



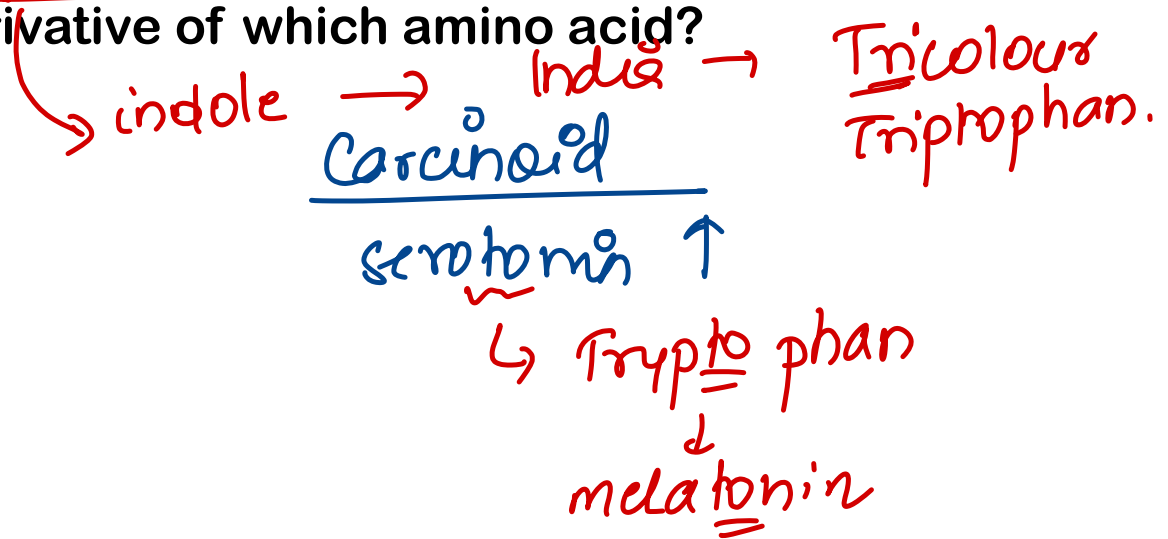
MINI GT1 – INICET

Medsynapse by Dr. Nikita

Biochem

① A patient presents with episodes of flushing, diarrhea, abdominal cramping, and wheezing. His blood pressure and pulse rate are normal during these episodes. Physical exam is normal except for scattered telangiectasias. In order to diagnose this problem, a 24-h urine collection showed elevated levels of 5-HIAA (5-hydroxyindole acetic acid). The chemical responsible for this above syndrome is a derivative of which amino acid?

- A. Alanine
- B. Serine
- C. Tyrosine → melanin
- ~~D. Tryptophan~~



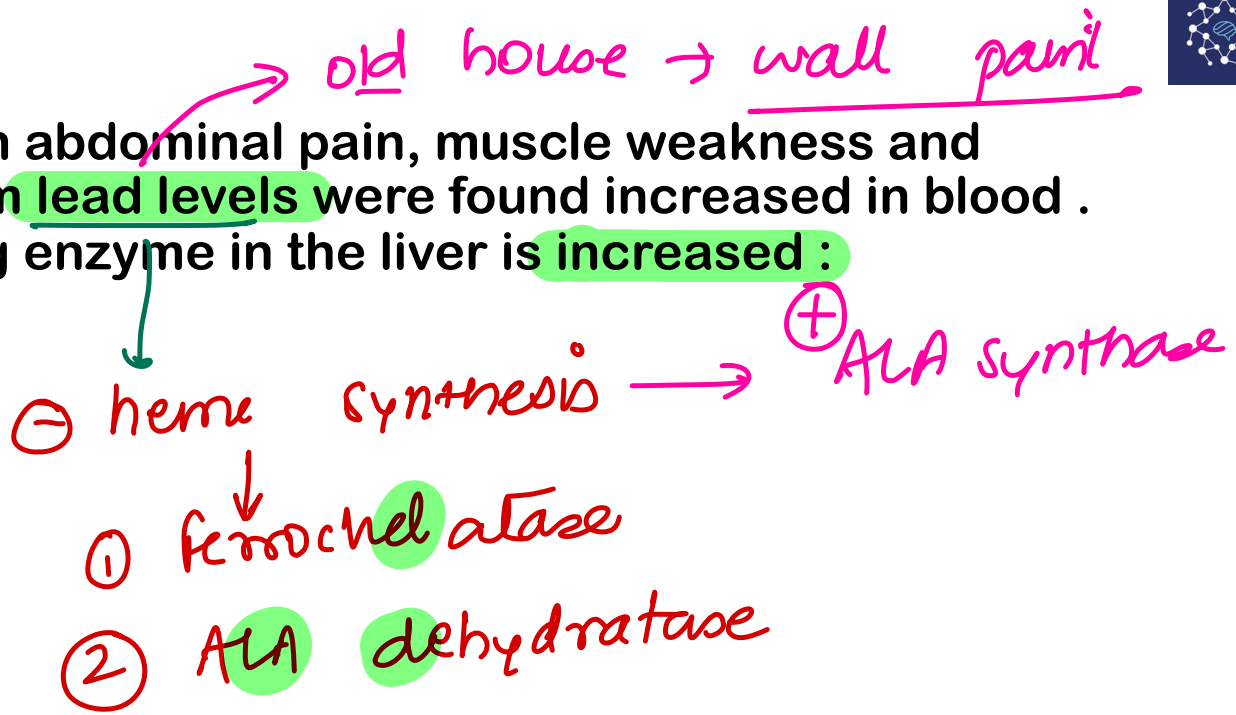
vs





② A 10 year old boy presented with abdominal pain, muscle weakness and fatigue. On investigations, serum **lead levels** were found increased in blood. Activity of which of the following enzyme in the liver is **increased** :

- A **ALA synthase** → vit (B6)
- B ALA Dehydratase ⊖
- C PBG deaminase
- D Heme oxygenase





③ If in a person total cholesterol = 300 mg/dl , HDL, = 25 mg/dl and triglycerides = 150 mg/dl , what will be the LDL levels

- A 245
- B 125
- C 95
- D 55

$$TC = HDL + LDL + \left(\frac{VLDL}{=} \right) \left(\frac{TG}{5} \right)$$
$$300 - 25 - \frac{150}{5} = 245$$

max TG \rightarrow CM (diet exog)



Friedewald equation

$$\text{VLDL-c} = \text{Triglycerides} / 5$$

$$\text{LDL-c} = \text{Total cholesterol} - (\text{HDL-c} + \text{VLDL-c})$$

Handwritten notes: A circled '1/5' is written above the second equation, with an arrow pointing to the '5' in the denominator of the VLDL-c equation. Checkmarks are placed under 'LDL-c' and 'VLDL-c' in both equations.



