Dr Areej Notes

(For FCPS Part1)

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Part 1

vi. Genetic imprinting
vii. Mitochondrial
viii. Multifactorial

Table 6-1. General Characteristics of Autosomal Dominant and Recessive Diseases

	Autosomal Recessive	Autosomal Dominant
Onset	Early uniform onset (infancy/childhood)	Variable onset (may be delayed into adulthood)
Penetrance	Complete penetrance	Incomplete penetrance with variable expression
Mutation	Usually an enzyme protein	Usually a structural protein or receptor
Requires	Mutation of both alleles	Mutation of one allele

AUTOSOMAL RECESSIVE DISORDERS

1. Cystic fibrosis (mucoviscidosis)

Common Causes: Pneumonia

Neonates <4w	Children 4w–18y	18–40yo	40–65yo	>65yo
· GBS · E. coli	· Viruses (RSV) · Mycoplasma · C. trachomatis · C. pneumoniae · S. pneumoniae	· Mycoplasma · C. pneumoniae · S. pneumoniae	· S. pneumoniae · H. influenzae · Anaerobes · Viruses · Mycoplasma	· S. pneumoniae · Influenza virus · Anaerobes · H. influenzae · Gram(-) rods

Common Causes: Meningitis

Newborns 0–6m	6m–6y.o	Teenagers	6–60yo	>60yo
· GBS · E. coli · Listeria	· S. pneumoniae · N. meningitidis · Hib · Enterovirus	· Neisseria meningitidis	· S. pneumoniae · N. meningitidis · Enteroviruses · HSV	· S. pneumoniae · Gram(-) rods · Listeria

Site of GIT	Absorbed food components
Stomach	Alcohol
Duodenum	Divalent ions ($Fe^{+2}, Ca^{+2}, Mg^{+2}$)
Jejunum	Folate, lipids (long chain fatty acids), **most of the water**
Ileum	**Vitamin B12, bile salts**
Colon	**Most of the "water + electrolytes"** (Na), **short chain fatty acids**

Dude is	Just Feeling	Ill, Brother
Duodenum iron	Jejunum Folate	Ileum B12

NOTE: Most of the water is reabsorbed from "**jejunum**" (5500 ml/24 hours) but most of the "**water + electrolytes**" are reabsorbed from "colon" (1300 ml water /24 hours)

TABLE 1.

Appearance of Elbow Ossification Centers

Ossification Center	Age (Years)
Capitellum	1-2
Radial Epiphysis	2-4
Medial Epicondylar Epiphysis	4-6
Trochlea	6-8
Olecranon	8-10
Lateral Epicondyle Epiphysis	10-12

Source: Data from Benjamin HJ, Briner WW[1]; and Klingele KE, Kocher MS.[2]

Points to remember ::

Chromosomes & DNA Replicate during INTERPHASE (S phase)

Dna Replicate then Chromosome replicate in IN

Chromosomes must undergo replication before

Barr bodies are present /seen in Interphase

Chromosomes Condense in PROPHASE

Chromosomes DE condense in Telophase

Chromosomes become visible in Prophase

Chromosomes begins to move in Prometaphase

Chromosomes alignment in Metaphase

Chromosomes Study in Metaphase

Chromosomes Separated/DIVIDE during Anaphase

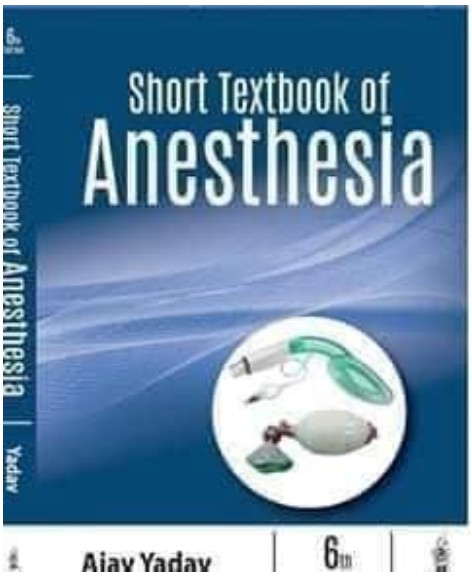
Nuclear membrane Disappear in Prometaphase

Nuclear membrane reappears in Telophase

Ahmed Raza

Most #common remnant of allantois:
A urachal cyst✔
B urachal fistula
C urachal sinus
#Patent lumen of allantois:
A urachal cyst
B urachal fistula✔
C urachal sinus
Patent lumen of allantois in #inferior part or #superior part #only.
A urachal cyst
B urachal fistula
C urachal sinus✔
Patent #local area of allantois:
A urachal cyst✔
B urachal fistula
C urachal sinus

#Dr_waqar_younis
Ref. KLM & langman

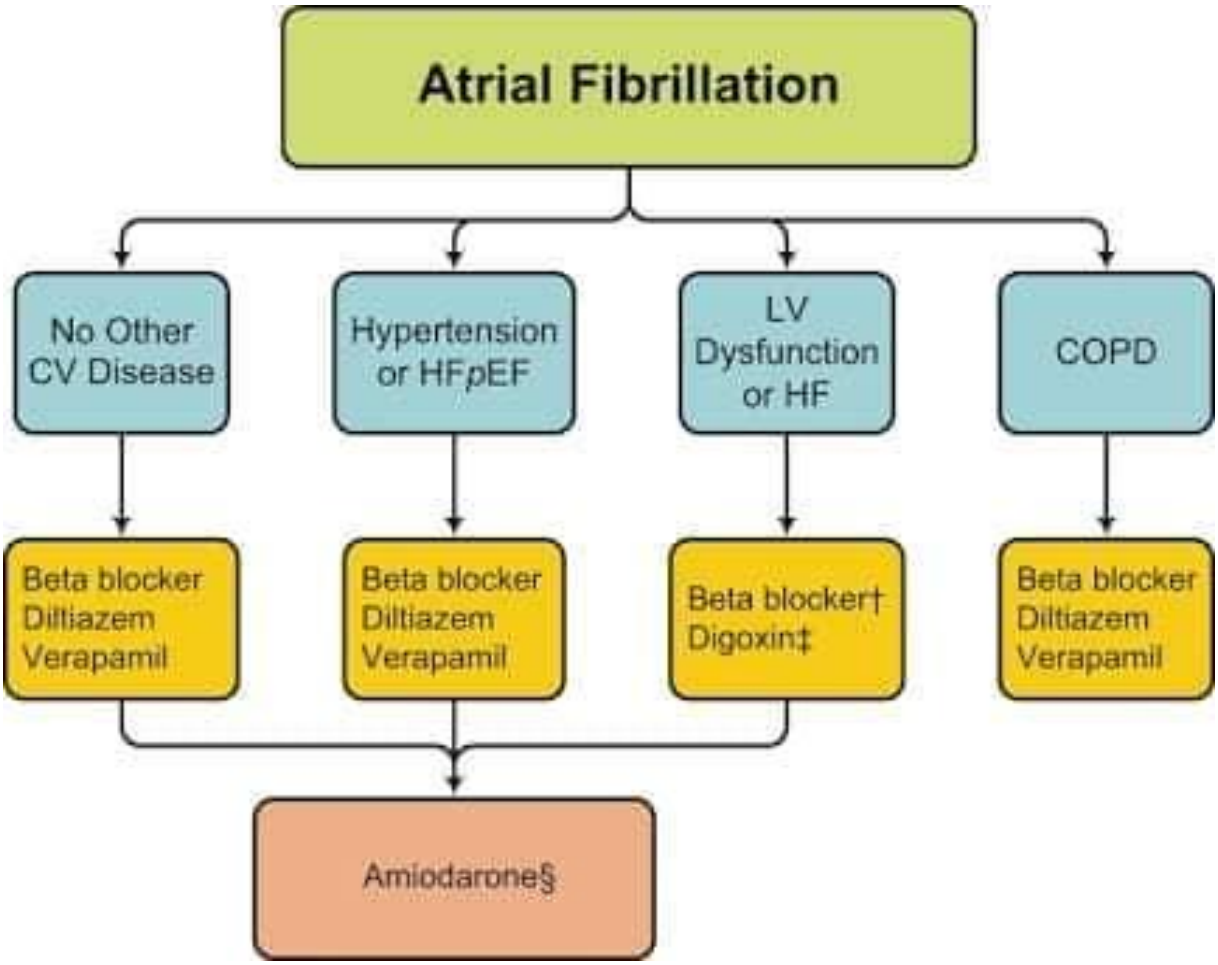


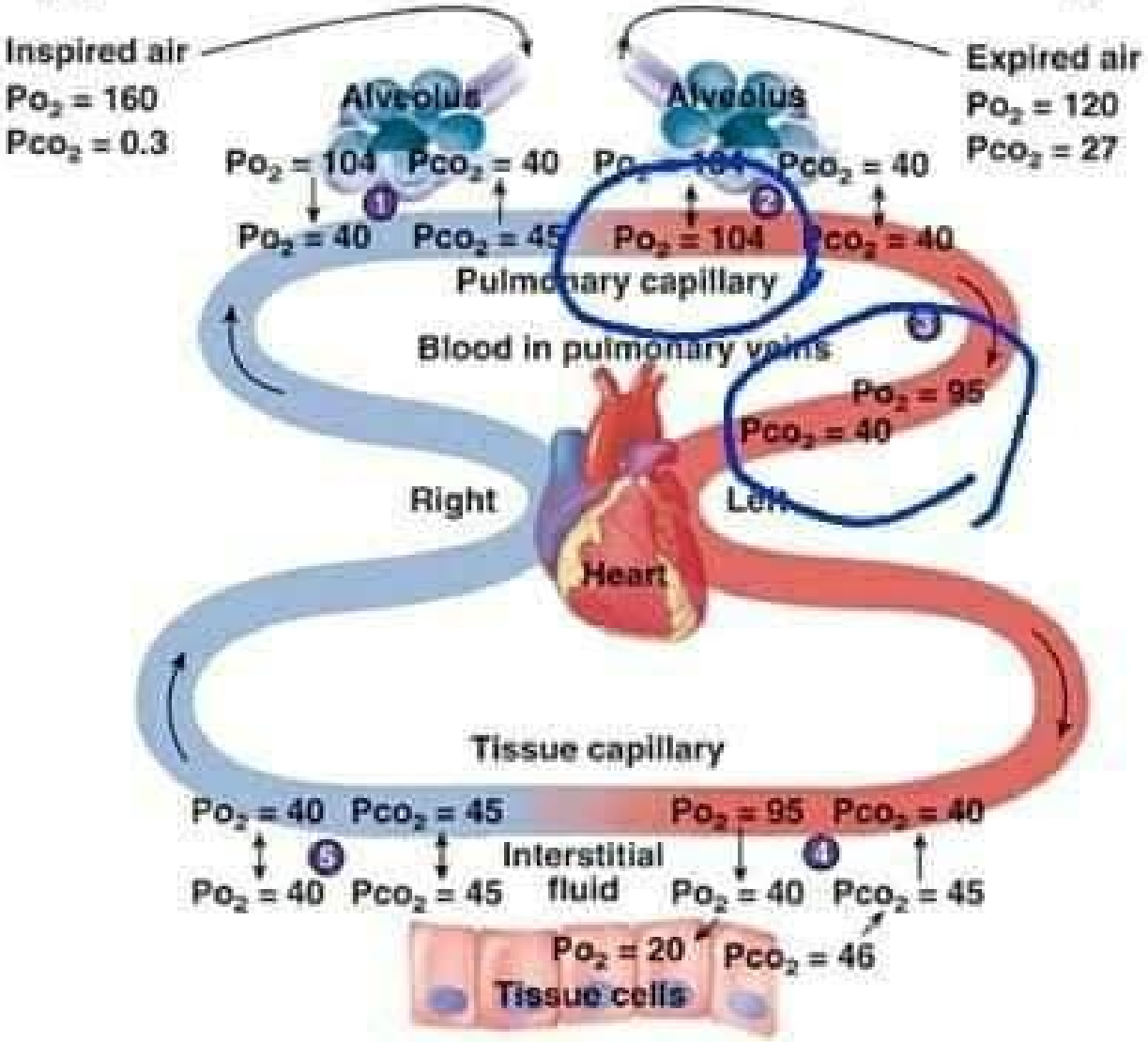
Alveolar Dead Space

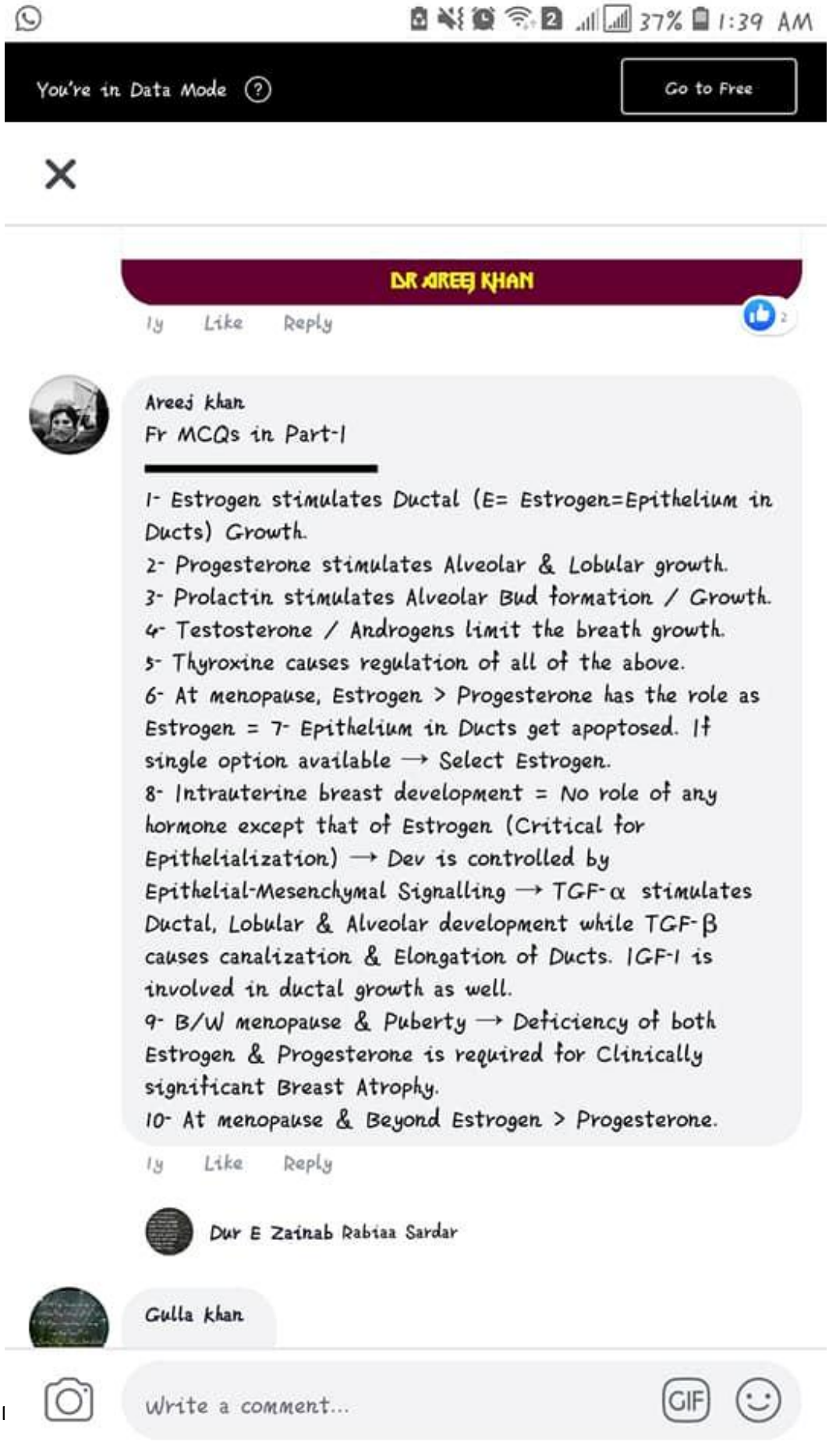
It is constituted by alveoli which are only ventilated but not perfused. It is 60–80 mL in standing position and zero in lying position (in lying position perfusion is equal in all parts of lung).

It is increased by:

- Lung pathologies affecting diffusion at alveolar capillary membrane such as interstitial lung disease, pulmonary embolism, pulmonary edema and ARDS.
- General anesthesia.
- IPPV.
- PEEP.
- Hypotension.



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Fr MCQs in Part-I
1- Estrogen stimulates Ductal (E= Estrogen=Epithelium in Ducts) Growth.
2- Progesterone stimulates Alveolar & Lobular growth.
3- Prolactin stimulates Alveolar Bud formation / Growth.
4- Testosterone / Androgens limit the breath growth.
5- Thyroxine causes regulation of all of the above.
6- At menopause, Estrogen > Progesterone has the role as Estrogen = 7- Epithelium in Ducts get apoptosed. If single option available → Select Estrogen.
8- Intrauterine breast development = No role of any hormone except that of Estrogen (Critical for Epithelialization) → Dev is controlled by Epithelial-Mesenchymal Signalling → TGF-α stimulates Ductal, Lobular & Alveolar development while TGF-β causes canalization & Elongation of Ducts. IGF-1 is involved in ductal growth as well.
9- B/W menopause & Puberty → Deficiency of both Estrogen & Progesterone is required for Clinically significant Breast Atrophy.
10- At menopause & Beyond Estrogen > Progesterone.
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Gulla khan
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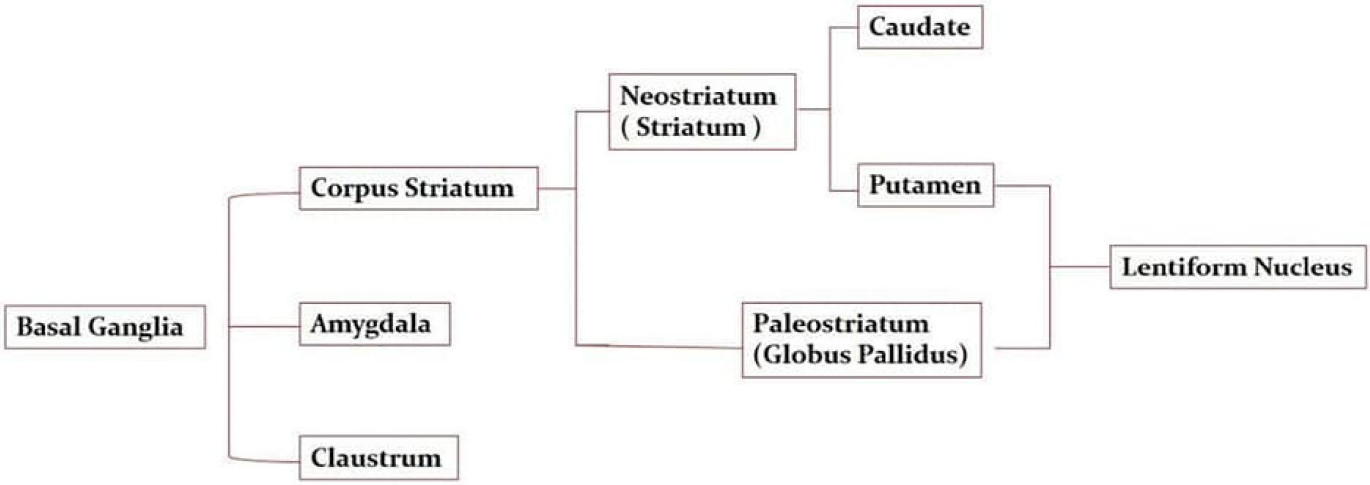
GIF

Basal Ganglia



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▶ Normal healthy individuals are able to compensate for rapid blood loss of up to 20% of circulating blood volume with few symptoms

▶ In Acute [Sufficient] Hemorrhage → Major Manifestations are due to → Hypovolemia [Loss of Volume]

▶ Sequence of Blood related Events following Acute Hemorrhage

a) Loss of Volume
b) ↓ in Platelet count [Transient]
c) ↑ in Platelet count [within 1 hr]
d) Neutrophilic Leukocytosis [in 2-5 hrs]
e) Restoration of Plasma Volume (and Albumin to some extent) [in 12-72 hrs]
f) ↓ Hb & Hct [Following restoration of plasma volume at least after 1 post hemorrhage day]
g) Full evidence of Anemia → 2-3 days
h) Return of Leucocytes count to normal after 2-4 days of blood loss
i) Albumin starts restoring plasma protein loss from preformed extravascular stores → Rapidly after Hemorrhage → This replacement is a compensatory effort . But Plasma proteins other than Albumin also need to be replaced [to be synthesized by liver] → Requires time → Full Plasma Protein replacement occurs over 3-4 days
j) Epo stimulated Reticulocytes in Circulation in 3-5 days
k) Maximum levels of Reticulocyte at 10 days (range 6-11 days]
l) Disappearance of morphological changes in Leukocytes → 14 days
m) Red Cell mass s restored to normal levels → in 4-8 Weeks [1 to 2 months]

#Dr_Areej
For Compatible Blood Transfusion
[The Info is valid only for Whole Blood Transfusion → Depends upon Donor RBCs]

▶ 1st Step
IGNORE + / - Signs

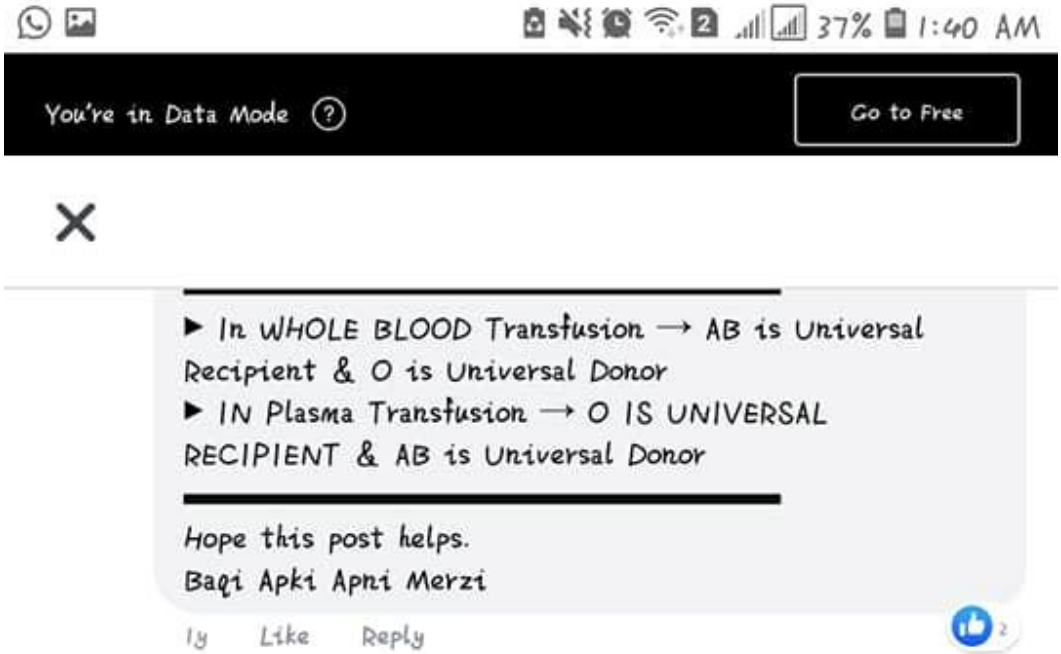
▶ 2nd Step
Decide who is donor / who is recipient
e.g.
A with O → O is Donor
A to O → O is Recipient

▶ 3rd Step
Now recall the following facts & see which options are valid till now
1) A can be transfused with A & O
2) B can be transfused with B & O
3) AB can be transfused with A, AB, B, O
4) O can be transfused with O

▶ 5th Step
Now come Signs [+/-]
Remember that
╠ POSITIVE (+ive) RECIPIENT is compatible with both POSITIVE as well as NEGATIVE Donors → e.g.
A+ can comfortably receive A- / A+ / O+/ O-

╠ Negative Recipient is compatible ONLY with NEGATIVE Donor
e.g.
A- can only get A- / O-

▶ In WHOLE BLOOD Transfusion → AB is Universal



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✕

▶ In WHOLE BLOOD Transfusion → AB is Universal Recipient & O is Universal Donor
▶ IN Plasma Transfusion → O IS UNIVERSAL RECIPIENT & AB is Universal Donor

Hope this post helps.
Baqi Apki Apni Merzi

1y Like Reply 2

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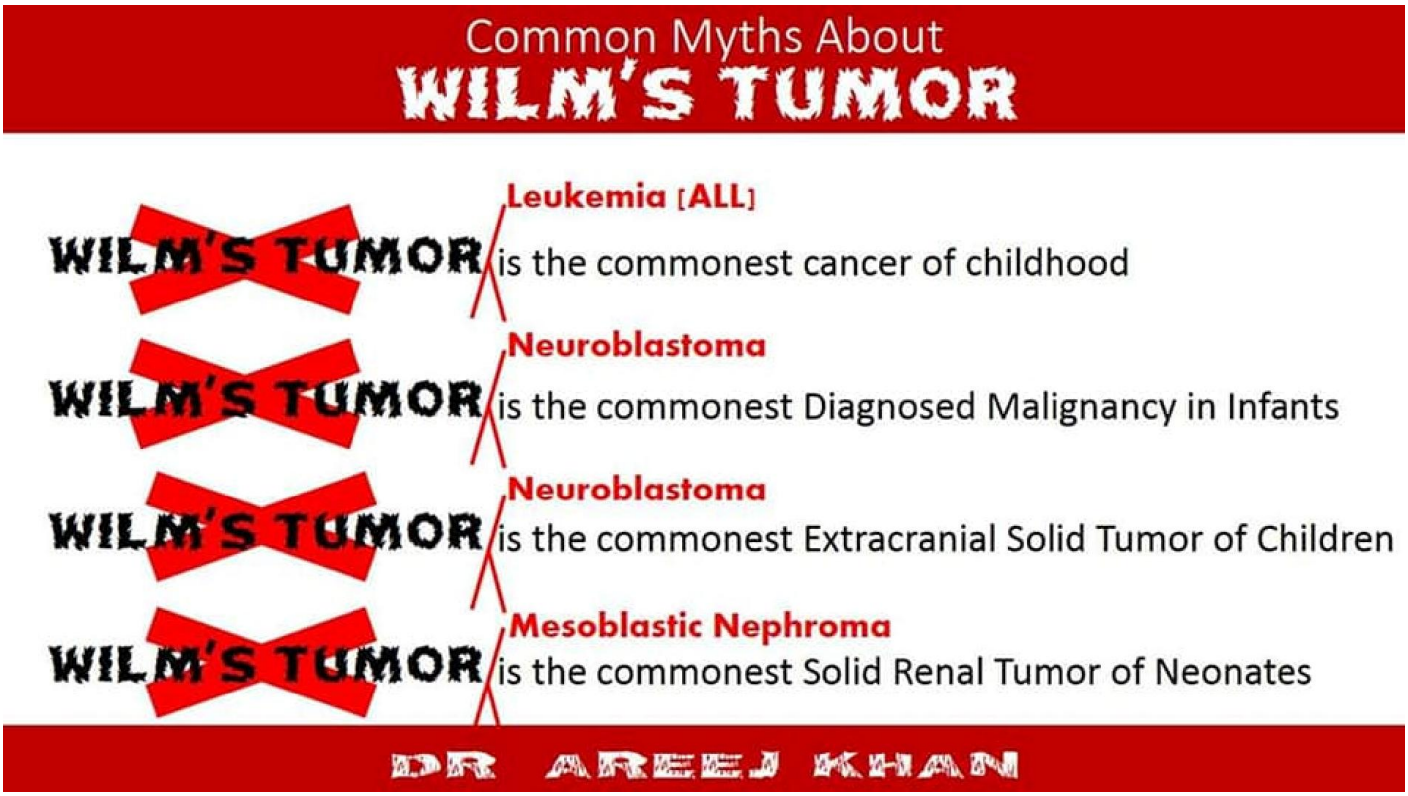
#Dr_Areej
For Compatible PLASMA Transfusion
[The Info is valid only for PLASMA Transfusion (not valid for Whole Blood Transfusion) → Depends upon Donor PLASMA]

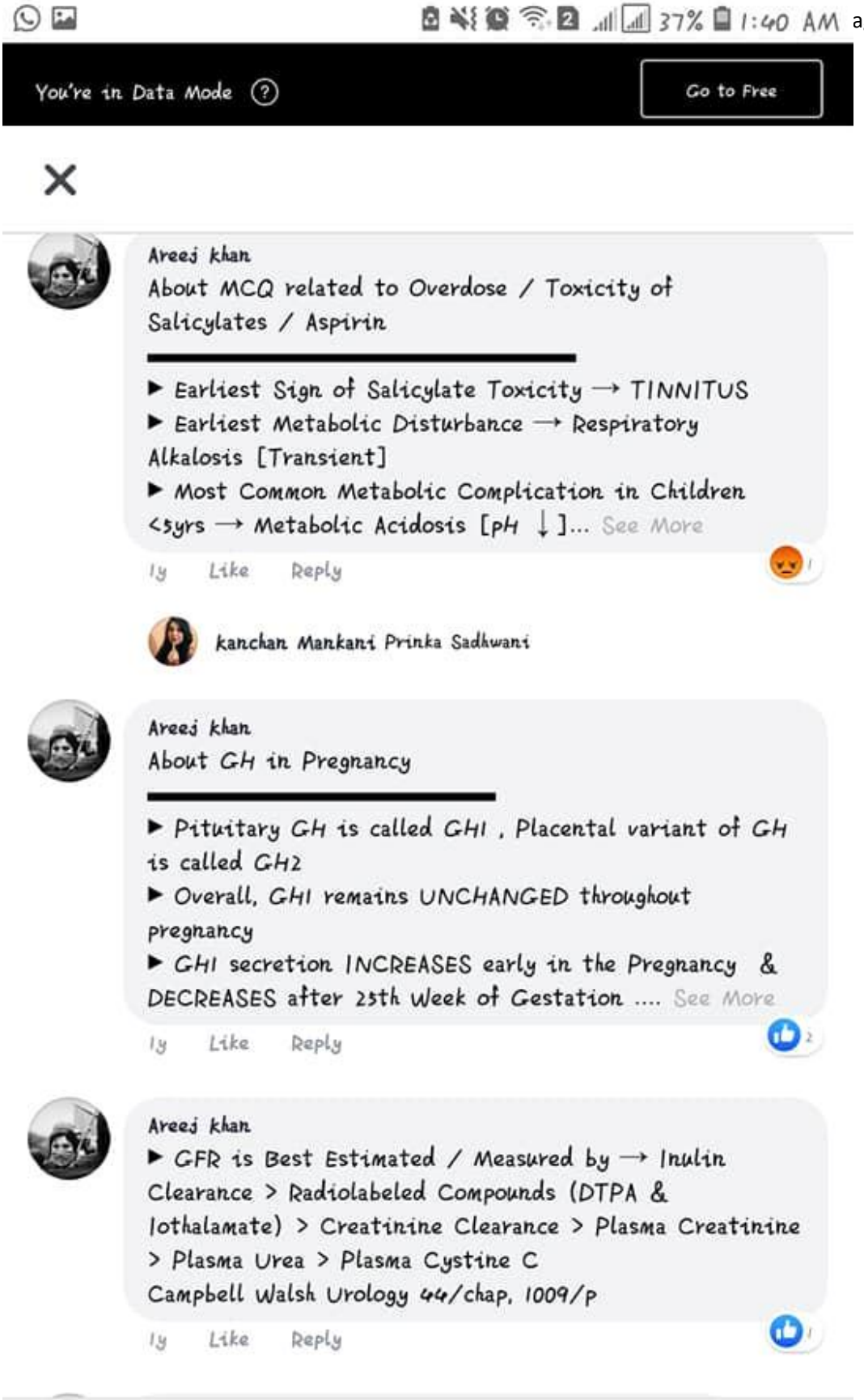
▶ 1st Step
IGNORE + / - Signs

▶ 2nd Step
Decide who is donor / who is recipient
e.g.
A with O → O is Donor
A to O → O is Recipient

▶ 3rd Step
Now recall the following facts & see which options are valid till now
1) A can be transfused with A & AB
2) B can be transfused with B & AB
3) AB can be transfused with AB
4) O can be transfused with O, A, B, AB

Write a comment... GIF


Common Myths About
WILM'S TUMOR
WILM'S TUMOR
Leukemia [ALL]
is the commonest cancer of childhood
WILM'S TUMOR
Neuroblastoma
is the commonest Diagnosed Malignancy in Infants
WILM'S TUMOR
Neuroblastoma
is the commonest Extracranial Solid Tumor of Children
WILM'S TUMOR
Mesoblastic Nephroma
is the commonest Solid Renal Tumor of Neonates
DR AREEJ KHAN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About MCQ related to Overdose / Toxicity of Salicylates / Aspirin
▶ Earliest Sign of Salicylate Toxicity → TINNITUS
▶ Earliest Metabolic Disturbance → Respiratory Alkalosis [Transient]
▶ Most Common Metabolic Complication in Children <5yrs → Metabolic Acidosis [pH ↓]... See More
1y Like Reply
kanchan Mankani Prinka Sadhwani
Areej khan
About GH in Pregnancy
▶ Pituitary GH is called GH1 , Placental variant of GH is called GH2
▶ Overall, GH1 remains UNCHANGED throughout pregnancy
▶ GH1 secretion INCREASES early in the Pregnancy & DECREASES after 25th Week of Gestation .... See More
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▶ GFR is Best Estimated / Measured by → Inulin Clearance > Radiolabeled Compounds (DTPA & Iothalamate) > Creatinine Clearance > Plasma Creatinine > Plasma Urea > Plasma Cystine C
Campbell Walsh Urology 44/chap. 1009/p
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GIF

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About MCQ related to Overdose / Toxicity of Salicylates / Aspirin

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▶ Earliest Sign of Salicylate Toxicity → TINNITUS
▶ Earliest Metabolic Disturbance → Respiratory Alkalosis [Transient]
▶ Most Common Metabolic Complication in Children <5yrs → Metabolic Acidosis [pH ↓]
▶ Most Common Metabolic complication in older children & adults → Mixed Acid Base Disease → Metabolic Acidosis + Respiratory Alkalosis [pH NORMAL, PaCO2 ↓, HCO3 ↓]
▶ If option of Mixed is not given → Metabolic Acidosis is Correct [Bcoz Respiratory Alkalosis alone is just a temporary / transient issue here]
▶ Salicylate + CNS Depressants overdose / Toxicity → Respiratory Acidosis [Paradox → Bcoz Here HYPERPNEA occurs]

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kanchan Mankani Prinka Sadhwani

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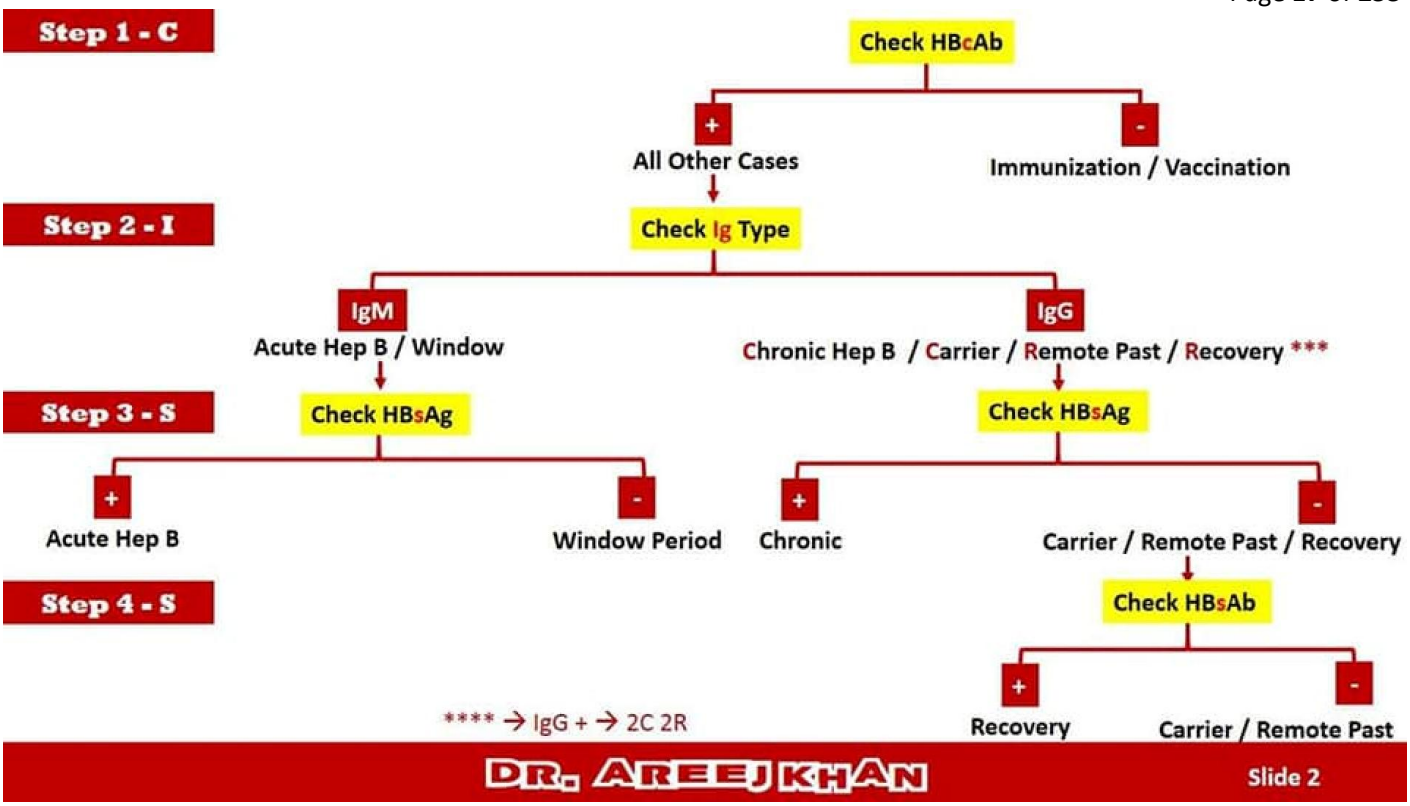
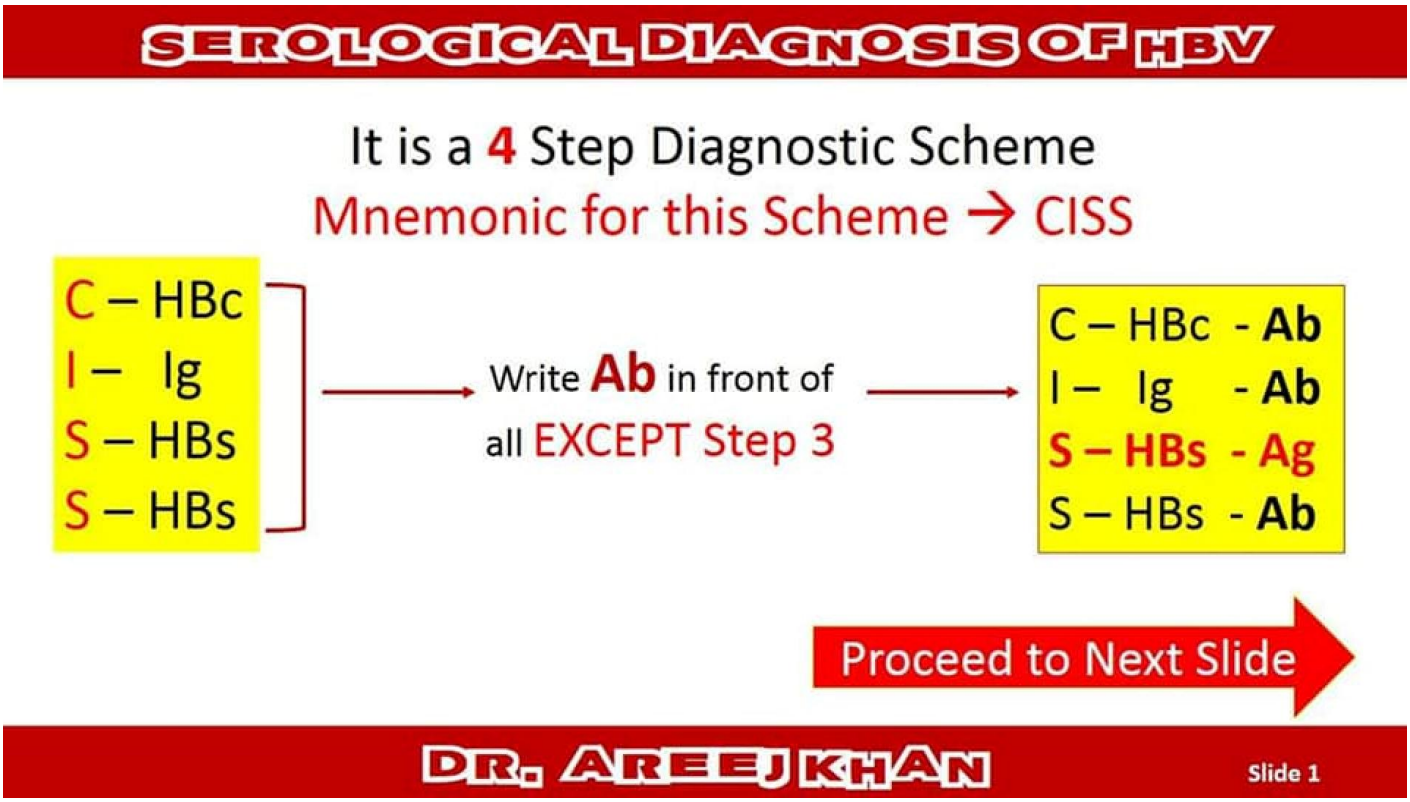
About GH in Pregnancy

