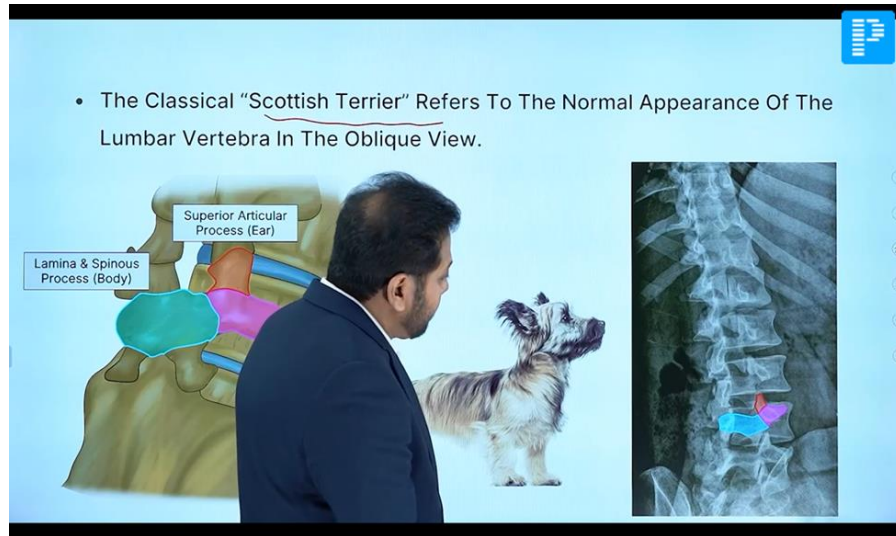
Emergency airway	Definitive airway
<ul style="list-style-type: none"> Emergency airway of choice: NEEDLE CRICOTHYROIDOTOMY High flow O₂ → Disadvantages: 	<ul style="list-style-type: none"> Definitive airway of choice: FACETOMY

Ortho

Q. A 56-year-old female presents with chronic lower back pain. A lateral lumbar spine X-ray is provided. Based on the radiological findings, which of the following is the most likely diagnosis?

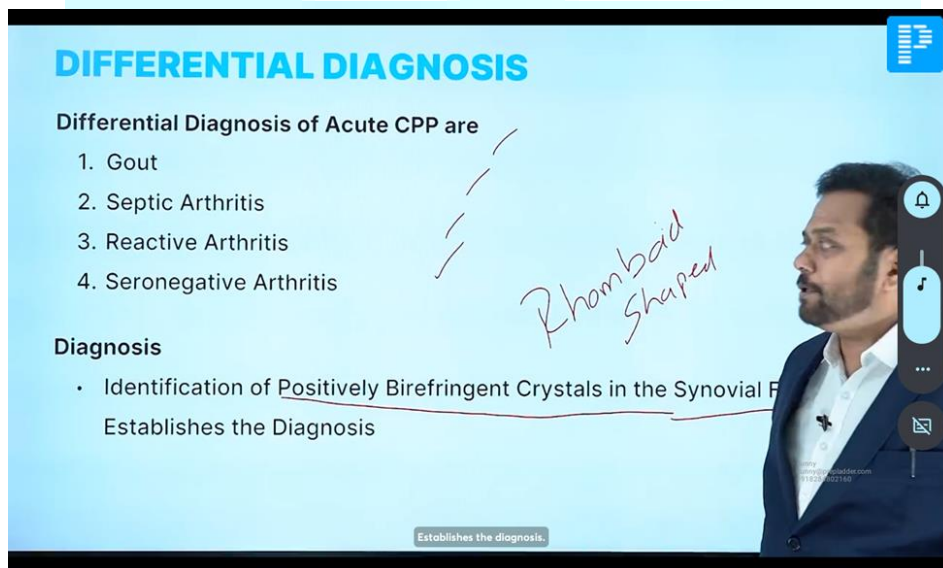


- A. Spondylitis
- B. Spondylolisthesis**
- C. Osteosarcoma
- D. Vertebral fracture



Q. A 40-year-old man presents with discomfort in one of his joints. Synovial fluid aspiration reveals rhomboid-shaped, positively birefringent crystals under polarized light microscopy. Which of the following is the most likely diagnosis?

- A. Gout
- B. Rheumatoid arthritis
- C. Pseudogout**
- D. Osteoarthritis



Q. A 20-year-old man presents with chronic back pain that is worse in the morning and improves with physical activity. He also has a history of anterior uveitis. A lumbar spine X-ray shows no abnormalities. Which of the following is the most appropriate next investigation for early diagnosis?