Anatomy

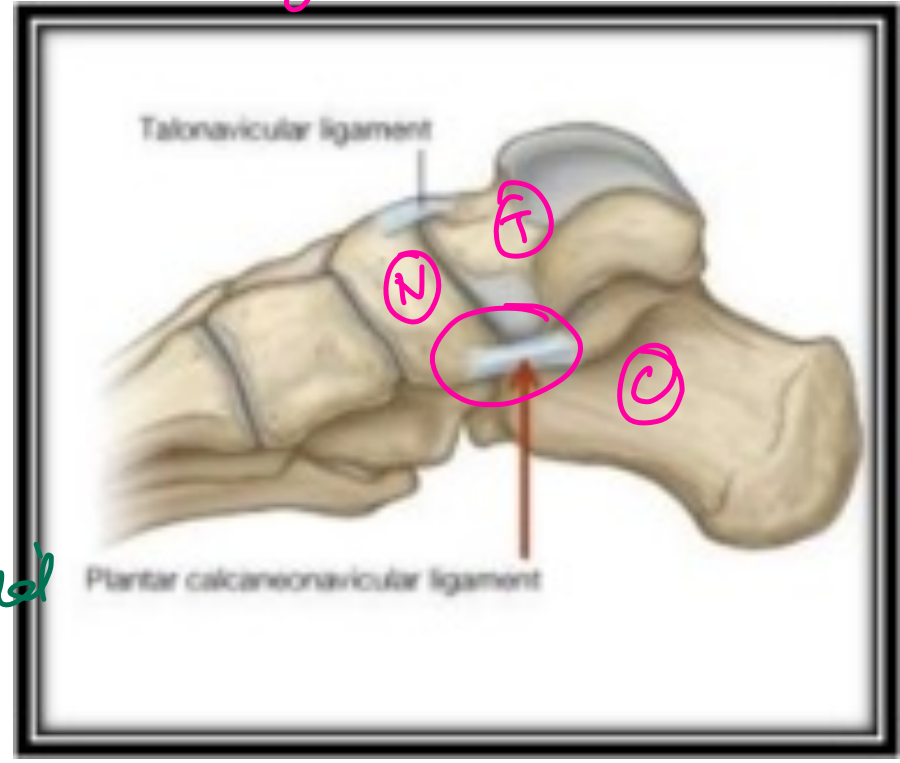
④ The following joint is a type of

- A. Saddle Joint
- B. Hinge joint
- C. Ellipsoid Joint
- D. Ball and Socket**

CC → calcaneo-cuboid

↓
 THIS
 TCN → Hip
 → shoulder
 inudo-stapedal

M
sad
B.S.

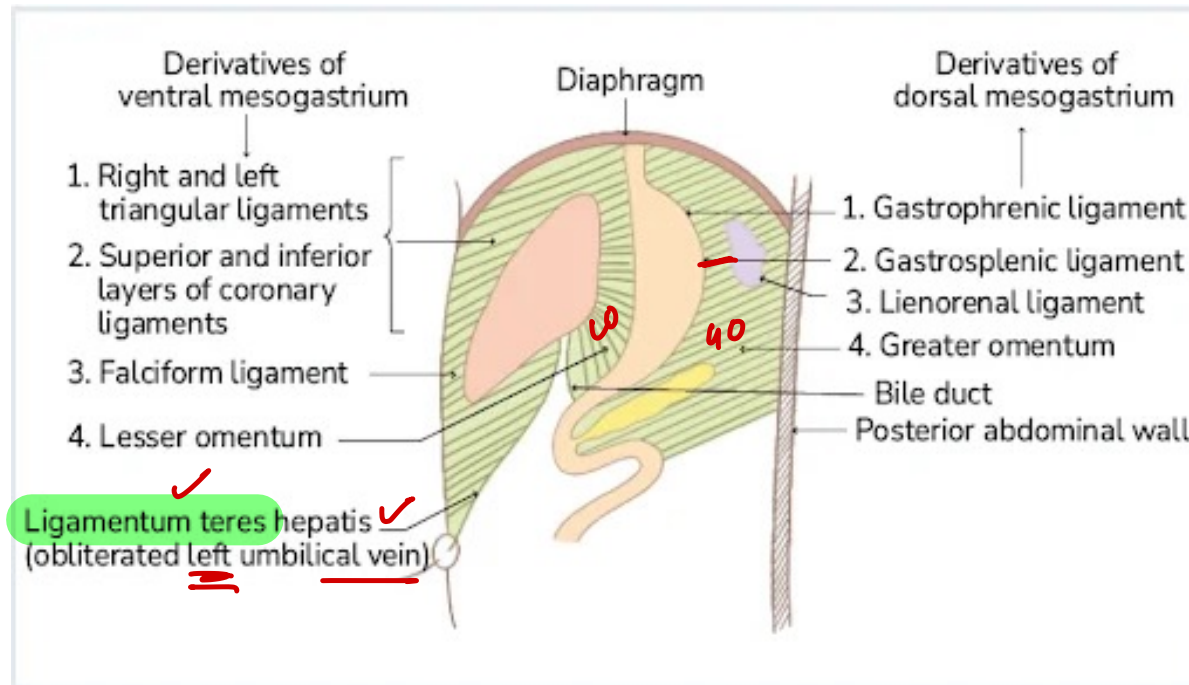




5 All of the following tissues are derived from the dorsal mesentery EXCEPT:

- A. The splenorenal ligament → dorsal
- B. The visceral peritoneum of the spleen
- C. The greater omentum → dorsal
- ~~D. The anterior border of the epiploic foramen~~
↳ lesser omentum

0



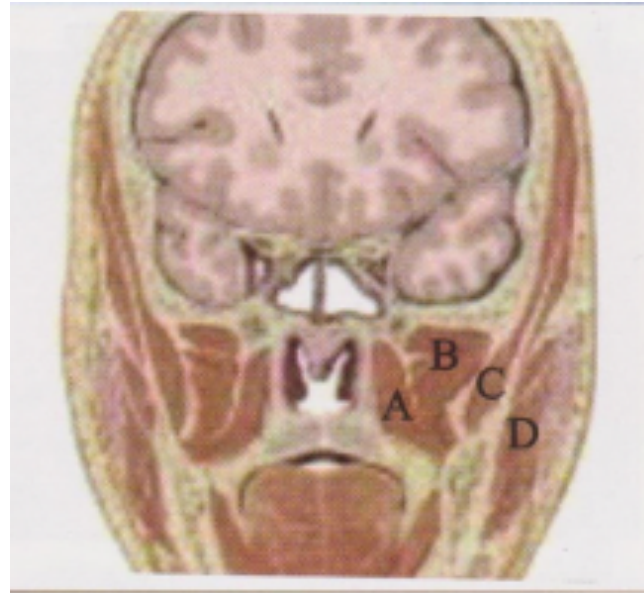
Medsynapse by Dr. Nikita



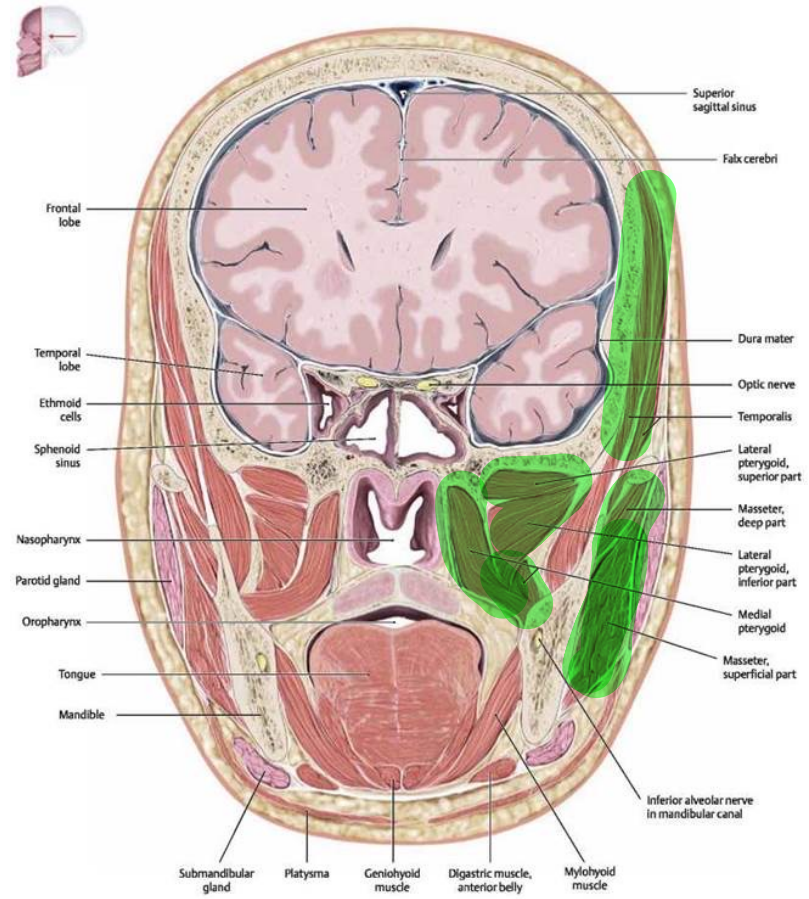
⑥ Which of the following marked muscles is responsible for opening of the jaw?