▶ Pituitary GH is called GH1 , Placental variant of GH

Write a comment... GIF

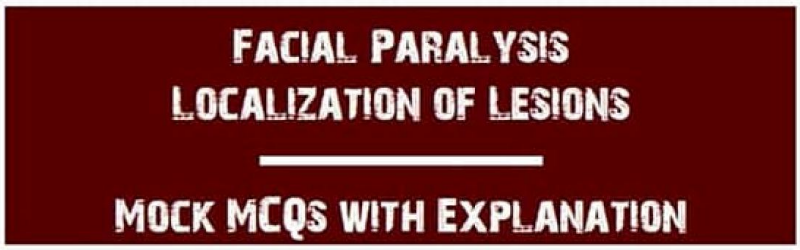

Step 1 - C
Check HBcAb
+
All Other Cases
-
Immunization / Vaccination
Step 2 - I
Check Ig Type
IgM
Acute Hep B / Window
IgG
Chronic Hep B / Carrier / Remote Past / Recovery ***
Step 3 - S
Check HBsAg
Check HBsAg
+
Acute Hep B
-
Window Period
+
Chronic
-
Carrier / Remote Past / Recovery
Step 4 - S
Check HBsAb
**** → IgG + → 2C 2R
+
Recovery
-
Carrier / Remote Past
DR. AREEJ KHAN
Slide 2


SEROLOGICAL DIAGNOSIS OF HBV
It is a 4 Step Diagnostic Scheme
Mnemonic for this Scheme → CISS
C – HBc
I – Ig
S – HBs
S – HBs
Write Ab in front of all EXCEPT Step 3
C – HBc - Ab
I – Ig - Ab
S – HBs - Ag
S – HBs - Ab
Proceed to Next Slide
DR. AREEJ KHAN
Slide 1

Q / 8

Patient presents with Right sided Facial Muscle weakness & LOSS of Taste over the Right sided Anterior two-thirds of the tongue. **Hearing & Lacrimation are NORMAL** . Where is the Lesion?

a. Pons
b. Cortex
c. CP Angle
d. At Stylomastoid Foramen
e. Facial Canal



Answer: E is the correct Answer

EXPLANATION:

► In this case the lesion is **in the Facial Canal Distal to the Origin of the Nerve to the Stapedius BUT Proximal to the Origin of the Chorda Tympani**

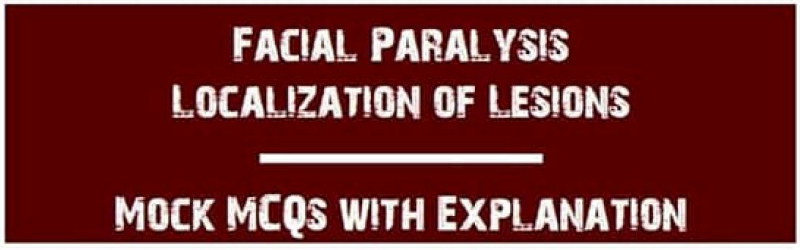
1. Ipsilateral LMN Facial Motor Paralysis
2. Loss of Taste over the Anterior two-thirds of the Tongue
3. No Hyperacusis / Deafness → Lesion is Distal to the Stapedius branch + CN VIII spared
4. No Pain in the region of Eardrum + Mastoid area → Lesion is Distal to Geniculate ganglion
5. Lacrimation is NORMAL → Lesion Distal to the Greater Superficial Petrosal Nerve

DR AREEJ KHAN

Q / 7

Patient presents with Right sided Facial Muscle weakness & loss of Taste over the Right sided Anterior two-thirds of the tongue. Hyperacusis is present but **TEARING / LACRIMATION was NORMAL**. Where is the Lesion?

a. Pons
b. Cortex
c. CP Angle
d. Stylomastoid Foramen
e. Facial Canal



Answer: E is the correct Answer

EXPLANATION:

► In this case the lesion is in the **Facial Canal Distal to Meatal Segment & Geniculate Ganglion** BUT **Proximal to Origin of Nerve to Stapedius Muscle** → So Motor Division of CN VII & Nervus Intermedius

1. Ipsilateral LMN Facial Motor Paralysis
2. Loss of Taste over the Anterior two-thirds of the Tongue
3. Hyperacusis → Lesion Proximal to Stapedius branch + CN VIII spared
4. NO Pain in the region of Eardrum + Mastoid area → Geniculate ganglion Spared
5. Lacrimation is NORMAL → Lesion Distal to the Greater Superficial Petrosal Nerve

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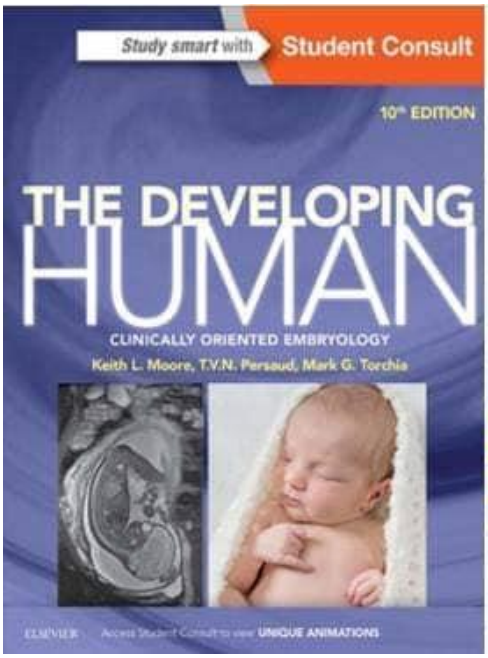
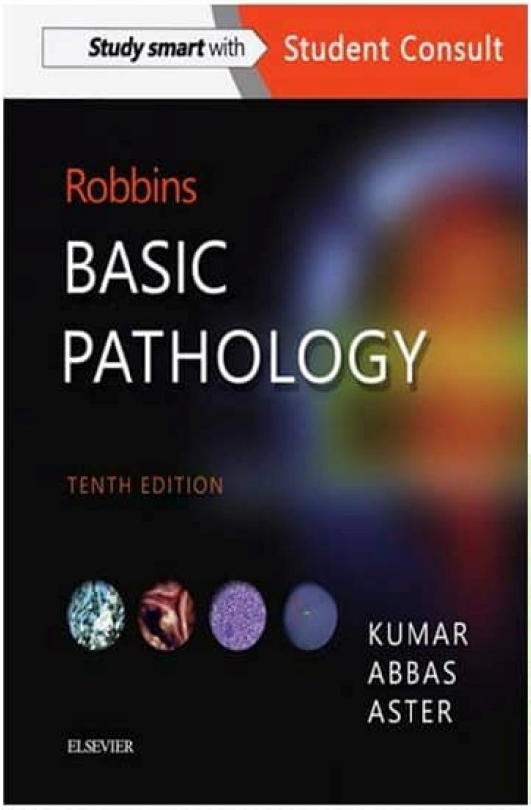


MATURATION OF SPERMS

Freshly ejaculated sperms are unable to fertilize an oocyte. Sperms must undergo a period of conditioning, or **capacitation,** lasting approximately 7 hours. During this period, a glycoprotein coat and seminal proteins are removed from the surface of the sperm **acrosome** (see Figs. 2-4 and 2-5*A*). The membrane components of the sperms are extensively altered. **Capacitated sperms** show no morphologic changes, but they are more active. Sperms are usually capacitated while they are in the uterus or uterine tubes by substances secreted by these parts of the female genital tract. During **in vitro fertilization,** capacitation is induced by incubating the sperms in a defined medium for several hours (see Fig. 2-15). Completion of capacitation permits the acrosome reaction to occur.

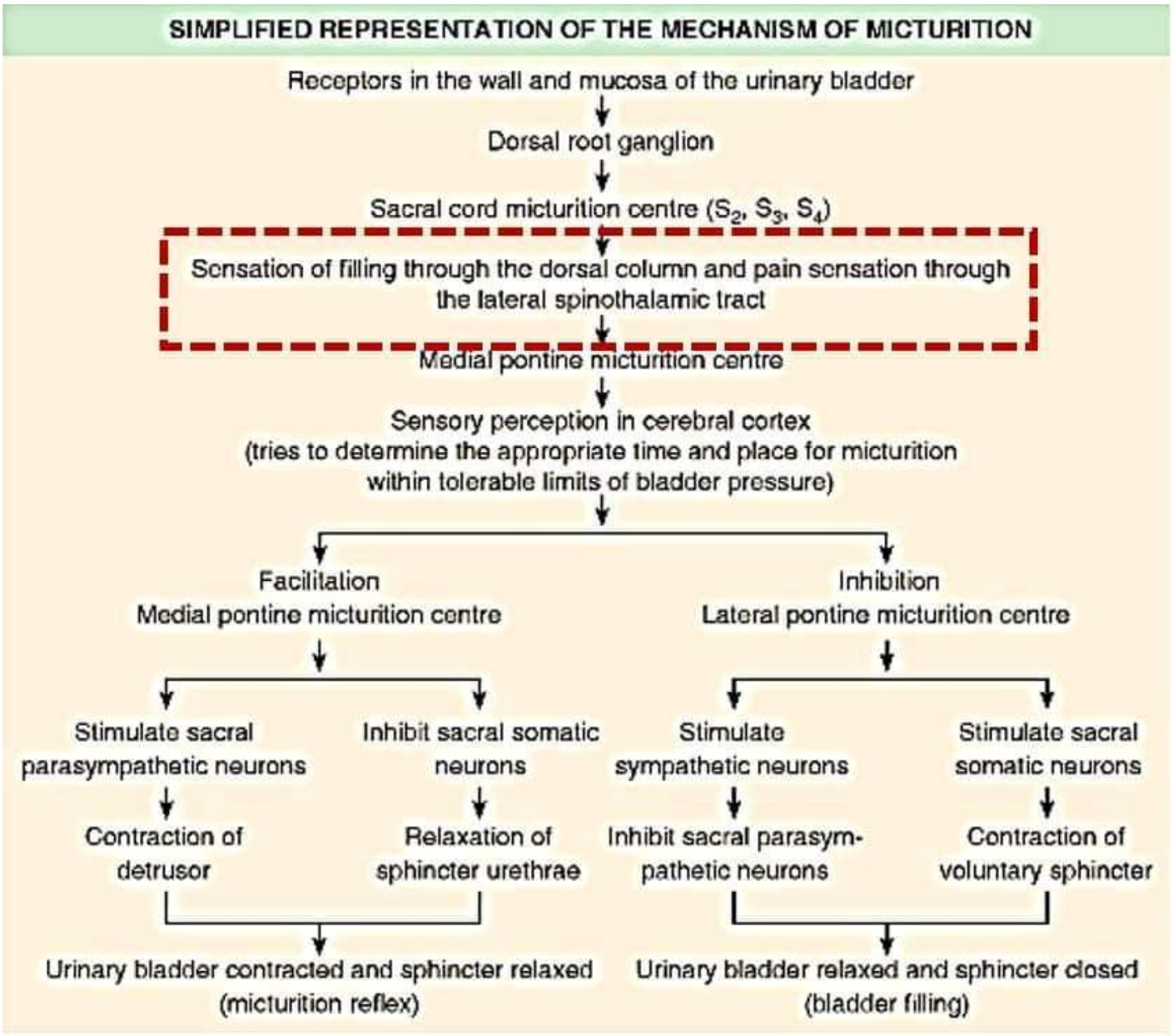
TABLE 6-1 Components of the Innate Immune System

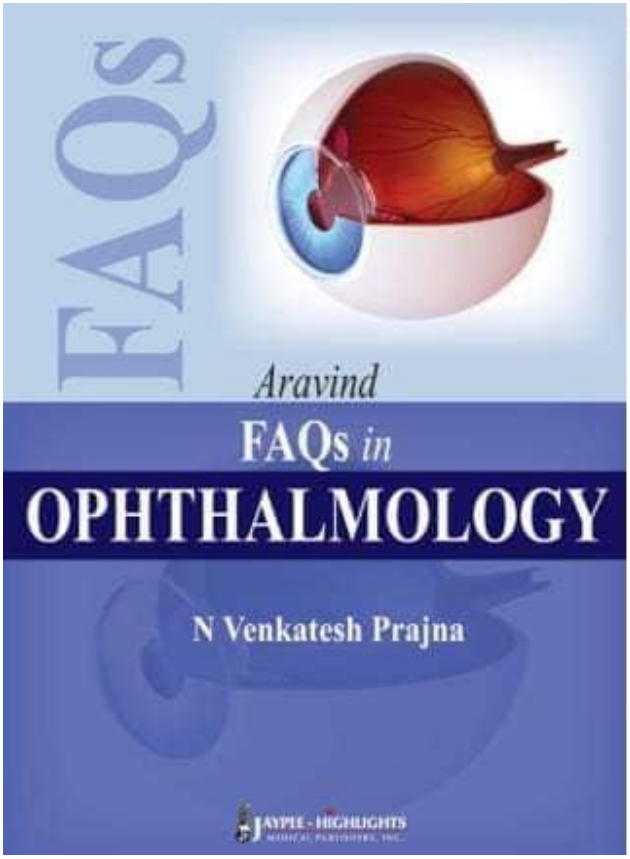
Component	Main Function
Cellular	
Skin and mucous membranes (epithelial cells)	Mechanical and chemical defenses
Phagocytic cells (neutrophils, macrophages)	Ingest and kill bacteria and fungi
Proinflammatory cells (macrophages, mast cells, eosinophils, basophils, platelets)	Induce host defenses and inflammation
Natural killer (NK) cells	Kill virus-infected cells and tumor cells
Antigen-presenting cells (dendritic cells, macrophages)	Recognize, process, and present antigens to lymphocytes Initiate adaptive immune responses
Humoral	
Antimicrobial peptides	Kill microorganisms
Complement	Enhances phagocytosis (opsonization) Induces inflammation Kills some microorganisms
Cytokines	Activate innate and adaptive defenses
Chemokines	Attract leukocytes
Kinins	Induce inflammation
Acute phase proteins	Enhance cellular and humoral defenses
Enzymes	Kill and digest microorganisms
Inflammation	
Increased blood supply (erythema)	Brings more antimicrobial cells and proteins to the site of infection
Increased vascular permeability (edema)	Brings more antimicrobial proteins to the site of infection
Chemotaxis (induration)	Infiltration of infection site with white cells



The host T cell response controls the proliferation of EBV-infected B cells and the spread of the virus. Early in the course of the infection, IgM antibodies are formed against viral capsid antigens. Later the serologic response shifts to IgG antibodies, which persist for life. More important in the control of the EBV-positive B cell proliferation are cytotoxic CD8+ T cells. Virus-specific CD8+ T cells appear in the circulation as atypical lymphocytes, a finding that is characteristic of mononucleosis. In otherwise healthy persons, the fully developed humoral and cellular responses to EBV act as brakes on viral shed-

The major alterations involve the blood, lymph nodes, spleen, liver, and occasionally other organs. There is peripheral blood **leukocytosis**; the white cell count is usually between 12,000 and 18,000 cells/μL. Typically more than half of these cells are large **atypical lymphocytes,** 12 to 16 μm in diameter, with an oval, indented, or folded nucleus and abundant cytoplasm with a few azurophilic granules (Fig. 12.12). These atypical lymphocytes, which are sufficiently distinctive to suggest the diagnosis, are mainly CD8+ T cells.


SIMPLIFIED REPRESENTATION OF THE MECHANISM OF MICTURITION
Receptors in the wall and mucosa of the urinary bladder
Dorsal root ganglion
Sacral cord micturition centre (S_2, S_3, S_4)
Sensation of filling through the dorsal column and pain sensation through the lateral spinothalamic tract
Medial pontine micturition centre
Sensory perception in cerebral cortex (tries to determine the appropriate time and place for micturition within tolerable limits of bladder pressure)
Facilitation
Medial pontine micturition centre
Inhibition
Lateral pontine micturition centre
Stimulate sacral parasympathetic neurons
Inhibit sacral somatic neurons
Stimulate sympathetic neurons
Stimulate sacral somatic neurons
Contraction of detrusor
Relaxation of sphincter urethrae
Inhibit sacral parasympathetic neurons
Contraction of voluntary sphincter
Urinary bladder contracted and sphincter relaxed (micturition reflex)
Urinary bladder relaxed and sphincter closed (bladder filling)



12. What are causes of cotton wool spots?

They are:

- ***i. Systemic diseases***
  - Diabetes
  - Hypertension
  - Collagen vascular diseases
- ***ii. Vascular***
  - CRVO
  - BRVO
- ***iii. Infections***
  - HIV retinopathy
  - Toxoplasmosis
- ***iv. Hematological***
  - Leukemias
  - Anemia
  - Hypercoagulable states
- ***v. Others***
  - Radiation retinopathy
  - Purtchers retinopathy
  - Interferon therapy

TABLE 25-6 CLINICAL FEATURES OF HEPATITIS D VIRUS (HDV) COINFECTION AND SUPERINFECTION IN HEPATITIS B VIRUS (HBV)

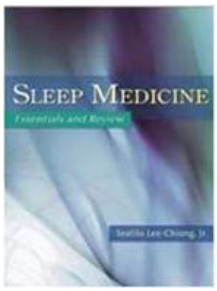
	COINFECTION	SUPERINFECTION
HBV infection	Acute	Chronic
Outcomes	Recovery with seroclearance	Usually persistent infection
Markers		
HBsAg	Positive, early and transient	Positive and persistent
IgM anti-HBc	Positive	Negative
Anti-HBs	Positive in recovery phase	Negative
HDV infection	Acute	Acute or chronic
Outcomes	Recovery with seroclearance	Usually persistent infection
Markers		
Serum HDAg[a]	Early and short-lived	Early and transient, undetectable later
Liver HDAg	Positive and transient	Positive, maybe negative in late stage
Serum HDV RNA	Positive, early and transient	Positive, early and persistent
Anti-HDV	Late acute phase, low titer	Rapidly increasing, high titers
IgM anti-HDV	Positive, transient, pentameric	Rapidly increasing, high titers, monomeric

IgM, immunoglobulin M; HDAg, hepatitis delta antigen.

[a]Using immunoblot assay, detection rate of serum HDAg may be comparable to Northern blot detection of HDV RNA using cDNA probe.

Adapted from Hsieh TH, Liu CJ, Chen DS, Chen PJ. Natural course and treatment of hepatitis D virus infection. *J Formos Med Assoc.* 2006;105:869-881.

Part 2



Dreaming

Dreams can occur during both REM (accounting for 80% of dreams) and NREM (20% of dreams) sleep. Compared to REM sleep-related dreams that tend to be more complex and irrational, NREM dreams are generally simpler and more realistic. Dreams are thought to be associated with processing and consolidation of memory, and activation and stimulation of CNS neural networks. Theories of dreaming include the *cognitive hypothesis* (dreaming is an extension of awake thought that is governed by different processes) and the *activation synthesis hypothesis* (dreaming is produced by cortical interpretation of randomly generated intrinsic subcortical activity).

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×

20% respectively.)

Dreaming

Dreams can occur during both REM (accounting for 80% of dreams) and NREM (20% of dreams) sleep. Compared to REM sleep-related dreams that tend to be more complex and irrational, NREM dreams are generally simpler and more realistic. Dreams are thought to be associated with processing and consolidation of memory, and activation and stimulation of CNS neural networks. Theories of dreaming include the *cognitive hypothesis* (dreaming is an extension of awake thought that is governed by different processes) and the *activation synthesis hypothesis* (dreaming is produced by cortical interpretation of randomly generated intrinsic subcortical activity).

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▶ Most Common cause of Anemia in women of Childbearing Age → ↓ Iron Intake

▶ Most Common Anemia in women of Childbearing Age → Iron Def Anemia

Anemia is a medical condition in which hemoglobin concentration is lower than normal: less than 12 $g \cdot dL^{-1}$ and 13 $g \cdot dL^{-1}$ in women and men, respectively. Anemia can be caused by a large loss of blood due to hemorrhaging. However, insufficient iron intake is the most common cause of anemia in children, teenagers, and women of childbearing age.[18,76] Pregnancy may cause a moderate iron deficiency resulting in anemia due to the increased iron need of both the mother and the developing fetus. In the iron-deficient, anemic individual, low iron stores are indicated by reduced iron bound to transferrin in blood and by low levels of ferritin in the liver, spleen, and bone marrow.

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Pseudomonas has both Exotoxic and Endotoxic virulence factors

Pseudmonas: USMLE High Yield

Pseudomonas aerugenosais a **gram-negative, aerobic, motile bacillus**
Cetrimide agar is the selective media for Pseudomona saerugenosa
EXOTOXIN A inhibits protein synthesis
Pseudomonas aerugenosa produces pigments

Write a comment... GIF

Pseudmonas: USMLE High Yield

Pseudomonas aerugenosais a **gram-negative, aerobic, motile bacillus**

Cetrimide agar is the selective media for Pseudomona saerugenosa

EXOTOXIN A inhibits protein synthesis

Pseudomonas aerugenosa produces pigments

- **Pyocyanin**
- **Pyoverdin**
- **Pyorubin and**
- **Fluorescein**
- Produces blue green pus

Virulence factors are:

- Pilli, Elastase, Exotoxin, Endotoxin, Alkaline protease, Hemolysin Alginate
- Grape like odor
- Slime layer formation
- Pseudomonas aerugenosagrows at **37—42 °C**
- Pseudomonas aerugenosa **hydrolyses arginine** to citrulline and ammonia
- Pseudomonas aerugenosa **oxidises indophenols**
- Pseudomonas aerugenosa **does not ferment lactose**
- **Piperacillin** is an antipseudomonal pencillin. (p-p)

Some points about LFTs

▶ When ↑ ↑ ALP + ↑ ALT → Most likely to be a problem in Bile Duct.

▶ When ↑ ↑ ALT + ↑ ALP → Most Likely to be a problem in Liver.
Then look for
╠ ↑ ↑ ALT + ↑ AST → Most likely Acute Viral / Acute Drug induced / Severe Necrosis of Liver / Acute Liver damage to Quack Doctor Medicine
╠ ↑ ↑ AST + ↑ ALT → Most Likely Alcoholic / Drug Induced cirrhosis / Drug induced Chronic Hepatitis (e.g. CCl4, Amiodarone, Methotrexate, Dimethylnitrosamine, Chronic Liver damage to Quack Doctor Medicine)
╠ Quack Med → can cause Acute & Chronic Issues → So look at the MCQ and see if the Issue / Pathology is Acute or Chronic → If The patient is suddenly ill etc (Acute case with Paracetamol etc) → then ALT >> AST . On the other hand, if the pathology is Chronic / Cirrhotic (CCL4 exposure , Alcohol etc) then AST > ALT

▶ GGT levels are MORE SENSITIVE than AST or ALT in Alcoholic Hepatitis.
▶ AST is most Specific in this regard (AST > ALT > GGT)

▶ GGT is more sensitive marker for Cholestatic Damage than ALP

▶ Importance of GGT :
╠ GGT is used to CONFIRM the source of ↑ ALP → GGT is always raised if source of ↑ ALP is Liver
╠ Isolated Persistent ↑ GGT → Alcohol Abuse

▶ GGT levels are MORE SENSITIVE than AST or ALT in Alcoholic Hepatitis.
▶ AST is most Specific in this regard (AST > ALT > GGT)

▶ GGT is more sensitive marker for Cholestatic Damage than ALP

▶ Importance of GGT :
╠ GGT is used to CONFIRM the source of ↑ ALP → GGT is always raised if source of ↑ ALP is Liver
╠ Isolated Persistent ↑ GGT → Alcohol Abuse

▶ PT / INR are non-specific but These are The Best Prognostic Marker in Acute Liver Failure

---

▶ Gluconeogenesis is the LAST function to be lost after Fulminant Liver Failure

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Myelin Sheath in CNS & PNS

Myelin and Myelination
Myelin is secreted by oligodendrocytes (CNS) and Schwann cells (PNS). A single oligodendrocyte may ensheathe up to 50 separate axons, depending on their calibre, whereas myelinating Schwann cells ensheathe axons on a 1:1 basis.

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▶ Embryonic Period → Fertilization to the End of 2nd Month / 8th Week .
▶ Fetal Period → From the beginning of 3rd month /

Areej khan

- Most Sensory Neurons → Unipolar in structure
- Motor neurons → Multipolar in structure
- Most Interneurons → Multipolar in structure

- Principles of Anatomy & physiology, 15/e, 409/p

1y Like Reply

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Neurotransmitter Imbalance in Some Neurological Diseases

1y Like Reply

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Facial Nerve Lesions - Localization I

Q / 1

Patient with Paralysis of Lower Facial Muscles opposite to the side of lesion whereas Upper Facial Muscles are relatively spared . Where is the Lesion?

a. Pons
b. Cortex
c. CP Angle
d. Stylomastoid Foramen
e. Facial Canal

FACIAL PARALYSIS
LOCALIZATION OF LESIONS

MOCK MCQS WITH EXPLANATION

Answer: B is the correct Answer

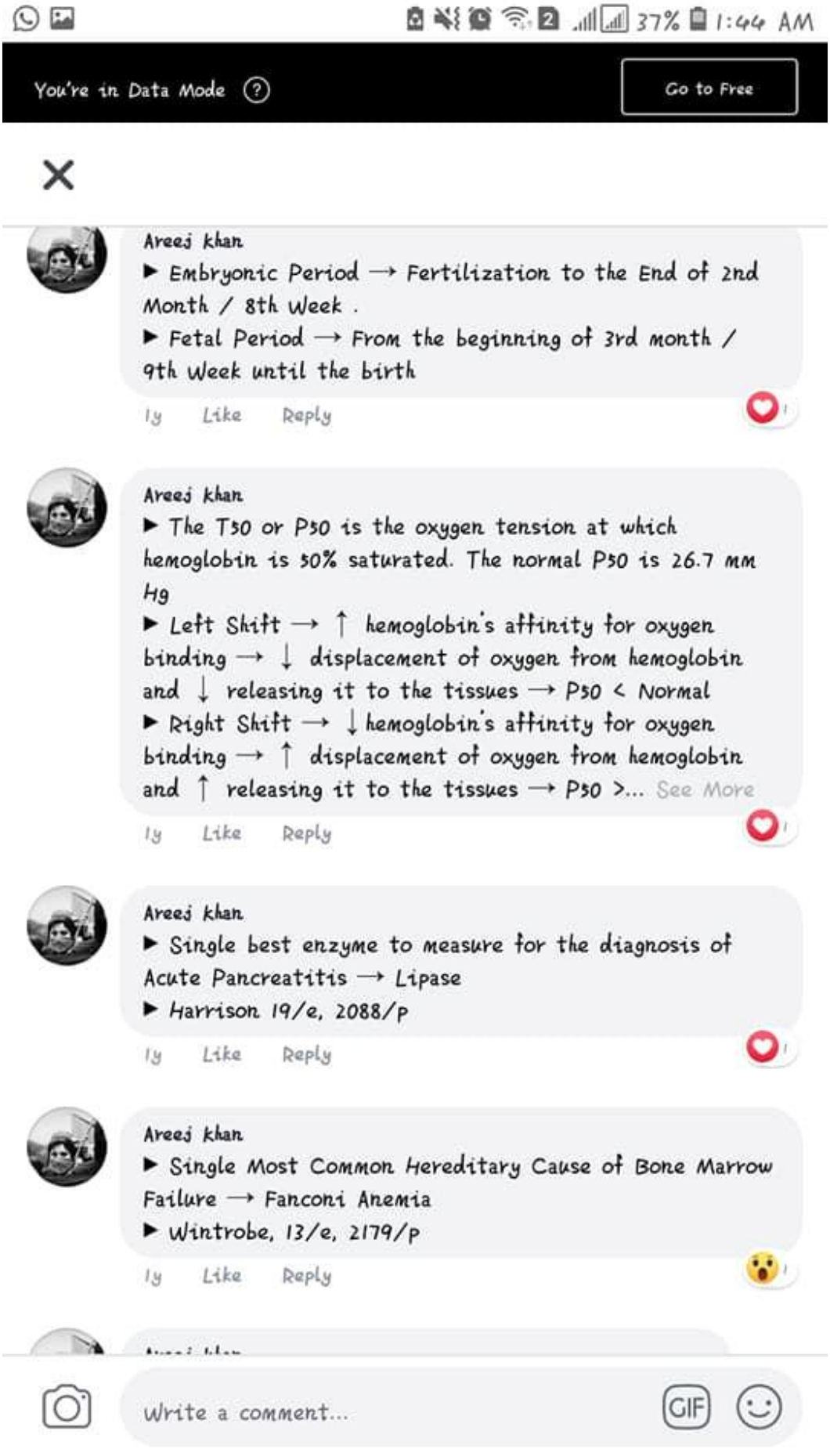
EXPLANATION

- It is a **SUPRANUCLEAR CORTICOBULBAR** lesion → Central Facial Palsy
- Has Two main Features

1. Contralateral Paralysis of Lower Facial Muscles
2. Relative preservation of Upper Facial Muscles

- The reason for Sparing of Upper Facial Muscles

The Supranuclear control of the Upper face has both Ipsilateral and Contralateral components, whereas the Lower Face has mainly Contralateral Supranuclear Connections


37% 1:44 AM
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Go to Free
Areej khan
▶ Embryonic Period → Fertilization to the End of 2nd Month / 8th Week .
▶ Fetal Period → From the beginning of 3rd month / 9th Week until the birth
1y Like Reply
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▶ The T50 or P50 is the oxygen tension at which hemoglobin is 50% saturated. The normal P50 is 26.7 mm Hg
▶ Left Shift → ↑ hemoglobin's affinity for oxygen binding → ↓ displacement of oxygen from hemoglobin and ↓ releasing it to the tissues → P50 < Normal
▶ Right Shift → ↓ hemoglobin's affinity for oxygen binding → ↑ displacement of oxygen from hemoglobin and ↑ releasing it to the tissues → P50 >... See More
1y Like Reply
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▶ Single best enzyme to measure for the diagnosis of Acute Pancreatitis → Lipase
▶ Harrison 19/e, 2088/p
1y Like Reply
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▶ Single Most Common Hereditary Cause of Bone Marrow Failure → Fanconi Anemia
▶ Wintrobe, 13/e, 2179/p
1y Like Reply
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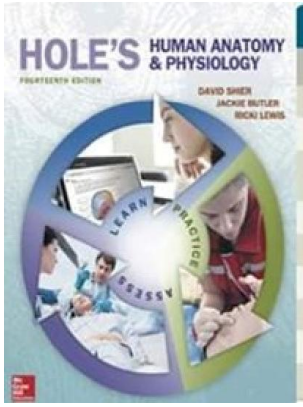

TABLE 10.5 Disorders Associated with Neurotransmitter Imbalances

Condition	Symptoms	Imbalance of Neurotransmitter in Brain
Clinical depression	Debilitating, inexplicable sadness	Deficient norepinephrine and/or serotonin
Epilepsy	Seizures, loss of consciousness	Excess GABA leads to excess norepinephrine and dopamine
Huntington disease	Cognitive and behavioral changes, loss of coordination, uncontrollable dancelike movements, death	Deficient GABA
Hypersomnia	Excessive sleeping	Excess serotonin
Insomnia	Inability to sleep	Deficient serotonin
Mania	Elation, irritability, overtalkativeness, increased movements	Excess norepinephrine
Parkinson disease	Tremors of hands, slowed movements, muscle rigidity	Deficient dopamine
Schizophrenia	Inappropriate emotional responses, hallucinations	Deficient GABA leads to excess dopamine
Tardive dyskinesia	Uncontrollable movements of facial muscles	Deficient dopamine

MEN Type 1 & 2

- Commonest Endocrine Feature in MEN-1 → Primary Hyperparathyridism
- Commonest Non-Endocrine Feature in MEN-1 → Angiofibroma
- Commonest cause of Severe clinical features in MEN-1 → Gastrinoma
- Commonest Tumor in MEN-1 → Parathyroid Adenoma
- Commonest, Overall, Entero-Pancreatic Tumor in MEN-1 → Gastrinoma
- Commonest Site for Gastrinoma in MEN-1 → Duodenum
- Commonest Pancreatic Tumor in MEN-1 → Insulinoma
- Commonest Pituitary Tumor in MEN-1 → Prolactinoma
- Commonest Adrenal Tumor in MEN-1 → Adrenal Cortical Tumors
- Commonest Entero-Pancreatic NETs in MEN-1 → PPomas
- Commonest Associated Carcinoid in MEN-1 → Enterochromaffin-Like Gastric Carcinoid
- Commonest Variant of MEN-2 → MEN-2A
- Commonest Feature of MEN-2A → MTC (Medullary Thyroid Carcer)
- Commonest Feature of MEN-2B → MTC (Medullary Thyroid Carcer)
- MTC in MEN-2 is more commonly associated with → MEN-2A > MEN-2B
- MTC in MEN-2 is more aggressive in → MEN-2B > MEN-2A

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Williams Textbook of Endocrinology, 13/e, 39/chap
Harrison's Principles of Internal Medicine, 19/e, 408/chap
Robbins and Cotran Pathological Basis of Disease, 9/e, 24/chap

Infective Endocarditis (Microbiology)

- Commonest Organisms causing Infective Endocarditis → Bacteria
- Commonest, Overall, cause of IE→ Viridans streptococci
- Commonest cause of Acute IE → Staphylococcus Aureus
- Commonest cause of Sub-Acute IE → Viridans streptococci
- Commonest, Overall, cause of Native (Normal / Abnormal) Valve IE → Viridans streptococci
- Commonest cause of Native valve IE in Neonates → Staphylococcus Aureus
- Commonest cause of Native Valve IE in >1 month old patient → Viridans streptococci
- Commonest, Overall, cause of Prosthetic valve IE → CONS (Coagulase-Negative Staphylococci)
- Commonest cause of <12 Month Old Prosthetic valve IE → CONS (S. Epidermidis is Most Common)
- Commonest cause of > 12 Month Old Prosthetic valve IE → Streptococci (Viridans streptococci → Most Common)
- Commonest, Overall, cause of IE in IVDA → Staphylococcus Aureus
- Commonest cause of Right Sided IE in IVDA → Staphylococcus Aureus
- Commonest cause of Left Sided IE in IVDA → Enerococci (E. Faecalis → Most Common)
- Commonest cause of IE in Health Care Associated patients*** → Staphylococcus Aureus
- Commonest cause of IE in patients with IV Catheters → Staphylococcus Aureus
- Commonest cause of IE in patients with Urinary Catheters → Enterococci
- Commonest cause of IE in patients with Polyps/CR Ca → Streptococcus Gallolyticus (formerly called S. Bovis biotype 1)
- Commonest cause after Tooth Extraction / Dental Procedure → Streptoccoccus Mutans

- Brauwald's Heart Diseases, 10/e, 64/chap
- Harrison's Principles of Internal Medicine, 19/e, 155/chap
- Robbins & Cotran's Pathologic Basis of Disease, 9/e, 12/chap

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***** Infection in Health Care Associated Patients**

- These Include
  - Nosocomial Onset patients 55%
  - Community Onset Patients 45% (who have had extensive contact with the health care system over the preceding 90 days.)

Libman-Sacks Syndrome

- Single Most Common Valves affected in Libman-Sacks Syndrome → **Mitral** Valve (> Aortic > AV & Tricuspid) (Tricuspid valve is Incorrect)
- Commonest Side of Mitral Valve involved in Libman-Sacks Syndrome → Atrial Side
- Commonest Combination of Valves involved in Libman-Sicks Syndrome → **Mitral & Aortic** (Mitral & Tricuspid Valves is Incorrect)
- Commonest Abnormality in Libman-Sacks Syndrome → Regurgitation (> Stenosis)

- Oxford Handbook of Cardiology, 2/e
- Braunwald's Heart Diseases, 9/e, 89/chap, 1885/p
- Goldman-Cecil : Medicine, 25/e, 266/chap, 1773/p

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WAVES

- P wave occurs Prior to → Atrial Systole / Contraction
- QRS complex occurs Prior to → Onset of Ventricular Systole / Contraction
- T wave occurs Prior to → End of Ventricular Systole

Guyton & Hall Textbook of Medical Physiology, 13/e, 9/chap, 114/p

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Renal Tumors

- Commonest Solid Renal Tumor of Neonates → Mesoblastic Nephroma (Wilm's is Incorrect)
- Commonest Benign Renal Tumor of Childhood → Mesoblastic Nephroma
- Commonest Primary Renal Malignancy in Children → Wilm's Tumor / Nephroblastoma
- Commonest Primary Renal Malignancy in Adults → Renal Cell Ca
- Commonest Extracranial Solid Tumor of Children → Neuroblastoma (Wilm's is Incorrect)
- Commonest Diagnosed Malignancy in Infants →Neuroblastoma (Wilm's is Incorrect)
- Commonest Malignant Lymphoma of Kidney → DLBCL
- Commonest Subtype of Wilm's Tumor → Non-Anaplastic
- Commonest subtype of RCC → Clear Cell Ca (CCC)
- Commonest, Overall, Primary Renal Tumor of Children → Wilm's Tumor
- Commonest, Overall, type of Neoplasm in Adults → Renal Cell Ca
- Commonest Variety of Wilm's Tumor, RCC & CCC → Sporadic
- Commonest Site of Local Metastases in Wilm's Tumor → Perirenal Soft Tissues
- Commonest Site of distant Metastases in Wilm's Tumor → Lungs
- Commonest site of DistantMetastases in RCC → Lungs (Regional LNs is incorrect)
- Commonest Heterotopic Element in WT → Skeletal muscle
- Commonest Origin of CCC → Proximal Tubular Epithelium
- Most Significant Risk factor for RCC → Tobacco (APKD / CPKD is Incorrect)
- Commonest Presentation of Wilm's Tumor → Asymptomatic Abdominal mass
- Commonest presentation of RCC → Hematuria

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- Brenner & Rector's : The Kidney, 9/e, 40/chap
- Harrison's Principles of Internal Medicine, 19/e, 114/chap
- Nelson Textbook of Pediatrics, 20/e, 499/chap
- Sternberg's Diagnostic Surgical Pathology, 6/e, 42-43/chap
- Robbins & Cotran's Pathologic Basis of Disease, 9/e, 20/chap

Hepatic Tumors

- Commonest, Overall, Hepatic Tumor → Metastases / Secondaries
- Commonest Primary Tumor for Hepatic Metastases → Colorectal Ca (Lung Ca is wrong)
- Commonest Benign Hepatic Tumor → Cavernous Hemangioma
- Commonest Primary Hepatic Malignancy in Children → Hepatoblastoma
- Commonest Primary Hepatic Malignancy in Adults → Hepatoma / HCC
- Commonest Malignant Mesenchymal Hepatic Tumor → Angiosarcoma
- Commonest Hepatic Tumor in Infants → Infantile Hemangioendothelioma
- Commonest Hepatic Lymphoma → DLBCL
- Commonest Viral Hepatitis causing Cirrhosis → Hep C
- Commonest Viral Hepatitis causing HCC → Hep B
- Commonest setting for emergence of HCC → CLDs
- Commonest Physical Sign of HCC → Hepatomegaly
- Commonest Symptom of HCC → Abdominal Pain
- Commonest site of Metastasis for HCC → Lungs (LNs is wrong)

- Harrison's Principles of Internal Medicine, 19/e, 111/chap
- Robbins & Cotran's Pathologic Basis of Disease, 9/e, 18/chap
- Textbook of Hepatology, 3/e, 18/sec
- Sleisenger & Fordtran's GI & Liver Disease 96/chap
- Hepatocellular Carcinoma, 226/p
- Principles & Practice of Surgical Oncology, 48/chap

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Rubella

Postnatal (Acquired) & Congenital Rubella Syndrome (CRS)

- Commonest, Overall, problem in CRS → Nerve Deafness (Cataract is Wrong)
- Commonest Cardiac problem in CRS → Patent Ductus Arteriosus (PDA)
- Commonest Ocular problem with CRS → Salt-Pepper Retinopathy
- Most serious (Not Most Common) Ocular issue in CRS → Cataract (Uni / Bilat)
- Most serious Problem of Postnatal Rubella → Encephalitis
- Most Hallmark of Congenital Rubella Syndrome → Chronicity
- Most severe CRS occurs at gestation age → First 8 wks

- Nelson Textbook of Pediatrics, 20/e, 247/chap
- Harrison's Principles of Internal Medicine, 19/e, 230e/chap
- Williams Obstetrics, 24/e, 64/chap
- Current D&T Gynae & Obs, 11/e, 15/chap