- A. CT spine
- B. MRI sacroiliac joints**
- C. X-ray thoracolumbar spine

D. Bone scan

IMAGING

SACRO-ILIAC JOINT

- The Radiological Changes In The Sacro-iliac Joint Are One Of The Important Criteria To Diagnose Ankylosing Spondylitis
- Initially, Subchondral Erosions Develop At The Iliac Side Of The Sacro-iliac Joint. This Is Followed By Sclerosis & Proliferation

Sacro-iliac Joint

And they say that too it happens on the subchondral erosion develops at the.

Q. A 60-year-old patient presents with pain in multiple bones and a history of increased hat size. On examination, some bones feel warm to touch. Biochemical investigations show normal serum calcium, phosphate, and parathyroid hormone (PTH) levels, but markedly elevated alkaline phosphatase (ALP). What is the most likely diagnosis?

- A. **Paget's disease of bone**
- B. Osteosarcoma
- C. Multiple myeloma
- D. Osteomalacia

LAB INVESTIGATIONS

- Bone Specific Alkaline Phosphatase (BSAP) Is Markedly Elevated. It Is A Marker Of Osteoblastic Activity
- Hydroxyproline ✓
- Deoxyypyridinoline ✓
- C-Telopeptide ✓
- N Telopeptide ✓
- Tartrate-Resistant Acid Phosphatase (TRAP)
- Cathepsin K
- Serum Calcium & Phosphate Are Normal
- Hyperuricemia

Markedly Elevated In Urine

These Are Markers Of

all these things in the urine, which is a marker of osteoclastic activity.

Q. A 25-year-old man presents to the emergency department following a motorbike accident and is found to have a closed midshaft fracture of the left tibia. Six hours later, he develops severe leg pain that is disproportionate to the injury and worsens with passive dorsiflexion of the foot. The pain is not relieved by analgesics. On examination, dorsalis pedis and posterior tibial

pulses are present, but there is no sensation over the first dorsal webspace. What is the most appropriate next step in management?

- A. Elevate the limb and observe
- B. Immediate fasciotomy**
- C. Administer opioid analgesics and continue observation
- D. Apply cast and follow up

The slide is titled "TREATMENT" in blue. It contains three bullet points: "Positive Clinical Findings - Fasciotomy", "Doubtful Case ICP More Than 30 mm/Hg - Fasciotomy", and "Doubtful Case ICP Less Than 30 mm/Hg - Conservative". Handwritten notes in blue ink include "Emergency" above the first bullet point and "10cms" next to the diagram. The diagram shows two cross-sections of a limb with a red fasciotomy incision. A label "Fasciotomy" is placed over the top incision, and a small "Less" label is at the bottom right of the diagram. A man in a dark suit is visible on the right side of the slide, looking down.

Psychiatry

Q. A female patient presents with flashbacks and a history of forgetting about her father's death in a road traffic accident 2 weeks ago. What is the most likely diagnosis?


- A. Acute Stress Disorder (ASD)**
- B. Post-Traumatic Stress Disorder (PTSD)
- C. Dissociative Amnesia
- D. Adjustment Disorder

ACUTE STRESS DISORDER

EXPOSURE TO ACTUAL OR THREATENED DEATH,
SERIOUS INJURY OR SEXUAL VIOLENCE

SYMPTOMS SIMILAR TO PTSD

SYMPTOMS SHORT LASTING,
RESOLVE WITHIN DAYS (< 1 MONTH)



SYMPTOMS

AI


M: Mood & Cognition

A: Avoidance

H: Hyperarousal

I: Intrusion Symptoms
(RE-EXPERIENCING SYMPTOMS)

DISTRESSING DREAMS
DISTRESSING MEMORIES
FLASHBACKS
(FEELS TRAUMA IS RECURRING)




Q. A person was found in a bizarre location, appearing confused. The caretaker reports he had no memory of how he got there, and the patient is unaware of his travel to the location. What is the most likely diagnosis?

- A. Dissociative fugue
- B. Dissociative identity disorder
- C. Dissociative amnesia
- D. Psychotic episode

2. Dissociative Fugue

- Sudden, unexpected travel away from home or workplace
- Unable to recall past
- May assume new identity

PERSON MAINTAINS BASIC SELF CARE DURING FUGUE



Q. A man is extremely particular about being on time and consistently shows a strong need for order, control, and perfectionism. Which personality disorder does this behavior most likely suggest?