- A → MP
- B → LP
- C → Temporalis
- D → Masseter

muscle of mastication



*↳ lowers
↓
LP
↓
TMJ disc*



Medsynapse by Dr. Nikita



Physio

7 All of the following pairs are correct for nuclei of hypothalamus except:

A. Ventero medial: Hunger → satiety → ventro lateral

B. Supra-optic: Water conservation → ADH (vasopressin)

C. Posterior nucleus: Shivering centre

D. Supra-chiasmatic: Circadian rhythm
cold

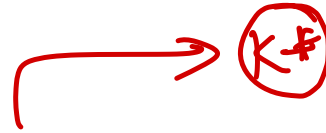
V - O
paravent
oxytocin

AC → cool
ant nucleus → cooling in response to Heat



8

Hyponatremia has no effect on the RMP (resting membrane potential) because

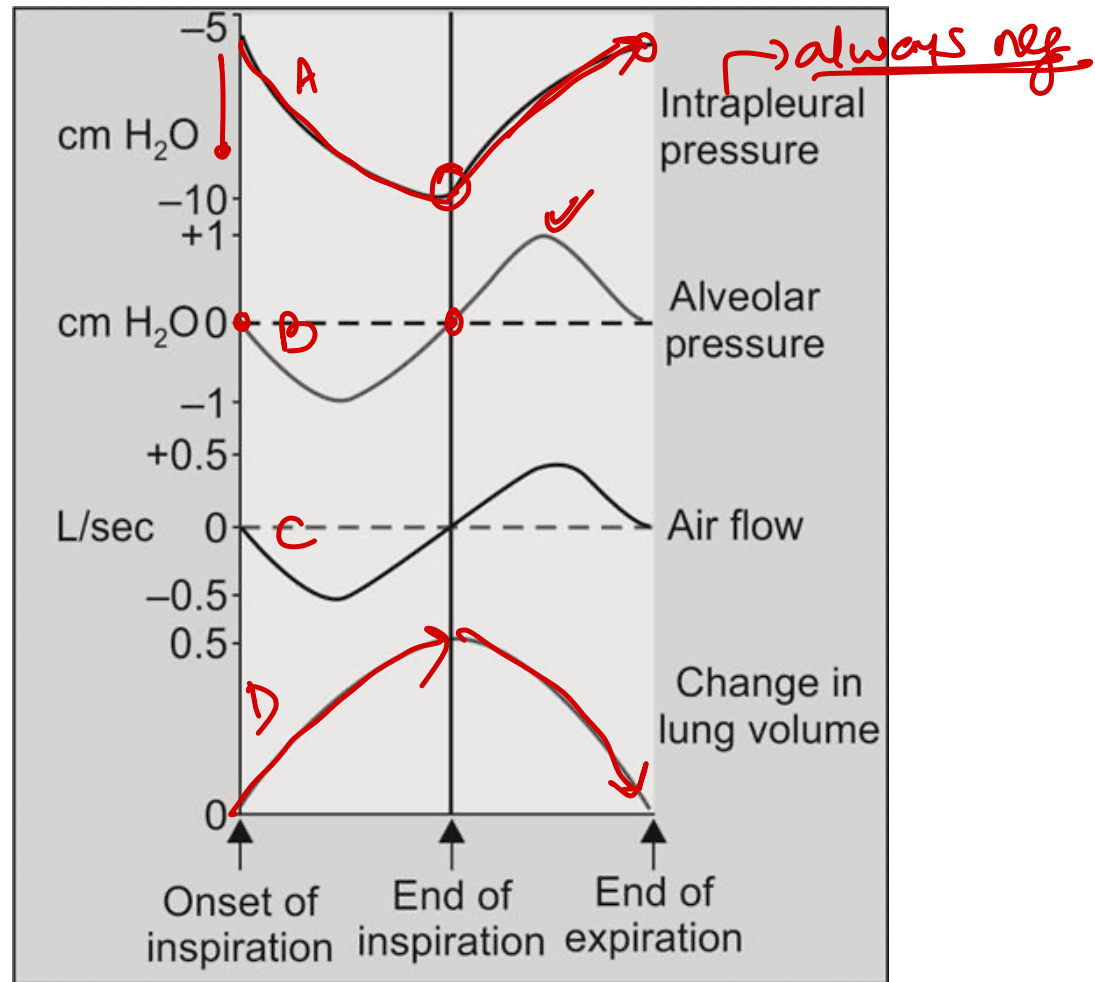


- ~~A~~ The cell membrane is impermeable to Na⁺ at rest
- B ECF Na⁺ concentration is high
- C Intracellular K⁺ concentration is high
- D Equilibrium potential for Na⁺ is +60 mV.



① The pleural pressure of a normal 56 year old woman is approximately -5 cm of water during resting conditions before inspiration (i.e. at functional residual capacity). What is the pleural pressure during inspiration?

- ~~A~~ +1 cm of water ~~X~~
 - ~~B~~ +4 cm of water ~~X~~
 - C -3 cm of water
 - ~~D~~ -7 cm of water
- r/o ∴ can't be positive*
- insp → more neg.*
- more neg → at end of inspiration*



Medsynapse by Dr. Nikita



Pharmacology.

10 A 36 year female patient came with running nose, fever, myalgia and headache from last 7 days. She comes to fever clinic with difficulty in breathing and cough, her SpO₂ is 88%, Temp 101 F, PR- 120bpm and normal BP. Investigations of patient revealed RTPCR confirmed COVID 19 Infection, chest X ray and CT scan findings also confirmed the same features of infection. He was started on Remdesivir IV and the drug acts by following mechanism?

A. Neuraminidase inhibition

→ oseltamivir

B. RNA dependent RNA polymerase inhibition

→ Rifampicin

C. Protease inhibition

→ Navi

D. Importin channel inhibition



17 DOC for chronic Hepatitis B in a pregnant female is:

- A. Lamivudine
- B. Entecavir
- C. Adefovir
- D. Telbivudine

MTCT
Rx mother

Best: Tenofovir

Other: lamivudine
Telbivudine

Starts: 2nd wk

↓
give. H₂B vaccine 3m after delivery to newborn



12 A topical retinoid recently introduced for the treatment of psoriasis is:

A adapalene → acne

B Tazarotene

C Alitretinoin → ↳ Kaposi

D Bexarotene → CTCL

↓
• acitretin

• ps. arthritis

• omix

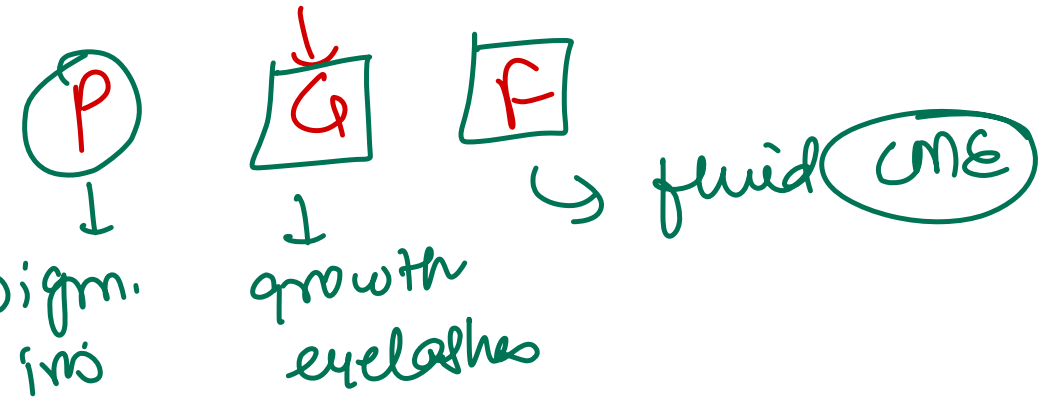
• Apremilast - PDE4 \ominus



13) Which of the following drugs cause heterochromia iridis

A Latanoprost

→ PUF α →



B Prednisolone

C Timolol

D Olopatadine

↳ antihistamine:
↳ allergic conjunct-



④ Movement of Listeria monocytogenes inside of host cells is caused by:

- A. Inducing host cell actin polymerization
- B. The formation of pili (fimbriae) on the listeriae surface
- C. Pseudopod formation
- D. The motion of listeriae flagella

◦ Listeria →

◦ gram +ve

◦ neonatal meningitis

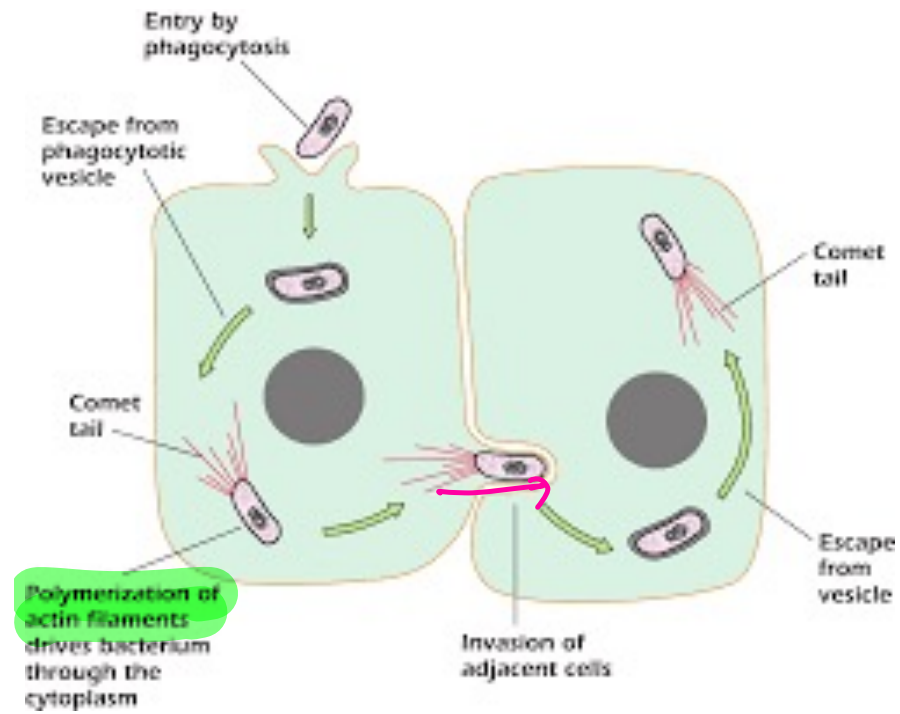
◦ PROM

◦ ampicillin

① Tumbling

② medium = PAGE AM

③ Differential → cold - motile, Hot → not motile



Medsynapse by Dr. Nikita



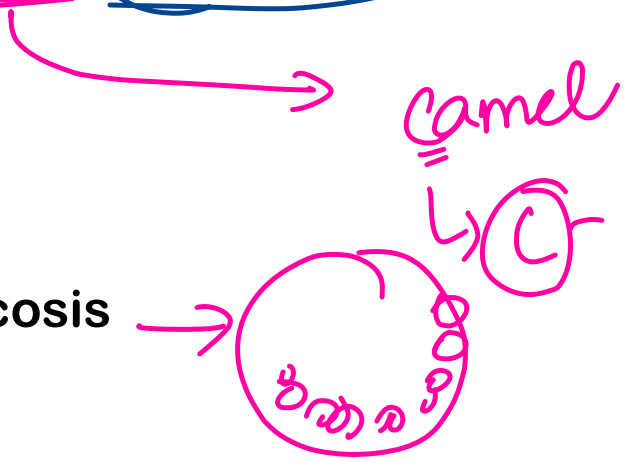
15 Valley fever or desert rheumatism is joint pain (+)

A histoplasmosis

B blastomycosis

C Coccidioidomycosis

D aspergillosis

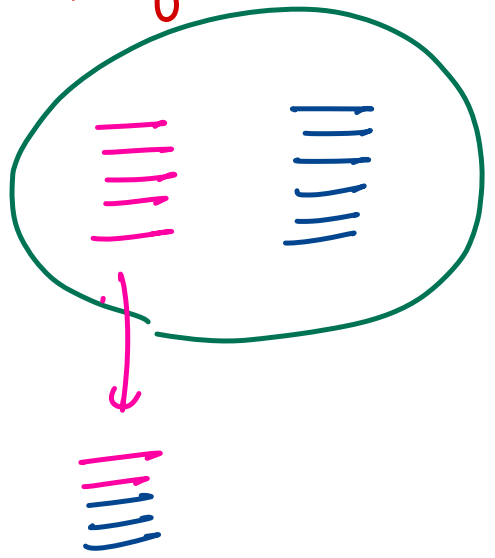




16 Reassortment is typically seen in:

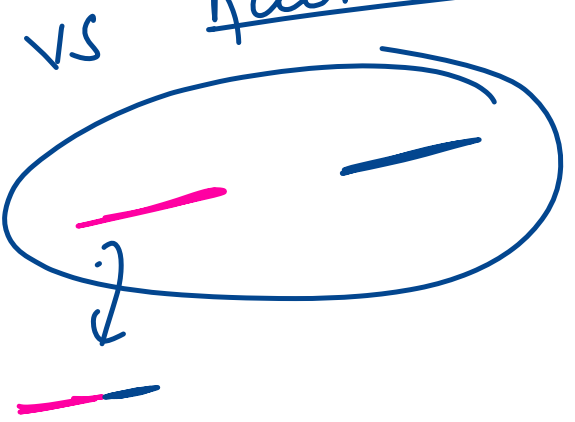
- A Herpes
- B Hepadna
- C Rotavirus**
- D Astrovirus

segmented genome



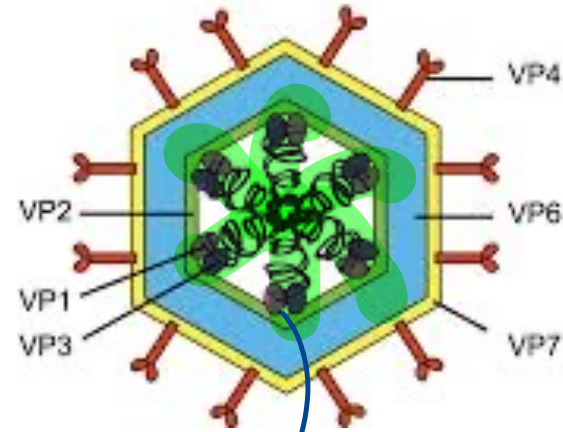
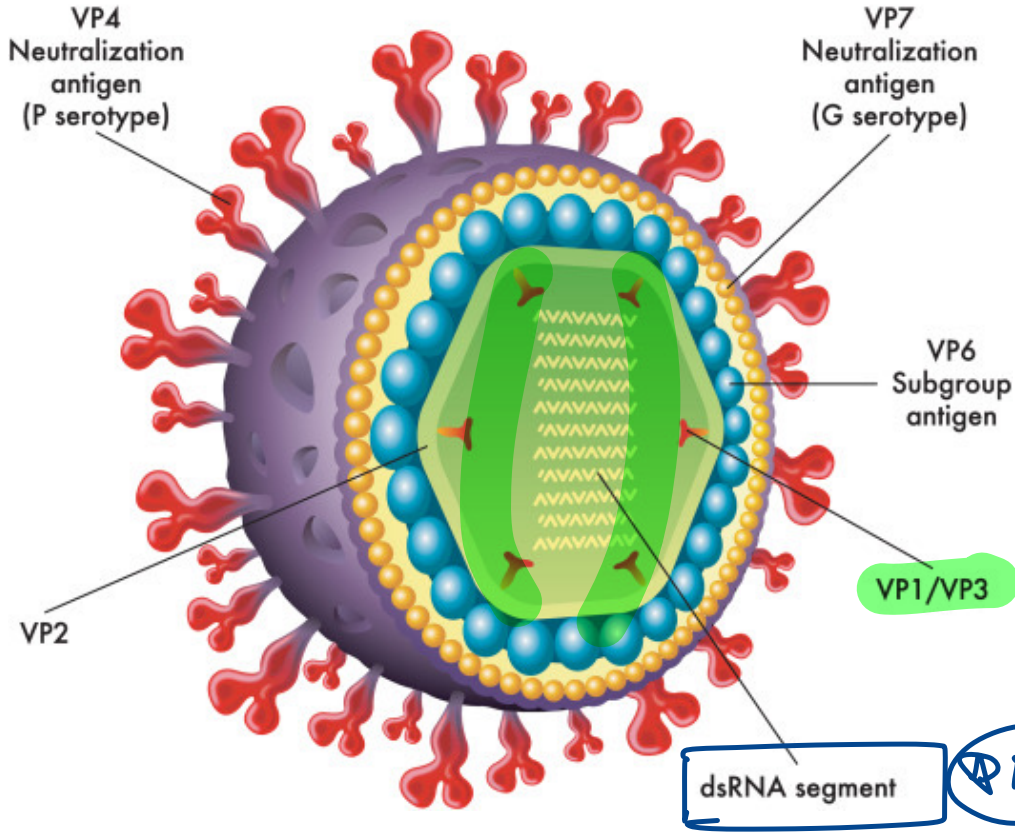
RNA ds