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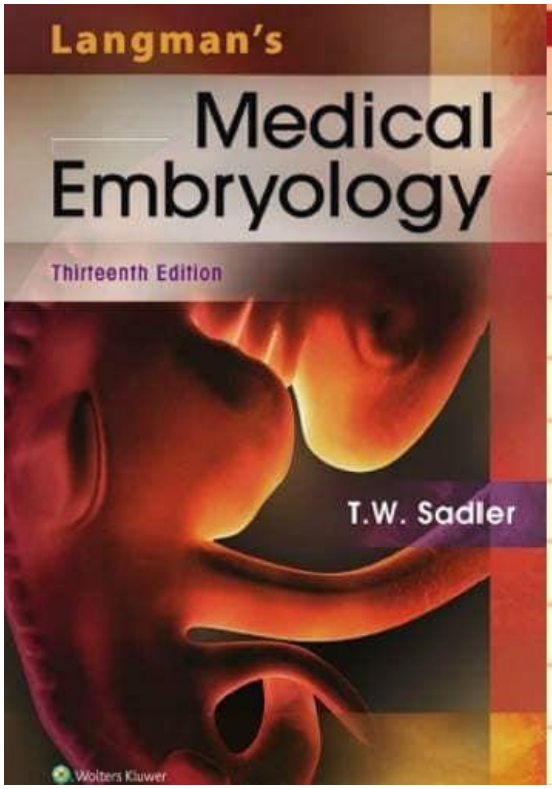
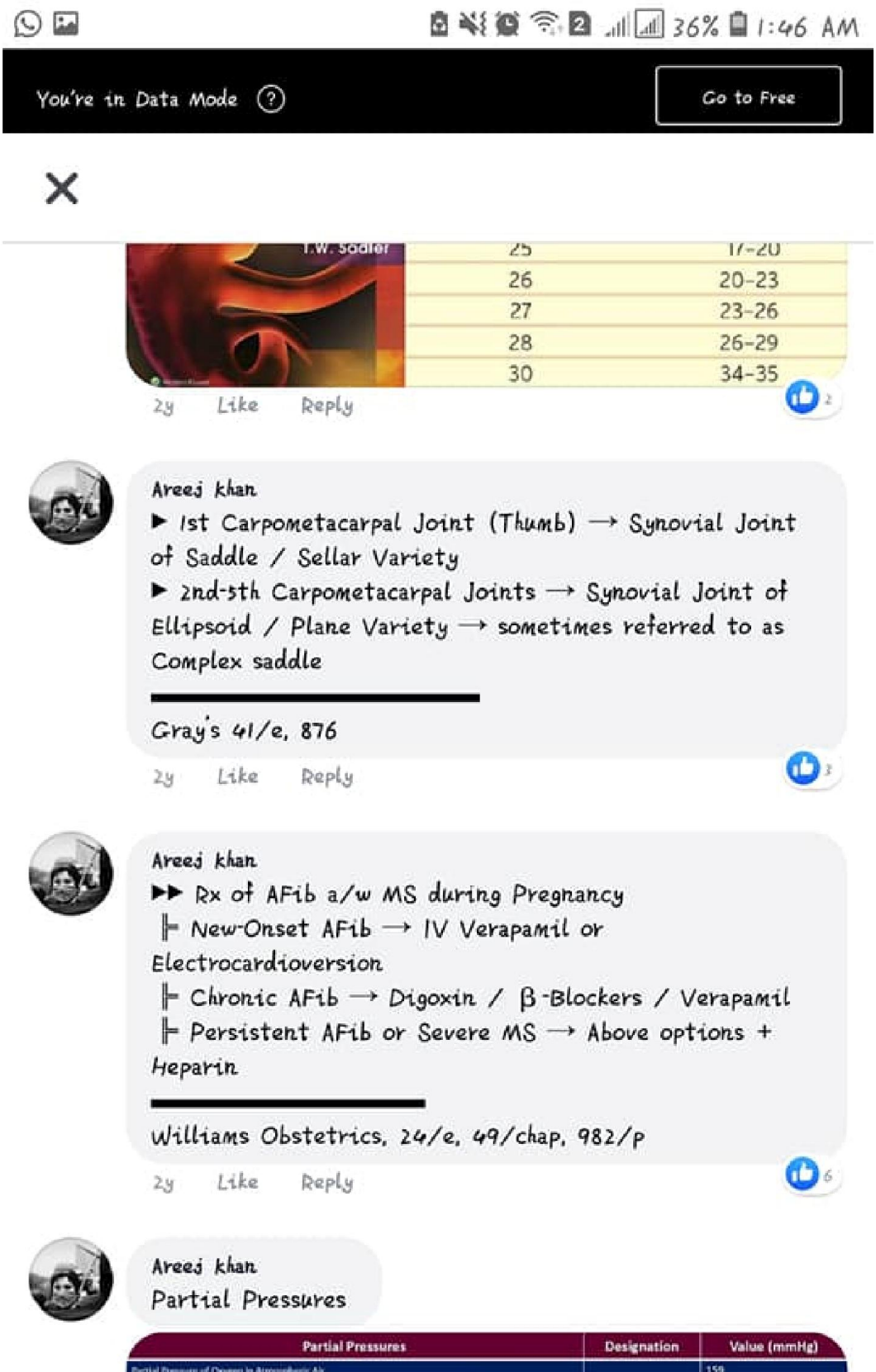


TABLE 6.2 Number of Somites Correlated to Approximate Age in Days

Approximate Age (d)	Number of Somites
20	1–4
21	4–7
22	7–10
23	10–13
24	13–17
25	17–20
26	20–23
27	23–26
28	26–29
30	34–35


36% 1:46 AM
You're in Data Mode
Go to Free
T.W. Sadler
25 17-20
26 20-23
27 23-26
28 26-29
30 34-35
2y Like Reply
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▶ 1st Carpometacarpal Joint (Thumb) → Synovial Joint of Saddle / Sellar Variety
▶ 2nd-5th Carpometacarpal Joints → Synovial Joint of Ellipsoid / Plane Variety → sometimes referred to as Complex saddle
Gray's 41/e, 876
2y Like Reply
Areej khan
▶▶ Rx of AFib a/w MS during Pregnancy
╠ New-Onset AFib → IV Verapamil or Electrocardioversion
╠ Chronic AFib → Digoxin / β-Blockers / Verapamil
╠ Persistent AFib or Severe MS → Above options + Heparin
Williams Obstetrics, 24/e, 49/chap, 982/p
2y Like Reply
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Partial Pressures
Partial Pressures
Designation
Value (mmHg)
Partial Pressure of Oxygen in Atmospheric Air
159
Partial Pressure of Carbon Dioxide in Atmospheric Air
0.3
Partial Pressure of Water (H_2O) in Atmospheric Air
3.7
Write a comment...
GIF

Partial Pressures	Designation	Value (mmHg)
Partial Pressure of Oxygen in Atmospheric Air		159
Partial Pressure of Carbon Dioxide in Atmospheric Air		0.3
Partial Pressure of Water (H_2O) in Atmospheric Air		3.7
Partial Pressure of Oxygen in Inspired Air (Humidified Air)	P_IO_2	149.3
Partial Pressure of Carbon Dioxide in Inspired Air (Humidified Air)	P_ICO_2	0.3 (Negligible)
Partial Pressure of Water (H_2O) in Inspired Air (Humidified Air)		47
Partial Pressure of Oxygen in Expired Air		120
Partial Pressure of Carbon Dioxide in Expired Air		27
Partial Pressure of Water (H_2O) in Expired Air		47
Partial Pressure of Oxygen in Alveolar Air	P_AO_2	100-105 (Mean 104.0)
Partial Pressure of Carbon Dioxide in Alveolar Air	P_ACO_2	40
Partial Pressure of Water (H_2O) in Alveolar Air		47
Arterial Partial Pressure of Oxygen = Partial Pressure of Oxygen in Pulmonary Vein	P_aO_2	95-100
Arterial Partial Pressure of Carbon Dioxide = Partial Pressure of Carbon Dioxide in Pulmonary Vein	P_aCO_2	40
Venous Partial Pressure of Oxygen = Partial Pressure of Oxygen in Pulmonary Artery	P_vO_2	40
Venous Partial Pressure of Carbon Dioxide = Partial Pressure of Carbon Dioxide in Pulmonary Artery	P_vCO_2	45
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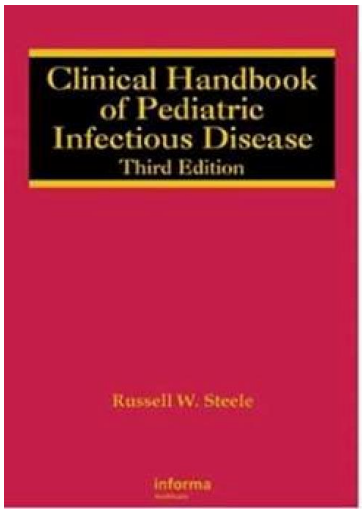

TABLE 6 Risk Factors for Soft-Tissue Infection

Risk factor	Infection
Diabetes	All
Cancer, congenital agranulocytosis	*Clostridium septicum* gangrene
Omphalitis, urachal cyst, necrotizing enterocolitis, neonatal monitoring devices, varicella, circumcision, anorectal disease	Necrotizing fasciitis Fournier's gangrene
Outdoor puncture wounds	Tetanus
Chronic immunosuppression, i.e., transplant recipient, AIDS	All

Buffering Capacity

- In Plasma / Blood
  - Bicarbonate → 35%
  - Plasma Proteins → 7%
  - Inorganic Phosphates → 2%
- In RBCs (Cells)
  - Hemoglobin → 35%
  - Bicarbonate → 18%
  - Organic Phosphates → 3 %

So

- Most Important Buffer of Blood / Plasma → Bicarbonate ($HCO3^-$)
- Most Important Buffer of RBCs → Hemoglobin (Hb)

Principles of Physiology for Anesthetist, 2/e, 256/p

Dr. Areej Khan

Areej khan

▶ knee Jerk → L3 , L4

▶ If L3, L4 aren't given as such , but L3 alone is given in options → Mark L3 → Main contributor of knee Jerk is L3

Last, 12/e, 18/p

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Viral Oncology

Preference of ur answer should be as

▶▶▶ Viruses cause cancer by or contribute to Carcinogenisis by → Viral Encoded Proteins >>> changes in Host DNA >>>> Oncogenes or other Oncogenic Mechanisms

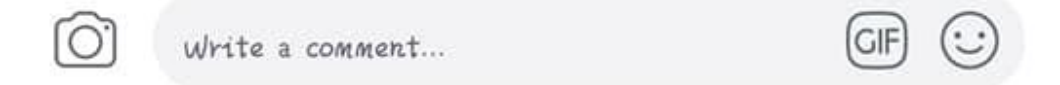
▶▶▶ Viruses cause carcinogenesis by causing changes or alterations in → Host Genome / DNA >>> Proto-oncogenes

---

So whenever Viral oncology is asked → First choice to mark must be → Viral Encoded Proteins or DNA or Nucleic Acid → Then come the story of Proto-onco & Onco.

Some Detail of Viral Oncology Mechanisms

▶ DNA and some RNA Tumor Viruses (replicate strictly as Episomes within host cells) → Encode viral proteins (→ these viral proteins suppress Tumor Suppressor Genes → In other words these Encoded Viral proteins act like Oncogenes but are not in fact the true viral



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Viral Oncology

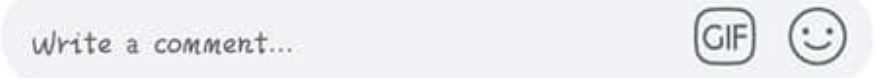
Preference of ur answer should be as
▶▶▶ Viruses cause cancer by or contribute to Carcinogenisis by → Viral Encoded Proteins >>> changes in Host DNA >>>> Oncogenes or other Oncogenic Mechanisms
▶▶▶ Viruses cause carcinogenesis by causing changes or alterations in → Host Genome / DNA >>> Proto-oncogenes

---

So whenever Viral oncology is asked → First choice to mark must be → Viral Encoded Proteins or DNA or Nucleic Acid → Then come the story of Proto-onco & Onco.

Some Detail of Viral Oncology Mechanisms

▶ DNA and some RNA Tumor Viruses (replicate strictly as Episomes within host cells) → Encode viral proteins (→ these viral proteins suppress Tumor Suppressor Genes → In other words these Encoded Viral proteins act like Oncogenes but are not in fact the true viral version of cellular oncogenes
▶ RetroViruses Integrate their nuclear material (RNA) into Host DNA → The viral RNA is first reverse Transcribed into DNA forming ProVirus DNA which is replicated, transcribed and translated as Host DNA → Through Evolution then There are three possibilities
❶ Viral DNA can acquire fragments of genes from the host at integration Sites → Creation of Oncogenes
❷ Host genes may fall under the regulation of viral regulatory sequences



host at integration Sites → Creation of Oncogenes
❷ Host genes may fall under the regulation of viral regulatory sequences
❸ viral DNA may be translated as a fusion protein in conjunction with cellular DNA resulting in a novel fusion protein
▶ of these three possibilities, 2nd and 3rd possibilities may cause Oncogenic activation of Proto-Oncogenes or the new gene configuration may evolve that may serve as a pure Oncogene

Molecular Biology of Cancer Mechanisms, 3/e

Viral Oncology

2y Like Reply

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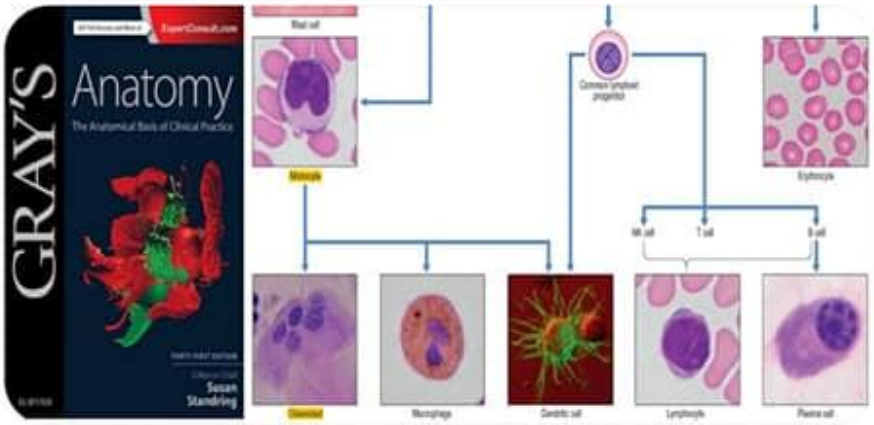
Osteoclasts are derived from Monocytes



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Prostate ANatomy MCQs

PROSTATE

While Solving Anatomy MCQs regarding Prostate, Keep in Mind

- ►► 5 Lobes of Prostate can ONLY be Distinguished in FETAL Prostate Gland PRIOR to 20 weeks' Gestation
- ►► B/W 20 weeks' Gestation & Onset of BPH → ONLY 3 Lobes are Distinguished
  - Two Lateral
  - One Median Lobe
- ►► Largest Zone of Prostate
  - Peripheral Zone
- ►► Largest Lobe of Prostate
  - Lateral Lobes (Paired)
- ►► BPH commonly involves
  - Transitional Zone (Anatomically The Smallest Zone)
  - Median Lobe
- ►► Carcinoma Prostate Commonly Involves
  - Outer / Peripheral Zone
  - Posterior Lobe

- Gray's Anatomy, 41/e, 75/chap, 1267/p
- Textbook of Anatomy: Abdomen & Lower Limbs, 2/e, 256/p

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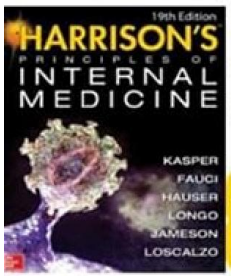

symptoms may be maximal at onset, commonly the focal deficit worsens over 30–90 min and is associated with a diminishing level of consciousness and signs of increased ICP such as headache and vomiting.

The putamen is the most common site for hypertensive hemorrhage, and the adjacent internal capsule is usually damaged (Fig. 446-17). Contralateral hemiparesis is therefore the sentinel sign.

- ADH
- Serotonin
- Glucagon
- ACTH
- CRH
- VIP
- Neuropeptide Y
- CCK
- Substance P

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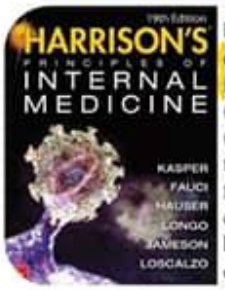
Commonest Physical Finding in patients of CML ?

A. Lymphadenopathy
B. Hypermetabolism
C. Hypervisosity Syndrome
D. Hepatomegaly
E. Splenomegaly

Option "E" is the most appropriate answer

- Harrison's Principles of Internal Medicine, 19/e, 133/chap, 689/p
- Cancer:Principles & Practice of Oncology, 10/e, 109/chap
- Haematology : An Illustrated Color Text, 4/e, 44/p



Physical Findings Splenomegaly is the most common physical finding, occurring in 20–70% of patients depending on health care screening frequency. Other less common findings include hepatomegaly (10–20%), lymphadenopathy (5–10%), and extramedullary disease (skin or subcutaneous lesions). The latter indicates CML transformation if a biopsy confirms the presence of sheets of blasts. Other physical findings are manifestations of complications of high tumor burden described earlier (e.g., cardiovascular, cerebrovascular, bleeding). High basophil counts may be associated with histamine overproduction causing pruritus, diarrhea, flushing, and even gastrointestinal ulcers.

2y Like Reply

Areej khan

CML originates from Pluripotent stem cells having

Ringtone

(skin or subcutaneous lesions). The latter indicates CML transformation if a biopsy confirms the presence of sheets of blasts. Other physical findings are manifestations of complications of high tumor burden described earlier (e.g., cardiovascular, cerebrovascular, bleeding). High basophil counts may be associated with histamine overproduction causing pruritus, diarrhea, flushing, and even gastrointestinal ulcers.

2y Like Reply 2

Areej khan

CML originates from Pluripotent stem cells having potential of

A. Myeloid Lineage
B. Lymphoid Lineage
C. Erythromyeloid lineage
D. Both A & B
E. None of the above

D is the correct Answer .
Robbins, 9/e, 13/chap, 616/p

2y Like Reply

Areej khan

https://areejfcps.blogspot.com/2017/01/mcq-adh.html

Write a comment... GIF

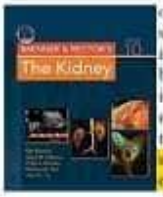
MCQ - ADH

Most Potent Stimulus for Antidiuretic Hormone Secretion ?

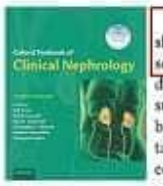
A. ↑ Plasma Osmolarity
B. Hypoxia
C. ↓ Blood Pressure
D. Morphine
E. Nausea

Show Answer / Explanation

Option "E" is the most appropriate answer



osmolality of only 5 to 10 mOsm/kg H_2O. Hypovolemia also stimulates AVP secretion, but, similar to thirst, AVP secretion is much less sensitive to changes in blood volume and blood pressure than to changes in osmolality. There are also nonosmotic stimuli to AVP secretion that probably play no role in the control of water metabolism in physiologic conditions. Thus the sensation of nausea is by far the most potent stimulus to AVP secretion known in humans and is able to elevate circulating AVP levels.



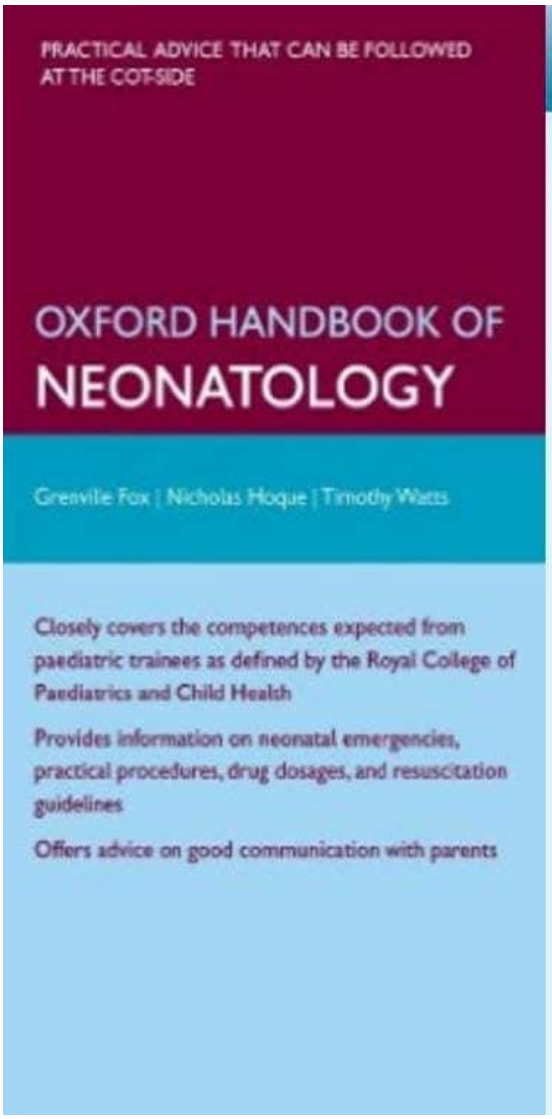
A range of other stimuli and drugs (see Table 22.2) have also been shown to affect AVP release. The most powerful of these is nausea, which can cause very large rises in AVP secretion. Similarly, drugs which cause nausea can be potent stimuli. Other stimuli such as pain and stress may act by causing nausea, or there may be independent pathways. A rare, but potentially clinically important, cause of high AVP secretion is SIADH, which may be due to ectopic production, or to disease causing excessive release from the

Brenner & Rector's The Kidney, 10/e, 75/chap, 2366/p
Oxford Textbook of , 4/e, 22/chap, 202/p

Posted by Dr. Areej Khan

Reactions: Interesting (0) Helping (0)

Part 3



Heparin

Previous Next

Prevents thrombus propagation, while endogenous thrombolysis and relaxation of vasospasm takes place:

- Use lower doses for preterm infants
- Loading dose: 75 IU/kg over 10 min
- Initial maintenance dose: 15–28 IU/kg/h
- Measure APTT after 4 h, monitor efficacy, and adjust dose (Table 15.1)

- Use lower doses for preterm infants
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- Measure APTT after 4 h, monitor efficacy, and adjust dose (Table 15.1)

2y Like Reply

Areej khan

▶ Completely radiolucent (Not visible) on plain X-ray
- Uric Acid Stones
- Xanthine Stones
- Ammonium Urate Stones
- 2,8 Dihydroxyadenine Stones
- Triamterene
- Indinavir (Crixivan) Stones (only stones not visible on CT without contrast too, requires CT with contrast)

▶ Relatively radiolucent on plain X-ray
- Cystine Stones
- Apatite Stones
- Struvite (Magnesium Ammonium Phosphate) Stone

Oxford Handbook of Urology, 3/e, 432/p

2y Like Reply 2

Areej khan

Capacitation of Sperms

MATURATION OF SPERMS

Freshly ejaculated sperms are unable to fertilize an oocyte. Sperms must undergo a period of conditioning, or **capacitation**, lasting approximately 7 hours. During this period, a glycoprotein coat and seminal proteins are removed from the surface of the sperm **acrosome** (see Figs. 2-4 and 2-5A). The membrane components of the sperms are extensively altered. **Capacitated sperms** show no morphologic changes, but they are more active. Sperms are

H. Pylori Infection

- Most Specific Diagnostic Test for H.Pylori Infection

Microbial Culture

- Gold Standard Diagnostic Test for H.Pylori Infection

Microbial Culture

Harrison's Principles of Internal Medicine, 19/e, 1040/p
Davidson's Principles & Practice of Medicine, 22/e, 22.39/t

Dr. Areej Khan

Meckel Diverticulum (MD)

- Commonest Congenital Anomaly of the GIT→ MD
- Commonest True Diverticulum in GIT → MD
- Commonest Length of MD → 2 Inches

Nelson Textbook of Pediatrics, 20/e, 331/chap
Schwartz's Principles of Surgery, 10/e, 28/chap
Robbins Pathologic Basis of Disease, 9/e, 17/chap

- Commonest Heterotopic Mucosa in MD → Gastric
- Commonest Neoplasm in MD → Carcinoid Tumor
- Commonest Presentation of MD in Children → Bleeding
- Commonest Presentation of MD in Adults → Intestinal Obstruction
- Most Sensitive test for conformation of MD → Radionuclide Scan
- Commonest site of Acquired Diverticula → Sigmoid Colon
- Commonest Location for MD → 2 ft from Ileocecal valve (Along Antimesenteric

Dr. Areej Khan

EPO Secretion

- **Stimulants of EPO Secretion**
  - Hypoxia
  - Cobalt
  - Androgens
  - Alkalosis
  - Catecholamines
  - Adenosine
- **Inhibitors of EPO Secretions**
  - Theophylline & other Adenosine Antagonists
  - Increased Red Cell Volume

- Murray & Nadel's Textbook of Respiratory Medicine, 6/e, 1381/p
- MCQs for the Primary FRCA, 150/p

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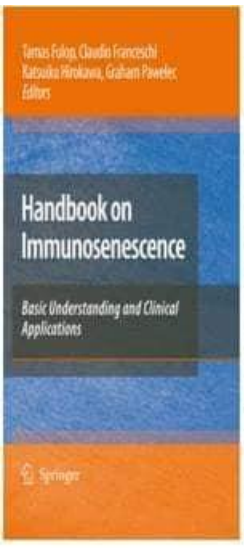
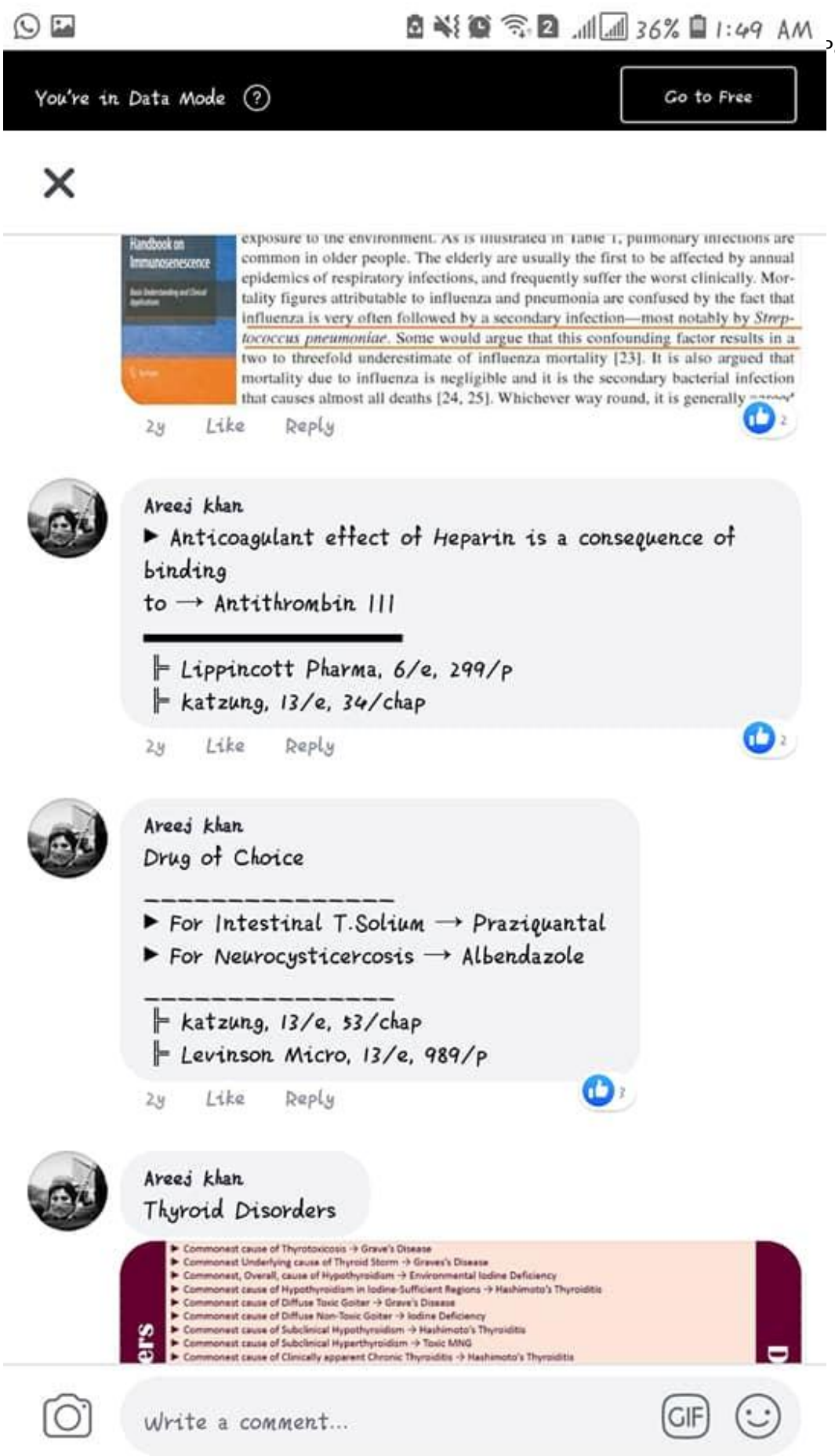


The elderly are susceptible to infections by a wide variety of pathogens, all of which involve B-cells and antibodies in the normal course of the immune response (Table 1). The lungs are, in common with other mucosal surfaces of the gastrointestinal and genito-urinary tracts, particularly vulnerable to infection by virtue of their exposure to the environment. As is illustrated in Table 1, pulmonary infections are common in older people. The elderly are usually the first to be affected by annual epidemics of respiratory infections, and frequently suffer the worst clinically. Mortality figures attributable to influenza and pneumonia are confused by the fact that influenza is very often followed by a secondary infection—most notably by *Streptococcus pneumoniae*. Some would argue that this confounding factor results in a two to threefold underestimate of influenza mortality [23]. It is also argued that mortality due to influenza is negligible and it is the secondary bacterial infection that causes almost all deaths [24, 25]. Whichever way round, it is generally agreed


36% 1:49 AM
You're in Data Mode
Go to Free
exposure to the environment. As is illustrated in Table 1, pulmonary infections are common in older people. The elderly are usually the first to be affected by annual epidemics of respiratory infections, and frequently suffer the worst clinically. Mortality figures attributable to influenza and pneumonia are confused by the fact that influenza is very often followed by a secondary infection—most notably by Streptococcus pneumoniae. Some would argue that this confounding factor results in a two to threefold underestimate of influenza mortality [23]. It is also argued that mortality due to influenza is negligible and it is the secondary bacterial infection that causes almost all deaths [24, 25]. Whichever way round, it is generally
2y Like Reply
Areej khan
▶ Anticoagulant effect of Heparin is a consequence of binding
to → Antithrombin III
╠ Lippincott Pharma, 6/e, 299/p
╠ katzung, 13/e, 34/chap
2y Like Reply
Areej khan
Drug of Choice
▶ For Intestinal T.Solium → Praziquantal
▶ For Neurocysticercosis → Albendazole
╠ katzung, 13/e, 53/chap
╠ Levinson Micro, 13/e, 989/p
2y Like Reply
Areej khan
Thyroid Disorders
▶ Commonest cause of Thyrotoxicosis → Grave's Disease
▶ Commonest Underlying cause of Thyroid Storm → Graves's Disease
▶ Commonest, Overall, cause of Hypothyroidism → Environmental Iodine Deficiency
▶ Commonest cause of Hypothyroidism in Iodine-Sufficient Regions → Hashimoto's Thyroiditis
▶ Commonest cause of Diffuse Toxic Goiter → Grave's Disease
▶ Commonest cause of Diffuse Non-Toxic Goiter → Iodine Deficiency
▶ Commonest cause of Subclinical Hypothyroidism → Hashimoto's Thyroiditis
▶ Commonest cause of Subclinical Hyperthyroidism → Toxic MNG
▶ Commonest cause of Clinically apparent Chronic Thyroiditis → Hashimoto's Thyroiditis
Write a comment...
GIF

Thyroid Disorders

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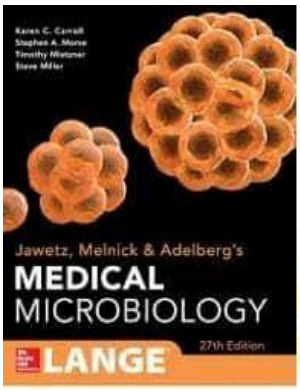
- Commonest cause of Subclinical Hyperthyroidism → Toxic MNG
- Commonest cause of Clinically apparent Chronic Thyroiditis → Hashimoto's Thyroiditis
- Commonest cause of Neonatal Thyrotoxicosis → Transplacental of TSH Associated Antibodies (TRAbs)
- Commonest cause of Congenital Hypothyroidism → Iodine Deficiency
- Commonest cause of Permanent Congenital Hypothyroidism → Thyroid Gland Dysgenesis
- Commonest drug a/w Drug Induced Iodine Induced Thyrotoxicosis → Amiodarone
- Commonest cause of Thyroid Pain → Granulomatous Thyroiditis
- Commonest cause of ↑ TSH ē Normal T4 in 1° Hypothyroidism on Rx → Intermittent use of Levothyroxine
- Commonest cause of Childhood Infectious Thyroiditis → Presence of left sided Piriform sinus (Viridans is MC organism)
- Commonest cause of ↑ TSH worldwide → Iodine Deficiency / Hypothyroidism
- Commonest Endocrine Cause of Proptosis → Thyroid-Associated Orbitopathy (TAO)
- Commonest cause of Bradycardia in a patient of Thyrotoxicosis → use of Beta Blockers
- Commonest cause of Tachycardia in a patient of Hypothyroidism → Over-Rx with Levothyroxine
- Commonest Hyperthyroidism in the Post-Partum Period → Transient Post-Partum Thyroiditis
- Commonest, Overall, type of Anemia in Hypothyroidism → Normocytic Normochromic
- Commonest Neurological manifestation of Hypothyroidism → Cerebral Slowing
- Commonest CVS manifestation of Grave's Disease → Sinus Tachycardia
- Commonest manifestation of Grave's Disease → Hyperthyroidism
- Commonest site for Dermopathy of Grave's Disease → Anterior & Lateral Aspects of Lower Leg
- Most & Least Common manifestations of Merseburg Triad of Grave's Disease → Diffuse Toxic Goiter &Infiltrative Dermopathy
- Commonest Muscles Involved in Grave's Orbitopathy→ Recti (Inferior & Medial)
- Most serious manifestation of Grave's Orbitopathy→ Compression of Optic Nerve at the apex of Orbit

Dr. Areej Khan

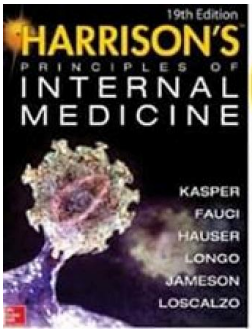
Cushing's Syndrome

- Commonest, Overall, type of Cushing's Syndrome → Exogenous / Iatrogenic Cushing's Syndrome
- Commonest cause of Cushing's Syndrome → Exogenous Administration of Glucocorticoids
- Commonest cause of Endogenous Cushing's Syndrome → ACTH- dependent Cushing's Syndrome (Cushing's Disease)
- Commonest cause of Cushing's Disease → Pituitary Adenomas
- Commonest Adenomas in Cushing's Disease → Microadenomas
- Commonest Cause of Endogenous ACTH-Independent Cushing's Syndrome → Adrenocortical Adenoma
- Commonest Tumor associated with Ectopic production of ACTH → Small Cell Carcinoma Lung
- Commonest Carcinoid Tumor associated with Ectopic production of ACTH → Bronchial Carcinoid
- Commonest cause of Endogenous Cushing's Syndrome in Infancy & early years→ Functioning Adrenocortical Tumor
- Commonest cause of Endogenous Cushing's Syndrome in Children >7 years of age → Cushing's Disease
- Commonest, Overall, cause of Cushing's Syndrome in Children → Exogenous Administration of Glucocorticoids
- Commonest, Overall, Clinical Feature of Cushing's Syndrome → Overweight / Obesity
- Commonest Clinical Feature of Cushing's Syndrome in Adults → Decreased Libido
- Commonest Clinical Feature of Cushing's Syndrome in Children → Obesity / Overweight
- Commonest Menstrual Irregularity in Cushing's Syndrome → Oligomenorrhea
- Commonest form of Hirsutism in Cushing's Syndrome → Vellus Hypertrichosis on the Face
- Commonest Pituitary changes occurring in Cushing's Syndrome → Crooke Hyaline Change

Dr. Areej Khan



staphylococcal enterotoxin. After the preformed toxin is ingested, it is absorbed in the gut, where it stimulates vagus nerve receptors. The stimulus is transmitted to the vomiting center in the central nervous system. Vomiting, often projectile, results within hours. Diarrhea is less frequent. Staphylococcal food poisoning is the most common form of food poisoning. *S aureus* enterotoxins are superantigens.



The gold standard for diagnosis remains liver biopsy with quantitative copper assays. Affected patients have values >3.1 μmol/g (>200 μg/g [dry weight] of liver). Copper stains are not reliable. False-positive results can occur with long-standing obstructive liver disease, which can elevate hepatic and urine copper concentrations and rarely causes Kayser-Fleischer rings.

Lipoproteins

Best predictor of FUTURE MI or ACS
(In Decreasing Order)

- **HsCRP (Highly sensitive CRP)**
- TC/HDL ratio
- Apo-B/Apo-A ratio
- LDL
- Non-HDL (TC - HDL)
- HDL

Lipoprotein With Highest

- Lipoprotein with **Highest TG** → **Chylomicrons** > VLDL > LDL > HDL
- Lipoprotein with **Highest Cholesterol** → **LDL** > VLDL > HDL > Chylomicrons
- Lipoprotein with **Highest Protein** → **HDL** > LDL > VLDL > Chylomicrons
- Lipoprotein with **Highest Phospholipids** → **HDL** > LDL > VLDL > Chylomicrons

Source of Lipoproteins

- Chylomicrons → Intestine
- Chylomicron Remnant → Chylomicrons
- VLDL → Liver
- IDL → VLDL
- LDL → VLDL
- HDL → Liver & Intestine

Main DELIVERY Functions of Lipoproteins

- Chylomicron → Transportation of Exogenous TGs from Gut to Adipose & Muscle Cells
- VLDL → Transportation of Endogenous TGs from Liver to Adipose & Muscle Cells
- LDL → Transportation of Cholesterol from Liver to Peripheral Tissues
- HDL → Transportation of Cholesterol from Periphery to Liver

- Drugs that best Lower **TGs** → **Fibrates** > Niacin > Statins
- Drugs that best Lower **LDL** → **Statins** > Ezetimibe > Bile Resins > Niacin
- Drugs that best Raise **HDL** → **Niacin** > Fibrates > Statins > Fish Oil

Dr. Areej Khan

Lung Volume Patterns (In General)

Derivative	Obstructive	Restrictive
FEV_1	↓ ↓	↓
VC	↓ or →	↓
FEV_1 / VC	↓	→ or ↑
TLC	↑ or →	↓
RV	↑	↓
FRC	↑	↓
RV / TLC	↑	→ or ↓

Dr. Areej Khan

Post-Splenectomy Sepsis

- Commonest Organisms causing Infections / Sepsis in Asplenic Patients → Encapsulated Bacteria
- Commonest Organism causing Post-Splenectomy Sepsis → Streptococcus Pneumoniae
  (Accounts for >50% of Septic Episodes in most series)

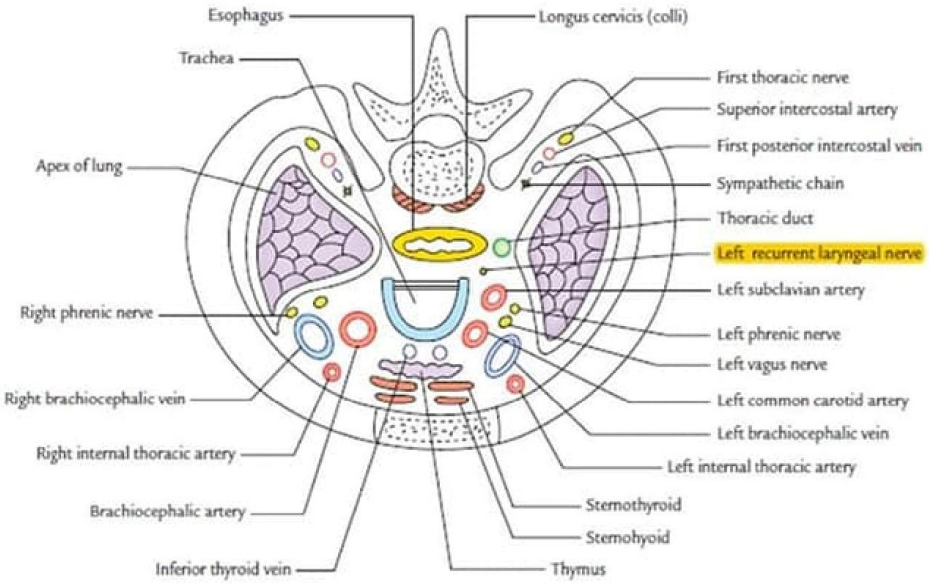
- The Decreasing Order of Frequency Organisms a/w Infection after Splenectomy
  1. S.Pneumoniae
  2. H.Influenza
  3. N. Meningitidis
  4. Beta hemolytic Streptococcus
  5. Staphylococcus Aureus
  6. Escherichia Coli
  7. Pseudomonas sp

- Sabiston Textbook of Surgery, 18/e, chapter 56
- Greenfield's Surgery-Scientific Principles and Practice, 5/e, 1218/p
- Harrison's Principles of Internal Medicine, 19/e, 147/chap, 781/p

Dr. Areej Khan

- Current General Guidelines for prevention of Post-Splenectomy Sepsis
  - Vaccinate with Pentavalent pneumococcal vaccine at least 10-14 days prior to Elective Splenectomy
  - If Splenectomy is URGENT → Wait until 14 days post-procedure to Vaccinate
  - In High Risk pts (Immunocompromized & Child < 10yrs) → Also give Meningococcal & HiB Vaccine
  - Antibiotic prophylaxis in all Children <5yrs

Structures Passing Through Thoracic Inlet



Muscles
- Sternohyoid
- Sternothyroid
- Longus Cervicis/Longus Colli

Arteries
- Right &Left Internal Thoracic Arteries
- Brachiocephalic Trunk/Artery
- Left Common Carotid Artery
- Left Subclavian Artery
- Right And Left Superior Intercostal Arteries

Nerves
- Right And Left Vagus Nerves
- Left Recurrent Laryngeal Nerve
- Right And Left Phrenic Nerves
- Right And Left First Thoracic Nerves
- Right And Left Sympathetic Chains

Veins
- Right & Left Brachiocephalic Veins
- Right & Left 1st Posterior Intercostal Veins
- Inferior Thyroid Veins

Lymphatics

Thoracic Duct

Others
- Anterior Longitudinal Ligament
- Esophagus
- Trachea
- Right And Left Domes Of Cervical Pleura
- Apices Of Right And Left Lungs

Dr. Areej Khan

Percussion Note

(Respiratory System Examination)

Note	Underlying Condition
Resonant	Normal Lung
Hyperresonant	Pneumothorax
Dull	Pulmonary Consolidation
	Pulmonary Collapse
	Severe Pulmonary Fibrosis
Stony Dull	Pleural Effusion
	Hemothorax

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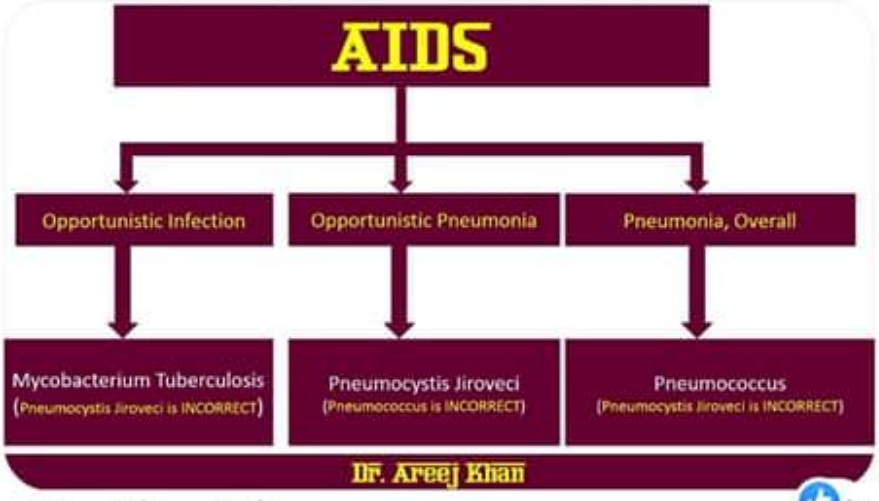
Areej khan
AIDS - Pneumonia



2y Like Reply

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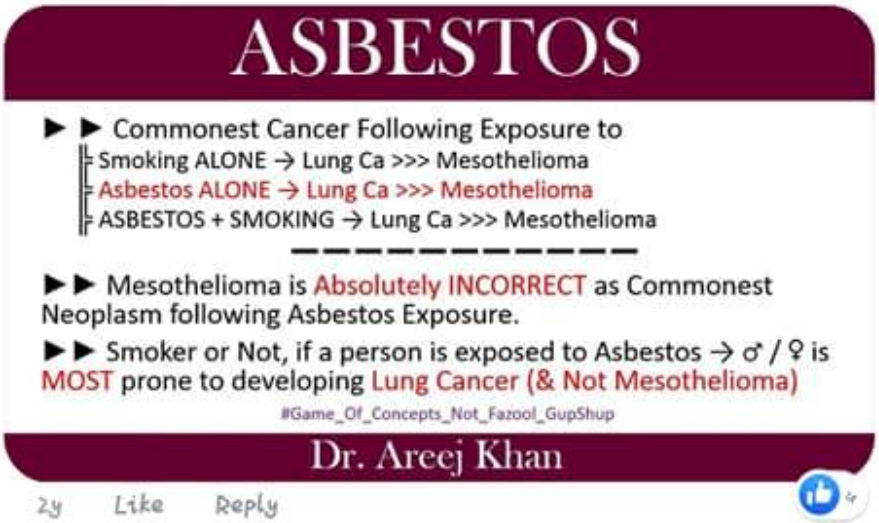
Asbestos



2y Like Reply

Ringtone

2y Like Reply

Areej khan
Effects of Glucocorticoids on Circulating Cells

Effects of Glucocorticoids on Circulating Cells	
Red Blood Cells	↑↑
TLC (Overall)	↑↑
Basophils	↓↓
Eosinophils	↓↓
Lymphocytes	↓↓
Monocytes	↑↑
Neutrophils	↑↑

Dr. Areej Khan

2y Like Reply

Areej khan
Secondary Amenorrhea

Pregnancy

Because pregnancy is the most common cause of amenorrhea, it is essential to exclude pregnancy in the evaluation of amenorrhea. A history of breast fullness, weight gain, and nausea suggests the diagnosis of pregnancy, which is confirmed by a positive β-human chorionic gonadotropin assay. *It is important to rule out pregnancy to allay the patient's anxiety and to avoid unnecessary testing.*

PCOS is the most common cause of secondary amenorrhoea and is responsible for 75–80% of anovulatory subfertility. Correction of the specific problem such as hyperprolactinaemia or excessive weight may be enough.