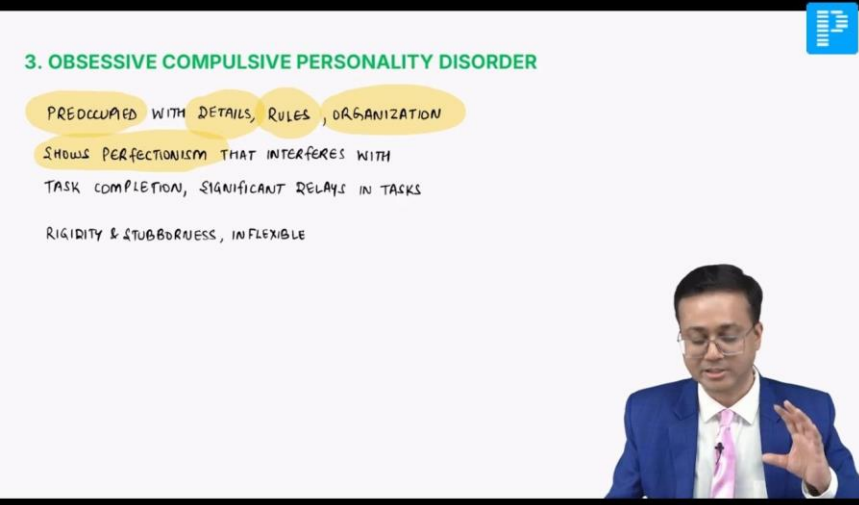
- A. **Obsessive-Compulsive Personality Disorder**
- B. Paranoid Personality Disorder
- C. Narcissistic Personality Disorder
- D. Schizoid Personality Disorder

3. OBSESSIVE COMPULSIVE PERSONALITY DISORDER

PREOCCUPIED WITH DETAILS, RULES, ORGANIZATION

SHOWS PERFECTIONISM THAT INTERFERES WITH TASK COMPLETION, SIGNIFICANT DELAYS IN TASKS

RIGIDITY & STUBBORNNESS, INFLEXIBLE

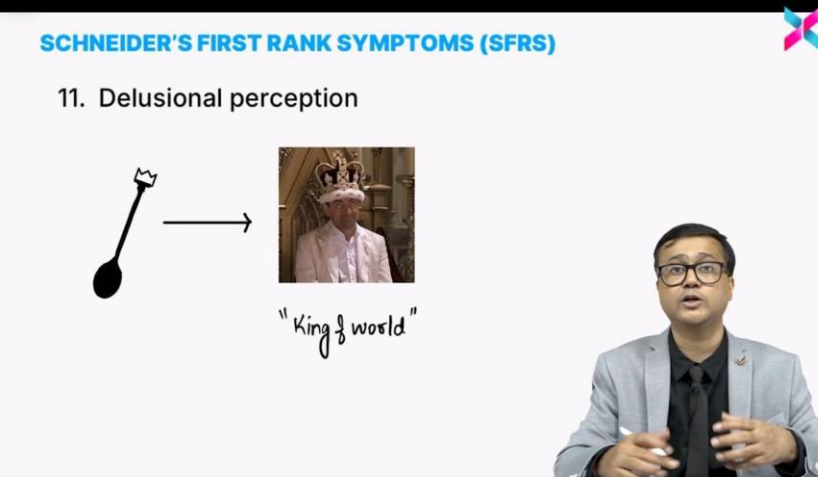


Q. A man reports that he is receiving orders from God to follow white birds in a specific direction. What is the most appropriate description of this symptom?

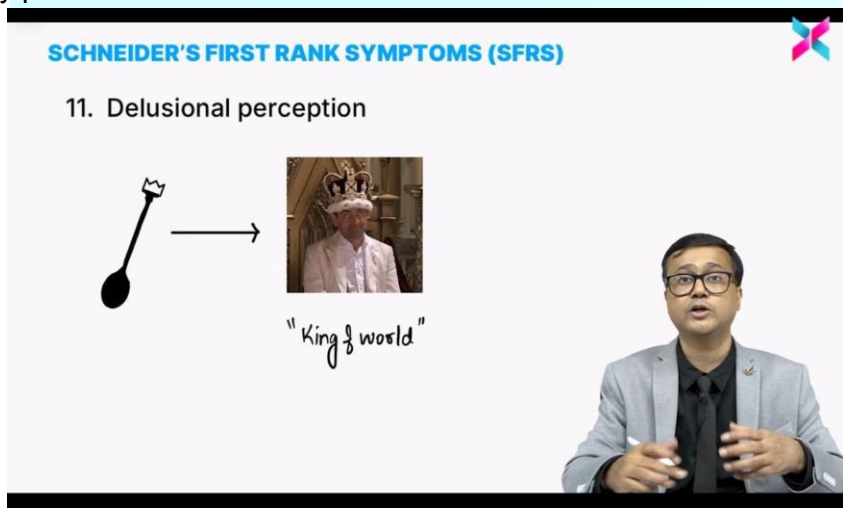
- A. **Delusional perception**
- B. Visual hallucination
- C. Thought insertion
- D. Passivity phenomenon