BORA
• Bunya
• orthomyxo - influenza
• Reo - Rotavirus
• arena
Recombination

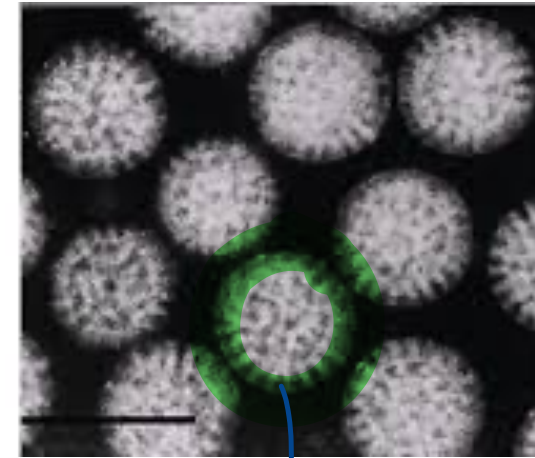




Structure of Rotavirus



dsRNA



rotating wheel

ss DNA → parvovirus



17

Which is true for endotoxins?

A Highly antigenic ~~x~~ exo

negative → lysis

LPS
↳

B Found only in Gram-negative bacteria

C Usually binds to specific cellular receptors ~~x~~

D Highly toxic and fatal in microgram quantities

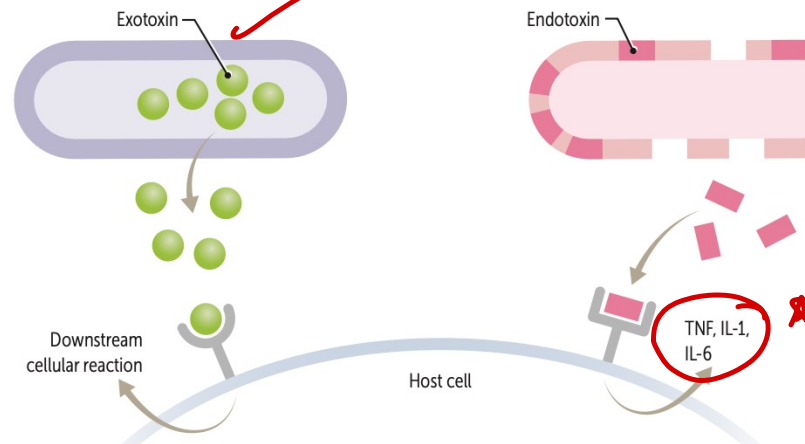
~~x~~ exo



Main features of exotoxins and endotoxins

FAST

	Exotoxins	Endotoxins ^{pyq}
SOURCE	Certain species of gram ⊕ and gram ⊖ bacteria	Outer cell membrane of most gram ⊖ bacteria
SECRETED FROM CELL	Yes ^{no}	No *
CHEMISTRY	<u>Polypeptide</u>	<u>Lipid A component of LPS</u> (structural part of bacteria; released when lysed)
LOCATION OF GENES	<u>Plasmid or bacteriophage</u>	<u>Bacterial chromosome</u>
TOXICITY	<u>High</u> (fatal dose on the order of <u>1 μg</u>)	<u>Low</u> (fatal dose on the order of hundreds of micrograms)
CLINICAL EFFECTS	Various effects (see following pages)	Fever, <u>shock (hypotension)</u> , <u>DIC</u>
MODE OF ACTION	Various modes (see following pages)	Induces TNF, IL-1, and IL-6
ANTIGENICITY	<u>Induces high-titer antibodies called antitoxins</u>	<u>Poorly antigenic</u>
VACCINES	Toxoids used as vaccines	<u>No toxoids formed and no vaccine available</u>
HEAT STABILITY	Destroyed rapidly at 60°C (except <u>staphylococcal enterotoxin</u> and <u>E coli heat-stable toxin</u> , and <u>B cereus emetic toxin</u>)	<u>Stable at 100°C for 1 hr</u> <u>lipooligosacch</u> ^{was}
TYPICAL DISEASES	Tetanus, botulism, diphtheria, cholera	<u>Meningococemia; sepsis by gram ⊖ rods</u>



Medsynapse by Dr. Nikita

Pathology



18 Which of the following complement components is chemoattractant :

AC3a

BC4a

✓ C5a

IL-8

LT- B4 B4

DC3b → opsonin?



1a

All are true about FFP except

A Frozen within 8 hours of collection of whole blood

B 240 ml plasma in one unit

~~C~~ Can be stored for 5 years 1yr → 3yrs

D Minimal loss of labile coagulation factors

o universal donor
FFP plasma
↓
AB +ve
no AB ⊕ in
plasma



20) For programmed cell death and autophagy, which is pro apoptotic genes?

~~A. BCL2~~ cell lives long → antiapop.

B. BAX → Bax

~~C. BCL-XL~~

D. BIM

↳ sensors



(P.S.M)

21) Which of the following variables is measured on the ordinal scale:

A Type of anemia → nominal

B Severity of anemia - mild / mod / severe

C Hemoglobin level
D Serum ferritin level

Quantitative



22 Resource persons for training of ASHA

A Medical officer & ANM

B Medical officer & Anganwadi worker

C ANM and anganwadi worker

D Medical officer

- educn: 8th std
- 25-45yr age
- married / div / widow
- 1 per 1000



20

All the following provide evidence of faecal pollution except:

A Faecal streptococci

B. Coliform ✓

C Cl. tetani

D. Enteropathogenic virus ✓

↳ e. coli ✓

Remote : Clostr perfringens.
recent → Se - Streptococci



24

One of the methods of health communication where 4 to 8 persons who are qualified to talk about the topic and discuss a given problem or topic in front of a large group or audience **in sequence**. This method is called as

~~A. Symposium~~ → one by one speakers.

B. Panel discussion → group →

C. Workshop

D. Seminar



FMT

Q5

A young adult came with casualty with history of some substance abuse. His pulse was 110 beats per minute, respiratory rate 30/min, blood gas analysis revealed **metabolic acidosis**, hypocalcemia and electrolyte imbalance. Blood urea – 100 mg/dl, creatinine – 3.4 mg/dl. Urine analysis showed **calcium oxalate crystals**. He improved on gastric lavage, ethanol, sodium bicarbonate, calcium gluconate and 4-methyl pyrazole. What is the substance he consumed?