2y Like Reply

Areej khan
Esophageal Neoplasms

Esophageal Neoplasms Dr. Areej Khan

Write a comment... GIF

Esophageal Neoplasms

- Commonest, Overall, Benign Tumor of Esophagus → Leiomyoma
- Commonest, Overall, Malignant Tumor of Esophagus → Squamous Cell Carcinoma
- Commonest Origin for Benign Tumors in Esophagus → Mesenchymal
- Commonest origin for Malignant Tumors in Esophagus → Epithelial
- Commonest Epithelial Malignancy of Esophagus → Squamous Cell Carcinoma
- Commonest Mesenchymal Malignancy of Esophagus → Leiomyosarcoma
- Commonest, Overall, Mesenchymal Tumor of Esophagus → Leiomyoma (> Leiomyosarcoma)
- Commonest Superficial Carcinomas of Esophagus → Squamous Cell Carcinomas
- Commonest Association for Esophageal Squamous Cell Carcinoma → Alcohol > Smoking
- Commonest association for Esophageal Adenocarcinoma → Chronic GERD / Barrett Esophagus
- Commonest association for Esophageal Adenosquamous Carcinoma → Barrett Esophagus
- Commonest Association for Esophageal Adenoma → Barrett's Metaplasia
- Commonest Variety of Esophageal Melanoma → Secondary Malignant Melanoma
- Commonest Variety of Primary Esophageal Melanoma → Amelanotic Melanoma
- Commonest Variety of Esophageal GISTs → Spindle Cell Tumors
- Commonest variety of Esophageal Hemangiomas → Cavernous Hemangiomas

- Commonest Esophageal Carcinoma in Upper 1/3 of Esophagus → SCC
- Commonest Esophageal Carcinoma in Middle 1/3 of Esophagus → SCC
- Commonest Esophageal Carcinoma in Lower 1/3 of Esophagus → Adeno-CA

Dr. Areej Khan

Commonest Location in Esophagus for	
Fibroalveolar Polyp	Upper 1/3
Lipoma	Upper 1/3
Squamous Cell Carcinoma	Middle 1/3
Small Cell Carcinoma	Middle 1/3
Adenoma	Lower 1/3
Adenocarcinoma	Lower 1/3
Adenosquamous Carcinoma	Lower 1/3
Granular Cell Tumors	Lower 1/3
Melanoma	Lower 2/3
Leiomyoma	Lower 1/3
GISTs	Lower 1/3
Squamous Cell Papilloma	Lower 1/3
Overall	Lower 1/3

- Diagnostic Histopathology of Tumors, 4/e, 8/chap
- Sleisenger & Fordtran's GI & Liver Disease, 10/e, 47/chap
- Robbins and Cotran Pathological Basis of Disease, 9/e, 17/chap
- Harrison's Principle of Internal Med, 19/e, 109/chap

Thyroid Tumors

- Commonest Malignancy of Endocrine System → Thyroid Carcinoma
- Commonest, Overall, Tumor of Thyroid Gland → Follicular Adenoma
- Commonest Benign Neoplasm of Thyroid → Follicular Adenoma
- Commonest Malignant Neoplasm of Thyroid → Papillary Thyroid Carcinoma (PTC)
- Commonest Lymphoma originating in Thyroid → Diffuse Large B-Cell Lymphoma
- Commonest Site of Origin of Thyroid Cancers → Thyroid Follicular Epithelium
- Most Malignant Thyroid Carcinoma → Anaplastic Carcinoma
- Least malignant Thyroid Carcinoma → PTC
- Thyroid Carcinoma with Worst Prognosis → Anaplastic Carcinoma
- Thyroid Carcinoma with Best Prognosis → PTC
- Commonest Thyroid Carcinoma presenting as Solitary Nodule cold Nodule → FTC
- Commonest Thyroid Carcinoma a/w previous exposure to Ionizing Radiation → PTC
- Earliest Manifestation of symptomatic PTC → Mass in Cervical LNs
- Commonest Site for Distant Metastases for PTC → Lungs
- Most Aggressive & Most Fatal Thyroid Cancer → Anaplastic Thyroid carcinoma
- Commonest variety of Medullary Thyroid Carcinoma (MTC) → Sporadic
- Commonest Feature of MEN-2A → MTC
- Commonest Feature of MEN-2B → MTC
- MTC in MEN-2 is more commonly associated with → MEN-2A > MEN-2B
- MTC in MEN-2 is more aggressive in → MEN-2B > MEN-2A

Hints in MCQs

- Thyroid Cancer Associate with
  - Excess Iodine → PTC
  - Ionizing Radiation → PTC
  - Ca in Thyroglossal Cyst → PTC
  - Dystrophic Calcification → PTC
  - Laminated concentric calcifications → PTC
  - Psammoma Bodies → PTC
  - Orphan Annie Eyed Nuclei → PTC
  - Deficiency of Iodine → FTC
  - Chronic MNG → FTC
  - Hashimoto's Thyroiditis → Lymphoma
  - C-Cell of thyroid → MTC
  - Amyloidosis → MTC
  - MEN Syndrome → MTC
  - Calcitonin Secretion → MTC

- Williams Endocrinology, 13/e, 14/chap
- Harrison's Principles of Internal Medicine, 19/e, 405/chap
- Robbins and Cotran Pathological Basis of Disease, 9/e, 24/chap
- Rubin's Pathology, 7/e, 27/chap

Dr. Areej Khan

True Hermaphroditism / OT-DSD

- True Hermaphroditism is an older term
- ►► True Hermaphroditism is now called → Ovotesticular Disorder of Sexual Development → **Ovotesticular DSD (OT-DSD)**

►► **Commonest KARYOTYPES in True Hermaphroditism / OT-DSD** are given below **in DECREASING order of Frequency** :

- **46,XX → 60%**
- **Mosaicism*** → 33%**
- **46,XY→ 7%**

- Harrison's Principles of Internal Medicine, 19/e, 410/chap, 2353/p
- Pathology of Testicular and Penile Neoplasms, 2/chap, 34/p
- Blaustein's Pathology of the Female Genital Tract, 3/e, 33/p

*** **Mosaicism in True Hermaphroditism in DECREASING order of Frequency is as under :-**

46,XX / 46, XY >> 46,XY / 47,XXY >> 45,XO / 46,XY >> 46,XX / 45,XO >> 46,XX / 47XXY

Dr. Areej Khan

Hepatitis Viruses

- Commonest, Overall, cause of Acute Viral Hepatitis → HAV
- Commonest cause of Acute Viral Hepatitis in Children → HAV
- Commonest cause of AVH causing Epidemics → HEV
- Commonest Viral Hepatitis in Non-Pregnant Females → HAV
- Commonest Viral Hepatitis in Pregnant Females → HAV
- Most common cause of Chronic Viral Hepatitis → HCV
- Most common cause of Liver Cirrhosis → HCV
- Most common Viral Hepatitis causing HCC → HBV
- Most Common cause of Hepatitis Carriers / Carrier State → HBV
- Most common Hepatitis associated With Transfusion → HBV
- Most common cause for Fulminant Hepatitis → HDV
- **Most Lethal, Overall, Hepatitis Virus → HDV*** (Coinfection → Commonest)**
- Commonest Lethal Hepatitis Virus (# of Cases, NOT Potential of Lethality) → HCV ***
- Most Lethal Viral Hepatitis in Pregnancy → HDV ***
- Commonest (# of Cases, NOT Potential of Lethality cause of Lethal Hepatitis in Pregnancy → HEV ***
- Hepatitis Virus with Shortest Incubation Period → HAV (30 Days)

***

- HDV is Most Lethal in all Human Beings (Males, Females, Pregnant or Non-Pregnant) BUT the Number of Deaths due to HDV are far LESS than Number of Deaths due to HCV (HCV is Far more Common Infection than HDV) . So,
- HDV is Most Lethal in All Humans under Any Physiological State Including Pregnancy,
- HCV is Most Commonly Lethal in all Humans under Any Physiological State Excluding Pregnancy
- HEV is Most Commonly Lethal in Pregnant Females Only

Dr. Areej Khan

Hepatitis Viruses & Pregnancy

Dr. Areej Khan

- Commonest, Overall, cause of Acute Viral Hepatitis → HAV
- Commonest Viral Hepatitis in Non-Pregnant Females → HAV
- Commonest Viral Hepatitis in **Pregnant** Females → HAV
- **Most Lethal, Overall, Hepatitis Virus → HDV*** (Coinfection → Commonest)**
- Commonest, Overall, Lethal Hepatitis Virus (# of Cases, NOT Potential of Lethality) → HCV ***
- Most Lethal Viral Hepatitis in **Pregnancy** → HDV ***
- Commonest (# of Cases, NOT Potential of Lethality cause of Lethal Hepatitis in **Pregnancy** → HEV ***

***

- HDV is Most Lethal in all Human Beings (Males, Females, Pregnant or Non-Pregnant) BUT the Number of Deaths due to HDV are far LESS than Number of Deaths due to HCV (HCV is Far more Common Infection than HDV) . So,
- HDV is Most Lethal in All Humans under Any Physiological State Including Pregnancy,
- HCV is Most Commonly Lethal in all Humans under Any Physiological State Excluding Pregnancy
- HEV is Most Commonly Lethal in Pregnant Females Only Eternal

- Commonest cause of AVH in ALIVE Pregnant (or Non-Pregnant) Females Anywhere on Earth (Metropolitan City, Suburbs, Town, Village, Developed Area or Remote Area Like some very small village etc) → HAV
- Commonest cause of AVH resulting in DEATH of Pregnant Female Anywhere on Earth (Metropolitan City, Suburbs, Town, Village, Developed Area or Remote Area Like some very small village etc) → HEV

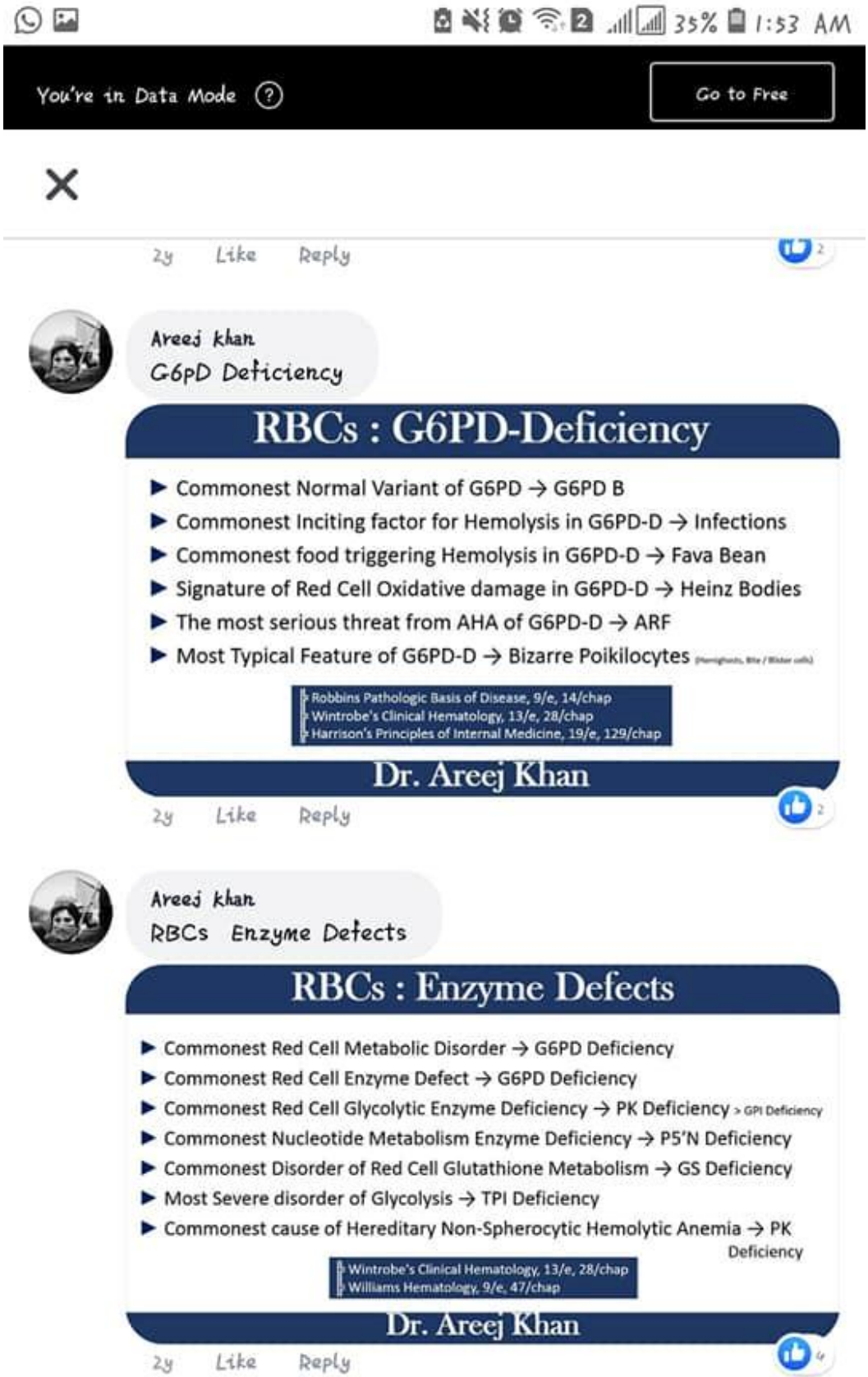
Remember hAv → A for Alive Pregnant Female ---------- hEv → E for Everlasting (Dead) Pregnant Female

Lung Carcinomas

- Goldman-Cecil : Medicine, 191/chap
- Harrison's Principles of Internal Medicine, 19/e, 107/chap
- Murray & Nadel's Textbook of Respiratory Medicine, 6/e, 53/chap
- Robbins and Cotran Pathological Basis of Disease, 9/e, 15/chap
- Rubin's Pathology, 7/e, 18/chap

Dr. Areej Khan

- Most Preventable Cancer among all Major Malignancies → Lung Cancer
- Commonest Diagnosed Cancer worldwide → Lung Cancer
- Commonest cause of Cancer-Related Deaths worldwide → Lung Cancer
- Commonest Malignancy of Lungs → Metastases / Secondaries
- Commonest Primary for Metastases in Lungs → Breast ± CRC
- Commonest Primary tumor of Lungs → Carcinoma (>> Benign, Carcinoids etc)
- Commonest Primary Type of Lung Cancer → Adenocarcinoma
- Most Aggressive + Fatal Primary Lung Cancer → Small Cell Carcinoma
- Commonest Primary lymphoma of Lung → Low-Grade Small Lymphocytic Lymphoma
- Commonest Carcinogen, Most important risk factor & Primary cause of Lung Carcinoma → Cigarette Smoking
- Lung carcinoma having Strongest association with Smoking → Small Cell Carcinoma
- Commonest Primary Lung Cancer in Smokers → Squamous Cell Carcinoma
- Commonest Primary Lung Cancer in Never / Non-Smokers → Adenocarcinoma
- Commonest Cancer associated with Asbestos Exposure → Lung Cancer (Mesothelioma is Incorrect)
- Commonest, overall, site of metastases for Lung Cancer → Regional LNs (Hilar → 1st & Commonest)
- Commonest site of Distant Metastases for Lung Carcinoma → Adrenal Gland
- Commonest Lung Cancer associated with Ectopic Hormone Production → Small Cell Carcinoma
- Commonest Primary Lung Cancer associated with PNPS (Multiple) → Small Cell Carcinoma
- Commonest Primary Lung Cancer associated with Hypercalcemia → Squamous Cell Carcinoma
- Commonest Lung Cancer producing ADH & ACTH → Small Cell Carcinoma
- Commonest tumors associated with HPO → Large Cell & Adenocarcinoma
- Commonest Lung Ca associated with Neurological PNPS, LEMS & Sensory Neuropathy → Small Cell Carcinoma
- Commonest Presentation of Lung Cancer → Cough
- Commonest Non-AIDS defining Cancer in HIV infected individuals → Lung Carcinoma
- Commonest Primary Lung Cancer in HIV infected individuals → NSCLCs (Adenocarcinoma is Commonest)
- Commonest Primary Lung Cancer causing SVC Syndrome → Small Cell Carcinoma
- Commonest Primary Lung Cancer causing Pancoast Tumor → Squamous Cell Carcinoma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2y Like Reply
Areej khan
G6pD Deficiency
RBCs : G6PD-Deficiency
Commonest Normal Variant of G6PD → G6PD B
Commonest Inciting factor for Hemolysis in G6PD-D → Infections
Commonest food triggering Hemolysis in G6PD-D → Fava Bean
Signature of Red Cell Oxidative damage in G6PD-D → Heinz Bodies
The most serious threat from AHA of G6PD-D → ARF
Most Typical Feature of G6PD-D → Bizarre Poikilocytes
Robbins Pathologic Basis of Disease, 9/e, 14/chap
Wintrobe's Clinical Hematology, 13/e, 28/chap
Harrison's Principles of Internal Medicine, 19/e, 129/chap
Dr. Areej Khan
2y Like Reply
Areej khan
RBCs Enzyme Defects
RBCs : Enzyme Defects
Commonest Red Cell Metabolic Disorder → G6PD Deficiency
Commonest Red Cell Enzyme Defect → G6PD Deficiency
Commonest Red Cell Glycolytic Enzyme Deficiency → PK Deficiency > GPI Deficiency
Commonest Nucleotide Metabolism Enzyme Deficiency → P5'N Deficiency
Commonest Disorder of Red Cell Glutathione Metabolism → GS Deficiency
Most Severe disorder of Glycolysis → TPI Deficiency
Commonest cause of Hereditary Non-Spherocytic Hemolytic Anemia → PK Deficiency
Wintrobe's Clinical Hematology, 13/e, 28/chap
Williams Hematology, 9/e, 47/chap
Dr. Areej Khan
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Areej khan
Pierre-Robin Malformation Sequence

Pierre-Robin Malformation Sequence

- Pierre-Robin Malformation Sequence is characterized by
  - Micrognathia (Small Mandible)
  - Relative Macroglossia (Tongue relatively large due to Micrognathia)
  - High Arched / U-shaped Cleft Palate
  - Glossoptosis (Tongue Fallen Back into Hypopharynx)

- References
  - Nelson textbook of Pediatrics, 20/e, 108/chap
  - Rudolph's Pediatrics, 22/e, 44/chap

Dr. Areej Khan

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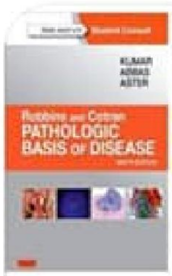
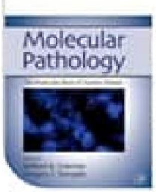
Capsul of Benign Tumor



or metastasize to distant sites. Because benign tumors grow and expand slowly, they usually develop a rim of compressed fibrous tissue called a *capsule* that separates them from the host tissue. This capsule consists largely of extracellular matrix deposited by stromal cells such as fibroblasts, which are activated by hypoxic damage resulting from the pressure of the expanding tumor. Such encapsulation does not prevent tumor growth, but it creates a tissue plane that makes the tumor discrete, readily palpable, moveable (non-fixed), and easily excisable by surgical enucleation (Figs. 7-11 and 7-12). There are a few excep-



neoplasm is malignant. The capsule of a benign neoplasm is primarily the product of the elaboration of tumor stroma. In addition, the tumor capsule may derive in part from the fibrous debris resulting from necrotic cell death of tissue cells adjacent to the neoplasm. Benign

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Urine Culture ±
Urine Culture ±
Blood Culture –
► So, In 1st week → Blood Culture is most significant
► In 2nd, 3rd & 4th weeks → Agglutination is most important for establishment of Diagnosis .
►► Mnemonic (BASU) is wrong as per textbooks
Dr. Areej Khan
2y Like Reply
Areej khan
Racoon Eyes (Raccoon / Panda Eyes)
Racoon Eyes
(Raccoon / Panda Eyes)
► Dark Purple Discoloration/ Periorbital Ecchymoses
giving an appearance similar to that of a Racoon/ Panda
► Seen in following conditions
Multiple myeloma
Fracture of Base of Skull
Amylodosis
Kaposi's sarcoma
Metastatic Neuroblastoma with Bilateral Proptosis
► FAQs in Opthalmology, 586/p
Dr. Areej Khan
2y Like Reply
Areej khan
Prothrombin Time (PT) & Synthetic function of Liver
Morgan & Mikhail's
CLINICAL
ANESTHESIOLOGY
LANGE
the cholestatic variant of hepatitis. The PT is the best indicator of hepatic synthetic function. Persistent prolongation of longer than 3 sec (INR > 1.5) following administration of vitamin K is indicative of severe hepatic dysfunction. Hypoglycemia is not uncommon. Hypoalbuminemia is usually not pres-
2y Like Reply
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Diagnosis of Enteric Fever in different Weeks

Order of Preference / Importance

1st week	2nd week	3rd & 4th weeks
Blood Culture (& TLC) +++	Agglutination +++	Agglutination ++
Agglutination ±	Stool Culture ±	Stool Culture +
Stool Culture ±	Blood Culture ±	Urine Culture +
Urine Culture ±	Urine Culture ±	Blood Culture –

- ► So, In 1st week → Blood Culture is most significant
- ► In 2nd, 3rd & 4th weeks → Agglutination is most important for establishment of Diagnosis .

►► Mnemonic (BASU) is wrong as per textbooks .

►► The Short Textbook of Medical Microbiology, 9/e, 229/p
►► Textbook of Microbiology & Immunology, 2/e, 278/p

Dr. Areej Khan

Regional differences of Ventilation, Perfusion & V/Q

Upright Posture

- ► V at Base > V at Apex
- ► Q at Base > Q at Apex
- ► V/Q at Apex > V/Q at Base
- ► PO2 at Apex > PO2 at Base
- ► PCO2 at Base > PO2 at Apex
- ► pH at Apex > pH at Base
- ► Base Excess remains same throughout lung

Murray & Nadel's Textbook of Respiratory Medicine, 6/e, 4/chap

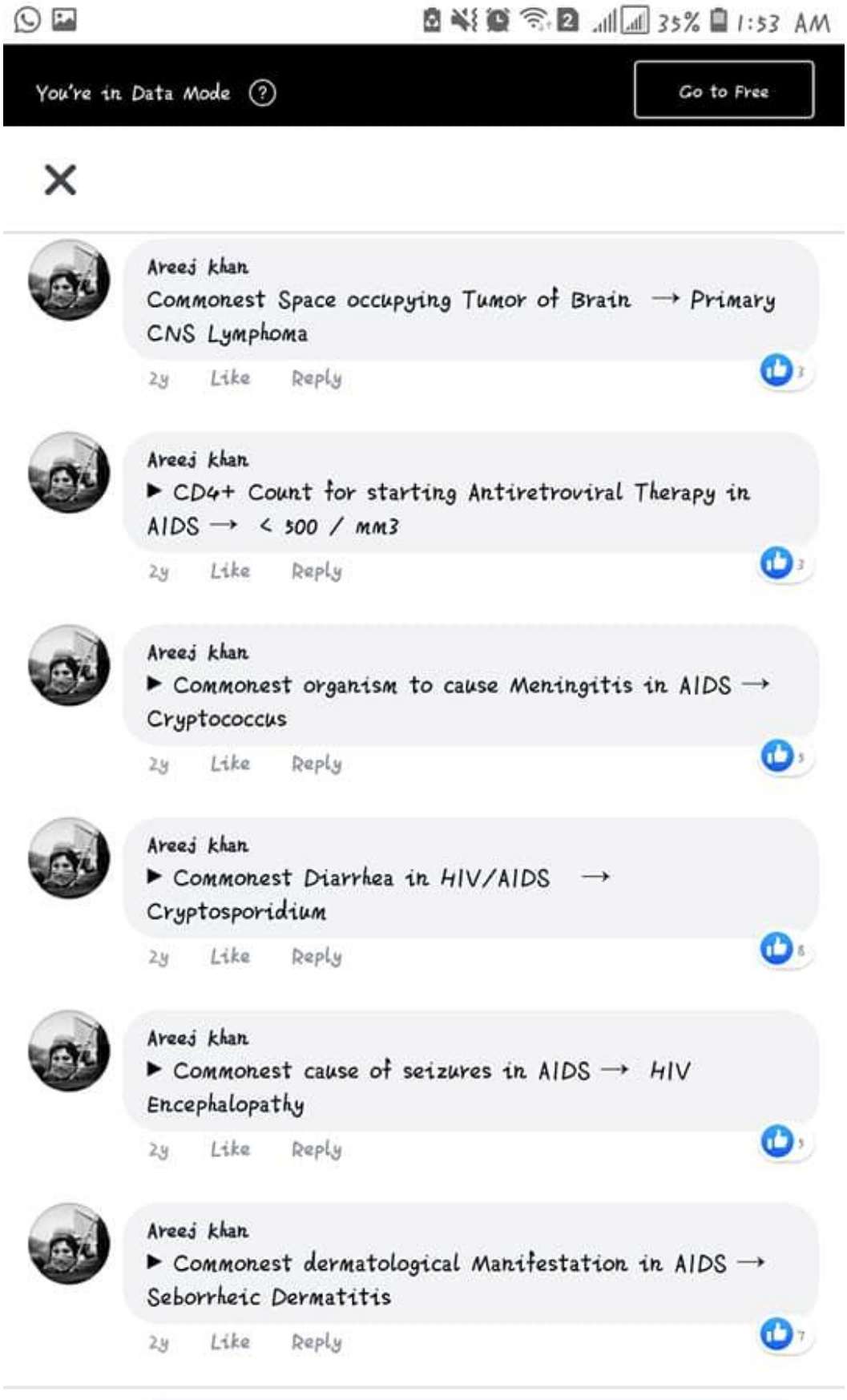
Supine Posture

- ► Ventilation differences b/w Apex & Base are much less
- ► Ventilation of Lowermost (Posterior) regions of lung >>> Ventilation of Uppermost (Anterior) regions of Lung
- ► Perfusion differences b/w Apex & Base are lost
- ► Perfusion in the Lowermost (Posterior) regions of lung >>> Perfusion in the Uppermost (Anterior) regions of lung

Lateral Decubitus

- ► The Dependent lung is better ventilated & Perfused

Dr. Areej Khan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Areej khan
Commonest Space occupying Tumor of Brain → Primary CNS Lymphoma
2y Like Reply
Areej khan
▶ CD4+ Count for starting Antiretroviral Therapy in AIDS → < 500 / mm3
2y Like Reply
Areej khan
▶ Commonest organism to cause Meningitis in AIDS → Cryptococcus
2y Like Reply
Areej khan
▶ Commonest Diarrhea in HIV/AIDS → Cryptosporidium
2y Like Reply
Areej khan
▶ Commonest cause of seizures in AIDS → HIV Encephalopathy
2y Like Reply
Areej khan
▶ Commonest dermatological Manifestation in AIDS → Seborrheic Dermatitis
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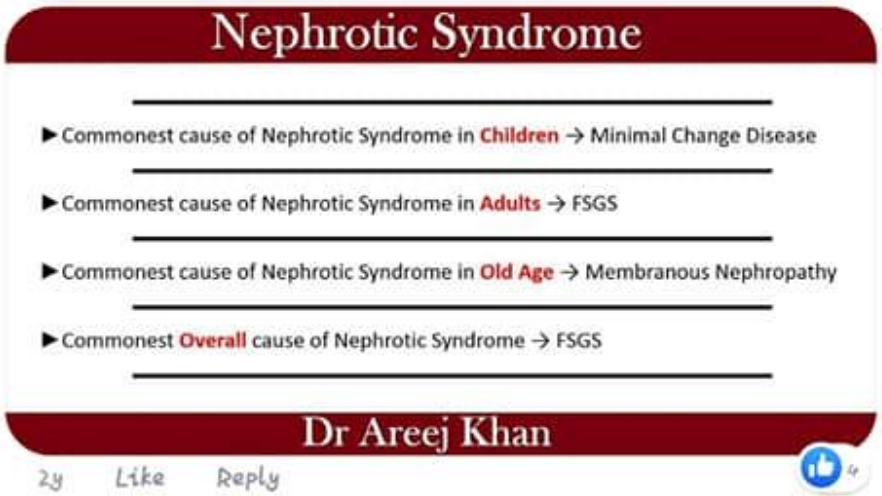
Part 4

Areej khan
NephrOtic Syndrome



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Areej khan
Nephritic Syndrome

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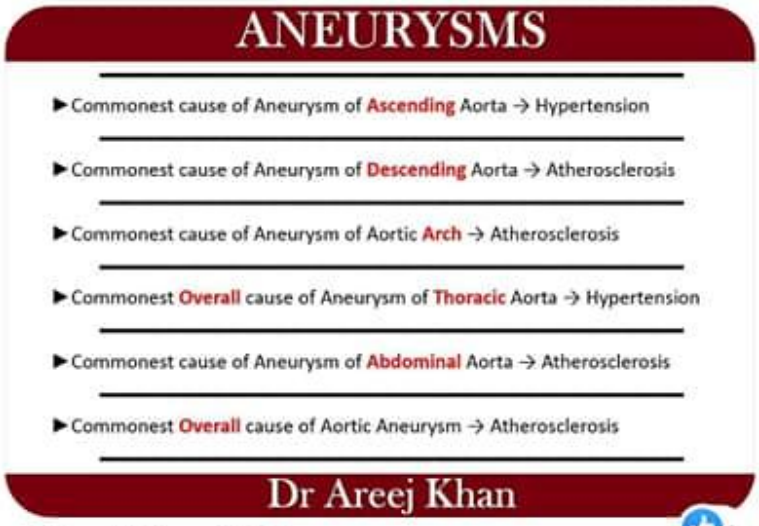
Areej khan
Aneurysms Causes

Areej khan
Aneurysms Causes



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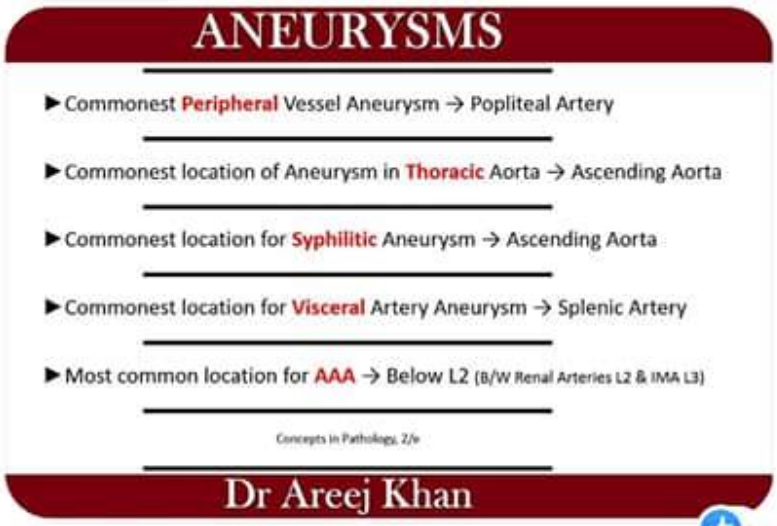
Areej khan
Aneurysms



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Commonest Sites for Bone Marrow Biopsy

Bone Marrow Biopsy

- Commonest site for BM Biopsy in **Infants** → Anterior Medial Tibial Area
- Commonest site for BM Biopsy in **Children** → Posterior Iliac Crest
- Commonest site for BM Biopsy in **Adults** → Posterior Iliac Crest
- Commonest site for BM Biopsy in **Obese individual** (or Previous Radiation / Surgery) → Anterior Superior Iliac Crest

Wintrobe's Clinical Hematology, 13/e, 25/p

Dr. Areej Khan

2y Like Reply 6

Areej khan

▶ Most accurate measure of "DEGREE OF ANEMIA" in IDA is → Blood HEMOGLOBIN level.

Wintrobe's Clinical Hematology, 13/e

2y Like Reply 5

Areej khan

About Sjögren Syndrome

ndrome (SS)

- Commonest Autoimmune disorder associate with SS → Rheumatoid Arthritis
- Major Target Tissues of SS → Salivary / Lacrimal Glans
- Tissue with most Intense Lymphocytic response in SS → Salivary / Lacrimal Glands
- Earliest Histological finding of Glands in SS → Lymphocytic Infiltration (Periductal followed by Perivascular)
- Commonest Lymphoma in SS → NHL
- Commonest NHL in SS → Extra-Nodal Low grade Marginal Zone B-Cell Lymphoma (Salivary Gland MALT)
- Commonest Extraglandular manifestation of SS → Non-Erosive Arthritis (causing Jaccoud's Arthropathy)
- Commonest Anemia in SS → Mild Normocytic Normochromic Anemia
- Predominant cells in Lymphocytic Infiltrate in SS → CD4+ T Cells

(& Few B Cells which become predominant if the reaction continues unabated)

- Commonest Liver disease in SS → Primary Biliary Cirrhosis (Stage I)

Dr. Aree

Sjögren Syndrome (SS)

- Commonest Autoimmune disorder associate with SS → Rheumatoid Arthritis
- Major Target Tissues of SS → Salivary / Lacrimal Glans
- Tissue with most Intense Lymphocytic response in SS → Salivary / Lacrimal Glands
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- Commonest Lymphoma in SS → NHL
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- Predominant cells in Lymphocytic Infiltrate in SS → CD4+ T Cells

(& Few B Cells which become predominant if the reaction continues unabated)

- Commonest Liver disease in SS → Primary Biliary Cirrhosis (Stage I)
- Commonest & Dominant Pulmonary Manifestation of SS → Small Airway Disease
- Commonest Symptom of Pulmonary Involvement in SS → Dry Cough
- Commonest Renal disease in SS → Interstitial Nephritis
- Commonest vessel disease in SS → Small & Medium vessel Vascultis
- Commonest Manifestation of Vascultis in SS → Cutaneous Palpable Purpura
- Most Essential for confirmation of Diagnosis of SS → Biopsy of Lip
- Serological Markers of SS → SS-A (Ro) & SS-B (La)

(These are also present in SLE, so aren't Diagnostic of Sjögren syndrome)

- Most Important Antibodies in SS→ SS-A (Ro) & SS-B (La)

- Robbins & Cotran Pathologic Basis of Disease , 9/e, 6/chap, 226/p
- Harrison's Principles of Internal Medicine, 19/e, 383/chap, 2166/p
- Rubin's Pathology, 7/e, 11/chap, 498/p
- Passing the FRACP Written Examination, 7/chap, 208/p

Dr. Areej Khan

Breast Tissue

- Breast Tissue during Pregnancy → Both Hypertrophy & Hyperplasia
- Breast Tissue during Pubertal Period → Both Hypertrophy & Hyperplasia
- Lactating Breast Tissue → HYPERTROPHY ONLY

Dr. Areej Khan

Age-Associated Changes in ECG

Measurement	Age-Associated change
P-wave Duration	Increase
P-R Interval	Increase
QT interval	Increase
QRS Complex	Widening
QRS Voltage	Decrease
T-Wave Voltage	Decrease
R-R Interval	No Change
QRS Axis	Leftward Shift

Dr Areej Khan

Breast Tissue

- Breast Tissue during Pregnancy → Both Hypertrophy & Hyperplasia
- Breast Tissue during Pubertal Period → Both Hypertrophy & Hyperplasia
- Lactating Breast Tissue → HYPERTROPHY ONLY

Dr. Areej Khan

Cardiac Tumors

- Commonest Tumors of Heart → Secondaries / Metastasis
- Commonest Primary for Cardiac Metastatic Tumors → Lung Ca
- Commonest Site for Metastasis in Heart → Pericardium
- Commonest Tumor to use Direct Extension for Secondaries in Heart → Lung Ca
- Commonest Tumor to use IVC for Secondaries in Heart → Renal Cell Ca
- Commonest, Overall, Primary Cardiac Tumor → Myxoma
- Commonest Variety of Primary Cardiac Tumors → Benign
- Commonest Primary Cardiac Tumor in Children → Rhabdomyoma
- Commonest Primary Cardiac Tumor in Adults → Myxomas
- Commonest Variety of Primary Malignant Cardiac Tumors → Sarcomas
- Commonest Primary Malignant Cardiac Tumor in Children → Rhabdomyosarcoma
- Commonest Primary Malignant Cardiac Tumor in Adults → Angiosarcoma
- Commonest tumor of Cardiac valves → Papillary Fibroelastomas
- Commonest Variety of Myxomas → Sporadic
- Commonest site of origin for Myxoma → Left Atrium
- Commonest Primary Cardiac Tumor to produce Tumor Emboli → Myxoma
- Commonest involved site in Systemic Emboli produced by primary cardiac tumors → Brain

Braunwald's Heart Diseases, 10/e, 85/chap
Harrison's Principle's of Internal Medicine, 19/e, 289e/chap
Robbins & Cotran's Pathologic Basis of Disease, 9/e, 12/chap
Rubin's Pathology, 7/e, 17/chap

Dr. Areej Khan

Regional differences of Ventilation, Perfusion & V/Q

Ventilation (V)

- At Base
  - Intrapleural pressure is less negative (compared to that at Apex)
  - Alveoli
    - are more compliant
    - Are Smaller
    - Have smaller resting volume
    - Operate on a steeper part of Pressure-Volume Curve
- So, **Ventilation = Change in Volume per unit Resting volume** → Ventilation at Base >>> Ventilation at Apex

Perfusion (Q)

- At Base
  - less resistance to blood flow
  - Increased Intravascular pressure
  - Gravity
- So, Perfusion at Base >>> Perfusion at Apex

Murray & Nadel's Textbook of Respiratory Medicine, 6/e, 4/chap

- V & Q both increase from Apex to Base → Increase in Perfusion is way more than that in Ventilation from apex to Base

V/Q

- V/Q at Apex > V/Q at Base (Due to relatively more Increase in Q)

Dr. Areej Khan

Regional differences of Ventilation, Perfusion & V/Q

Upright Posture

- V at Base > V at Apex
- Q at Base > Q at Apex
- V/Q at Apex > V/Q at Base
- PO2 at Apex > PO2 at Base
- PCO2 at Base > PO2 at Apex
- pH at Apex > pH at Base
- Base Excess remains same throughout lung

Murray & Nadel's Textbook of Respiratory Medicine, 6/e, 4/chap

Supine Posture

- Ventilation differences b/w Apex & Base are much less
- Ventilation of Lowermost (Posterior) regions of lung >>> Ventilation of Uppermost (Anterior) regions of Lung
- Perfusion differences b/w Apex & Base are lost
- Perfusion in the Lowermost (Posterior) regions of lung >>> Perfusion in the Uppermost (Anterior) regions of lung

Lateral Decubitus

- The Dependent lung is better ventilated & Perfused

Dr. Areej Khan

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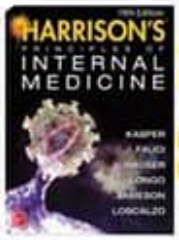
Areej khan
21 year old having severe ulcerative colitis which of the following is indicated
A- Iv corticosteroids
B- Sulfasalzine

A is the correct answer
▶ The mainstay of therapy for UC
╪ Mild to Moderate cases → Sulfasalazine & 5-ASA agents
╪Moderate to Severe cases → Glucocorticoids (PO / IV both in use)
▶Harrison, 19/e, 1960/p

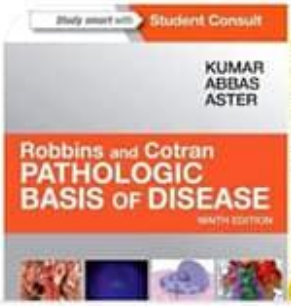


5-ASA AGENTS
The mainstay of therapy for mild to moderate UC is sulfasalazine and the other 5-ASA agents. These agents are effective at inducing and

GLUCOCORTICOIDS
The majority of patients with moderate to severe UC benefit from oral or parenteral glucocorticoids. Prednisone is usually started at doses of 40–60 mg/d for active UC that is unresponsive to 5-ASA therapy. Parenteral glucocorticoids may be administered as hydro-

2y Like Reply 15

Areej khan
About Septic Shock caused by Gram +ive Bacteria



Pathogenesis of Septic Shock

With a mortality rate exceeding 20%, septic shock ranks first among the causes of death in intensive care units and accounts for over 200,000 lost lives each year in the United States. Its incidence is rising, ironically due to improvements in life support for critically ill patients, as well as the growing ranks of immunocompromised hosts (due to chemotherapy, immunosuppression, advanced age or HIV infection) and the increasing prevalence of multidrug resistant organisms in the hospital setting. Septic shock is most frequently triggered by gram-positive bacterial infec-

×

therapy. Parenteral glucocorticoids may be administered as hydro-

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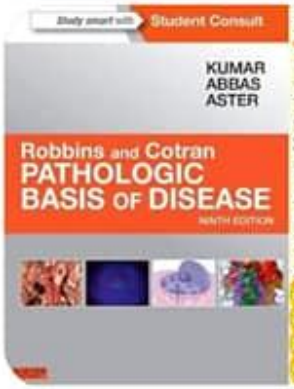
Areej khan
About Septic Shock caused by Gram +ive Bacteria



Pathogenesis of Septic Shock

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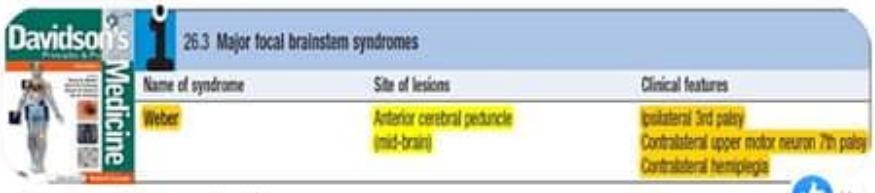
Areej khan
Weber's syndrome due to lesion in
A.midbrain
B.pons
C.cerebellum

A is correct .
▶ Midbrain
▶ Davidson, 22E



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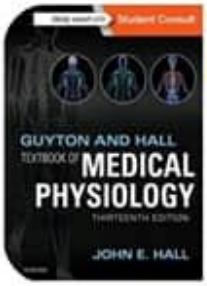
Before ejaculation sperms r stored in:
A- Epididymis
B- Seminal vesicles
C- vas deferens

A (>>C) is the most appropriate Answer
▶ Majority of Sperms are stored in the Epididymis → a small quantity is also stored in the Vas Deferens.
▶▶ Guyton, 13/e, 81/chap, 1024/p



of these sperm are stored in the epididymis, although a small quantity is stored in the vas deferens. They can remain stored, while maintaining their fertility, for at least a month. During this time, they are kept in a deeply suppressed, inactive state by multiple inhibitory substances in the secretions of the ducts. Conversely, with a high level of sexual activity and ejaculations, they may be stored no longer than a few days.