SCHNEIDER'S FIRST RANK SYMPTOMS (SFRS)

11. Delusional perception

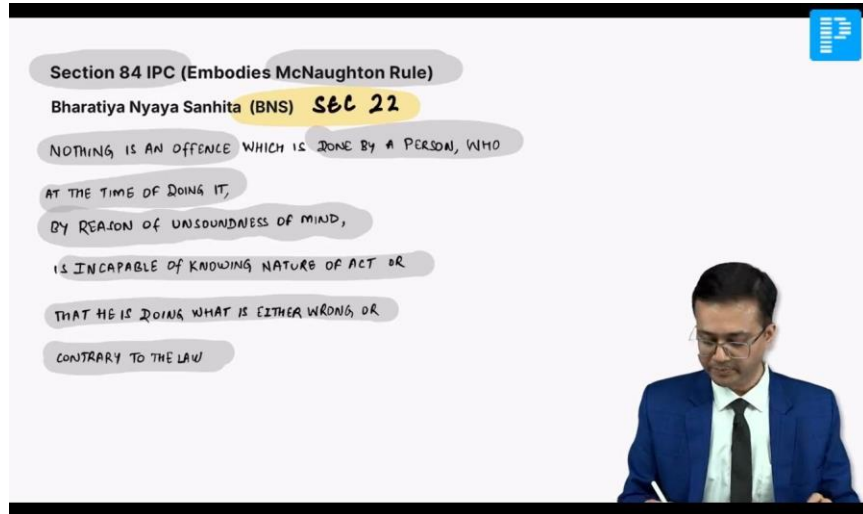


"King of world"



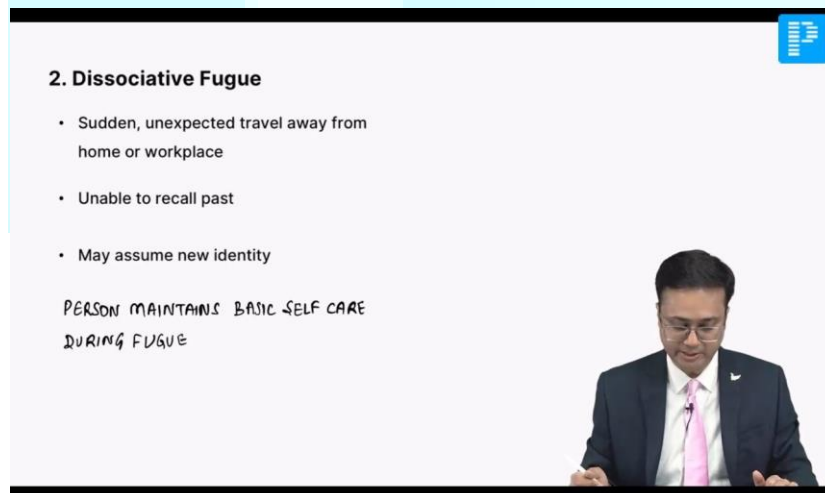
Q. A man killed a person and is being questioned about what actions will be taken against him. What is the first step in managing such a case?

- A. Psychiatric evaluation
- B. Immediate trial of the case
- C. Declared not guilty
- D. Sentenced for murder



Q. A 25-year-old male was injured during an earthquake. A social worker reports that he was later found in another town, and the man has no memory of how he got there or of his personal identity. What is the most likely diagnosis?

- A. Dissociative fugue
- B. Dissociative identity disorder
- C. Acute stress disorder
- D. PTSD



Q. A patient on long-term antipsychotics develops involuntary mouth and lip movements (perioral dyskinesia). What is the best treatment?