~~A Ethylene glycol~~

Rx fomepizole

oxaluria
↓
oxalic acid →
acidosis

B Methyl alcohol

C Formaldehyde

D Paraldehyde



26

Pugilistic attitude is due to ^{in burns} Boxer's

A Cadaveric spasm → vol. muscles.

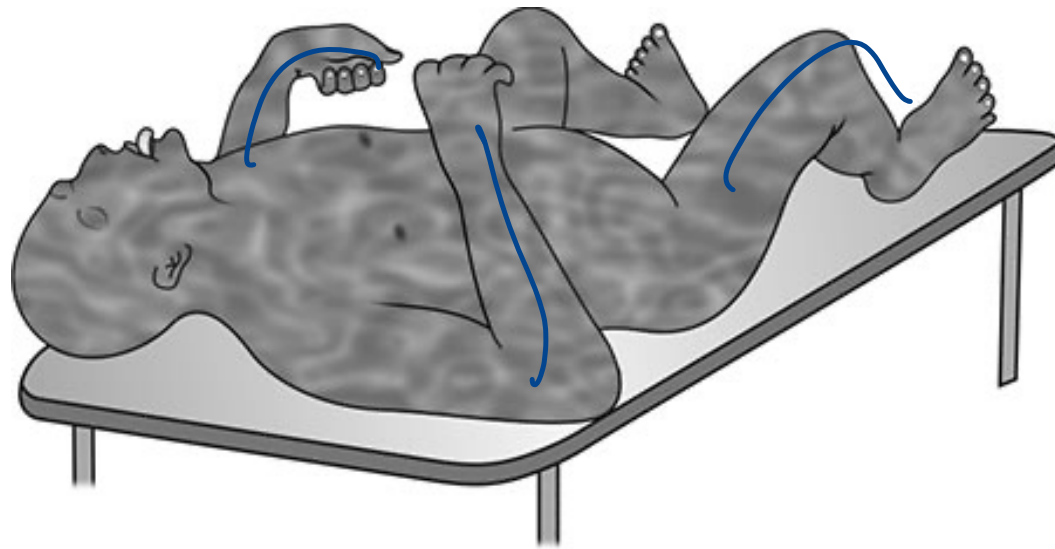
B Rigor mortis → vol + invol → no ATP

C Coagulation of protein → Heat stiffening → AM/PM burns.

D All of the above



flexion



Medsynapse by Dr. Nikita



ophthal

27 Which of the following is true regarding cortical blindness

A Direct and Consensual reflex absent in both eyes.

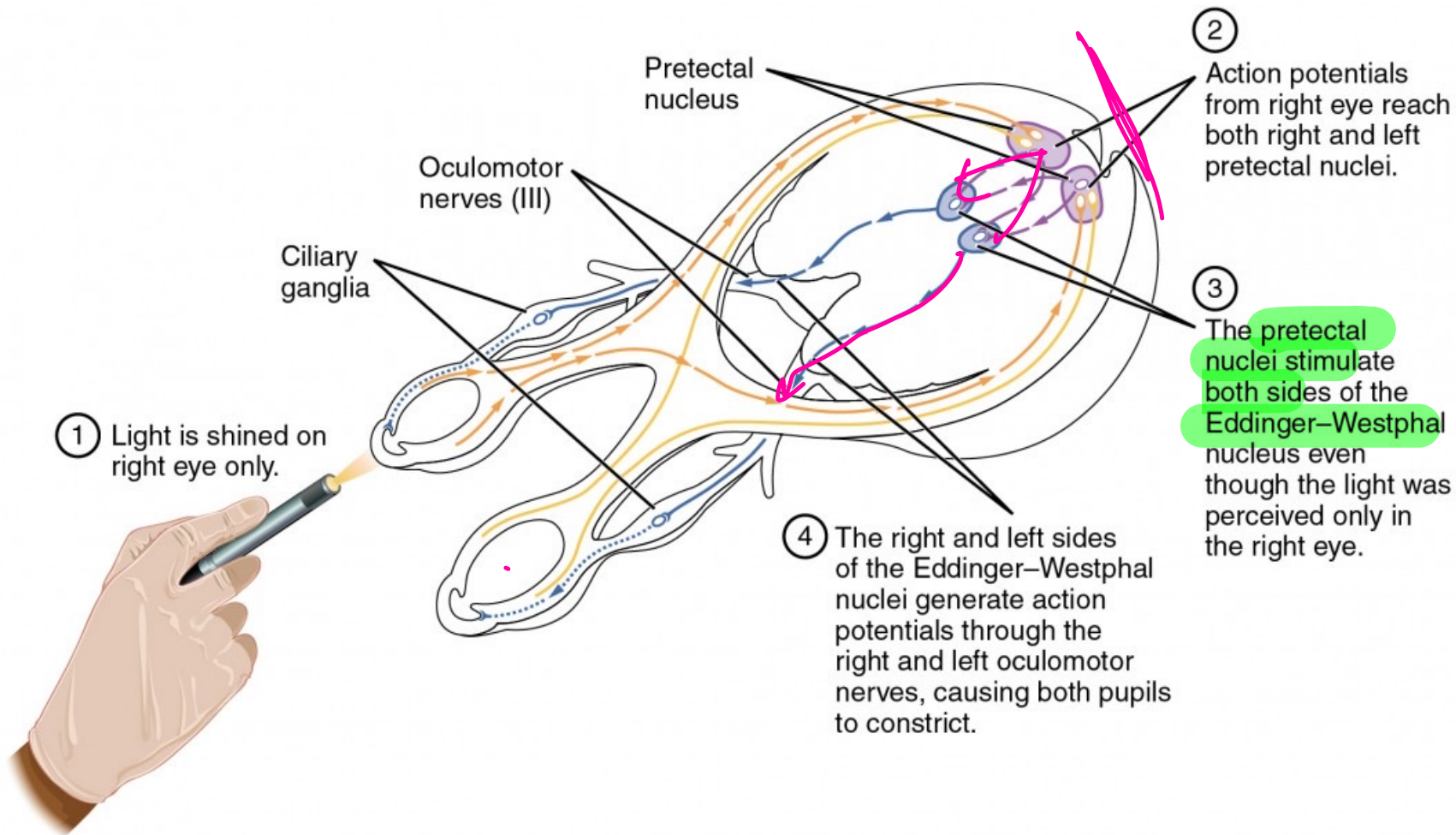
B Direct and Consensual reflex present in both eyes.

→ ∴ light reflex pw does not go to visual cortex

C Direct reflex present and Consensual reflex absent on affected side.

D Direct reflex present and consensual reflex absent on normal side.

2nd n abf
3rd n abf





ENT

Which of the following is not a typical feature of Meniere's disease?

A Sensorineural deafness

↓
endo. hydrops

B Vertigo

C Pulsatile tinnitus

↖ → ⊕ in vascular glomus

TVS

D Fluctuating deafness

audiogram → upsloping → lower freq affected
downsloping → elderly presbycusis



Anesthesia

29

During cardiopulmonary resuscitation, external cardiac compression is given over-

A Upper third of sternum

B Mid third of sternum

C lower one third of sternum

D Precordium overall

adult : 30:2
1/2 rescuers .

child : 1 resc - 30:2
2 resc - 15:2

neonate :



Dermatology

(INI)

30 Dapsone syndrome in hansen therapy is seen after

A 1st week of therapy ✓

B 2 weeks ✓

C 48 hours ✓

D 5 weeks ✓

→ idiosyncratic

- fever, rash, organ

Q → skin pigmentation → clofazimine
colours skin



31

Children with conduct disorders in childhood later on develop which personality disorder in adulthood?