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Areej khan
local anesthesia crosses the placenta?
a. simple diffusion
b. facilitated diffusion
c. active transport
d. bulk flow
e. pinocytosis

A is the correct answer
▶ Simple Diffusion
▶▶ Clinical pharmacology during pregnancy, 138/p

um channels, blocking ion movement across nerve cell membranes and preventing the initiation and propagation of the action potential and subsequent sensory nerve transmission. Local anesthetics cross the placenta by simple diffusion. Due to a relative fetal acidosis there is fetal accumulation of local anesthetic (also known as "ion trapping"). Transfer to the fetus is also affected by total dose,

427

Areej khan

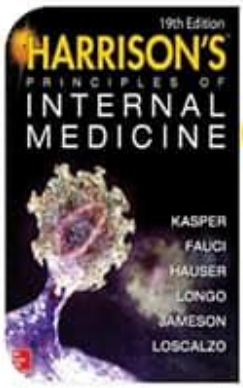
Commonest OPPORTUNISTIC infection in HIV-infected individuals

1. Pneumocystis jiroveci
2. Mycobacterium tuberculosis
3. Streptococcus pneumoniae
4. Clostridium difficile
5. Bacteroides fragilis

"B" is the correct Answer

▶▶ Mycobacterium tuberculosis is the most common Opportunistic infection in HIV-infected individuals .

▶ Harrison, 19/e, 226/chap, 1233/p



activation that facilitates HIV replication; in certain studies deworming of the infected host has resulted in a decrease in plasma viremia. Two diseases of extraordinary global health significance, malaria and tuberculosis (TB), have been shown to increase HIV viral load in dually infected individuals. Globally, *Mycobacterium tuberculosis* is the most common opportunistic infection in HIV-infected individuals (Chap. 202). In addition to the fact that HIV-infected individuals are more likely to develop active TB after exposure, it has been demonstrated that active TB can accelerate the course of HIV infection. It has also been shown that levels of plasma viremia are greatly elevated in HIV-infected individuals with active TB who are not on cART, compared with pre-TB levels and levels of viremia after successful treatment of the active TB. The situation is similar in the interaction between HIV and malaria parasites (Chap. 248). Acute infection of HIV-infected individuals with *Plasmodium falciparum* increases HIV viral load, and the increased viral load is reversed by effective malaria treatment.

CHAPTER 226 Human Immunodef

2y Like Reply 20

Areej khan

Write a comment... GIF

Areej khan

Heart valves involved/damaged in Libma-Sacks Syndrome

A- Tricuspid

B- Aortic

B is the correct answer

Libman–Sacks syndrome A cardiac manifestation of systemic lupus erythematosus, which occurs late in the disease process, and is found in 50% of patients with fatal lupus at post-mortem. It characterized by sterile, verrucous lesions on valve leaflets and chordae consisting of fibrin, neutrophils, lymphocytes, and histiocytes. The mitral and aortic valves are most commonly affected, although most cases are clinically silent. Valvular regurgitation is more common than stenosis. Similar lesions may occur in association with the antiphospholipid syndrome. Women are more commonly affected.[1]

2y Like Reply 12

Areej khan

Shortest pre-erythrocytic phase seen in:

A- p. ovale

B- p. malaria

C -p. falciparum

D- p. vivax

C is the Correct answer

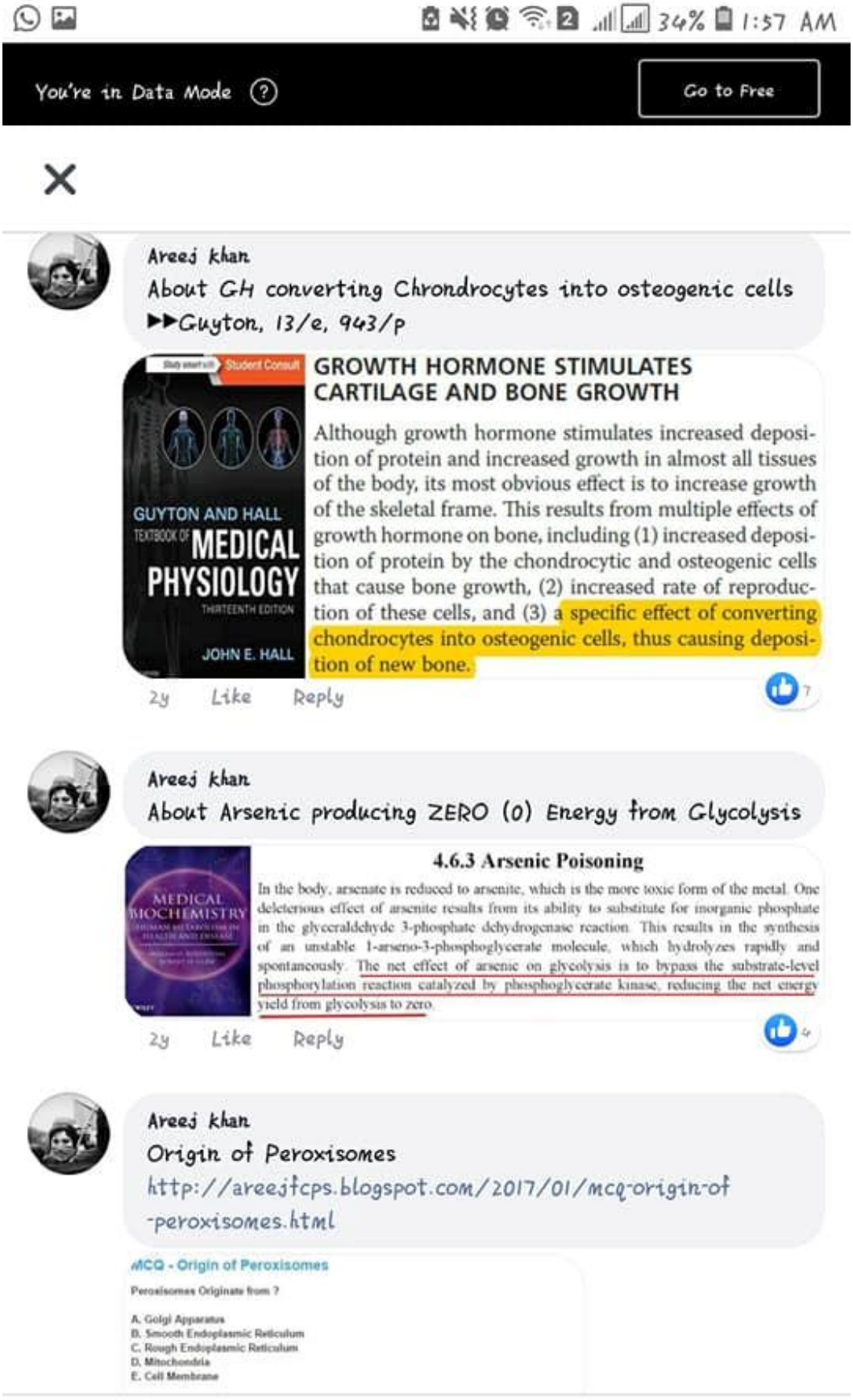
▶ Harrison, 19/e, 248-1/table

2y Like Reply 11

Areej khan

About GH converting Chrondrocytes into osteogenic cells

▶▶Guyton, 13/e, 943/p



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You're in Data Mode ?

Go to Free

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Areej khan

About GH converting Chrondrocytes into osteogenic cells

▶▶Guyton, 13/e, 943/p

GROWTH HORMONE STIMULATES CARTILAGE AND BONE GROWTH

Although growth hormone stimulates increased deposition of protein and increased growth in almost all tissues of the body, its most obvious effect is to increase growth of the skeletal frame. This results from multiple effects of growth hormone on bone, including (1) increased deposition of protein by the chondrocytic and osteogenic cells that cause bone growth, (2) increased rate of reproduction of these cells, and (3) a specific effect of converting chondrocytes into osteogenic cells, thus causing deposition of new bone.

2y Like Reply 7

Areej khan

About Arsenic producing ZERO (0) Energy from Glycolysis

4.6.3 Arsenic Poisoning

In the body, arsenate is reduced to arsenite, which is the more toxic form of the metal. One deleterious effect of arsenite results from its ability to substitute for inorganic phosphate in the glyceraldehyde 3-phosphate dehydrogenase reaction. This results in the synthesis of an unstable 1-arseno-3-phosphoglycerate molecule, which hydrolyzes rapidly and spontaneously. The net effect of arsenic on glycolysis is to bypass the substrate-level phosphorylation reaction catalyzed by phosphoglycerate kinase, reducing the net energy yield from glycolysis to zero.

2y Like Reply 4

Areej khan

Origin of Peroxisomes

http://areejfcps.blogspot.com/2017/01/mcq-origin-of-peroxisomes.html

MCQ - Origin of Peroxisomes

Peroxisomes Originate from ?

A. Golgi Apparatus
B. Smooth Endoplasmic Reticulum
C. Rough Endoplasmic Reticulum
D. Mitochondria
E. Cell Membrane

Write a comment... GIF

MCQ - Origin of Peroxisomes

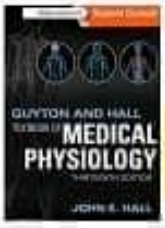
Peroxisomes Originate from ?

A. Golgi Apparatus
B. Smooth Endoplasmic Reticulum
C. Rough Endoplasmic Reticulum
D. Mitochondria
E. Cell Membrane

Show Answer / Explanation

Option "B" is the most appropriate answer

► Origin of Peroxisomes
❶ By Self-Replication
❷ By budding off from SER



Peroxisomes

Peroxisomes are similar physically to lysosomes, but they are different in two important ways. First, they are believed to be formed by self-replication (or perhaps by budding off from the smooth endoplasmic reticulum) rather than from the Golgi apparatus. Second, they contain oxidases rather than hydrolases. Several of the oxidases are capable

Guyton & Hall : Textbook of Medical Physiology, 13/e, 2/chap, 17/p

Posted by Dr. Areej Khan

Areej khan

Haemodynamics in the fetoplacental circulation

---

1. Fetal blood flow through placenta → 400 mL/min
2. Pressure In the umbilical artery → 60-70 mmHg
3. Pressure In the umbilical vein → 10 mmHg
4. Oxygen Saturation in In the umbilical artery → 60%
5. Oxygen Saturation in In the umbilical Vein 70-80%
6. Partial pressure of oxygen In the umbilical artery → 20-25mmHg
7. Partial pressure of oxygen In the umbilical Vein → 30-40 mmHg

▶▶Oxford HB of Obstetrics & Gynecology, 3/e, 21/p

2y Like Reply 6

Areej khan

About Respiratory rate during Pregnancy ----- NO CHANGE

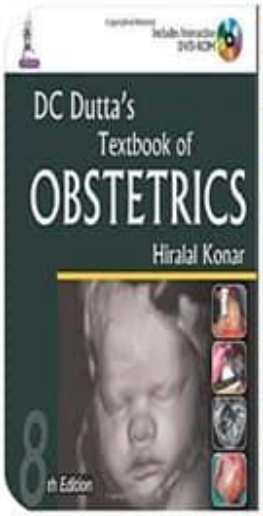


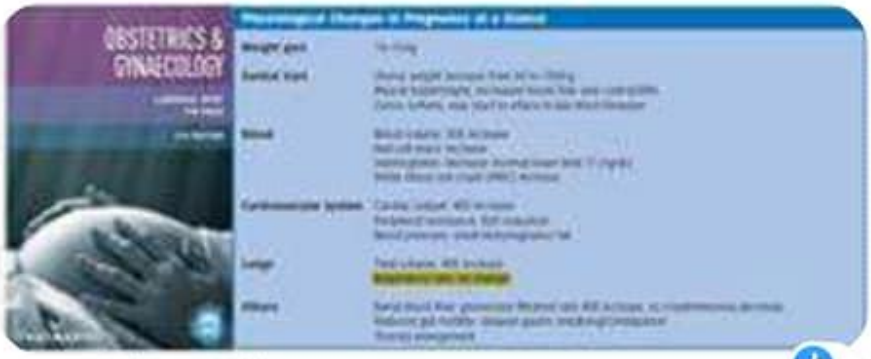
Table 5.6: Changes in Respiratory System

Parameters	Non-pregnant	Pregnancy near term	Change
Respiration rate/min	15	15	Unaffected
Vital capacity (mL)	3200	3300	Almost unaltered
Tidal volume (mL)	475	675	+40%
Residual volume (mL)	965	765	−20%
Inspiratory capacity (IC)	2500	2650	+10%
Minute ventilation	7.5 L/min	10.5 L/min	+40%
Total lung capacity (mL)	4200	4000	−5%

2y Like Reply 5

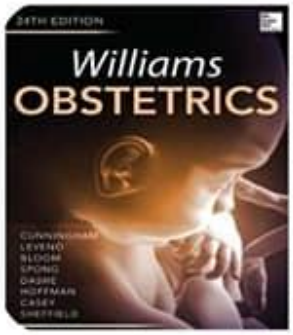
2y Like Reply

Areej khan
About Respiratory rate during Pregnancy ----- NO CHANGE



2y Like Reply 4

Areej khan
About Respiratory rate during Pregnancy ----- NO CHANGE



The respiratory rate is essentially unchanged, but *tidal volume* and *resting minute ventilation* increase significantly as pregnancy advances. In a study of 51 healthy pregnant women, Kolarzyk and coworkers (2005) reported significantly greater mean tidal volumes—0.66 to 0.8 L/min—and resting minute ventilations—10.7 to 14.1 L/min—compared with those of nonpregnant women. The increased minute ventilation is caused by several factors. These include enhanced respiratory drive primarily due to the stimulatory action of progesterone, low expiratory reserve volume, and compensated respiratory alkalosis, which is discussed in more detail subsequently (Wise, 2006).

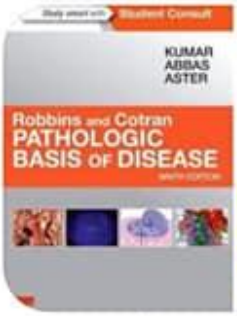
2y Like Reply 6

Areej khan
Which favours the closure of PDA
A. dec oxygen n inc prostaglandins
B. Inc oxygen n dec prostaglandins

Write a comment... GIF

Areej khan
Which favours the closure of PDA
A. dec oxygen n inc prostaglandins
B. Inc oxygen n dec prostaglandins

B is the right answer
▶▶ Closure of PDA in Term Infants occurs in response to 3 factors
❶ Increased Arterial Oxygenation
❷ Decreased Pulmonary Vascular Resistance
❸ Declining local levels of PGE2
▶▶ Robbins, 9/e, 12/chap, 535/p



Patent Ductus Arteriosus

The *ductus arteriosus* arises from the pulmonary artery and joins the aorta just distal to the origin of the left subclavian artery. During intrauterine life, it permits blood flow from the pulmonary artery to the aorta, thereby bypassing the unoxygenated lungs. Shortly after birth in healthy term infants, the ductus constricts and is functionally closed after 1 to 2 days; this occurs in response to increased arterial oxygenation, decreased pulmonary vascular resistance, and declining local levels of prostaglandin E_2. Complete structural obliteration occurs within the first few month

2y Like Reply 6

Areej khan
Structure pierced during spinal tap
A. Ligamentum flavum
B. Post longitudinal ligament

A is the correct answer ... See More

2y Like Reply 9

Areej khan
Transfusion of baby with Rh hemolytic disease of newborn

Write a comment... GIF

Areej khan
Structure pierced during spinal tap
A. Ligamentum flavum
B. Post longitudinal ligament

A is the correct answer
▶ The needle, during LP pierces : Skin → superficial fascia → Supraspinous ligament → interspinous ligament → ligamentum flavum → epidural space containing the internal vertebral venous plexus → dura mater → arachnoid → subarachnoid space containing CSF.

2y Like Reply 9

Areej khan
Transfusion of baby with Rh hemolytic disease of newborn
▶ The baby Should be transfused with blood having following characteristics
❶ Fresh
❷ Irradiated
❸ Leucoreduced
❹ Group O
❺ Rh Negative
❻ Low Titer
❼ Crosshatched against Maternal Serum
▶▶▶ Blood having characteristics closest to the above points should be transfused

2y Like Reply 6

Areej khan
About Mycobacterial Survival in Sputum .

Write a comment... GIF

Areej khan
About Mycobacterial Survival in Sputum .

Areej Khan

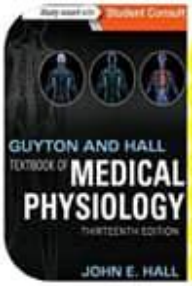
Mycobacteria

- in the sputum may survive for 20–30 hours
- in dried sputum protected from the sunlight → may survive longer → up to 6 months.
- In droplet nuclei → may remain alive for 8–10 days.
- overall, may remain viable at room temperature for 6–8 months
- are killed when exposed to direct sunlight for 2 hours

Textbook of Microbiology & Immunology, 2/e, 347/p

2y Like Reply 6

Areej khan
During sexual act secretion from vagina are effect of
a. Bombesin
b. Relaxin
c. Progesterone
d. Gnrh ... See More



Parasympathetic signals also pass to the bilateral Bartholin glands located beneath the labia minora and cause them to secrete mucus immediately inside the introitus. This mucus is responsible for much of the lubrication during sexual intercourse, although much lubrication is also provided by mucus secreted by the vaginal epithelium, and a small amount is provided from the male urethral glands. This lubrication is necessary during inter-

2y Like Reply 7

Areej khan
A patient has nodule on vocal cord. The most likely mechanism?

Write a comment... GIF

Areej khan

During sexual act secretion from vagina are effect of

a. Bombesin

b. Relaxin

c. Progesterone

d. Gnrh

e. Parasympathetic stimulation

E is the correct answer

▶ Parasympathetic signals → pass to the bilateral Bartholin glands located beneath the labia minora → secretion of mucus immediately inside the introitus.

▶ These Parasympathetic Signal mediate through via release of

❶ Acetylcholine (ACh)

❷ Nitric Oxide (NO)

❸ Vasoactive Intestinal Peptide (VIP)

▶▶ Guyton, 13/e, 1052/p

Parasympathetic signals also pass to the bilateral Bartholin glands located beneath the labia minora and cause them to secrete mucus immediately inside the introitus. This mucus is responsible for much of the lubrication during sexual intercourse, although much lubrication is also provided by mucus secreted by the vaginal epithelium, and a small amount is provided from the male urethral glands. This lubrication is necessary during inter-

2y Like Reply

Areej khan

A patient has nodule on vocal cord. The most likely mechanism?

A. Hyperplasia

B. Atrophy

epithelium, and a small amount is provided from the male urethral glands. This lubrication is necessary during inter-

2y Like Reply 7

Areej khan

A patient has nodule on vocal cord. The most likely mechanism?

A. Hyperplasia

B. Atrophy

A is the correct Answer

Δ Pathogenesis of Vocal Nodule

▶ Vocal Abuse / Misuse affects two structures

❶ Submucosal Space→ Edema & Hemorrhage →Later → Hyalinization & Fibrosis

❷ Epithelium → HYPERPLASIA

▶▶▶ Diseases of Ear, Nose & Throat by Dhingra 6/e, 61/chap, 303/p

2y Like Reply 7

Areej khan

▶ Meissner's Corpuscles → Tactile / Two point Discrimination

▶ Two point discrimination is ALWAYS TACTILE DISCRIMINATION → SO THE ANSWER IS ALWAYS MEISSNER CORPUSCLES (always appreciated by Touch or using Tactile sensation)

▶ Snell Neuroanatomy 3/chap, 3-7/table

2y Like Reply 12

Areej khan

Minimum Ascitic Fluid Requirements

Write a comment... GIF

Minimum Ascitic Fluid Requirements

▶ Min fluid for radiological detection of ascites → 150 mL
▶ Min fluid for clinical detection of ascites →1500 mL
▶ 1.5 L ascitic fluid must for → Flank Dullness... See More

2y Like Reply 8

Areej khan
▶ Minimum Conc of Glucose in BLOOD for it to appear in urine → 200mg /100 ml or 200mg /dl
▶ Minimum Filtered load (AKA Renal Threshold) for Glucose to appear in Urine → 250 mg/min
▶ Transport max → when all nephrons have reached their maximum capacity to reabsorb glucose → 375 mg / min
▶▶▶ Guyton 13/e

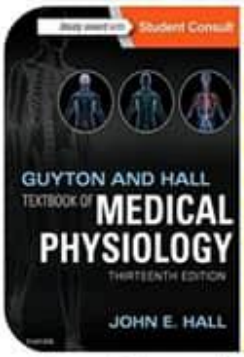
2y Like Reply 10

Areej khan
Negative feed back control of seminiferous tubules is controlled by which secrtion of sertoli cell?
A. Inhibin
B. Relaxin
C. GnRH
D. FSH
E. LH

A is the correct answer
▶ ▶ ▶ Inhibin acts directly on the anterior pituitary to selectively inhibit FSH secretion → decline in spermatogenesis
▶ If Asked Pituitary Hormone → then D (FSH) is

Write a comment... GIF

▶▶ Ganong 427
▶▶ Guyton 948
▶▶ Sherwood 972
▶▶ Harrison Endocrinology Fig 8-2

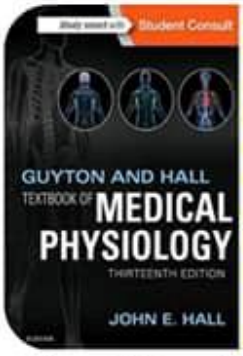


Role of Inhibin in Negative Feedback Control o Seminiferous Tubule Activity. When the seminiferous tubules fail to produce sperm, secretion of FSH by the anterior pituitary gland increases markedly. Conversely, when spermatogenesis proceeds too rapidly, pituitary secretion of FSH diminishes. The cause of this negative feedback effect on the anterior pituitary is believed to be secretion by the Sertoli cells of still another hormone called *inhibin* (see **Figure 81-10**). This hormone has a strong direct effect on the anterior pituitary gland to inhibit the secretion of FSH.

2y Like Reply 6

Areej khan
Menstrual Blood is a result of
A- Necrosis of Endometrium
B- Apoptosis of Endometrium

A is the correct answer
▶ Menstrual blood comes due to NECROSIS (not Apoptosis) of endometrium.
▶Guyton 13/e, 1042/p
▶Ganong 24/e, 403/p

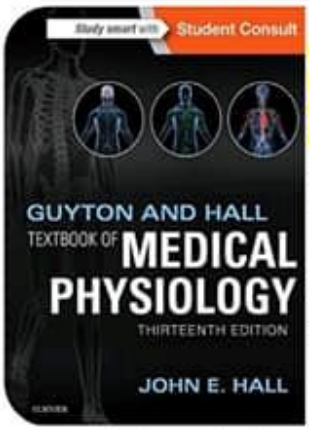


Role of Inhibin in Negative Feedback Control o Seminiferous Tubule Activity. When the seminiferous tubules fail to produce sperm, secretion of FSH by the anterior pituitary gland increases markedly. Conversely, when spermatogenesis proceeds too rapidly, pituitary secretion of FSH diminishes. The cause of this negative feedback effect on the anterior pituitary is believed to be secretion by the Sertoli cells of still another hormone called *inhibin* (see **Figure 81-10**). This hormone has a strong direct effect on the anterior pituitary gland to inhibit the secretion of FSH.

2y Like Reply 7

IgE is found on surface of
A. Basophil
B. Eosinophil
C. RBCs

A is correct
▶ Tissue Mast cells & Circulating Basophils



The mast cells and basophils play an important role in some types of allergic reactions because the type of antibody that causes allergic reactions, the immunoglobulin E (IgE) type, has a special propensity to become attached to mast cells and basophils. Then, when the specific antigen for the specific IgE antibody subsequently reacts with the antibody, the resulting attachment of antigen to antibody causes the mast cell or basophil to rupture and release large quantities of *histamine, bradykinin, serotonin, heparin, slow-reacting substance of anaphylaxis* (a mixture of three *leukotrienes*), and a number of *lysosomal enzymes*. These substances cause local vascular and tissue reactions that cause many, if not most, of the allergic manifestations. These reactions are discussed in greater detail in Chapter 35.

2y Like Reply 3

Areej khan
About Hirsutism
▶▶ Facial Hair Growth (Hirsutism) in Cushing Syndrome is due to → Adrenal Androgens (not primary defect of Cushing and thus not Hypercortisolism)
▶▶ Adrenal androgens rise in Cushing bcoz of any of the following two reasons
❶ concurrent cortisol/androgen producing adrenal tumor
❷ increased ACTH in ACTH dependent Cushing → ACTH increases adrenal androgens production
▶▶ PS: Iatrogenic Cushing due to exogenous steroid use in most of the cases → does not have Hirsutism as a primary Clinical Feature.

2y Like Reply 6

Write a comment... GIF

Areej khan

About Itching Sensation

- ▶ Originates in → Free Nerve Endings in Skin
- ▶ Carried by → Small Myelinated type C Nerve Fibers
- ▶ Carried to→ Dorsal horn of the spinal cord
- ▶ Transmitted to Somatosensory cortex through → Spinothalamic tract.

Porth's Pathophysiology, 9/e, 1535/p

2y Like Reply

Areej khan

▶▶Commonest malignancies that Metastasise to the spine (in order of frequency) → Breast > Lung> Prostate > Renal = Gastrointestinal > Thyroid

▶▶ Ref Bailey & Love, 26/e, 35.9/Table

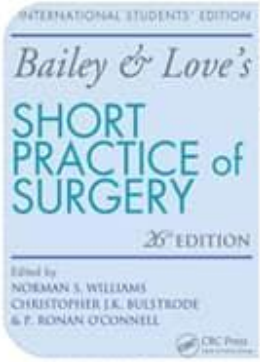


Table 35.9 Commonest malignancies that metastasise to the spine and their frequency.

Malignancy	Frequency (per cent)
Breast	21
Lung	14
Prostate	7.5
Renal	5
Gastrointestinal	5
Thyroid	2.5

2y Like Reply

Areej khan

Detoxification of drugs occur in

A. Peroxisomes

B. SER

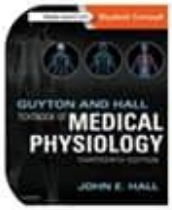
C. RER

Areej khan
Detoxification of drugs occur in
A. Peroxisomes
B. SER
C. RER
D. Mitochondria

B (>>A) is the correct answer
►►Agranular / Smooth ER has following functions
❶ Provision of Enzymes to control glycogen breakdown
❷ Provision of enzymes for detoxification of substances (Drugs etc.)
❸ site of steroid synthesis in steroid-secreting cells
►► 50% of Alcohol is detoxified into acetaldehyde by the Peroxisomes in Hepatocytes
►► Guyton, 13/e, 16, 21/p
►►Ganong, 24/e, 46/p

2y Like Reply

Areej khan
Most powerful Sodium retaining hormone of the body
A. Aldosterone
B. Cortisol
C. Ang II
D. ADH ... See More



Angiotensin II Increases Sodium and Water Reabsorption. Angiotensin II is perhaps the body's most powerful sodium-retaining hormone. As discussed in Chapter 19, angiotensin II formation increases in circum-

2y Like Reply

Write a comment... GIF

Part 5

About Tumors of Eye

▶ Most common Intraocular Maligancy in Adults → Mets
▶ Most common primary IO Maligancy in Adults → Uveal Melanoma
▶ Most Common primary intraocular malignancy in children → RB
▶ Most Common Orbital malignancy in adults → Ocular adnexal lymphoma
▶ Most Common Benign orbital tumour in adults → Cavernous Hemangioma
▶ Most Common Primary Orbital malignancy in children → Rhabdomyosarcoma (2nd is Neuroblastoma)
▶ Most common mesenchymal orbital tumor → Fibrous Histiocytoma
▶ Most Common Eyelid malignancy → BCC
▶ Most common Muscle affected by thyroid ophthalmopathy → Inferior Rectus
▶ Most common cause of unilateral or bilateral proptosis in adults → Thyroid ophthalmopathy
▶ Most Common color vision abnormality → Red Green color Blindness

---

▶▶Ophthalmology by Myron Yanoff & Jay S. Duker, 4/e
▶▶ Harrison, 19/e

2y Like Reply

Areej khan
Foot plate of stapes develops from:
A. Otic capsule
B. Reicherts cartilage.

A is the correct answer

Write a comment...

Areej khan
Foot plate of stapes develops from:
A. Otic capsule
B. Reicherts cartilage.

A is the correct answer

manubrium, and long process of the incus stem from Reichert cartilage, elements derived from the second branchial (hyoid) arch. In contrast, the stapedial footplate and annular ligament of the stapes at the oval window of the inner ear develop from the otic capsule and anlage of the inner ear. By the sixteenth week of gestation, the ossicles reach adult size.

2y Like Reply 7

Areej khan
Most common type of glomerulonrphritis?
A) Iga nephropathy
B) membranous gn
C) post strep gn
D) minimal change

A is the correct answer
▶▶ Davidson's Essentials of Medicine (Mini Davidson)
2/e, 7/chap, 184/p

IgA nephropathy and Henoch–Schönlein purpura

IgA nephropathy is the most common glomerulonephritis and a common cause of ESRD. Presentation is with haematuria (almost universal), proteinuria (usual) and hypertension (very common). There may be severe proteinuria and nephrotic syndrome, or in some cases progressive loss of renal function. Some individuals develop acute exacerbations, often with gross haematuria, a few days after minor respiratory infections. These episodes usually subside spontaneously.

2y Like Reply 8

Write a comment... GIF

Hypercalcemia of Malignancy

- Commonest Paraneoplastic syndrome (**Overall**) → Hypercalcemia
- Commonest Solid Cancer associated with Hypercalcemia → Lung Carcino
- Commonest Lung Ca associated with Hypercalcemia → Squamous Cell Carcinoma
- **Commonest cause of Hypercalcemia of Malignancy → Secretion of PTHrP**
- Hypercalcemia occurs in 30% of Cancer cases
- Hypercalcemia in Cancer occurs due to
  1. Humoral Paraneoplastic Syndrome (Secretion of PTHrP)
  2. Hyperparathyroidism (Primary/Ectopic & Co-presentation with PTHrP)
  3. ↓↓ Bone Deposition
  4. Focal Bone Osteolysis
  5. Secretion of Active form of Vit D
  6. Osmotic Diuresis
  7. Ectopic PGE2 etc.

- Harrison's Manual of Oncology 2/e, 4/sec, 20/chapter
- Murray & Nadel's Textbook of Respiratory Med, 6/e, 53/chap, 960/p
- Cancer: Principles & Practice of Oncology, 10/e, V/part, 122/chapter
- Davidson: Principles & Practice of Medicine, 22/e, 11/chapter, 273/p
- Robbins & Cotran's Pathologic Basis of Disease, 9/e, 7/chap, 330/p
- Mayo Clinic internal Medicine Concise Textbook, 19/chapter, 676/p

- Hypercalcemia of Malignancy occurs in general
  - **Osteolytic Hypercalcemia → ~ 20% of cases**
  - **Humoral Hhypercalcemia via PTHrP → ~80% cases**

Dr. Areej Khan

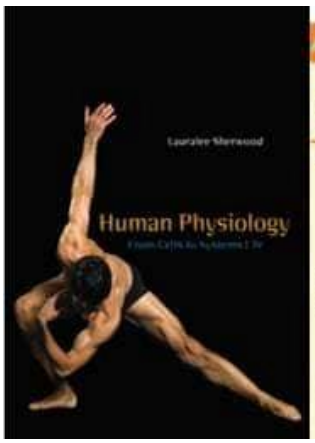
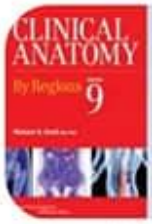


TABLE 20-4 Components of the Male Sex Act

Components of the Male Sex Act	Definition	How Accomplished
Erection	Hardening of the normally flaccid penis to permit its entry into the vagina	Engorgement of the penis erectile tissue with blood as a result of marked parasympathetically induced vasodilation of the penile arterioles and mechanical compression of the veins
Ejaculation		
Emission phase	Emptying of sperm and accessory sex gland secretions (semen) into the urethra	Sympathetically induced contraction of the smooth muscle in the walls of the ducts and accessory sex glands
Expulsion phase	Forceful expulsion of semen from the penis	Motor-neuron-induced contraction of the skeletal muscles at the base of the penis

Areej khan
In culdocentesis needle i passed through ?
A anterior fornix
B lateral fornix
C posterior fornix
C is the correct answer
▶▶ Clinical Anatomy by Snell, 9/e, 296/p



Culdocentesis
The closeness of the peritoneal cavity to the posterior vaginal fornix enables the physician to drain a pelvic abscess through the vagina without performing a major operation. It is also possible to identify blood or pus in the peritoneal cavity by the passage of a needle through the posterior fornix.

2y Like Reply 3

Areej khan
Neurotransmitters (some) in Tracts
▶Corticostriate → Glutamate
▶ Striatopallidal → GABA
▶ NigroStriate → Dopamine
▶ Striatonigral → GABA + Ach + Sub P ... See More

2y Like Reply 7

Areej khan
Romana sign
A. Trypanasoma cruzi
B. Trichomonas vaginalis
C. Vuceral leishmaniasis
D. Cutaneos leishmaniasis ... See More

CLINICAL COURSE
The first signs of acute Chagas disease develop at least 1 week after invasion by the parasites. When the organisms enter through a break in the skin, an indurated area of erythema and swelling (the *chagoma*),

Areej khan
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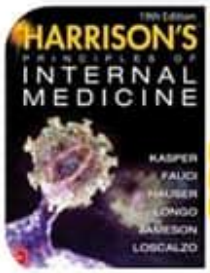
2y Like Reply

Areej khan
Romana sign
A. Trypanasoma cruzi
B. Trichomonas vaginalis
C. Vuceral leishmaniasis
D. Cutaneos leishmaniasis
A is the correct answer
▶ Romana sign is classical finding in acute Chagas disease which is caused by T. Cruzi

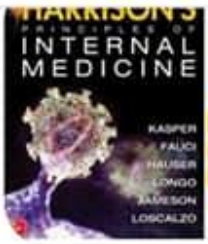


CLINICAL COURSE
The first signs of acute Chagas disease develop at least 1 week after invasion by the parasites. When the organisms enter through a break in the skin, an indurated area of erythema and swelling (the *chagoma*), accompanied by local lymphadenopathy, may appear. *Romaña sign*—the classic finding in acute Chagas disease, which consists of unilateral painless edema of the palpebrae and periocular tissues—can result when the conjunctiva is the portal of entry. These initial local signs may be followed by malaise, fever, anorexia, and edema of the face and lower extremities. Generalized lymphadenopathy and hepatosplenomegaly

2y Like Reply

Areej khan
Argyl Robertson pupil seen in
A.diabetes
B.neurosyphilis
C.tabes dorsalis
D.all of these

Write a comment... GIF



The first signs of acute Chagas disease develop at least 1 week after invasion by the parasites. When the organisms enter through a break in the skin, an indurated area of erythema and swelling (the *chagoma*), accompanied by local lymphadenopathy, may appear. *Romaña sign*—the classic finding in acute Chagas disease, which consists of unilateral painless edema of the palpebrae and periocular tissues—can result when the conjunctiva is the portal of entry. These initial local signs may be followed by malaise, fever, anorexia, and edema of the face and lower extremities. Generalized lymphadenopathy and hepatosplenomegaly

2y Like Reply 4

Areej khan

Argyl Robertson pupil seen in
A.diabetes
B.neurosyphilis
C.tabes dorsalis
D.all of these
E.non of these

D is the correct answer
▶ All of the above
▶ Diabetic autonomiic Neuropathy is the most common cause of AR pupil .
▶ Cataract surgery is the second most common cause
▶ Importance of Neurosyphilis is only that ARP is Highly specific for Neurosyphilis, otherwise there are more than many causes of ARP
▶▶ kaufman's Clinical Neurology, 276/p

2y Like Reply 6

Areej khan

Patient's neurological exam reveals intact Fluency + repeating aphasia. Type of aphasia will be
A-Conduction Aphasia
B- Wernicke's aphasia
C-Broca's Aphasia
D-Transcortical Sensory Aphasia

▶▶ kaufman's Clinical Neurology, 276/p

2y Like Reply 6

Areej khan
Patient's neurological exam reveals intact Fluency + repeating aphasia. Type of aphasia will be
A-Conduction Aphasia
B- Wernicke's aphasia
C-Broca's Aphasia
D-Transcortcal Sensory Aphasia
E-Global

D is the correct answer
▶▶ Transcortical Sensory Aphasia (and not conduction or wernike's)
▶Repetition is function of Wernicke's Area . so any fluent aphasia that has NORMAL and Preserved / UN-damaged Werneke's area will be Repeating Fluent aphasia → Transcortical Sensory Aphasia (Fluent & repeating) → Damage is in Temporal lobe NEAR Wernicke's but not Wernicke's area .
▶ Transcortical Motor & Mixed aphasia are non Fluent
▶ Broca's & Global are non-fluent so wrong
▶ Conduction & Wernicke's Aphasia are fluent but repeatition is severly affected . (cond >> Wernicke's) so wrong
▶▶ Clinical Neuroanatomy-Review, 27/e

2y Like Reply 3

Areej khan
Most common cause of cor pulmonale
A- Asthma

Write a comment... GIF

Areej khan
Most common cause of cor pulmonale
A- Asthma
B- COPD
C- Pneumonia
D- Pulmonary HTN

B is the correct answer
▶ Pulmonary HTN is found in all cases of Cor Pulmonale along with RVH
▶ Most common cause of Acute Cor Pulmanale →Massive Pulmonary Embolization
▶ Most common cause of Chronic & Overall (acute + chronic) Cor Pulmonale → COPD > Pulmonary Fibrosis

▶ Rubin's Pathology Clinicopathological Foundation of Med, 7/e

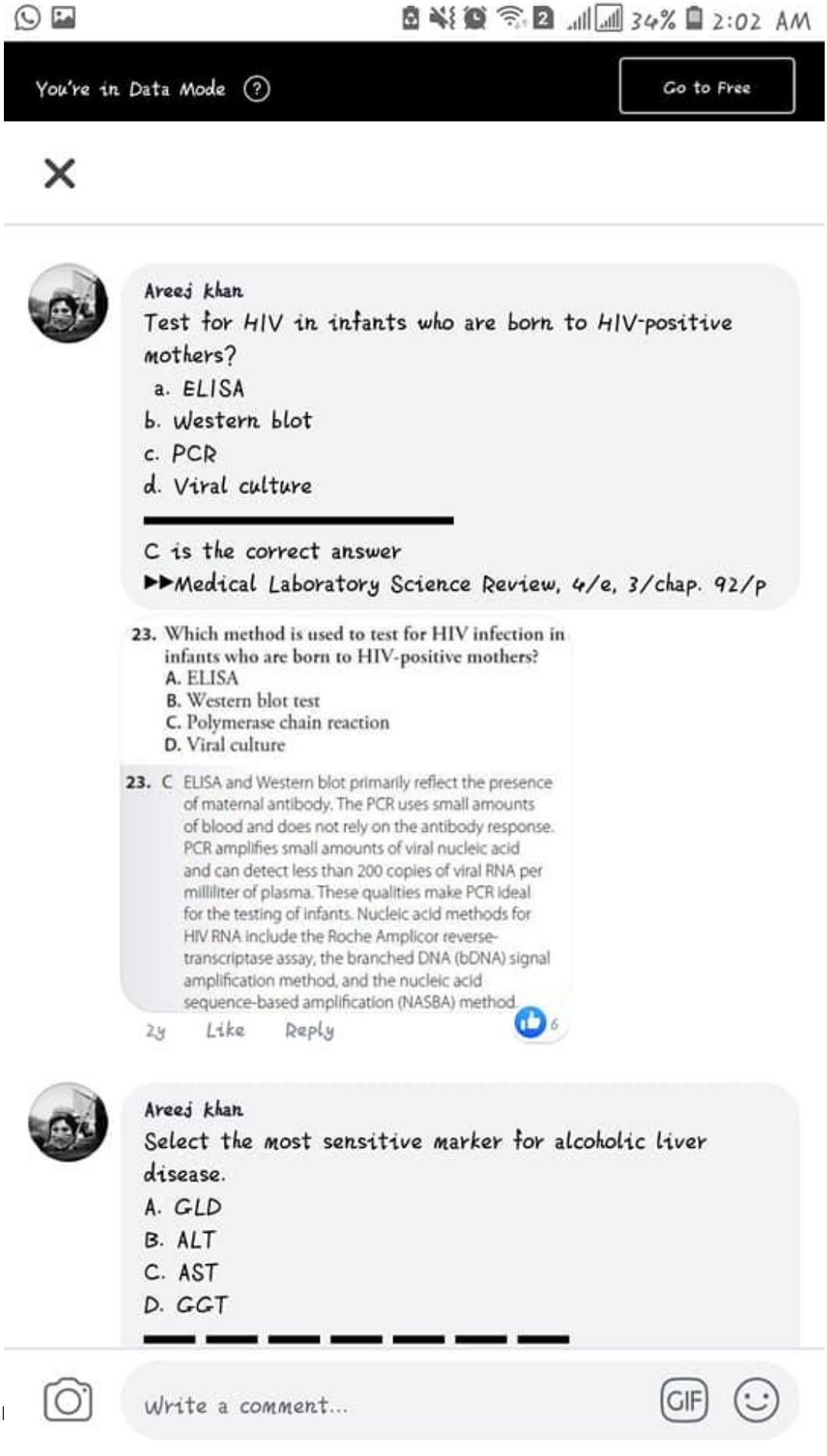
2y Like Reply

Areej khan
Test for HIV in infants who are born to HIV-positive mothers?
a. ELISA
b. Western blot
c. PCR
d. Viral culture... See More

23. Which method is used to test for HIV infection in infants who are born to HIV-positive mothers?
A. ELISA
B. Western blot test
C. Polymerase chain reaction
D. Viral culture

23. C ELISA and Western blot primarily reflect the presence of maternal antibody. The PCR uses small amounts of blood and does not rely on the antibody response. PCR amplifies small amounts of viral nucleic acid

Write a comment... GIF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You're in Data Mode
Go to Free
Areej khan
Test for HIV in infants who are born to HIV-positive mothers?
a. ELISA
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c. PCR
d. Viral culture
C is the correct answer
▶▶Medical Laboratory Science Review, 4/e, 3/chap. 92/p
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D. Viral culture
23. C ELISA and Western blot primarily reflect the presence of maternal antibody. The PCR uses small amounts of blood and does not rely on the antibody response. PCR amplifies small amounts of viral nucleic acid and can detect less than 200 copies of viral RNA per milliliter of plasma. These qualities make PCR ideal for the testing of infants. Nucleic acid methods for HIV RNA include the Roche Amplicor reverse-transcriptase assay, the branched DNA (bDNA) signal amplification method, and the nucleic acid sequence-based amplification (NASBA) method.
2y Like Reply 6
Areej khan
Select the most sensitive marker for alcoholic liver disease.
A. GLD
B. ALT
C. AST
D. GGT
Write a comment...
GIF

Areej khan

Select the most sensitive marker for alcoholic liver disease.