- A. Increase the antipsychotic dose
- B. Start benzodiazepines

- C. Stop antipsychotic and give tetrabenazine
- D. Give anticholinergics

TARDIVE DYSKINESIA

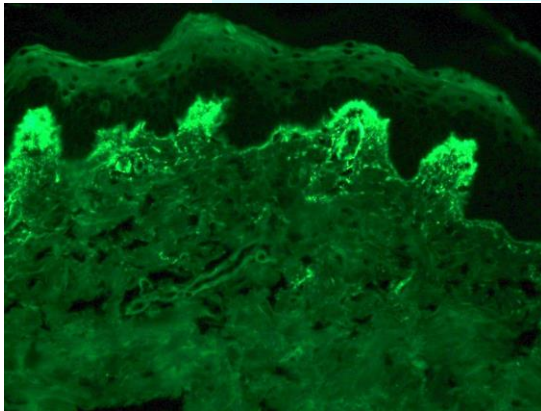
Rx:
Reduce dose/stop
Switch to CLOZAPINE / Atypical Antipsychotics

VALBENZAZINE ⊖ VMAT 2
DEUTETABENZAZINE (Vesicular Monoamine transporter 2)



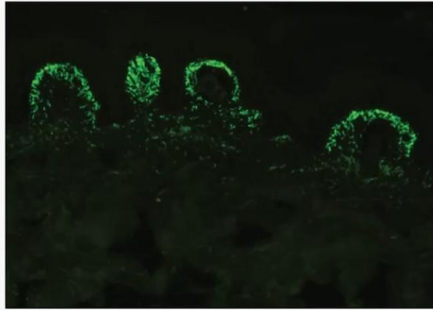
Derma

Q. A woman presents with pruritic rash on the elbows, buttocks with recent diagnosis of gluten sensitive enteropathy. On immunofluorescence IgA deposition is seen as shown in the image. What is the most likely diagnosis?



- A. **Dermatitis herpetiformis**
- B. Pemphigus vulgaris
- C. Bullous pemphigoid
- D. Psoriasis

DERMATITIS HERPETIFORMIS



Q. A 20-year-old patient presents with a non-progressive hypopigmented lesion on the trunk. On Wood's lamp examination, there is white accentuation. Diascopy is negative. What is the most likely diagnosis?



- A. Vitiligo
- B. Nevus depigmentosus**
- C. Nevus anemicus
- D. Indeterminate leprosy



NEVUS DEPIGMENTOSUS

→ hypopigmented. → asymptomatic
 hypopig. macule → trunk, legs, usually around birth.
 usually simple

- Congenital, stable, does not cross midline, melanosome not transferred to keratinocytes

VS

- VITILIGO- since birth, increase proportional to body growth, hypopig.

Q. A patient presents with an indurated plaque on the cheek with central atrophy. Chest X-ray reveals apical calcification. Which of the following tests is most appropriate to confirm the diagnosis?



- A. Mantoux test
- B. Slit skin smear
- C. PCR**
- D. Probe test

LUPUS VULGARIS

- [redacted] in India
- Plaque type TB
- Good immunity against TB → Paucibacillary TB
- Spread
 - Hematogenous spread (M/c)
 - Lymphatic spread
 - Auto inoculation
- M/c seen on
 - Head and neck > Arms > Legs > Buttocks
- Carcinoma can develop on top of Lupus vulgaris like
 - Squamous Cell Carcinoma (SCC)
 - [redacted]



- Clinical presentation
 - Painless Erythematous plaque → granulomatous
 - Plaque : Advancing at one end and scarring at other end (Areas of central scarring)
- On Diascopy
 - Apple jelly nodules → feature of Lupus vulgaris on diascopy



Q. A patient presents with irregular swelling over the foot, multiple discharging sinuses, and black granules. A KOH mount is performed on the discharge. What is the most likely observation?



- A. Arthrospores
- B. Slender dematiaceous fungi**
- C. Yeast
- D. Septate hyphae 4-5

Mycetoma - asymptomatic

- swollen feet
- discharging sinus
 - ↓
 - grains → chalky




Q. Most common cause of squamous cell carcinoma at the base of the tongue is:

- A. EBV
- B. HPV
- C. HCV
- D. CMV

Mucosal involvement

- HPV (Low risk) 6, 11 → genital WARTS (CONDYLOMA ACCUMINATUM)
- HPV (High risk) 16, 18, 31, 33, 35
 - ↓
 - SqCC → CERVICAL, PENILE, ANAL CANAL, ORAL, LARYNGEAL, ESOPHAGEAL

↓

Laryngeal Papilloma