→ <18yr age Psych

~~A~~ Antisocial PD

→ >18yrs → cluster (B)
→ anti-illegal

↑ substance/drug abuse

B Borderline PD

C Avoidant PD

D Narcissistic PD



32

→ collapse ✓ if bronchi radii patent

Air bronchogram is seen in:

A Lung abscess

B Lung cavity

C Pneumothorax

D Consolidation

→ lung white
bronchi black

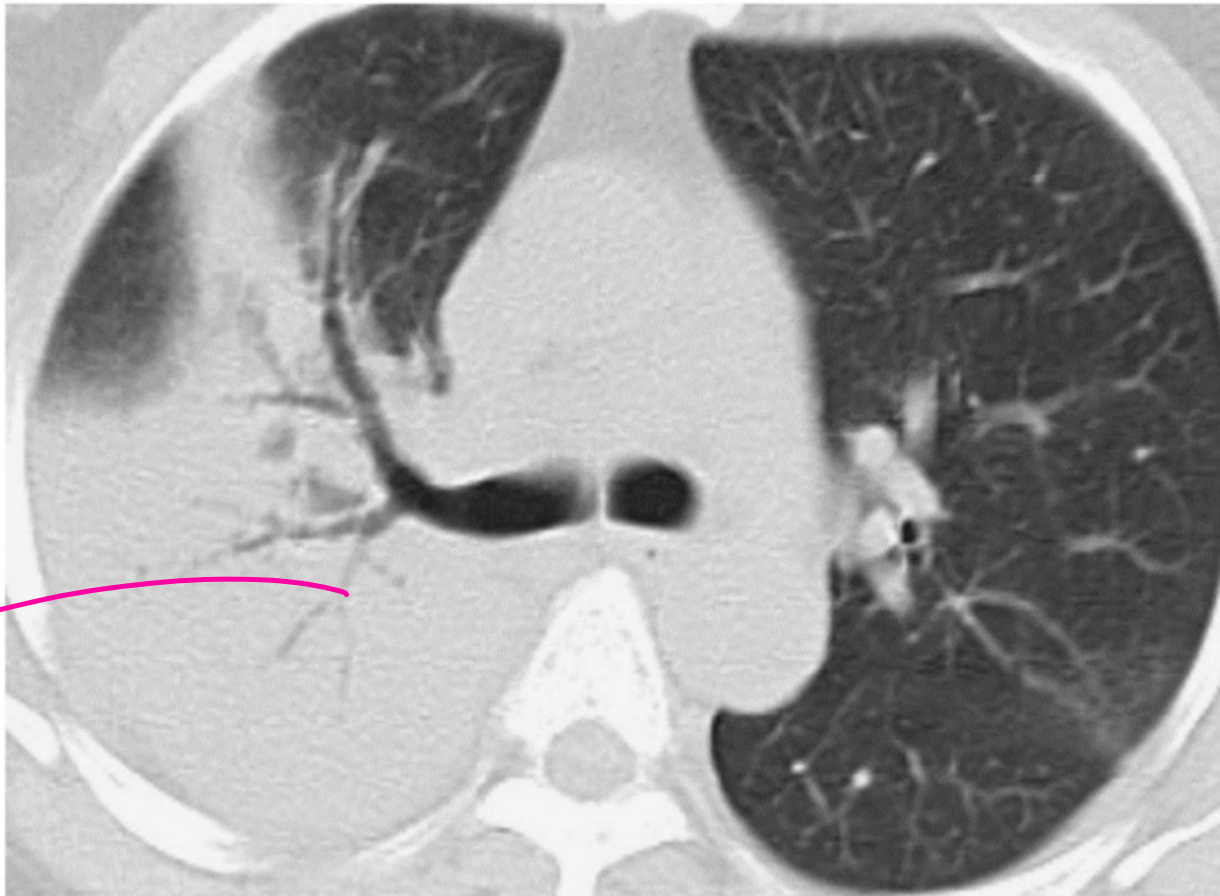
(N)

lung - black
Bronchi - black

intraparench only.

Not in extraparenchymal

- ① pleural effusion
- ② mediast mass.



AB sign

Medsynapse by Dr. Nikita



Medicine

33

A 7 year old child had acute viral illness, followed by sudden appearance of non-palpable petechiae and purpura on the body. There was mild splenomegaly but no hepatomegaly. On investigations, Platelet count was 80000/mm³. CRP and TLC were elevated. Presence of which among the following rules out ITP as the likely cause?

A Non-palpable lesions ✓

B Elevation of CRP

C Age of the child ✓

D Presence of splenomegaly

No platelets Rx
Ab (+)
Rx - Steroids



Bleeding symptoms:

- Absent in 40% of cases, especially in younger and with platelets $> 50 \times 10^9/L$
 - Mucocutaneous bleeding, as widespread petechiae or ecchymosis, gum bleeding, or blood blisters in mouth
 - Menorrhagia in women
 - Major bleeding as intracranial hemorrhage, more frequent in elderly with co-morbidities and/or platelets $< 30 \times 10^9/L$ [7]
-

Absence of:

- Constitutional symptoms, as significant weight loss, bone pain, or night sweats
 - Hepatosplenomegaly ✎
 - Lymphadenopathy ✎
 - Stigmata of congenital disorders ✎
-

Exclusion of underlying diseases:

- HCV, HIV, *H. pylori*, CMV, or VZV infections
 - Liver disease
 - Myelodysplastic syndromes
 - Lymphoproliferative disorders
 - Autoimmune diseases, as systemic erythematosus lupus, antiphospholipid syndrome or Evans syndrome
 - Drug-induced, as acetaminophen or amiodarone (for a more detailed list of drugs, see Mahévas et al. [3])
-

Abbreviations. TPO: thrombopoietin; HCV: hepatitis C virus; HIV: human immunodeficiency virus; *H. pylori*: Helicobacter pylori; CMV: cytomegalovirus; VZV: varicella-zoster virus.



311

→ clock

Which of the following is false about cluster headache?

A Central pacemaker neurons in the hypothalamus are involved in pathology

~~X~~ B Associated with bilateral photophobia and phonophobia

C Periodicity is core feature, at least one of the daily attacks of pain recurs at about the same hour each day

D Associated with ipsilateral symptoms of cranial parasympathetic autonomic activation.



TABLE 2. CRITERIA FOR DIAGNOSING CLUSTER HEADACHE

Patient must have at least 5 attacks fulfilling all 4 following criteria:

1. **Location:** Unilateral orbital, supraorbital, or temporal pain, characterized as severe or very severe
Duration: lasting 15-180 minutes (when untreated)

2. **Associated symptoms:** Either 1 or both of the following:
a. At least 1 of the following symptoms ipsilateral to the headache
i. Lacrimation or conjunctival injection
ii. Rhinorrhea or nasal congestion
iii. Edema of the eyelid
iv. Forehead and facial sweating
v. Ptosis or Miosis → *parasymp*
b. A sense of agitation or restlessness

3. **Frequency:** Attacks occur between 1 every other day and 8 per day

4. Headache attack not able to be better accounted for by another ICHD-3 diagnosis

Data from The International Classification of Headache Disorders, third edition¹



35

Which of the following is the correct statement regarding findings in JVP

~~A Cannon wave: Complete heart block~~

B Slow y descent: Tricuspid regurgitation

emptying TS

C Giant c wave: Tricuspid stenosis

D Increased JVP with prominent pulsations: SVC obstruction





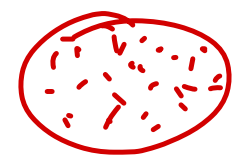
36 Which manifestation is more common in limited systemic sclerosis as compared with diffuse Ssc?