A. GLD
B. ALT
C. AST
D. GGT

D is the correct answer

▶ GGT is most SENSITIVE indicator here in Alcoholic Liver Disease

▶ ALT & AST both rise in Alcoholic LD but have less sensitivity compared to GGT

▶ Levels of GGT may rise >25X URL in Alcoholic Hepatitis

▶ Order of SPECIFICITY of Enzymes in Alcoholic LD is AST > ALT > GGT

▶▶Medical Laboratory Science Review, 4/e, 5/chap. 274/P

2y Like Reply

Areej khan

Rise in AMINOTRANSFERASE

▶▶Acute Hepatitis >> Hepatic Cancer >>Chronic, Obstructive, Alcoholic Hepatitis & Cirrhosis

51. Which of the following liver diseases produces the highest levels of transaminases?
A. Hepatic cirrhosis
B. Obstructive jaundice
C. Hepatic cancer
D. Alcoholic hepatitis

51. C Elevation of transaminases is greatest in acute hepatitis (20–50 x URL). Levels are moderately

jaundice.

2y Like Reply 7

Areej khan

anemic pt, Hb 6.2 platelets 450,000 TLC normal range BME shows erythroid hyperplasia

a. acute blood loss

b. leukemia

c. iron deficiency anemia

B (> C) is the correct answer .

▶ Its a case of CML (option B) >>> Chronic IDA (Option C)

▶ Normal Platelcount 150,000–400,000/mm3 → Here

▶ Platelet count is more than normal → Thrombocytosis → Feature of Both CML & Chronic IDA .

▶ Erythroid BM Hyperplasia is also a feature of both CML & C-IDA

▶ In acute blood loss → BM hyperplasia & Thrombocytosis is not pronounced and observable as early.

▶ If in Question, platelet count is normal → Then It is CONFIRMED & CLASSIC CASE OF Classic case of type II ACUTE ERYTHROID LEUKEMIA → PURE ERYTHROID LEUKEMIA (type II)→ M6-AML

2y Like Reply 6

Areej khan

Regarding INTEGRINS connecting Cytoskeleton with ECM

and/or motility. In hemidesmosomes, the transmembrane connector proteins are called *integrins*; like cadherins, these attach to intracellular intermediate filaments and thus functionally link the cytoskeleton

Areej khan

Regarding INTEGRINS connecting Cytoskeleton with ECM

and/or motility. In hemidesmosomes, the transmembrane connector proteins are called *integrins;* like cadherins, these attach to intracellular intermediate filaments, and thus functionally link the cytoskeleton to the extracellular matrix. *Focal adhesion complexes* are

2y Like Reply 4

Areej khan

In RBC cell membrane, Chloride & Bicarb exchange occurs through

a. Ankyrin

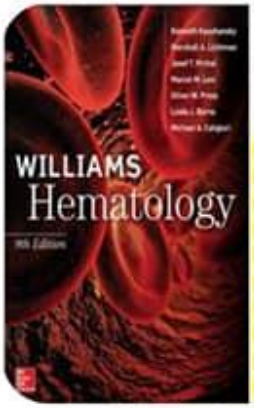
b. Band 3

c. Spectrin

B is the correct answer

▶William's Hematology, 9/e, 664/p

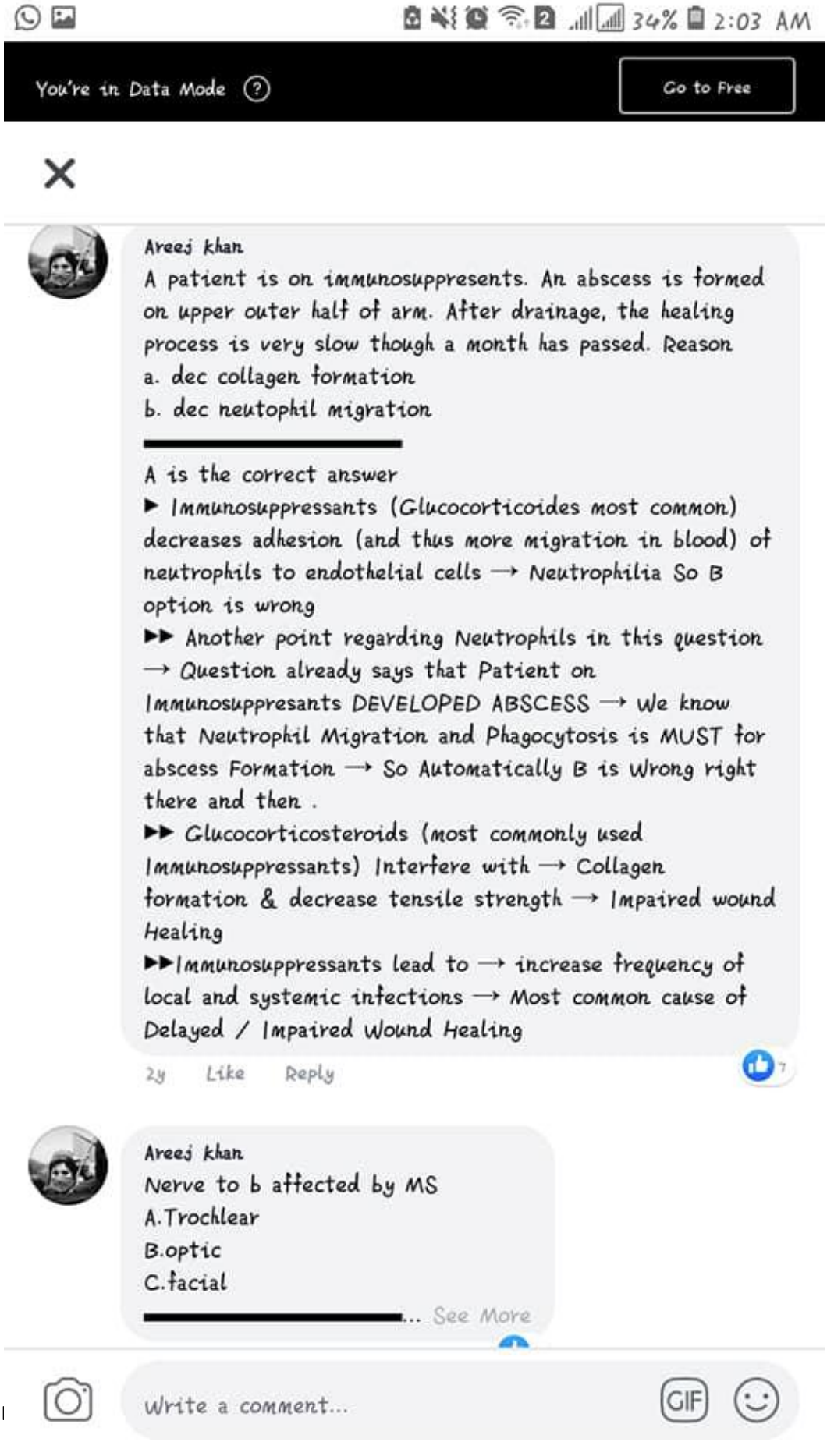
▶ Ganong, 24/e, 645/p



Band 3 The red cell contains approximately 1.2 million copies of AE1, a multifunctional and major integral membrane protein (see Table 46–1). It has a molecular mass of 102 kDa, but migrates as a diffuse band on sodium dodecylsulfate (SDS) gels as a result of heterogeneous N-glycosylation. The 911-amino-acid protein consists of two functional domains; an N-terminal 43-kDa cytoplasmic domain and a 52-kDa transmembrane channel, including a short 33-amino-acid C-terminal cytoplasmic tail[11] (Fig. 46–2). The anion exchange domain encompasses 13 α helical transmembrane segments and one nonhelical segment all connected by hydrophilic loops.[12,13] The short cytoplasmic tail binds carbonic anhydrase II to form a metabolon with the transmembrane domain, enabling the exchange of HCO_3^- and Cl^- anions, which is a critical function of the red cell.[14] The extracellular surface of the transmembrane domain of band 3 carries several antigens, including Diego, I/i, and Wright blood groups.

2y Like Reply 6

Areej khan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Areej khan
A patient is on immunosuppresents. An abscess is formed on upper outer half of arm. After drainage, the healing process is very slow though a month has passed. Reason
a. dec collagen formation
b. dec neutophil migration
A is the correct answer
▶ Immunosuppressants (Glucocorticoides most common) decreases adhesion (and thus more migration in blood) of neutrophils to endothelial cells → Neutrophilia So B option is wrong
▶▶ Another point regarding Neutrophils in this question → Question already says that Patient on Immunosuppresants DEVELOPED ABSCESS → We know that Neutrophil Migration and Phagocytosis is MUST for abscess Formation → So Automatically B is Wrong right there and then .
▶▶ Glucocorticosteroids (most commonly used Immunosuppressants) Interfere with → Collagen formation & decrease tensile strength → Impaired wound Healing
▶▶Immunosuppressants lead to → increase frequency of local and systemic infections → Most common cause of Delayed / Impaired Wound Healing
2y Like Reply
Areej khan
Nerve to b affected by MS
A.Trochlear
B.optic
C.facial
... See More
Write a comment...
GIF

2y Like Reply 6

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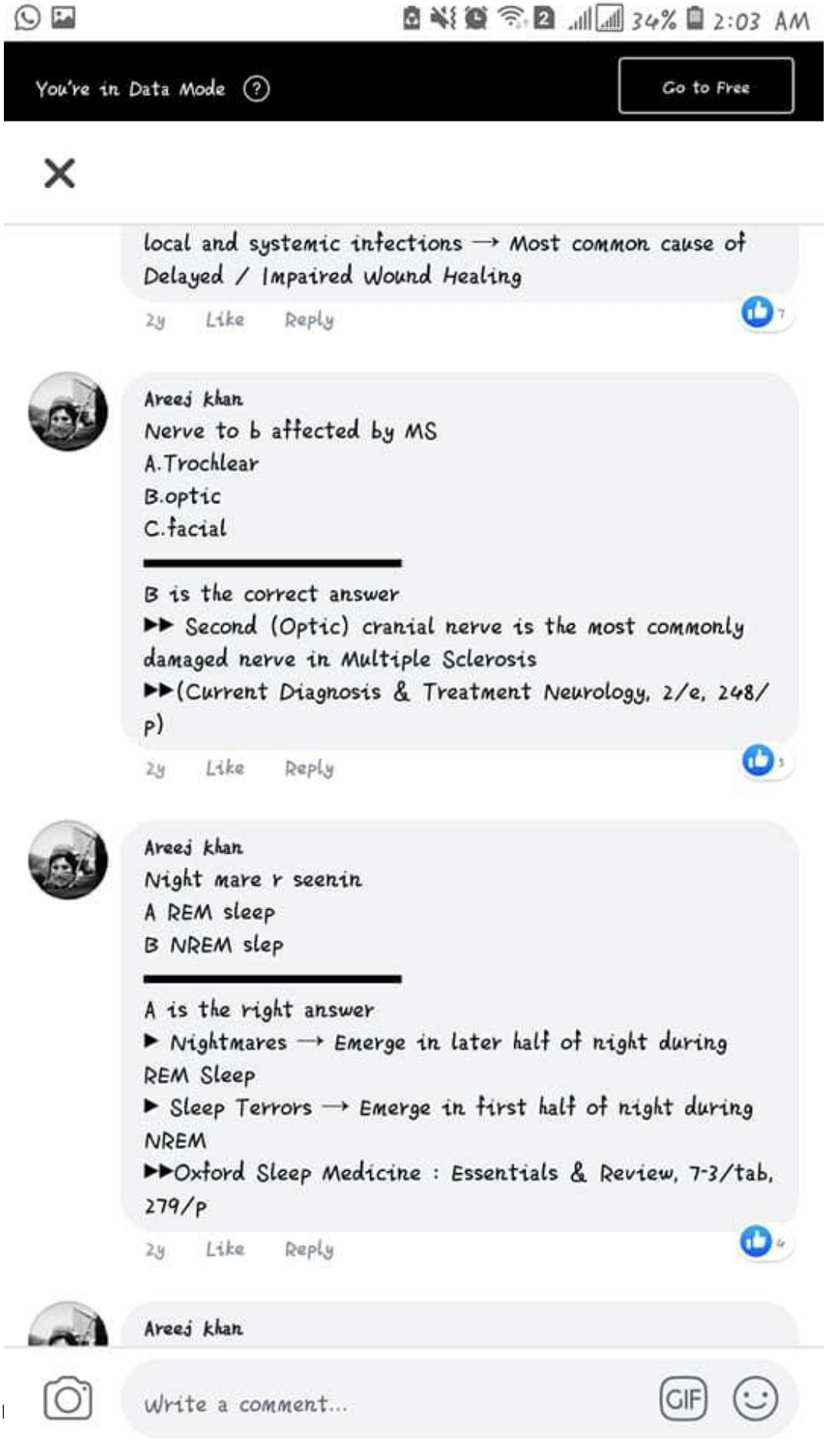
2y Like Reply 7

Areej khan
Nerve to b affected by MS
A.Trochlear
B.optic

Write a comment... GIF


34% 2:03 AM
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Go to Free
local and systemic infections → Most common cause of Delayed / Impaired Wound Healing
2y Like Reply
Areej khan
Nerve to b affected by MS
A.Trochlear
B.optic
C.facial
B is the correct answer
▶▶ Second (Optic) cranial nerve is the most commonly damaged nerve in Multiple Sclerosis
▶▶(Current Diagnosis & Treatment Neurology, 2/e, 248/p)
2y Like Reply
Areej khan
Night mare r seenin
A REM sleep
B NREM slep
A is the right answer
▶ Nightmares → Emerge in later half of night during REM Sleep
▶ Sleep Terrors → Emerge in first half of night during NREM
▶▶Oxford Sleep Medicine : Essentials & Review, 7-3/tab, 279/p
2y Like Reply
Areej khan
Write a comment...
GIF

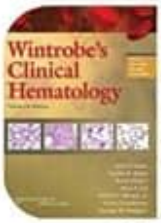
Areej khan

About Homocysteine MCQS

▶Deficiency of B6 (Pyridoxine) , B12 (Cobalamine) & B9 (Folic Acid) → All Cause Homocystinemia (and Hyper-) & Homocystinuria

▶ And All three above mentioned vitamins are used for Rx of this disorder

▶ Reference ... See More



Acquired hyperhomocysteinemia may be caused by folate deficiency, vitamin B_6 or B_{12} deficiency, renal insufficiency, hypothyroidism, type II diabetes mellitus, pernicious anemia, inflammatory bowel disease, advanced age, climacteric state, carcinoma (particularly involving breast, ovaries, or pancreas), and acute lymphoblastic leukemia, as well as methotrexate, theophylline, and phenytoin therapy.[241,242]

2y Like Reply

Areej khan

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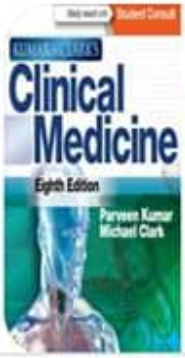

Homocysteine is not found in food, but results from metabolism within the body which depends on folic acid, vitamin B_{12} and pyridoxine (vitamin B_6) (Fig. 5.7). Deficiency of one or more of these vitamins is common in the elderly, which would increase the concentration of homocysteine. If an elevated homocysteine concentration was causally linked to

Homocysteine

When elevated, this amino acid is associated with both arterial thrombosis and venous thromboembolism. The mechanism of vascular damage is unclear. Folate, B_{12} and B_6 supplementation are often helpful in reducing levels.

Areej khan
About Homocysteine MCQS

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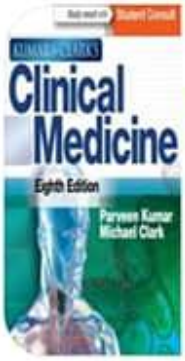
▶ And All three above mentioned vitamins are used for Rx of this disorder
▶ Reference
❶ kumar & Clarke, 8/e, 212, 425/p
❷ Wintrobe's Clinical Hematology, 13/e, 1228/p
OxEe ToCin Bint E Haya Haris Baloch see this image (from 2 different pages in kumar)



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2y Like Reply 7

Areej khan
About FIGO (2009) Staging of Ca Endometrium
▶ Important point is to understand Stage IA & IB

Table 4
FIGO Staging of Endometrial Carcinoma

Stage	Description
I	Tumor confined to the uterus
IA	<50% invasion of the myometrium
IB	≥50% invasion of the myometrium
II	Tumor invades the cervical stroma but does not extend beyond the uterus
III	Local or regional spread of tumor

Table 4
FIGO Staging of Endometrial Carcinoma

Stage	Description
I	Tumor confined to the uterus
IA	<50% invasion of the myometrium
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II	Tumor invades the cervical stroma but does not extend beyond the uterus
III	Local or regional spread of tumor
IIIA	Serosal or adnexal invasion
IIIB	Vaginal or parametrial involvement
IIIC	Metastasis to pelvic or paraaortic lymph nodes
IIIC1	Pelvic lymph node involvement
IIIC2	Paraaortic lymph node involvement (with or without pelvic nodes)
IV	Extension to the pelvic wall, lower one-third of the vagina, or hydronephrosis or nonfunctioning kidney
IVA	Invasion of bladder or bowel mucosa
IVB	Distant metastases, including abdominal, or involvement of inguinal lymph nodes

Areej khan

About MCQ regarding rise in LH levels 2 days before Ovulation

---

▶ About 2 days before ovulation → the rate of secretion of LH by the anterior pituitary gland increases markedly → rising 6- to 10-fold → peaking about 16 hours before ovulation

▶ FSH also increases about 2-to-3-fold at the same time

▶ FSH and LH act synergistically→ to cause rapid swelling of the follicle during the last few days before ovulation.

▶ LH also has a specific effect on → the granulosa and theca cells → converting them mainly to progesterone secreting cells → Therefore, the rate of secretion of estrogen begins to fall about 1 day before ovulation, while increasing amounts of progesterone begin to be secreted.

▶ Without this initial pre-ovulatory surge of LH, ovulation will not take place.

▶ ▶ Guyton, 13/e, 1036/p

About 2 days before ovulation (for reasons that are not completely understood but are discussed later in this chapter), the rate of secretion of LH by the anterior pituitary gland increases markedly, rising 6- to 10-fold and peaking about 16 hours before ovulation. FSH also increases about twofold to threefold at the same time, and

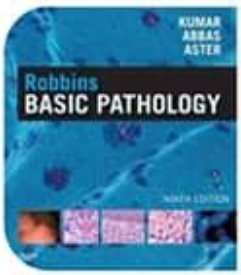
2y Like Reply

Areej khan

About the most common Cause of Death in SLE → RENAL

Write a comment... GIF

Areej khan
About the most common Cause of Death in SLE → RENAL FAILURE
▶▶ Robbins Basic Pathology, 9/e, 128/p



Kidneys. Kidney involvement is one of the most important clinical features of SLE, with renal failure being the most common cause of death. The focus here is on glomerular pathology, although interstitial and tubular lesions are also seen in SLE.

The pathogenesis of all forms of **glomerulonephritis** in SLE involves deposition of DNA–anti-DNA complexes within the glomeruli. These evoke an inflammatory response that may cause proliferation of the endothelial, mesangial,

2y Like Reply 3

Areej khan
About Menopause , FSH Being the Homone of Menopause and Rise of Both LH & FSH in meopause .

Areej Khan
B is the correct answer. Menopause —> Loss of ovarian follicles + Follicular resistance(if any follicle present) towards pituitary gonadotrophins —> Loss of normal effective folliculogenesis + Diminished Estradiol production — > Low estradiol can't effectively provide negative feedback effect on Hypothal-Pit axis —> Rise in FSH & LH . Inhibin is a peptide hormone that is produced by Granulosa cells of ovarian follicle (in males by sertoli cells) —> has strong direct effect on anterior pituitary to inhibit secretion of FSH. —> at menopause Due to loss of effective folliculogenesis, the production of Inhibin is diminished —> No inhibition of Pituitary FSH —> FSH increased . .....**** LH & FSH both rise but, due to additional effect of INHIBIN loss, the rise in FSH is 10-20 fold compared to 3-fold rise in LH . So clinically , FSH is the hormone of Menopause .

2y Like Reply 6

Areej khan
Antibacterial Activity of Important Anti-TB Drugs

Write a comment... GIF

fold compared to 3-fold rise in LH . So clinically , FSH is the hormone of Menopause .

2y Like Reply 6

Areej khan

Antibacterial Activity of Important Anti-TB Drugs

Antibacterial Activity of Important Anti-TB Drugs

First Line Drugs	Isoniazid	Dual Activity ► For Bacilli in Stationary Phase → Bacteriostatic ► For Bacilli in Rapidly Dividing phase → Bactericidal
	Rifampin	Bactericidal
	Ethambutol	Bacteriostatic
	Pyrazinamide	Bactericidal
	Streptomycin	Bactericidal
Second Line Drugs	Aminoglycosides	Bactericidal
	Macrolides	Bacteriostatic
	Fluoroquinolones	Bactericidal
	Ethionamide	Bacteriostatic
	Capreomycin	Bactericidal
	Amino Salicylic Acid	Bacteriostatic

Dr. Areej Khan

2y Like Reply 4

Areej khan

For MCQs Regarding PCOS

Role of Hypothalamic-Pituitary compartment in PCOS

- - - - - - - - -

► PCOS → ↑ GnRH pulse frequency → ↑ LH pulse frequency → So, ↑ LH & ↑ (>2) LH-to-FSH ratio.

► FSH is not increased with LH because of the combination of following 3

❶ Increased Gonadotropin pulse frequency

❷ Synergistic -ive feedback of chronically ↑ Estrogen

❸ Normal Follicular Inhibin

► Abnormal Estrogen feedback to Pituitary gland →

For MCQs Regarding PCOS

Role of Hypothalamic–Pituitary compartment in PCOS

- ▶ PCOS → ↑ GnRH pulse frequency → ↑ LH pulse frequency → So, ↑ LH & ↑ (>2) LH-to-FSH ratio.
- ▶ FSH is not increased with LH because of the combination of following 3

❶ Increased Gonadotropin pulse frequency
❷ Synergistic -ive feedback of chronically ↑ Estrogen
❸ Normal Follicular Inhibin

- ▶ Abnormal Estrogen feedback to Pituitary gland → mildly ↑ Prolactin (in ~ 25%)
- ▶ Also note that, Generally

❶ Slim women with PCOS → ↑ LH level as the main driver for androgen excess
❷ Obese women → ↑ Insulin additionally stimulates the ovaries to overproduce Androgens

---

Other major Hormone issues in PCOS

- ╪ ↑ Fasting Insulin
- ╪ ↑ Androgens (Testosterone and Androstenedione)
- ╪ ↓ Sex Hormone Binding Globulin (SHBG) → ↑ free Androgen index
- ╪ ↑ Oestradiol, Oestrone

Some Important Points in PCOS

- ▶ The ↑ testosterone levels PCOS are considered Ovarian in origin.
- ▶ Hyperinsulinemia is not a characteristic of Hyperandrogenism in general but is uniquely associated with PCOS

▶ Hyperinsulinemia is not a characteristic of Hyperandrogenism in general but is uniquely associated with PCOS
▶ PCOS is the most common cause of Ovulatory dysfunction in reproductive-age women
▶ No effect on pregnancy, although fertility is often reduced

▬▬▬▬▬▬▬▬▬▬▬▬

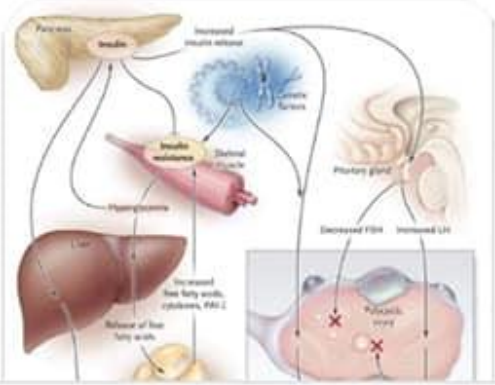
▶▶ First Line Rx

▬▬▬▬▬▬▬▬▬▬▬▬

❶ Combination oral contraceptives which has following 2 features
➕ less than 50-mg formulation
➕ Has Progestin other than Norgestrel
❷ Metformin (1500 mg/day)
▶▶ Other Drugs in routine
➕ Dexamethasone (0.25 to 0.5 mg PO HS) → when ↑ DHEA-s
➕ Spironolactone (100 to 200 mg PO/Day)

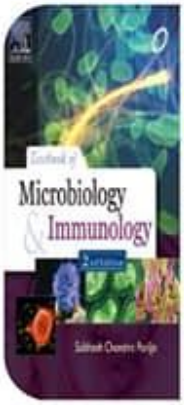
▬▬▬▬▬▬▬▬▬▬▬▬

▶ Reference
▶ Dewhurst's Textbook of Obstetrics and Gynaecology, 8/e, 520/p
▶ Berek and Novak's Gynecology, 15/e, 31/chap
▶ Netter's Obstetrics & Gynecology, 172/chap, 428/p



Areej khan

Histoplasmosis is primarily a disease of Reticuloendothelial system



Histoplasmosis

Histoplasmosis is primarily a disease of reticuloendothelial system caused by an intracellular fungus *Histoplasma capsulatum*. *H. capsulatum* is a dimorphic fungus, which occurs in two stages: as a mold in soil and as yeast at body temperature in mammals. On SDA medium at 37°C, this fungus produces cottony mycelial growth. The colony is characterized by thin, branching, septate hyphae that produce tuberculate macroconidia and microconidia. The macroconidia are thick-walled, spherical spores measuring 8–20 µm in diameter and have finger-like projections. These are diagnostic form of the fungus. The microconidia are smaller and thin-walled spores, and are the infectious form of the fungus.

2y Like Reply

Areej khan

Neurotransmitters of Sleep

▶ Main Neutrotransmitter of REM → Ach (increases during REM)

▶ Main Neutrotransmitter of NREM → Serotonin > GABA

▶ Oxford Sleep Medicine : Essentials & Review

2y Like Reply

Areej khan

Comparison of Normal Plasma , Dialyzing Fluid and Uremic plasma

▶ Guyton, 13/e, 32.7/Table

Table 32-7 Comparison of Dialyzing Fluid with Normal and Uremic Plasma

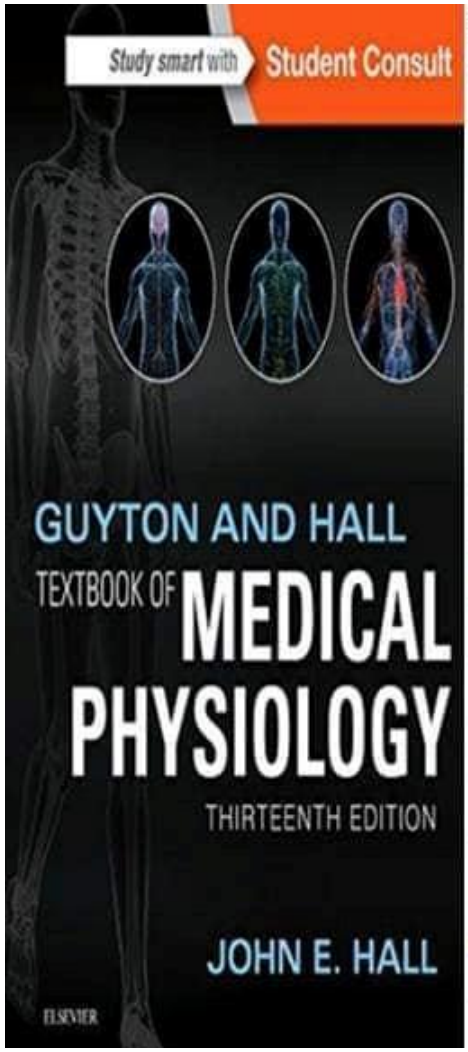
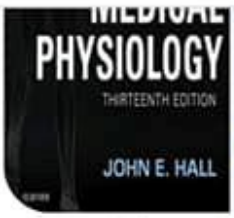


Table 32-7 Comparison of Dialyzing Fluid with Normal and Uremic Plasma

Constituent	Normal Plasma	Dialyzing Fluid	Uremic Plasma
Electrolytes (mEq/L)			
Na^+	142	133	142
K^+	5	1.0	7
Ca^{++}	3	3.0	2
Mg^{++}	1.5	1.5	1.5
Cl^-	107	105	107
HCO_3^-	24	35.7	14
$Lactate^-$	1.2	1.2	1.2
$HPO_4^=$	3	0	9
$Urate^-$	0.3	0	2
$Sulfate^=$	0.5	0	3
Nonelectrolytes			
Glucose	100	125	100
Urea	26	0	200
Creatinine	1	0	6



Lactate	1.2	1.2	1.2
$HPO_4^{=}$	3	0	9
$Urate^{-}$	0.3	0	2
$Sulfate^{=}$	0.5	0	3
Nonelectrolytes			
Glucose	100	125	100
Urea	26	0	200
Creatinine	1	0	

2y Like Reply 4

Areej khan
Diagnosis of Sarcoidosis
▶ Asteroid Bodies
■ Microscopic finding seen within giant cells of granulomas (noncaseating)
■ Composed of "LIPIDS" arranged into bilayer membrane
■ They are seen in –
1) sarcoidosis
2) foreign body giant cell reactions
3) Sporotrichosis

2y Like Reply 3

Areej khan
About Male Sexual Act - Erection (Parasym) + Ejaculation (Symp)
▶ Sherwood, 7/e

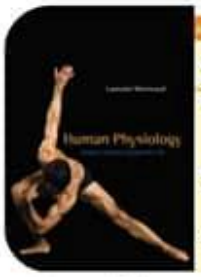


TABLE 20-4 Components of the Male Sex Act

Components of the Male Sex Act	Definition	How Accomplished
Erection	Hardening of the normally flaccid penis to permit its entry into the vagina	Engorgement of the penis erectile tissue with blood as a result of marked parasympathetically induced vasodilation of the penile arterioles and mechanical compression of the veins
Ejaculation		
Emission phase	Emptying of sperm and accessory sex gland secretions (semen) into the urethra	Sympathetically induced contraction of the smooth muscle in the walls of the ducts and accessory sex glands
Expulsion phase	Forceful expulsion of semen from the penis	Motor-neuron-induced contraction of the skeletal muscles at the base of the penis

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Areej khan
About DIC
▶ Diagnosis of Disseminated Intravascular Coagulation
╪ Most Sensitive Test → FDP
╪ Most Specific Test → D-Dimers
╪ Best Overall for Diagnosis → D-Dimers
2y Like Reply
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About Sex Determination
Areej Khan
Genotypic Sex determination ---> At fertilization
Like · Reply · Edit · Just now
Areej Khan
Gonadal Sex determination ----> After 7th week
Like · Reply · Edit · Just now
Areej Khan
Visual Sex Determination /Differentiation ----> After 12 week
Like · Reply · Edit · Just now
2y Like Reply
Areej khan
▶ Inheritance of ABO & Rh Blood Alleles / Traits
╪ A → Autosomal Co-Dominant Trait
╪ B → Autosomal Co-Dominant Trait
╪ O → Autosomal Recessive Trait
╪ Rh → Autosomal Co-Dominant Trait
▶ ▶ Thompson & Thompson: Genetics in Medicine, 7/e,
Write a comment...
GIF

Areej khan

Incidence of Primary Hepatic Tumors in Childhood

▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬

╋ Hepatoblastoma (Malignant - 43%)
╋Hepatocellular carcinoma (Malignant - 23%)
╋ Benign vascular tumors (Benign - 13%)
╋Undifferentiated Embryonal Sarcoma (Malignant – 9-13%
╋Mesenchymal Hamartoma – (Benign - 6%)
╋Adenoma (Benign - 2%)
╋Focal Nodular Hyperplasia (Benign - 2%)
╋Miscellaneous (5%)

▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬

So

▶ Most common Malignancy of Liver in Children → Hepatoblastoma > HCC > UES

▶ Most common Benign Tumors of Liber in Children → Benign Vascular tumors > Mesenchymal Hamartoma > Adenoma > FNH

▶ Most common Benign Vascular tumors of liver in children → Hemangiomas > Hemangioendotheliomas

▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬

Pediatric Radiation Oncology By Edward C. Halperin, 14/ chap, 290/p

2y Like Reply 3

Areej khan

Incidence of Most common Childhood Cancers

▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬

╋ Leukemia (30%)
╋ Brain Tumors (22%)
╋ Lymphoma (11%)... See More

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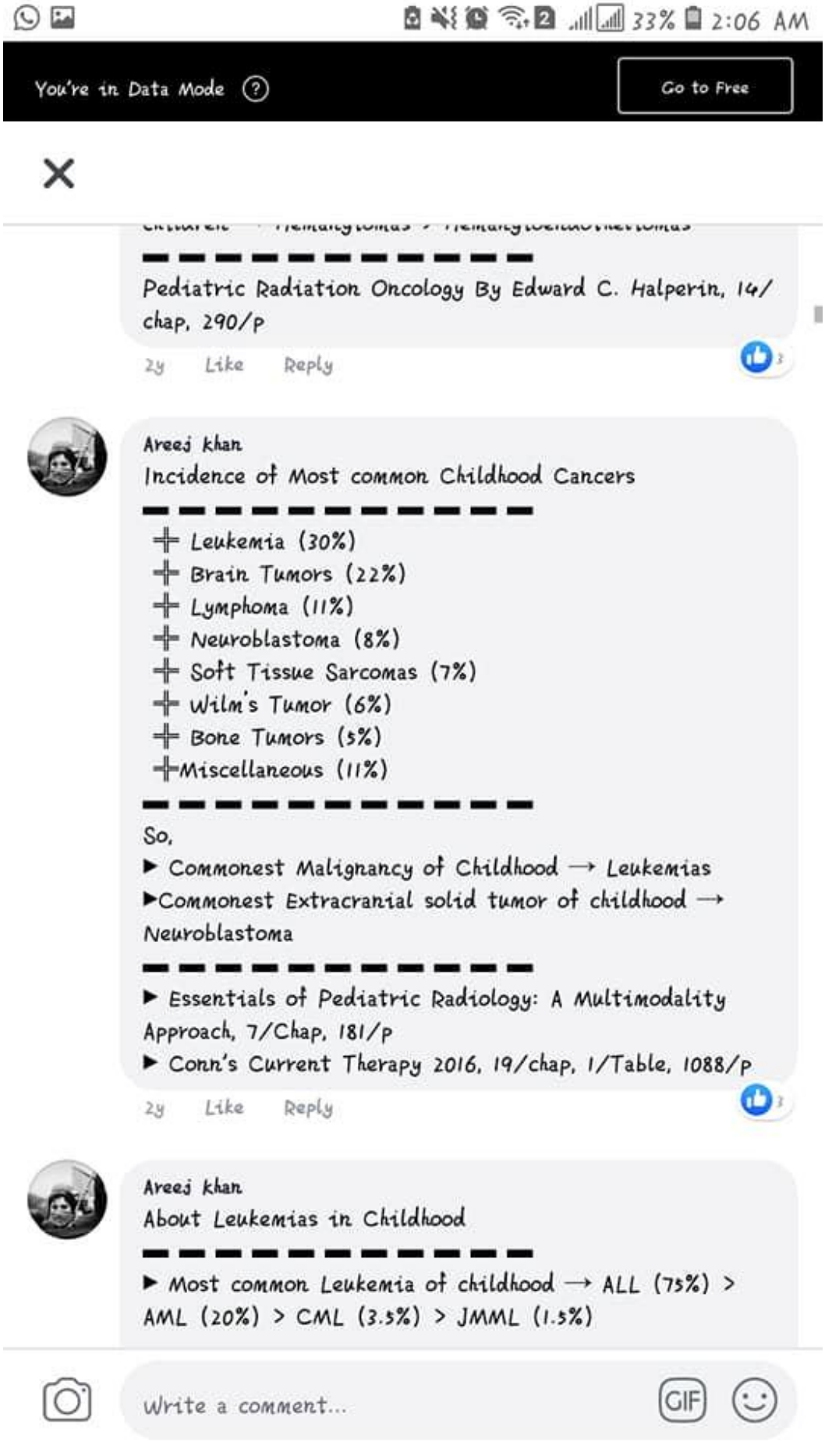
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Pediatric Radiation Oncology By Edward C. Halperin, 14/chap, 290/p
2y Like Reply
Areej khan
Incidence of Most common Childhood Cancers
Leukemia (30%)
Brain Tumors (22%)
Lymphoma (11%)
Neuroblastoma (8%)
Soft Tissue Sarcomas (7%)
Wilm's Tumor (6%)
Bone Tumors (5%)
Miscellaneous (11%)
So,
▶ Commonest Malignancy of Childhood → Leukemias
▶Commonest Extracranial solid tumor of childhood → Neuroblastoma
▶ Essentials of Pediatric Radiology: A Multimodality Approach, 7/Chap, 181/p
▶ Conn's Current Therapy 2016, 19/chap, 1/Table, 1088/p
2y Like Reply
Areej khan
About Leukemias in Childhood
▶ Most common Leukemia of childhood → ALL (75%) > AML (20%) > CML (3.5%) > JMML (1.5%)
Write a comment...
GIF

Part 6

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▶Commonest Extracranial solid tumor of childhood → Neuroblastoma

▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬

▶ Essentials of Pediatric Radiology: A Multimodality Approach, 7/Chap, 181/P

▶ Conn's Current Therapy 2016, 19/chap, 1/Table, 1088/P

2y Like Reply 3

Areej khan

About Leukemias in Childhood

▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬

▶ Most common Leukemia of childhood → ALL (75%) > AML (20%) > CML (3.5%) > JMML (1.5%)

▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬

▶ Most common Subtype of ALL in childhood → Early Pre-B ALL (63%) > Pre-B ALL (16%) > T-cell ALL (12%) > Pre-pre-B ALL (5%) > B-cell ALL (4%)

▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬

▶ Childhood Leukemia: A Guide for Families, Friends & Caregivers By Nancy keene, 2/Chap, 20/P

▶ Conn's Current Therapy 2016, 19/chap, 1/Table, 1088/P

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Areej khan

Incidence of Primary Renal Tumors of Childhood

▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬

➕ Non-Anaplastic Wilm's Tumor (80%)

➕ Anaplastic Wilm's Tumor (5%)

➕ Mesoblastic Nephroma (4%)... See More

2y Like Reply 2

Areej khan

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▶ Conn's Current Therapy 2016, 19/chap, 1/Table, 1088/p

2y Like Reply

Areej khan

Incidence of Primary Renal Tumors of Childhood

- Non-Anaplastic Wilm's Tumor (80%)
- Anaplastic Wilm's Tumor (5%)
- Mesoblastic Nephroma (4%)
- Clear cell sarcoma (4%)
- Rhabdoid Tumor (2%)
- Miscellaneous (5%)
  - RCC
  - Primitive NeuroEctodermal Tumor
  - Neuroblastoma
  - Synovial Sarcoma

▶ Essentials of Surgical Pediatric Pathology, 8/chap, 8.5/Table

2y Like Reply

Areej khan

▶ Carcinoid is almost always benign in appendix , so categorized as benign

▶ Most common Malignancy of Appendix → Mucinous Adenocarcinoma

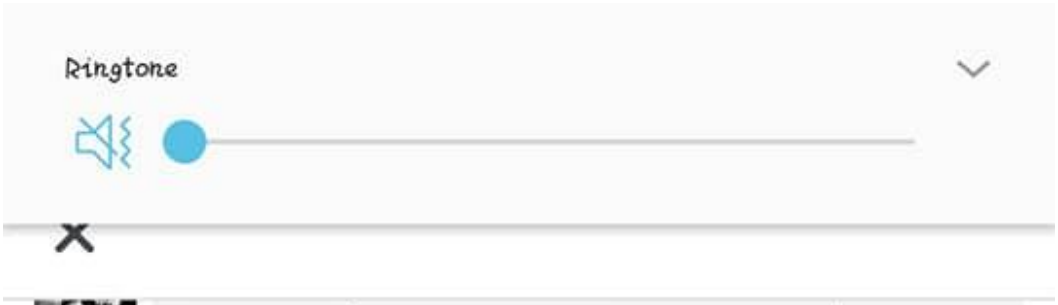
▶ Most common Benign tumor of Appendix → Carcinoid

▶ ▶ Most common Appendicular neoplasm (overall i.e.Beningn+Malignant) → Carcinoid

Now about Carcinoid

▶ Most common overall site for carcinoid tumor in body → GIT > Respiratory Tract

Write a comment...



▶ Carcinoid is almost always benign in appendix , so categorized as benign
▶ Most common Malignancy of Appendix → Mucinous Adenocarcinoma
▶ Most common Benign tumor of Appendix → Carcinoid
▶ ▶ Most common Appendicular neoplasm (overall i.e.Beningn+Malignant) → Carcinoid

---

Now about Carcinoid
▶ Most common overall site for carcinoid tumor in body → GIT > Respiratory Tract
▶ Most common site in GIT → Ileum > Rectum > Colon (also note that Rectum+Colon> Ileum)

▶ Most common malignancy of Small Intestine → Carcinoid

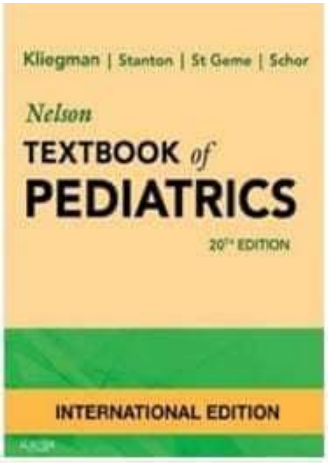
Bailey, Davidson and and other books say different about carcinoid. Above info is from Latest editions of Harrison (19/e, 560/p) and Robbins, 13/e

2y Like Reply 3

Areej khan
A newborn is diagnosed to have solid renal tumor. Most probably it is
A- Rhabdoid tumor
B- Renal Cell carcinoma
C- Clear cell sarcoma
D- Wilm's Tumor
E- Mesoblastic Nephroma

E is the correct answer . (Wilm's is NEVER CORRECT)
▶Nelson Textbook of Pediatrics, 20/e, 499/chap, 2467/p

Write a comment... GIF

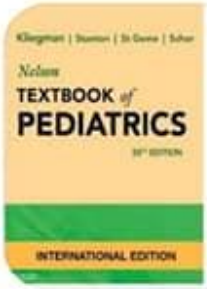


MESOBLASTIC NEPHROMA

Mesoblastic nephroma is the most common solid renal tumor identified in the **neonatal period** and the most frequent benign renal tumor in childhood. It represents 3-10% of all pediatric renal tumors. Many cases are diagnosed with prenatal ultrasound and can manifest as polyhydramnios, hydrops, and premature delivery. Most of the patients are diagnosed before 3 mo of age, whereas WT is rarely diagnosed before 6 mo of age. Radical nephrectomy is the treatment of choice and may be sufcient by itself. Local recurrence is uncommon. Although rare, malignant variants do occur, marked by metastases to the lung, liver, heart, and brain.

D- Wilm's Tumor
E- Mesoblastic Nephroma

E is the correct answer . (Wilm's is NEVER CORRECT)
▶Nelson Textbook of Pediatrics, 20/e, 499/chap, 2467/p



MESOBLASTIC NEPHROMA

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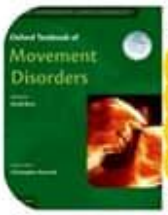
2y Like Reply 4

Areej khan
Familial Disease and Essential Tremors
▶ Essential Tremors have a high degree of Heretibility that is ~99%
▶ 80% young patients with Early Onset Essential Tremors have Positive Family History
▶ Oxford Textbook of Movement Disorders, 16/chap, 163/p



Aetiology and genetics

Twin studies have shown a high heritability of ET of up to 99% (5), and therefore genetic factors play a major role in pathogenesis of the condition. Moreover, 80% of young patients with early-onset ET have a positive family history (6). Genetic analysis has so far revealed three chromosomal loci: 3q13 (ETM1) (7), 2p22–25

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Areej khan
Herniations in CNS

Uncal / Transtentorial / Uncinate / Mesial Temporal Herniation


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Areej khan
Herniations in CNS
Uncal / Transtentorial / Uncinate / Mesial Temporal Herniation
▶ Compresses
Posterior Cerebral Artery (PCA)
Contralateral Cerebral Peduncle
kernohan notch
Third Cranial nerve (oculomotor)
Tonsillar herniation
▶ Compresses
Brainstem
Vital respiratory & Cardiac centers in Medulla
Subfalcine / Cingulate herniation
▶ Compresses
Anterior cerebral artery & its branches
Robbins, 13/e, 1255/p
2y Like Reply
Areej khan
About kallman syndrome
Hypoosmia/anosmia
Hypogonadism
X-linked disorder
Lesion in arcuate nucleus
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×

├ Hypogonadism
├ X-linked disorder
├ Lesion in arcuate nucleus

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Areej khan

About C5 injury

├ Can use diaphragm → But respiration is weak
├ Can speak
├ can raise arm
├ Can Bend Elbows
├ Paralysis (complete or partial) → Wrists, hands, Trunk & legs
├ Needs assisance in most activities → But in Power Chair → Can move from one place to another if paralysis of fingers is incomplete

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Areej khan

About Exudate vs Transudate

▶▶ Inflammation has Oedema / Effusion → EXUDATE → Can be serous, Serosanguineous, Fibrinous , purulent and suppurative ....
▶▶ Non-Inflammatory Oedema / Effusion → Transudate

▶▶ EXUDATE → Fluid & protein leakage in inflammation → Due to Vasodilation, Stasis and increased Interendothelial spaces → Vascular Permeability increased
▶▶Transudate → Fluid leaks out due to increased Hydrostatic Pressure or decreased osmotic pressure

Write a comment... GIF

About Exudate vs Transudate

▶▶ Inflammation has Oedema / Effusion → EXUDATE → Can be serous, Serosanguineous, Fibrinous , purulent and suppurative ....
▶▶ Non-Inflammatory Oedema / Effusion → Transudate

▶▶ EXUDATE → Fluid & protein leakage in inflammation → Due to Vasodilation, Stasis and increased Interendothelial spaces → Vascular Permeability increased
▶▶Transudate → Fluid leaks out due to increased Hydrostatic Pressure or decreased osmotic pressure (Disturbance of Starling forces across vascular wall) → Due to Heart failure , liver disease and Renal disease etc

---

▶▶ EXUDATE → High Protein content → Specific Gravity > 1.015
▶▶ Transudate → Low protein content → Specific Gravity < 1.015

▶▶ EXUDATE → frequent Inflammatory and Red blood cells
▶▶ Transudate → few cells (Mesothelial cells)

▶▶ EXUDATE → Coagulates due to high coagulation proteins like Fibrinogen etc
▶▶ Transudate → has mainly albumin & Very Low coagulation protein → NO coagulation

---

▶▶ EXUDATE → Low Glucose compared to plasma
▶▶ Transudate → same glucose levels as in plasma

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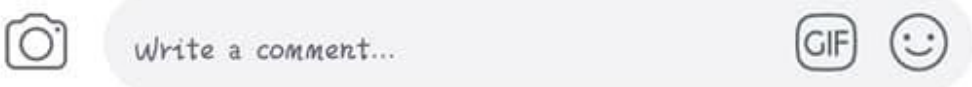

▶▶ EXUDATE → Low Glucose compared to plasma
▶▶ Transudate → same glucose levels as in plasma

2y Like Reply 3

Areej khan
Important about Droplet Infection

▶ The droplet infection spread is limited to a distance of → 30-60cm (1-2 feet)
▶ Health care workers should wear mask when working within → 3 feet of patient susceptible to droplet infection spread
▶ If a pathogen travels more than 1 meter (~>3feet) → It's considered airborne transmission.

▶ Bailey & Scott's Diagnostic Microbiology 13/e, 79/ chap , 995/p
▶ Park's Preventive and social Medicine 23/e, 97/p
▶ Microbiology with Disease by Taxonomy 4/e, 422/p .

2y Like Reply 3

Areej khan
Commonest causes of Community Acquired Pneumonia (CAP)

▶ Commonest cause of CAP in OPD, ICU & non-ICU Settings → Streptococcus Pneumoniae

▶ The order of frequency of involved organism in OUT-PATIENT (OPD)
❶ S.pneumoniae

Areej khan

Commonest causes of Community Acquired Pneumonia (CAP)

▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬

▶ Commonest cause of CAP in OPD, ICU & non-ICU Settings → Streptococcus Pneumoniae

▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬

▶ The order of frequency of involved organism in OUT-PATIENT (OPD)

1. S.pneumoniae
2. Mycoplasma pneumoniae
3. H.influenza
4. Clamydia pneumoniae
5. Respiratory viruses

▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬

▶ The order of frequency of involved organism in ICU

1. S.pneumoniae
2. Staph.Aureus
3. Legionella
4. GNRs
5. H.influenza

▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬

▶The order of frequency of involved organism in Non-ICU

1. S.pneumoniae
2. Mycoplasma pneumonia
3. Chlamydia pneumonia
4. H.influenza
5. Legionella

▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬

▶ ▶ Harrison's Principles of Internal Medicine 19/e, 804/p

2y Like Reply

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▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬ ▬

▶ ▶ Harrison's Principles of Internal Medicine 19/e, 804/P

2y Like Reply 2

Areej khan

Sites involved in EXTRAPULMONARY TUBERCULOSIS

▬ ▬ ▬ ▬ ▬ ▬

▶ The order of frequency for the commonest EXTRAPULMONARY sites for TB

❶ Lymph Nodes
❷ Pleura
❸ Genitourinary tract
❹ Bones & Joints
❺ Meninges
❻ Peritoneum
❼ Pericardium
❽ other organs

▬ ▬ ▬ ▬ ▬ ▬

▶ Harrison's Principles of Internal Medicine 19/e, 1109/P .

2y Like Reply 3

Areej khan

About Cells Involved in ASTHMA

▬ ▬ ▬ ▬ ▬ ▬

▶ Cells (Inflammatory) that participate or are involved in Asthma

❶ Mast Cells
❷ Eosinophils
❸ B Cells
❹ Th2 Cells
❺ Th17 Cells

Areej khan

About Cells Involved in ASTHMA

▬ ▬ ▬ ▬ ▬ ▬

▶ Cells (Inflammatory) that participate or are involved in Asthma

❶ Mast Cells
❷ Eosinophils
❸ B Cells
❹ Th2 Cells
❺ Th17 Cells
❻ Neutrophils
❼ Epithelial Cells

▬ ▬ ▬ ▬ ▬ ▬

▶ ▶ ▶ Contrary to common concept of most of docs → FUNDAMENTAL ABNORMALITY IN ASTHMA IS NOT MAST CELL ACTIVITY → IT IS EXAGGERATED TH2 RESPONSE TO NORMALLY HARMLESS ENVIRONMENTAL ANTIGENS & IGE RESPONSE

▬ ▬ ▬ ▬ ▬ ▬

▶ ▶ ▶ TH2 cells → Secrete Cytokines → IL-13 causes recruitment of Eosinophils + IL-5 ACTIVATES Eosinophils +IL-13 causes mucous hypersecretion from bronchial submucosal glands + IL-4 Stimulates production of IgE and other antibodies by B-Cells

▶ ▶ ▶ T-Cells & Epithelial Cells → Secrete Chemokines → Recruitment of more T-Cells & Eosinophils → Exacerbation of asthmatic reaction

▶ ▶ B-Cells → Produce IgE → Binds to Fc receptors on submucosal mast cells → Repeat exposure → Degranulation of Mast cells → Cytokines & other mediators → Early and late reactions of Asthma

▶ ▶ Neutrophils → Late cells of inflammation of Asthma reaction → Promote and keep up the inflammation

▶ ▶ TH17 cells → Recruit these neutrophils .

2y Like Reply

Areej khan
About Bladder Pain

▬ ▬ ▬ ▬ ▬ ▬

▶ BLADDER PAIN reaches the spinal cord by → BOTH PARASYMPATHETIC & SYMPATHETIC pathways → PREDOMINANTLY THE FORMER (Parasympathetic)

▬ ▬ ▬ ▬ ▬ ▬

▶ For loss of Bladder pain → Anterolateral Cordodomy or Division of both autonomic fiber types to bladder is must at the same time

▬ ▬ ▬ ▬ ▬ ▬

▶ Cutting / Dividing Individual sympathetic or Parasympathetic fibers → NO LOSS OF PAIN

▬ ▬ ▬ ▬ ▬ ▬

▶ Division of Sympathetic fibers or PRE-SACRAL NEURECTOMY doesn't alleviate bladder pain coz → pain is carried by both sympathetic & Parasympathetic fibers

▬▬▬▬▬▬▬▬

For reference
(1) RJ LAST 12/e, 279/p
(2) Gray's Anatomy, 39/e, 79/chap
(3) Bailey and Love 26/e, 1310/p
(4) Textbook of Anatomy : Abdomen & Lowe limb 2/e , 243,244/p

2y Like Reply 2

Areej khan
Cause of Pneumonia in COPD

▬ ▬ ▬ ▬ ▬ ▬

▶ Commonest culprit for Pneumonia in a case of COPD or an active chain smoker → Pneumococcus

Write a comment... GIF

Cause of Pneumonia in COPD

▬ ▬ ▬ ▬ ▬ ▬

▶ Commonest culprit for Pneumonia in a case of COPD or an active chain smoker → Pneumococcus (S.Pneumoniae)

▬ ▬ ▬ ▬ ▬ ▬

▶ Other organisms may include → Moraxella, Pseudomonas and H. influenza.

▬ ▬ ▬ ▬ ▬ ▬

▶ Goldman-Cecil Medicine 25/e, 97/chap, 610/p

▶ Harrison's Principles of Internal Medicine, 19/e, 314/chap, 1707/p.

2y Like Reply 3

Areej khan

Site for Peptic Ulcer

▬ ▬ ▬ ▬ ▬ ▬ ▬

▶ Commonest site in Duodenum is → 1st part of Duodenum (>95%) , & in 1st part, >90% are in first 3cm of pylorus

▬ ▬ ▬ ▬ ▬ ▬ ▬

▶ Commonest site in Stomach → Near Angularis Incisura on lesser curvature close to border b/w Antral and corpus(Body) mucosa

▬ ▬ ▬ ▬ ▬ ▬ ▬

▶ Commonest site for Gastric Cancer → Pyloric Antrum along the lesser curvature (In western countries, it's Esophageogastric Junction)

▬ ▬ ▬ ▬ ▬ ▬ ▬

▶ Harrison's Principles of Internal Medicine, 13/e, 1914/P

▶ Schwartz Principles of surgery 10/e, 1055/p

▶Bailey and Love 26/e, 1046/p .

Write a comment... GIF

Clues for Diagnosing Neurogenic Ptosis in MCQs

▶ Horner Syndrome → Ptosis with Smaller pupil & eye movements are normal.
▶ Occulomotor Palsy → Ptosis with Large or normal Pupil
▶ Pupil sparing Occulomotor Palsy → Ptosis with normal Pupil but limitation of Adduction, Elevation and depression
▶ Lesion of central subnucleus of Occulomotor → Bilateral Ptosis with normal Pupil and normal movements

---

▶Harrison's Principles Of Internal Medicine 19/e 208/p

2y Like Reply

Areej khan
About Haptoglobin, Hemopexin & Albumin

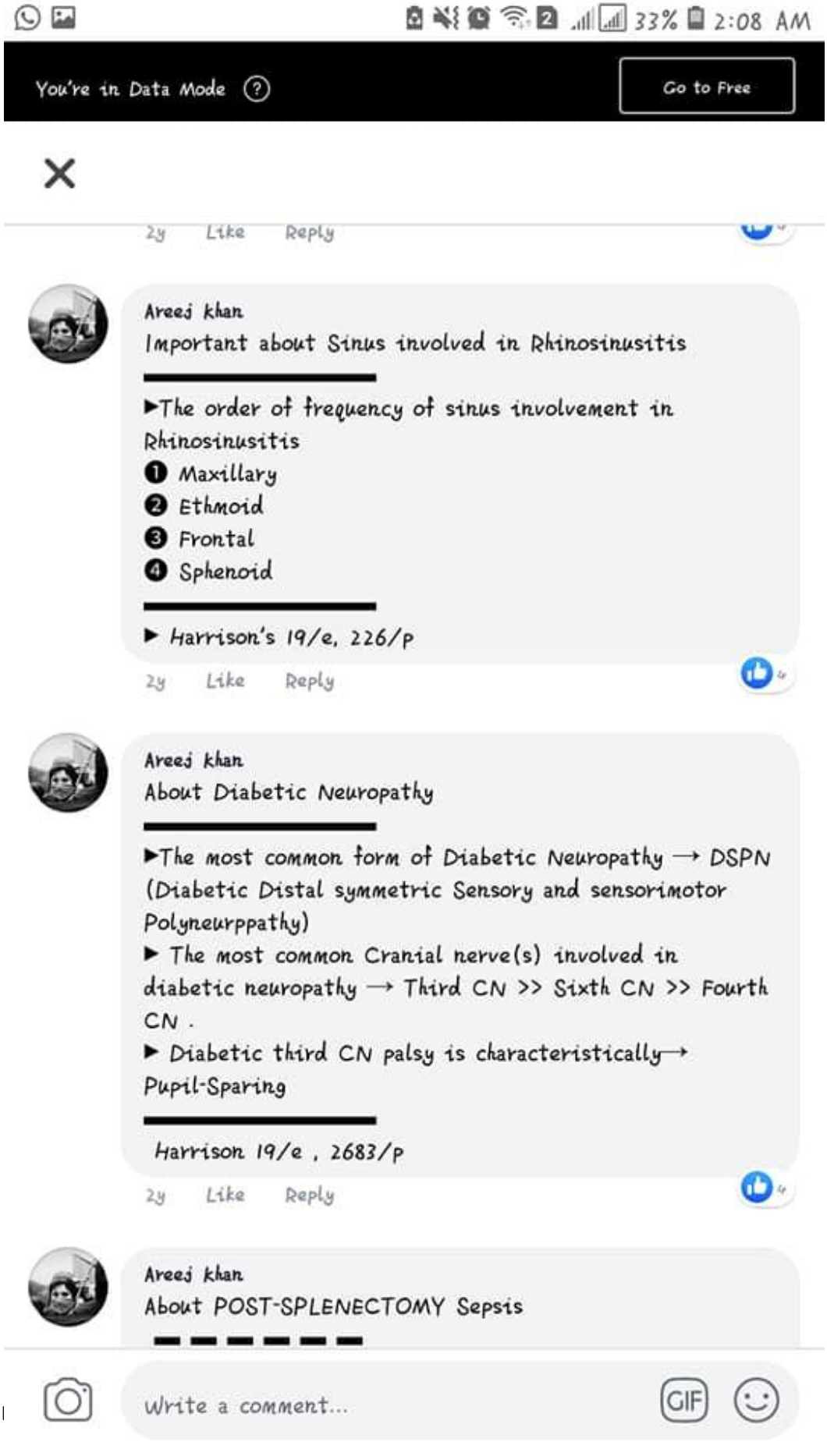
▶ Haptoglobin (Hp) Binds → Extracorpuscular (outside RBC) Hemoglobin (Hb) → forms Hb-Hp complex → Cleared by Reticuloendothelial cells
▶ Hemopexin binds with free Heme (not Hemoglobin) derived from breakdown of Hb, Catalases and Myoglobin → Cleared by hepatic Parynchymal cells
▶ When conc. Of Hb/heme exceeds capacities of both Haptoglobin & Hemopexin → Heme (in Ferric form - Metheme) binds to Albumin → continues to circulate → until Hemopexin is available again

---

▶Harper's Illustrated Biochemistry, 30/e 673/p

PS : CPSP key is just a drama forced upon by seniors who lack concept themselves .

Write a comment... GIF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2y Like Reply
Areej khan
Important about Sinus involved in Rhinosinusitis
▶The order of frequency of sinus involvement in Rhinosinusitis
❶ Maxillary
❷ Ethmoid
❸ Frontal
❹ Sphenoid
▶ Harrison's 19/e, 226/p
2y Like Reply
Areej khan
About Diabetic Neuropathy
▶The most common form of Diabetic Neuropathy → DSPN (Diabetic Distal symmetric Sensory and sensorimotor Polyneurppathy)
▶ The most common Cranial nerve(s) involved in diabetic neuropathy → Third CN >> Sixth CN >> Fourth CN .
▶ Diabetic third CN palsy is characteristically→ Pupil-Sparing
Harrison 19/e , 2683/p
2y Like Reply
Areej khan
About POST-SPLENECTOMY Sepsis
Write a comment...
GIF

Areej khan

About POST-SPLENECTOMY Sepsis

▬ ▬ ▬ ▬ ▬ ▬

▶ Typically, Encapsulated Organisms cause → Post-Splenectomy sepsis-related infection .

▶ The most common organism causing Post-Splenectomy Sepsis → Streptococcus Pneumoniae → Accounts for 50% of septic episodes in most series .

▶ The order of infection after splenectomy ... See More

5 Typically, encapsulated organisms cause the postsplenectomy sepsis-related infection. These bacteria have special features that allow them to be opsonized and cleared from circulation by the spleen, making them more dangerous in hypposplenic or splenectomized patients. The most common organism causing postsplenectomy sepsis is *Streptococcus pneumoniae*, which accounts for 50% of septic episodes in most series. In decreasing order of frequency, other bacteria associated with postsplenectomy sepsis are *Haemophilus influenza*, *Neisseria meningitidis*, β-hemolytic streptococcus, *Staphylococcus aureus*, *Escherichia coli*, and *Pseudomonas* species.[25] The current recommendations for patients who are having elective splenectomy are to vaccinate susceptible individuals to pneumococcus strains (Table 73.4).[25]

2y Like Reply

Areej khan

About Measles

▬▬▬▬▬▬▬▬

▶ Commonest complication of Measles → Acute Otitis Media

▶ Commonest cause of death in Measles → Pneumonia

▶ Symptom that lasts the longest in Measles → Cough (10 days)

▶ Pathognomic sign of Measles → koplik Spots (Appear 1-4 days prior to rash)

▬▬▬▬▬▬▬▬

▶ Nelson Textbook Of Paediatrics , 20/e , ch/246, p/ 1544 & 1545

2y Like Reply

Write a comment... GIF


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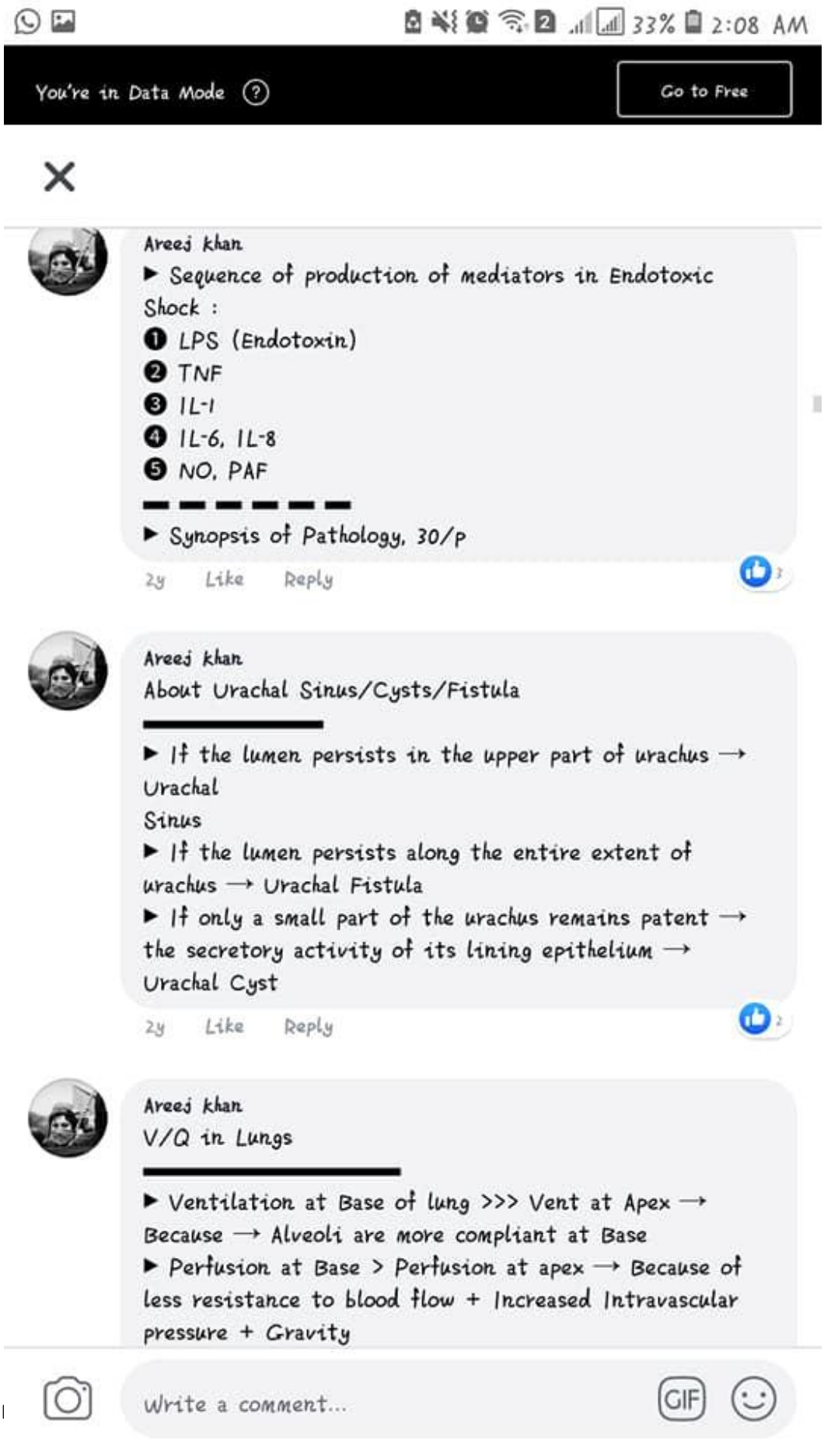
Normal Ureter has five distinct sites of Narrowing
▶ At Uretero-Pelvic Junction
▶ Where Ureter crosses the Iliac vessels
▶ Juxtaposition of Vas Deferns
▶ At Uretero-Vesical Junction (NARROWEST PART OF URETER)
▶ Ureteric Orifice
2y Like Reply
Areej khan
Narrowings in Airway
▶ Narrowest Part in Pediatric Airway → Cricoid Cartilage located in Subglottic area of larynx
▶ Narrowest Part in Adult Airway → Vocal Cords
2y Like Reply
Areej khan
Narrowings in Esophagus
▶▶Normal Esophagus has 4 Distinctive sites of Narrowing (All distances from upper incisors)
... See More
2y Like Reply
Areej khan
▶ Sequence of production of mediators in Endotoxic Shock :
❶ LPS (Endotoxin)
❷ TNF
❸ IL-1
Write a comment...
GIF



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Areej khan

▶ Sequence of production of mediators in Endotoxic Shock :

❶ LPS (Endotoxin)
❷ TNF
❸ IL-1
❹ IL-6, IL-8
❺ NO, PAF

▬ ▬ ▬ ▬ ▬ ▬

▶ Synopsis of Pathology, 30/p

2y Like Reply

Areej khan

About Urachal Sinus/Cysts/Fistula

▬▬▬▬▬

▶ If the lumen persists in the upper part of urachus → Urachal Sinus

▶ If the lumen persists along the entire extent of urachus → Urachal Fistula

▶ If only a small part of the urachus remains patent → the secretory activity of its lining epithelium → Urachal Cyst

2y Like Reply

Areej khan

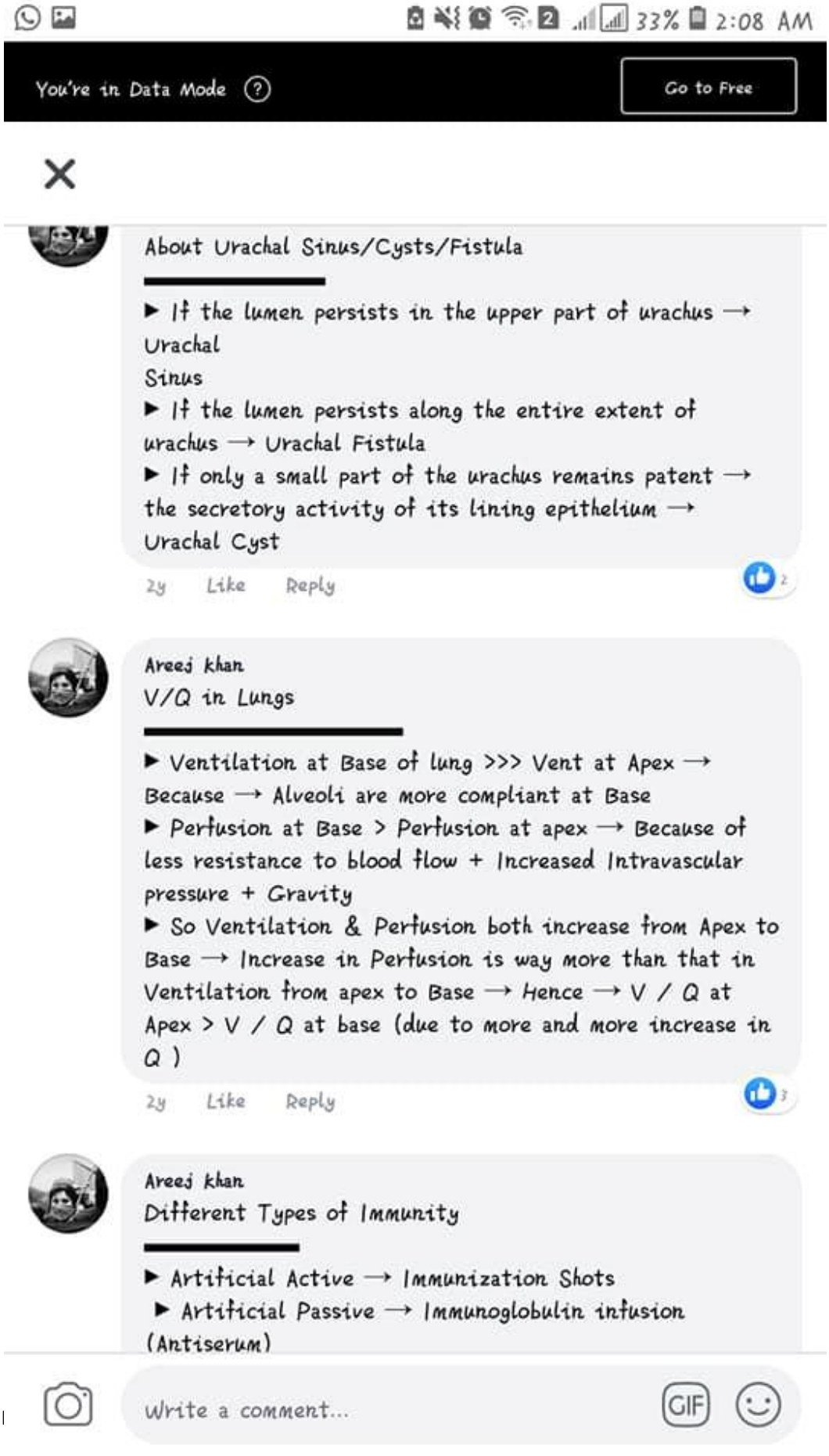
V/Q in Lungs

▬▬▬▬▬▬▬▬

▶ Ventilation at Base of lung >>> Vent at Apex → Because → Alveoli are more compliant at Base

▶ Perfusion at Base > Perfusion at apex → Because of less resistance to blood flow + Increased Intravascular pressure + Gravity

Write a comment... GIF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About Urachal Sinus/Cysts/Fistula
▶ If the lumen persists in the upper part of urachus → Urachal Sinus
▶ If the lumen persists along the entire extent of urachus → Urachal Fistula
▶ If only a small part of the urachus remains patent → the secretory activity of its lining epithelium → Urachal Cyst
2y Like Reply
Areej khan
V/Q in Lungs
▶ Ventilation at Base of lung >>> Vent at Apex → Because → Alveoli are more compliant at Base
▶ Perfusion at Base > Perfusion at apex → Because of less resistance to blood flow + Increased Intravascular pressure + Gravity
▶ So Ventilation & Perfusion both increase from Apex to Base → Increase in Perfusion is way more than that in Ventilation from apex to Base → Hence → V / Q at Apex > V / Q at base (due to more and more increase in Q)
2y Like Reply
Areej khan
Different Types of Immunity
▶ Artificial Active → Immunization Shots
▶ Artificial Passive → Immunoglobulin infusion (Antiserum)
Write a comment...
GIF

Apex > V / Q at base (due to more and more increase in Q)

2y Like Reply

Areej khan

Different Types of Immunity

- Artificial Active → Immunization Shots
- Artificial Passive → Immunoglobulin infusion (Antiserum)
- Natural Active → Exposure to Antigen
- Natural Passive → Antibodies Across Placenta

2y Like Reply

Areej khan

Growth (may be possible, not optimum temperature always) at 42°c

- All compylobacters except Campylobacter fetus.
- Mycobacterium Avium Intracellulare Complex
- Legionella

2y Like Reply

Areej khan

Some Important Exam Related Facts about Amoebiasis

- Commonest site for Extraintestinal Amoebiasis → Liver
- Hepatic Amoebiasis → Invasion of Portal Venous System
- Pleuropulmonary Amoebiasis → Ruptures through the Right Hemidiaphragm → Contageous Spread
- Commonest site in Pleuropulmonary disease→ Upper R

Write a comment... GIF

Some Important Exam Related Facts about Amoebiasis

▬ ▬ ▬ ▬ ▬ ▬

► Commonest site for Extraintestinal Amoebiasis → Liver

► Hepatic Amoebiasis → Invasion of Portal Venous System

► Pleuropulmonary Amoebiasis → Ruptures through the Right Hemidiaphragm → Contageous Spread

► Commonest site in Pleuropulmonary disease→ Upper R lobe

► Cerebral Amoebiasis → Hematogenous Spread

► Commonest site in Cerebral Disease → Frontal Lobe (2nd is Basal ganglia)

► Commonest Side of brain involved → Left Side > Right side

► Genitourinary Amoebiasis → Direct spread of Colon > Hematogenous e spread

► Commonest Complication of Amebic Liver abscess → Pleuropulmonary involvement

► Pericardial Amoebiasis → Rupture of Left lobe of liver

► Most sensitive and specific method for identifying E. histolytica → PCR Assay For DNA in Stool Samples

► Definitive diagnosis of Amebic Colitis → Demonstration of hematophagous trophozoites of E. histolytica in at least 3 fresh stool samples

► Confirmation of Ameboma →Trophozoites in Clonic mass biopsy specimen

► DOC for Asymptomatic Carriage → Iodoquinol

► DOC for Acute Colitis → Metronidazole(2nd choice Tinidazol) + Iodoquinol

► DOC for Amebic liver abscess → Metronidazole (2nd choice Tinidazol) + Iodoquinol

► For Prevention of Amoeba → Iodination of Water

▶ For Prevention of Amoeba → Iodination of Water (Chlorination is not effective)

Harrison, 19/e

2y Like Reply

Areej khan

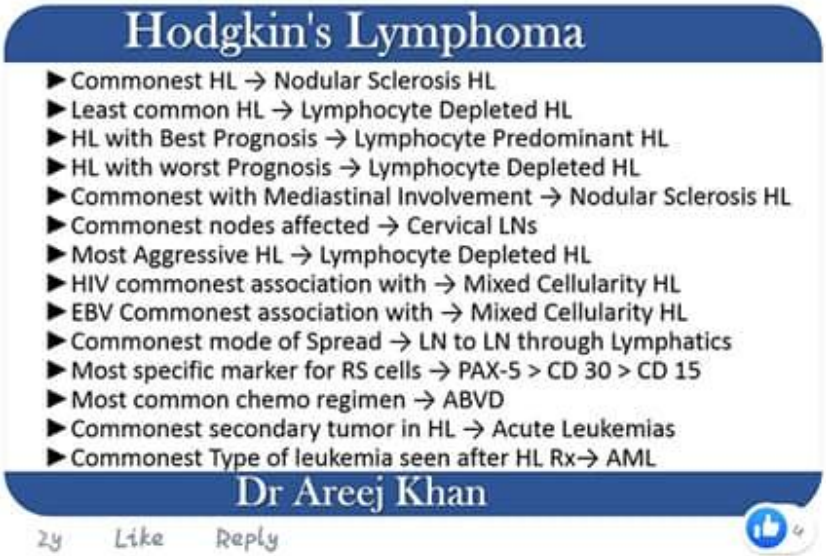
MOTILITY Control in GIT

▶ Inhibitors of Intestinal Motility
╋ Sympathetic Stimulation
╋ Glucagon... See More

2y Like Reply

Areej khan

About Hodgkin's Lymphoma



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Areej khan

While Solving MCQs Regarding Iron Deficiency Anemia

Write a comment... GIF

While Solving MCQs Regarding Iron Deficiency Anemia some Facts

---

■ Most specific / Gold standard test → Bone marrow biopsy with iron stain (perls prussian blue stain)
■ Most sensitive test (in order) → Serum transferrin receptor to log index of ferritin ratio >>> serum transferrin receptor assay (serum transferrin receptors)> > serum ferritin.