- A Skin involvement
- B Pulmonary fibrosis
- C pulmonary artery HT

D oesophageal dysmotility

ANA → nucleolar
if

CREST
↓
anti centromere





<i>Feature</i>	<i>Limited cutaneous</i>	<i>Diffuse cutaneous</i>
Skin fibrosis	Areas <u>distal to the elbows and knees</u> ; may affect the face	Areas <u>proximal or distal to the elbows and knees</u> ; may affect the face
Typical form of lung involvement	(Pulmonary arterial hypertension)	(Interstitial lung disease)
Characteristic visceral organ involvement	Severe <u>gastroesophageal reflux disease</u> and <u>Raynaud phenomenon</u>	Scleroderma <u>renal crisis</u>
Physical examination findings	Telangiectasia, calcinosis cutis, sclerodactyly, digital ischemic complications	Tendon friction rubs, pigment changes



37 All of the following statements about diabetic ketoacidosis are true EXCEPT:

A DKA is commoner in type 1 → ∴ insulin def + acidosis

B Anion gap increases → ↑ HAGMA ⊕ ketone pH ↓

C Serum pH < 7.4 ✓

~~D~~ Serum bicarbonate in DKA is > 15 meq/L

m.a → ↓ ↓ ↓

Rx → Regular insulin & fluid



	<u>Mild DKA</u>	Moderate DKA	Severe DKA
Plasma glucose (mg/dl)	<u>>250</u>	>250	<u>>250</u>
Arterial pH	7.25-7.30	7.00-7.24	<7.00
Serum <u>bicarbonate</u>	<u>15-18</u>	<u>10-<15</u>	<u><10</u>
Urine ketones	Positive	Positive	Positive
Serum ketones	Positive	Positive	Positive
Sensorium	Alert	Alert/drowsy	Stupor/coma

DKA: Diabetic ketoacidosis



38 Type 7 Gilbert hernia is:

- A Direct inguinal hernia
- B Indirect inguinal hernia
- C Femoral hernia**
- D Umbilical hernia

Surgery

F - Femoral

NFI → 17 chrom.



TYPE	DESCRIPTION
1	Small (<1.5 cm), <u>Indirect</u>
2	<u>Medium</u> (1.5 - 4 cm), <u>Indirect</u>
3	<u>Large</u> (> 4 cm), <u>Indirect</u>
4 → (D) (u)	Entire Floor Defect (Posterior wall), <u>Direct</u>
5	Diverticular Type, Direct
6 →	<u>Pantaloon</u> / Double Hernia (OO)
7 →	Femoral Hernia F-7.



39

Device which has been shown in the figure is used for which condition ?

*pneumatic
compression*



legs DVT

A Deep Venous Thrombosis

B Varicose Vein

C Hypothermia

D Cellulitis



40

True about **hypospadias**:

~~A~~ Associated with **chordee**

B 50% associated with undescended testis → episp.

C Due to failure of fusion of posterior wall of urethra

D Circumcision done immediately → xx foreskin → reconstruction.



41 The occurrence of hyperthyroidism following administration of supplemental iodine to subject with endemic iodine deficiency goiter is known as:

- A ~~Jod~~-Basedow effect *Basedow*
- B Wolff-Chaikoff effect → *cut off* → (↓)
- C Thyrotoxicosis factitia →
- D De-Quervains thyroiditis



42 Risk factor for carcinoma breast are all except

A Nulliparity ✓✓-

B OCP →

C BRCA-1 mutation →

D Estrogen ✓✓

↑ CEO - colon
endomet
ovarian.

⊙



TABLE 1.
Factors Affecting Breast Cancer Risk

Major Risk Factors	Minor Risk Factors	Protective Factors
Being female	Early menarche (before age 12 yr)	<u>Breastfeeding</u>
Increase age	Late menopause (after 55 yr)	Exercise 3 times per week
Family history of breast cancer	Nulliparity	First childbirth before age 30 yr
Diagnosis of atypical hyperplasia or LCIS	First childbirth after age 30 yr	
BRCA1 or BRCA2 gene mutation	Estrogen replacement therapy (?)	
	Daily alcohol intake (>1 drink)	
	Dietary fat (?)	



ortho

43

Functional bracing is now the gold standard in nonoperative management of which fractures?

✓ A Fracture shaft humerus → tibia/ulna

B Fracture of both bones of the forearm

C Fracture shaft tibia

D Fracture shaft femur



pedo

44

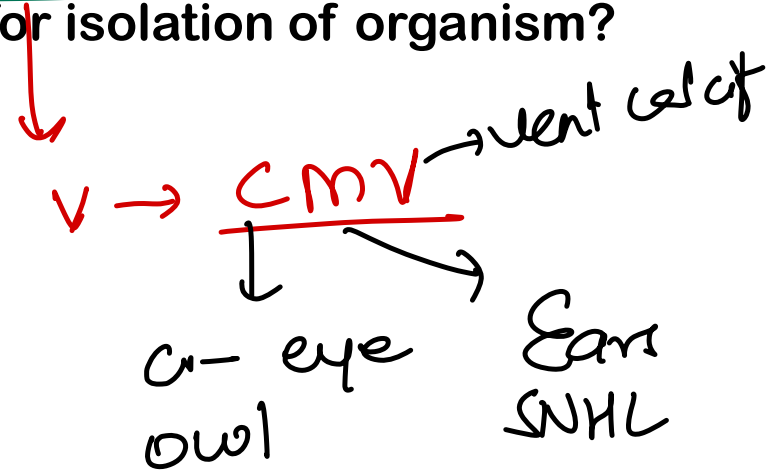
A neonate is found to have microcephaly, IUGR and multiple blueberry muffin lesions on the skin. CT brain showed **calcification around the ventricles**. Which among the following will be the best sample for isolation of organism?

A Blood

~~B Urine~~ saliva PCR

C Sputum

D Biopsy from skin lesions





Q5 All the following are component of ⁰⁰⁰⁰⁰ APGAR score except?

A Muscle tone - (A)

B Colour of the body (A)

C Heart rate - (P) →

~~D~~ Respiratory rate ~~prop~~ (P)

cut off ⇒ (15) score (2)
100
Resp effort



46

Chadwick sign is seen in:

A Cervix

~~B Vagina~~


C uterus

D Ovary

Ovary - early preg - 47

CHADWICK'S SIGN or JACQUEMIER'S SIGN :

The blue purple colour on the mucous membrane of the vagina just below the urethral orifice caused by increased vascularity . It is visible at about 8th week of pregnancy .



blue shift ← Jacky Chan



47

A female presents with 8 weeks amenorrhea with pain left lower abdomen. On USG, there was thick endometrium with mass in lateral adnexa. Most probable diagnosis:

~~A~~ Ectopic pregnancy

B Torsion of dermoid cyst

C Tubo-ovarian mass

D Hydrosalpinx

ruptured → shock
↓ ectopic
USG → fluid ⊕
POD



18

A female of 36 weeks gestation presents with hypertension, blurring of vision and headache. Her blood pressure reading was 180/120 mm Hg and 174/110 mm Hg after 20 minutes. How will you manage the patient?

>160/110 → severe

A Admit the patient and observe ~~xxx~~

B Admit the patient, start antihypertensive and continue pregnancy till term. ~~xxx~~ 37 weeks

C Admit the patient, start antihypertensive, mg SO4 and terminate the pregnancy

↳ impending

D Admit oral antihypertensives and follow up in outpatient department ~~xxx~~



Parameters

Mild

Severe

Clinical parameters

Systolic blood pressure (mmHg)	140-160	≥ 160
Diastolic blood pressure (mmHg)	90-110	≥ 110
Headache	Absent	Present
Visual disturbances	Absent	Present
Epigastric pain	Absent	Present

Laboratory parameters

Urinary output	> 500 ml/24 h	≤ 500 ml/24 h
Urinary protein	< 5 g/24 h	≥ 5 g/24 h
Urinary dipstick	1+/2+	3+/4+



QA

A Male with azoospermia. On examination size of testis normal FSH normal testosterone normal. Most probable cause is:

A undescended testis

B Klinefelter's syndrome → test. atrophy → FSH ↑↑

C Kallmann's syndrome → anaemia FSH ↓

D Vas obstruction
↳ everyday (N)
↓
TRUS



50 A young nulliparous woman has 3rd degree uterovaginal prolapsed without any cystocele or rectocele. There is no stress incontinence. Uterocervical length is 3 inches. All other symptoms are normal. The best treatment plan for her will be:

ant colporrhaphy → post colporrhaphy

A Observation and reassurance till child bearing is over

B Shirodkar's vaginal repair

C Shrodkar's abdominal sling

+ To strengthen support-

D Fothergill's operation

→ Manchester → cervical cerclage if lynch's (+)