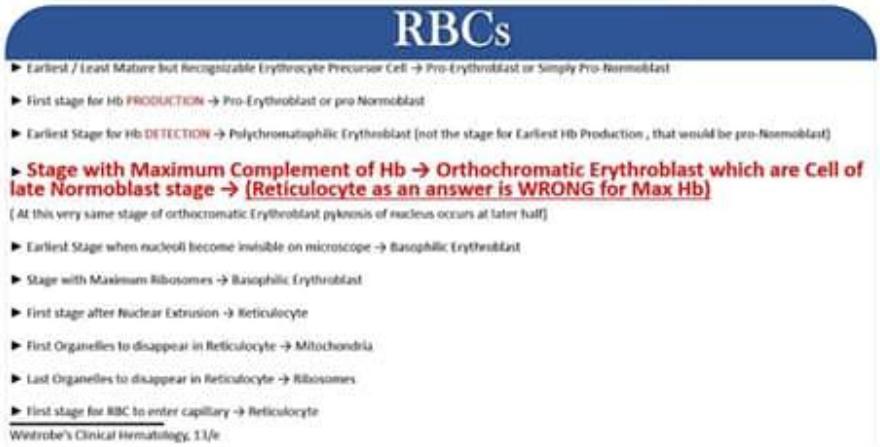
▶▶▶so while solving MCQs , BM Biopsy will be the first choice , if its not there then go for Transferrin RECEPTORS (not TIBC or TRANSFERRIN alone) then Serum FERRITN

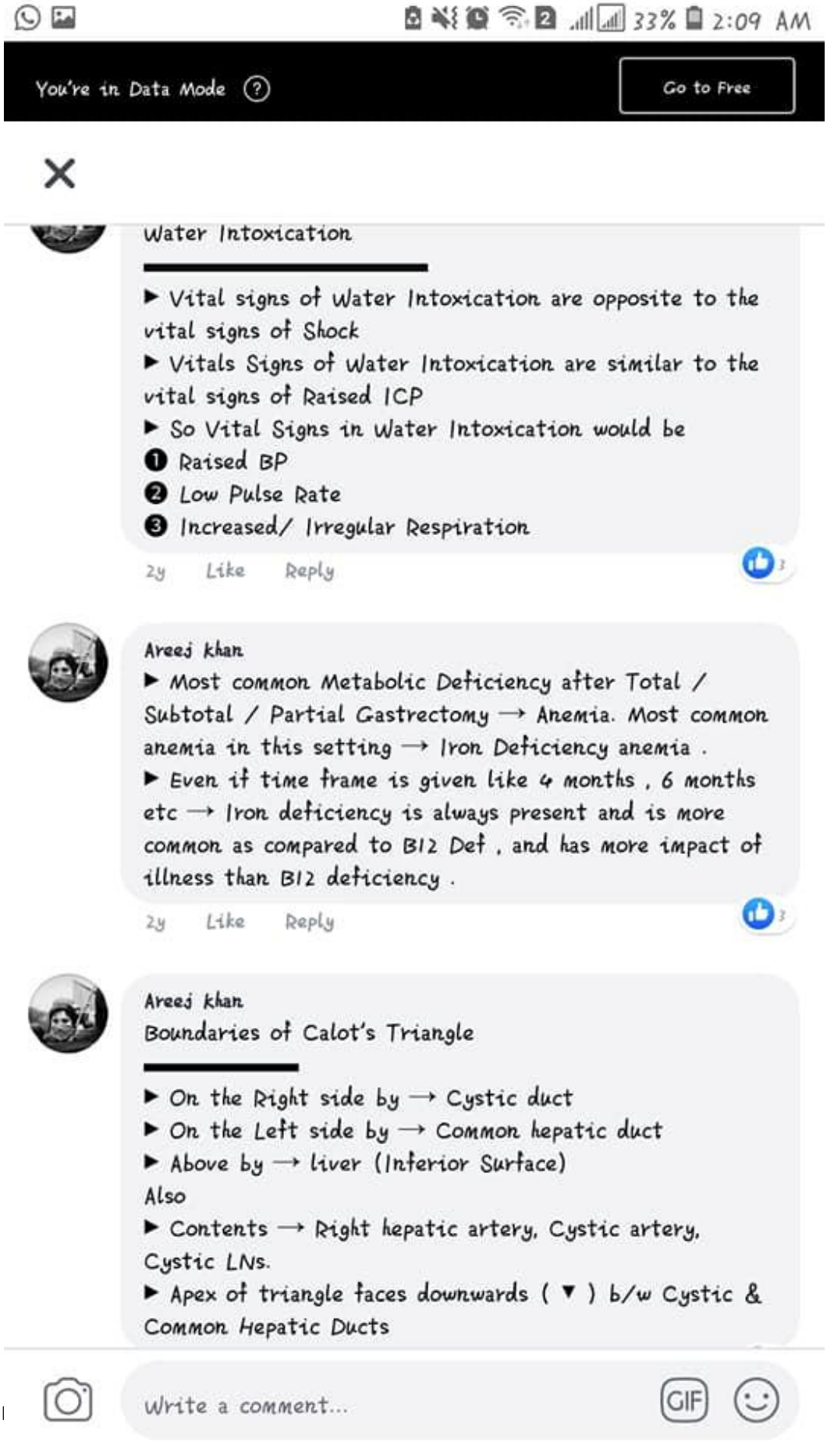
▶▶▶ The above info is true for both males & females (pregnant / non pregnant) .

2y Like Reply 2

Areej khan
For solving MCQs regarding RBCs' Hematology

Wintrobe's Clinical Hematology, 13/e

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Water Intoxication
▶ Vital signs of Water Intoxication are opposite to the vital signs of Shock
▶ Vitals Signs of Water Intoxication are similar to the vital signs of Raised ICP
▶ So Vital Signs in Water Intoxication would be
❶ Raised BP
❷ Low Pulse Rate
❸ Increased/ Irregular Respiration
2y Like Reply
Areej khan
▶ Most common Metabolic Deficiency after Total / Subtotal / Partial Gastrectomy → Anemia. Most common anemia in this setting → Iron Deficiency anemia .
▶ Even if time frame is given like 4 months , 6 months etc → Iron deficiency is always present and is more common as compared to B12 Def , and has more impact of illness than B12 deficiency .
2y Like Reply
Areej khan
Boundaries of Calot's Triangle
▶ On the Right side by → Cystic duct
▶ On the Left side by → Common hepatic duct
▶ Above by → liver (Inferior Surface)
Also
▶ Contents → Right hepatic artery, Cystic artery, Cystic LNs.
▶ Apex of triangle faces downwards (▼) b/w Cystic & Common Hepatic Ducts
Write a comment...
GIF

RBCs

► Earliest / Least Mature but Recognizable Erythrocyte Precursor Cell → Pro-Erythroblast or Simply Pro-Normoblast

► First stage for Hb PRODUCTION → Pro-Erythroblast or pro Normoblast

► Earliest Stage for Hb DETECTION → Polychromatophilic Erythroblast (not the stage for Earliest Hb Production , that would be pro-Normoblast)

► **Stage with Maximum Complement of Hb → Orthochromatic Erythroblast which are Cell of late Normoblast stage → (Reticulocyte as an answer is WRONG for Max Hb)**

(At this very same stage of orthocromatic Erythroblast pyknosis of nucleus occurs at later half)

► Earliest Stage when nucleoli become invisible on microscope → Basophilic Erythroblast

► Stage with Maximum Ribosomes → Basophilic Erythroblast

► First stage after Nuclear Extrusion → Reticulocyte

► First Organelles to disappear in Reticulocyte → Mitochondria

► Last Organelles to disappear in Reticulocyte → Ribosomes

► First stage for RBC to enter capillary → Reticulocyte

Wintrobe's Clinical Hematology, 13/e

Dr Areej Khan

Areej khan

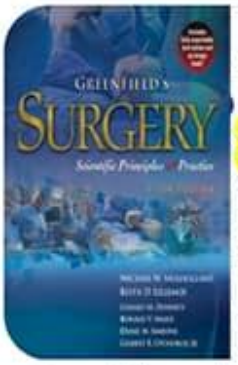
Boundaries of Calot's Triangle

- On the Right side by → Cystic duct
- On the Left side by → Common hepatic duct
- Above by → liver (Inferior Surface)... See More

2y Like Reply 2

Areej khan

- Strongest layer of small Intestine is → Submucosa . (Also given in CMDT 16 & Washington Manual of surgery)



Submucosa

The submucosa is a dense connective tissue layer with a rich network of blood vessels, nerves, and lymphatics. The submucosa contains the Meissner plexus and is the strongest layer of the intestinal wall. Brunner glands are found in the submucosa of the duodenum and secrete mucus and bicarbonate into the intestinal lumen. These secretions aid in the neutralization of the gastric acid load that enters the duodenum. Peyer patches are localized collections of lymphoid follicles that are most prominent in the submucosa of the ileum. These are typically 8 to 10 mm in diameter and are most abundant early in life, gradually disappearing with age.

2y Like Reply 4

Areej khan

Malaria & Fever (s) / Species causing Fever

- Species causing Quartan malaria → P. Malariae
- Species causing Benign Tertian malaria → P. Vivax
- Species causing Malignant Tertian malaria → P. Falciparum
- Species Ovale Tertian Malaria → P. Ovale

2y Like Reply 4

Areej khan
For some MCQs regarding Malaria
▶ Type of Anemia in Malaria →Normochromic Normocytic anemia
▶ Species causing most deaths → P. Facliparum
▶ Species with Longest intrahepatic / Pre-Erythrocytic phase → P. Malariae (15 d)
▶ Species that cause relapse → P. vivax > P. ovale ...
See More
2y Like Reply

Areej khan
Blunting of CP Angle on X-ray
▶Min Fluid for blunting of CostoPhrenic angle on erect film → 250-400 ml
2y Like Reply

Areej khan
Blood in Stool
▶ Min blood required in the stool for a positive occult blood test → > 10ml
▶ Min bleeding for melena → ~ 50 -100 mL Blood in Stomach
2y Like Reply

Areej khan
Cancer Incidence For Males
▶ Following are the 5 Most Common Cancers in Males in

Write a comment...

Areej khan
Cancer Incidence For Males

▶ Following are the 5 Most Common Cancers in Males in decreasing order of frequency

1. Prostate
2. Lung
3. Colorectal
4. Bladder
5. Melanoma

▶ Harrison Principles of Internal Medicine, 13/e, 99/ chap, 99-1/Table, 467/p

2y Like Reply

Areej khan
Incidence of Deaths due to Cancers For Males

▶ Following are the 5 Most Common causes of Death from Cancers in Males in decreasing order of frequency

1. Lung
2. Prostate
3. Colorectal
4. Pancreas
5. Liver

▶ Harrison Principles of Internal Medicine, 13/e, 99/ chap, 99-1/Table, 467/p

2y Like Reply

Areej khan
Cancer Incidence For Females

Write a comment... GIF

Areej khan
Cancer Incidence For Females

▶ Following are the 5 Most Common Cancers in Females in decreasing order of frequency

1. Breast
2. Lung
3. Colorectal
4. Endometrial
5. Thyroid

▶ Harrison Principles of Internal Medicine, 13/e, 99/ chap, 99-1/Table, 467/p

2y Like Reply

Areej khan
Incidence of Deaths due to Cancers For Females

▶ Following are the 5 Most Common causes of Death from Cancers in Females in decreasing order of frequency

1. Lung
2. Breast
3. Colorectal
4. Pancreas
5. Ovary

▶ Harrison Principles of Internal Medicine, 13/e, 99/ chap, 99-1/Table, 467/p

2y Like Reply

Areej khan
▶▶ Most Common Organ Injured in BLUNT Abdominal

Write a comment... GIF

Part 7

Areej khan

▶▶ Most Common Organ Injured in BLUNT Abdominal Trauma → Liver (30% of all cases)

▶ Greenfield's Surgery, 5/e, 23.2/Table

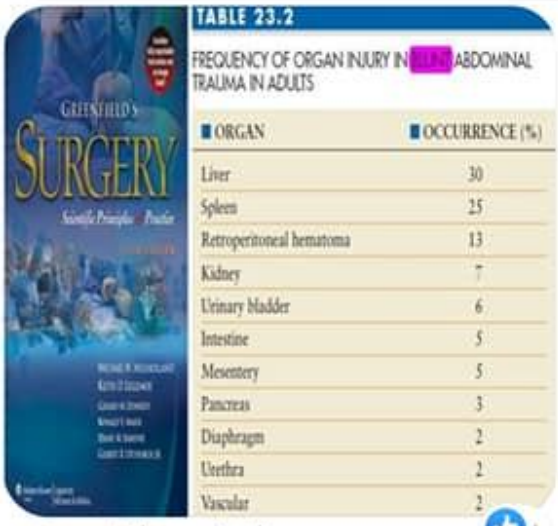


TABLE 23.2

FREQUENCY OF ORGAN INJURY IN BLUNT ABDOMINAL TRAUMA IN ADULTS

ORGAN	OCCURRENCE (%)
Liver	30
Spleen	25
Retroperitoneal hematoma	13
Kidney	7
Urinary bladder	6
Intestine	5
Mesentery	5
Pancreas	3
Diaphragm	2
Urethra	2
Vascular	2

2y Like Reply

Areej khan

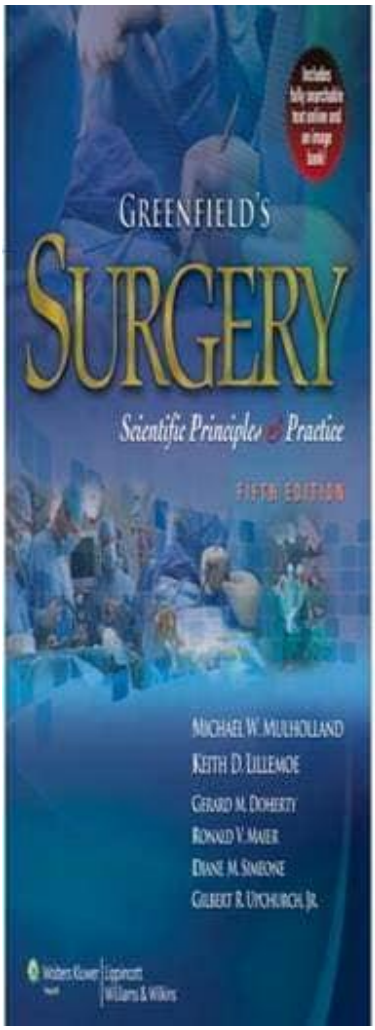
▶▶ Most Common Organ Injured in PENETRATING Abdominal Trauma → Liver (37% of all cases)

▶ Greenfield's Surgery, 5/e, 23.2/Table

TABLE 23.1

FREQUENCY OF ORGAN INJURY IN PENETRATING ABDOMINAL TRAUMA

ORGAN	OCCURRENCE (%)
Liver	37
Small bowel	26
Stomach	19
Colon	17
Major vascular	13
Retroperitoneal	10
Mesentery and omentum	10
Spleen	7
Diaphragm	5



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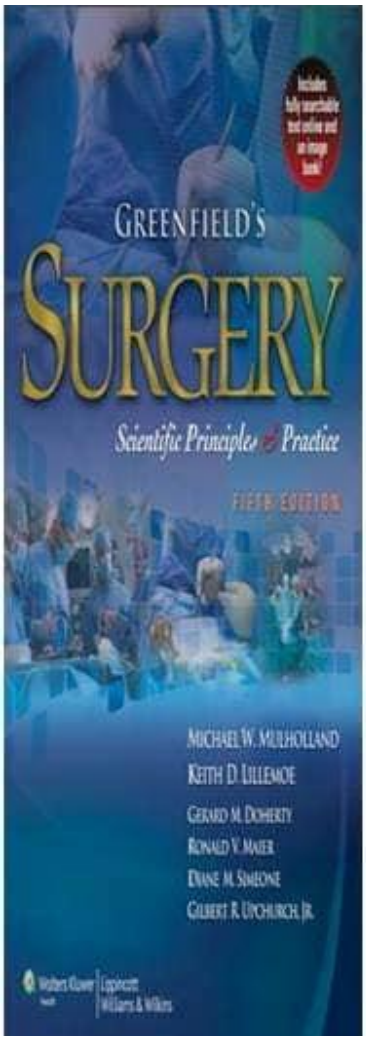
Vascular	2



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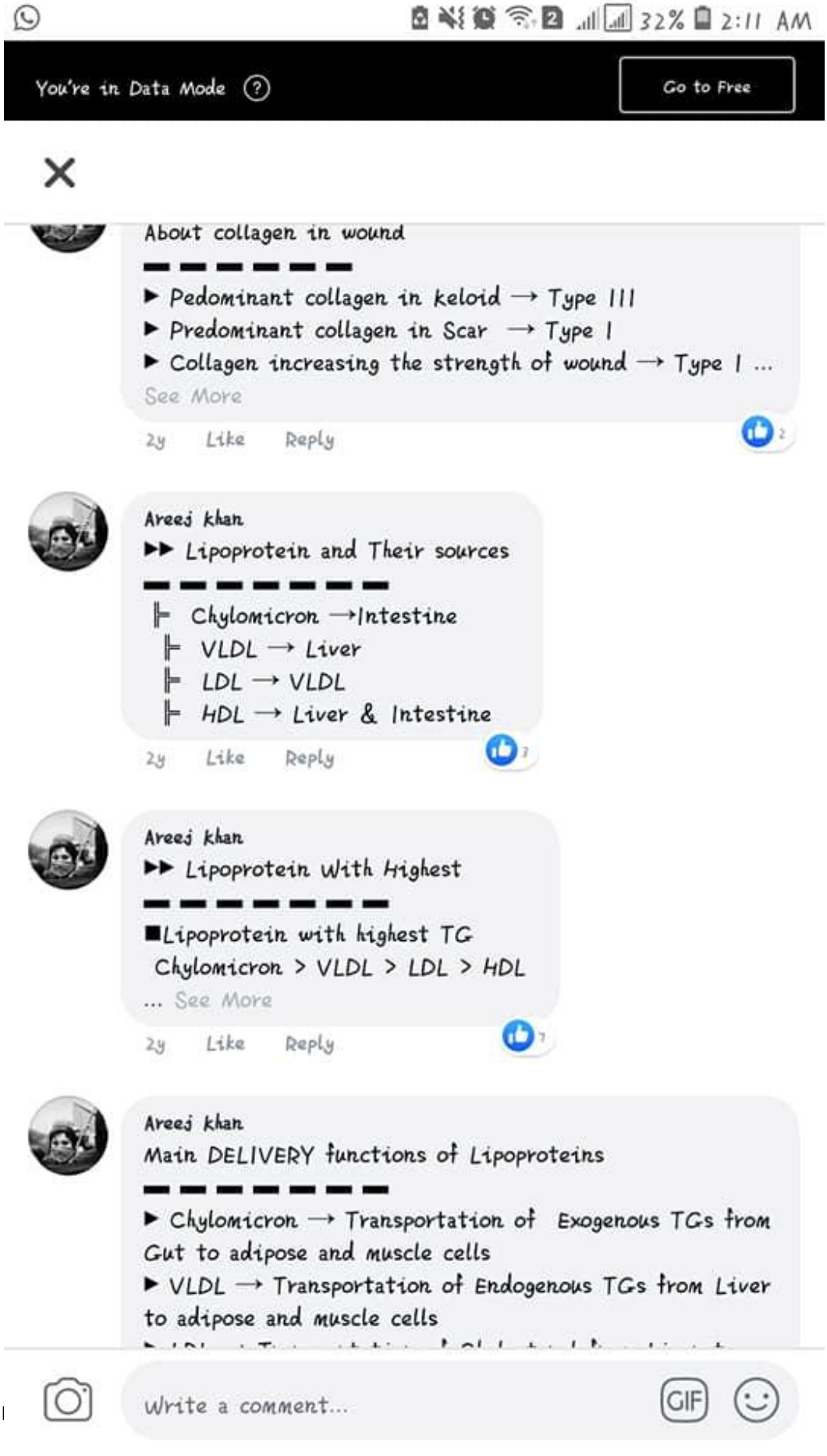
Mesentery and omentum	10
Spleen	7
Diaphragm	5
Kidney	4
Pancreas	4
Duodenum	2
Biliary system	1
Other	1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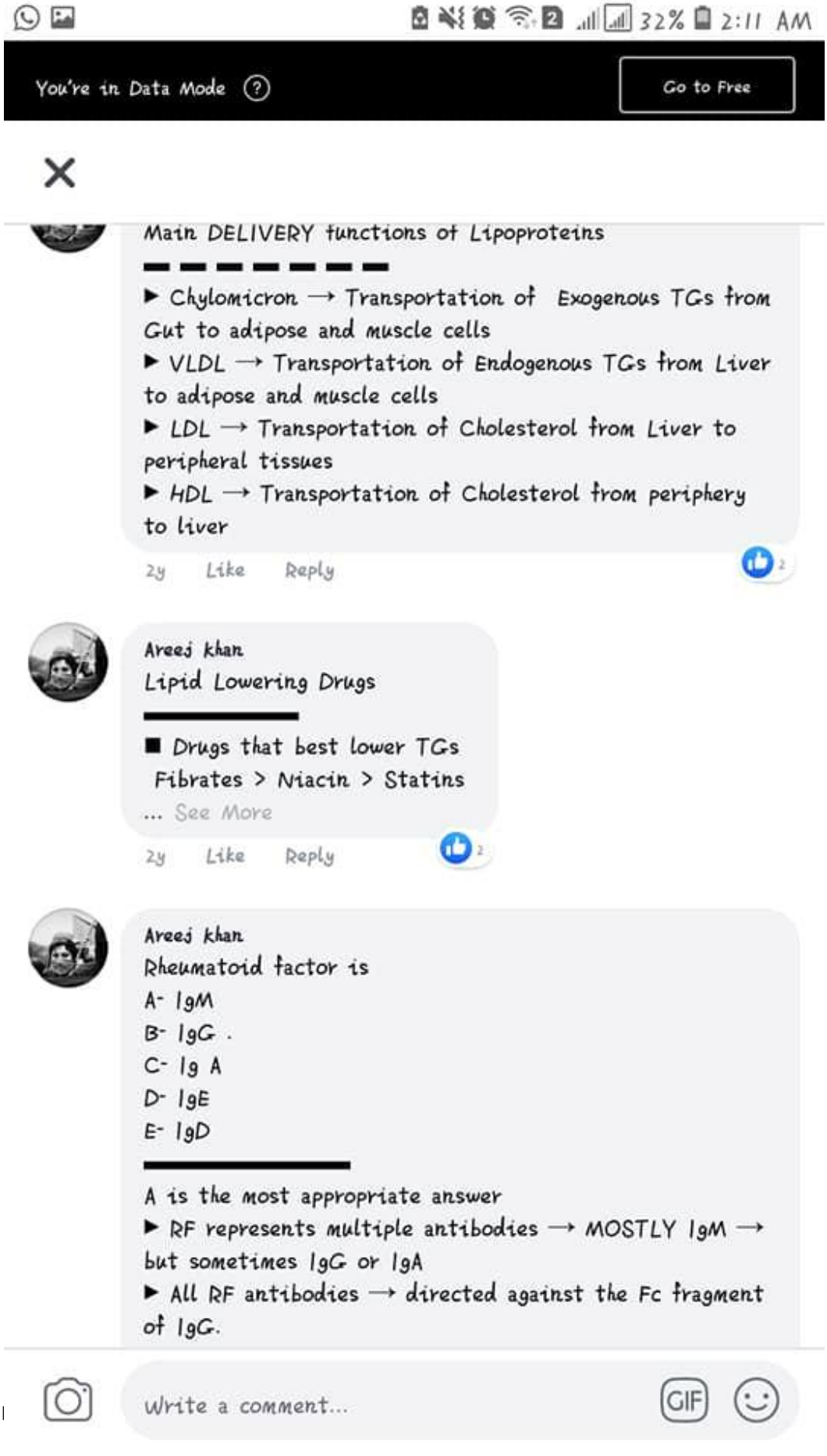
About collagen in wound
▶ Pedominant collagen in keloid → Type III
▶ Predominant collagen in Scar → Type I
▶ Collagen increasing the strength of wound → Type I ...
See More
2y Like Reply
Areej khan
▶▶ Lipoprotein and Their sources
Chylomicron →Intestine
VLDL → Liver
LDL → VLDL
HDL → Liver & Intestine
2y Like Reply
Areej khan
▶▶ Lipoprotein With Highest
■Lipoprotein with highest TG
Chylomicron > VLDL > LDL > HDL
... See More
2y Like Reply
Areej khan
Main DELIVERY functions of Lipoproteins
▶ Chylomicron → Transportation of Exogenous TGs from Gut to adipose and muscle cells
▶ VLDL → Transportation of Endogenous TGs from Liver to adipose and muscle cells
Write a comment...
GIF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Main DELIVERY functions of Lipoproteins
▶ Chylomicron → Transportation of Exogenous TGs from Gut to adipose and muscle cells
▶ VLDL → Transportation of Endogenous TGs from Liver to adipose and muscle cells
▶ LDL → Transportation of Cholesterol from Liver to peripheral tissues
▶ HDL → Transportation of Cholesterol from periphery to liver
2y Like Reply
Areej khan
Lipid Lowering Drugs
■ Drugs that best lower TGs
Fibrates > Niacin > Statins
... See More
2y Like Reply
Areej khan
Rheumatoid factor is
A- IgM
B- IgG .
C- Ig A
D- IgE
E- IgD
A is the most appropriate answer
▶ RF represents multiple antibodies → MOSTLY IgM → but sometimes IgG or IgA
▶ All RF antibodies → directed against the Fc fragment of IgG.
Write a comment...
GIF

Areej khan

Tuberculin test cells found at site

A- Cd4

B- Cd8

A is the most appropriate answer

(CD4+ TH1 Cells)

▶ Effectors of Type IV HSR are T cells (CD4 and CD 8) .

▶ Some conditions / mechanisms are predominantly / Primarily under control of CD4 cells → Like Systemic Fungal infections, MS, RA , TB, Tuberculin test, etc.

▶ Other conditions are under control of CD8 cells → Like killing of Virus infected or tumor cells etc.

▶ Robbins, 9/e, 6/chap, 210/p

2y Like Reply 3

Areej khan

Patient with pericardial rub and deranged RFTs

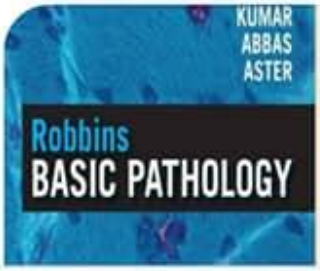
A- Fibrinous

B- Serous

A is the correct answer

▶ Case of Uremic or Bread & Butter Pericarditis

Robbins Basic Pathology, 9/e, 403/p

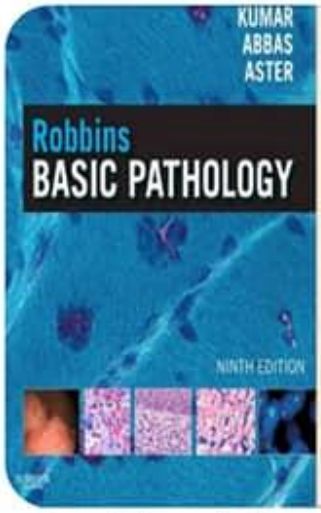


In patients with **acute viral pericarditis** or **uremia,** the exudate typically is **fibrinous,** imparting an irregular, shaggy appearance to the pericardial surface (so-called "bread and butter" pericarditis). In **acute bacterial pericarditis,** the exudate is **fibrinopurulent** (suppurative), often with areas of frank pus (Fig. 10–30); tuberculous pericarditis can exhibit areas of caseation. Pericarditis due to malignancy often is associated with an exuberant, shaggy fibrinous exudate and a bloody effusion; metastases can be grossly evident as irregular excrescences or may be grossly inapparent, especially in

Areej khan
Patient with pericardial rub and deranged RFTs
A- Fibrinous
B- Serous

A is the correct answer
▶ Case of Uremic or Bread & Butter Pericarditis

Robbins Basic Pathology, 9/e, 403/p



In patients with **acute viral pericarditis** or **uremia,** the exudate typically is **fibrinous,** imparting an irregular, shaggy appearance to the pericardial surface (so-called "bread and butter" pericarditis). In **acute bacterial pericarditis,** the exudate is **fibrinopurulent** (suppurative), often with areas of frank pus (Fig. 10–30); tuberculous pericarditis can exhibit areas of caseation. Pericarditis due to malignancy often is associated with an exuberant, shaggy fibrinous exudate and a bloody effusion; metastases can be grossly evident as irregular excrescences or may be grossly inapparent, especially in the case of leukemia. In most cases, acute fibrinous or fibrinopurulent pericarditis resolves without any sequelae. With extensive suppuration or caseation, however, healing can result in fibrosis **(chronic pericarditis).**

Chronic pericarditis may be associated with delicate adhesions or dense, fibrotic scars that obliterate the pericardial space. In extreme cases, the heart is so completely encased by dense fibrosis that it cannot expand normally during diastole—resulting in the condition known as **constrictive pericarditis.**

2y Like Reply 3

Areej khan
Postmortem clots show
A- Fries eggs appearance
B- Chicken fat appaerance
C- Line of zahn

B is Correct
▶ Line of Zahn Signifies → that a thrombus has formed in flowing blood → ANTE-mortam Clots
▶ yellow Chicken Fat upper portion of clot signifies that

Areej khan

Postmortem clots show

A- Fries eggs appearance

B- Chicken fat appaerance

C- Line of zahn

B is Correct

▶ Line of Zahn Signifies → that a thrombus has formed in flowing blood → ANTE-mortam Clots

▶ yellow Chicken Fat upper portion of clot signifies that → The RBCs have settled under gravity and outer upper portion of clot becomes yellow → form after DEATH → POST-mortem Clots

---

Robbins, 13/e 4/chap

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Areej khan

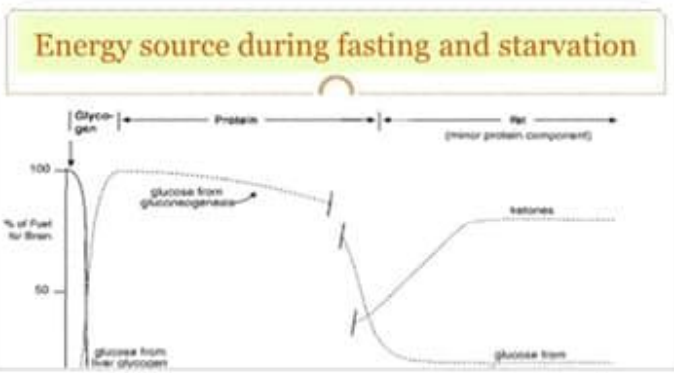
After 48 hours starvation, the source of energy for the body is;

a. Muscle glycogen

b. Muscle protein

c. Liver glycogen

d. Triglycerides... See More



Write a comment... GIF

×

Areej Khan

After 48 hours starvation, the source of energy for the body is;

a. Muscle glycogen
b. Muscle protein
c. Liver glycogen
d. Triglycerides

B is the right answer

▶ Approximately ~ 500g Glycogen Reserves in Liver / Muscle (Options A & C) → Main Source of Energy through Glycogenolysis during approximately → First 12-24 Hrs

▶ Approximately 5000g Protein Reserves as Muscle protein (Option B) → Main source of Energy through Gluconeogenesis Approximately → From After 1st 24 hrs till end of First week of Starvation

▶ Approximately 10000-15000g of Fat Reserves → Main Source of Energy Through Fatty Acid (in the form of Triacylglycerols) Derived Product ketone Bodies for approximately → Next 4-6 Weeks

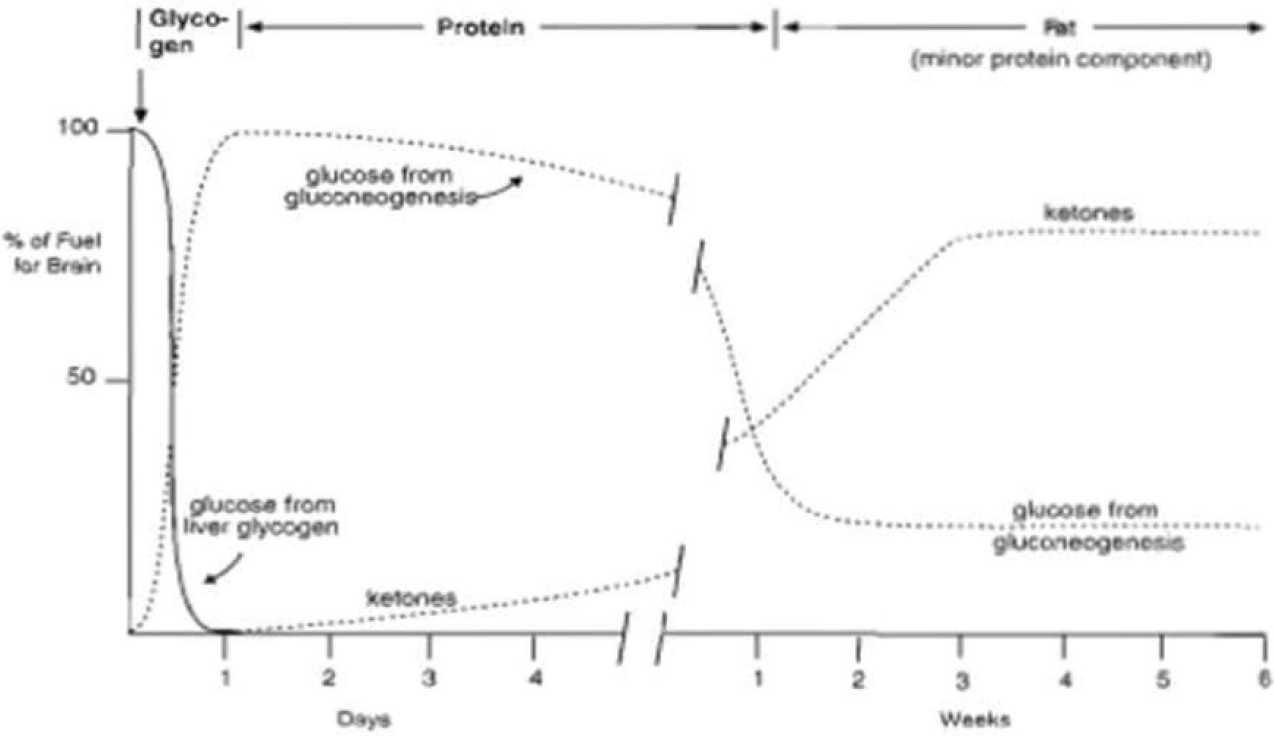
▶ Brain adapts to utilize ketone Bodies roughly after 1st week of Starvation

▶ RBCs can never use any substrate for energy production other than Glucose →So after 1st week Glucose-Energy for RBCs comes from gluconeogenesis process from glycerol.

Following Graph will help understand concept further objectively.

Iqra Irshad Haris Baloch Nakkash Bukhari

Energy source during fasting and starvation



Areej khan
▶ There are two sets of beliefs regarding origin of ExtraEmbryonic Mesoderm (EEM) → One is That EEM originates from Hypoblast and the other is That EEM originates purely from Trophoblasts .
2y Like Reply 4

Areej khan
In vit k deficiency which factor is depleted first .
a.2
b 5
c.7
d 9 ... See More

bacteria. Patients therefore can acquire vitamin K deficiencies by poor diet and/or by taking antibiotics that destroy intestinal bacteria. Biliary obstruction, malabsorption, cystic fibrosis, and resection of the small intestine also may contribute to vitamin K deficiency. The PT usually is prolonged first, as factor VII typically is depleted relatively early. Urgent treatment of vitamin K deficiency requires intravenous vitamin K, administered slowly to prevent hypotension. Improvement in coagulopathy usually is apparent 6 to 8 hours after administration.

2y Like Reply 9

Areej khan
Pethidine Preferred over Morphine
▶▶ Pethidine (Meperidine) is preferred due to its rapid onset and short duration of action compared to Morphine → This is also the reason for preferred use of Pethidine in brief but more painful settings
2y Like Reply 4

Areej khan
▶▶Most common nerve injured during Thyroidectomy →

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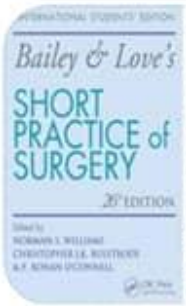
Areej Khan

▶▶Most common nerve injured during Thyroidectomy → External Branch of Superior Laryngeal Nerve

▶ Bailey & Love, 26/e, 762/p



and cough. Such temporary dysfunction is not clinically important however, but voice and cord function should be assessed at first follow up 4 weeks postoperatively. The British Association of Endocrine Surgeons audit revealed a RLN palsy rate of 1.8 per cent at one month declining to 0.5 per cent at three months for first-time operations. Permanent paralysis is rare if the nerve has been identified at operation. Injury to the external branch of the superior laryngeal nerve is more common because of its proximity to the superior thyroid artery. This leads to loss of tension in the vocal cord with diminished power and range in the voice

2y Like Reply

Areej Khan

▶▶Most common nerve injured during Thyroidectomy → External Branch of Superior Laryngeal Nerve

▶ Greenfield's Surgery,5/e, 75.5/Table

TABLE 75.5 COMPLICATIONS

COMPLICATIONS OF TOTAL THYROIDECTOMY

COMPLICATIONS	INCIDENCE (%)
Bleeding	1
Wound infection	1
Thoracic duct leak	1
Hypoparathyroidism	
Transient	9–35
Permanent	0–4
Recurrent laryngeal nerve injury	
Initial operation	
Transient	1–10
Permanent	0–1.4
Reoperation	
Transient	0–22
Permanent	0–13
External branch of superior laryngeal nerve injury	5–28

2y Like Reply

Areej khan
Origin of Primordial Germ Cells

▶ Early in development → Inner Cell Mass
▶ later → Epiblast → Presumptive Germ Cells

2y Like Reply

Areej khan
Best predictor of future Coronary artery disease or myocardial infarction (in descending order)

---

❶ HsCRP(highly sensitive C Reactive Protein)
❷ TC (total cholesterol) / HDL ratio
❸ Apo-B/ Apo-A ratio
❹ LDL
❺ Non HDL (Total cholesterol -HDL)
❻ HDL

---

1) Braunwald Cardiology, 10/e 899-901/p
2) Goldman and Cecil Textbook of medicine 24/e 257/p

2y Like Reply

Areej khan
Location Of Abdominal Aortic Aneurysm (AAA)

▶ AAA occur most commonly → below Renal arteries (L2)
▶ Below L2 → Most common location for AAA → B/W Renal Arteries(L2) & IMA (L3)
▶ Most accurate answer would be L2-L3 interspace . Because beyond L4 → There is no abdominal Aorta .

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Areej khan

Location Of Abdominal Aortic Aneurysm (AAA)

▶ AAA occur most commonly → below Renal arteries (L2)

▶ Below L2 → Most common location for AAA → B/W Renal Arteries(L2) & IMA (L3)

▶ Most accurate answer would be L2-L3 interspace . Because beyond L4 → There is no abdominal Aorta .

2y Like Reply

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Iodine Excretion

▶ Excretion of Iodine occurs mainly through → Urine

▶ Small amount excreted Through → Saliva & Bile

... See More

Absorption Transport and Excretion

Iodine is absorbed mainly from the small intestine. Normally, about 30% of the dietary iodine is absorbed. Skin may also absorb iodine, so toxic manifestations may result from prolonged use of iodine containing skin ointments. The absorbed iodine is released into blood circulation where it is mostly (90%) present in the form of thyroid hormones bound to protein (**protein bound iodine**). Only about 10% is present in the form of inorganic iodide. Excretion of iodine occurs mainly through urine and to a lesser extent through bile and saliva. Urine inorganic iodide correlates with plasma level

2y Like Reply

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Angina may be worsened by

A- Atropine

B- Salbutamol.

C- Theophyline

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iodine). Only about 10% is present in the form of inorganic iodide. Excretion of iodine occurs mainly through urine and to a lesser extent through bile and saliva. Urine inorganic iodide correlates with plasma level.

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Angina may be worsened by

A- Atropine

B- Salbutamol.

C- Theophyline.

D- Vasopressin

E- Verapamil

. Wrong Question Statement.

▶ ▶ Put an except in question and the answer will be Verapamil (E)

▶▶ Verapamil worsens → CHF & AV conduction Blocks NOT ANGINA

▶▶Below is the list of common drugs that are associated with worsening of Angina

1. Amphetamines
2. Hydralazine
3. Digoxin
4. Amitryptiline
5. Norepinephrine
6. Theophylline
7. Atropine
8. Thyroxine
9. Albuterol & Salbutamol
10. Vasopressin (ADH)

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WORSENING OF ANGINA

►►Below is the list of Common Drugs associated with worsening of Angina

- Amphetamines
- Hydralazine
- Digoxin
- Amitryptiline
- Norepinephrine
- Theophylline
- Atropine
- Thyroxine
- Albuterol & Salbutamol
- Vasopressin (ADH)

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- Thyroxine
- Albuterol & Salbutamol
- Vasopressin (ADH)

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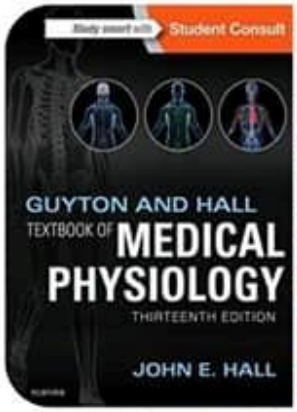
Non-Shivering Thermogenesis → Sympathetic System → Primarily Norepinephrine

▶▶▶ Guyton, 13/e, 73/chap, 909/p



Energy Used for Nonshivering Thermogenesis—Role of Sympathetic Stimulation

Although physical work and the thermogenic effect of food cause liberation of heat, these mechanisms are not aimed primarily at regulation of body temperature. Shivering provides a regulated means of producing heat by increasing muscle activity in response to cold stress, as discussed in Chapter 74. Another mechanism, *nonshivering thermogenesis*, can also produce heat in response to cold stress. This type of thermogenesis is stimulated by sympathetic nervous system activation, which releases norepinephrine and epinephrine, which in turn increase metabolic activity and heat generation.

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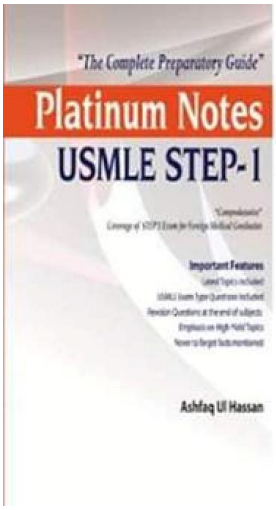
Non-Shivering Thermogenesis → Sympathetic System → Primarily Norepinephrine

▶▶▶Platinum Notes, USMLE Step-I, 214/p



Sexual functions	Septate nucleus
Control of anterior pituitary	By releasing factors
Control of posterior pituitary	By hormones produced in hypothalamic nuclei

Functions of Hypothalamus

- Food intake
- Temperature control
- Hypophyseal control
- Non shivering thermogenesis is because of noradrenaline
- Non shivering thermogens are secreted by heart, liver small intestine
- Non shivering thermogenesis is mediated by β3 receptors
- Heat loss depends mostly on environmental temperature

Premalignant Lesions

► A morphologically altered tissue in which cancer is more likely to occur than its apparently (morphologically) normal counterpart.

►Premalignant Lesions are Divided into Clinical & Histological Lesions

1. **Clinical Classification of Lesions**
   - Erythroplakia
   - Leukoplakia
   - Leukokeratosis Nicotina Palati
   - Speckled Leukoplakia
2. **Histological Classification of Lesions**
   - Squamous Epithelial Dysplasia
   - Squamous Cell Carcinoma In Situ
   - Solar / Actinic Keratosis

► **Benign lesions capable of resembling Premalignant Lesions**
- White lesions resembling Leukoplakia
- Red Lesions Resembling Erythroplakia
- Focal Epithelial Hyperplasia
- Reactive & Regenerative Atypia
- Candidal Leukoplakia (Chronic Hyperplastic Candidiasis)

- WHO Histological Typing of Cancer & Precancer of Oral Mucosa: 1997. 2/e, 10/p
- Textbook of Oral Medicine By Pramod R. John, 177/p

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Premalignant Condition

- Generalized State associated with Significantly Increased Risk of Developing Cancer
- Names of Conditions
  - Syphilis
  - Oral Lichen Planus
  - Epidermolysis Bullosa
  - Sideropenic Dysphagia
  - Dyskeratosis Congenita
  - Oral Submucous Fibrosis
  - Xeroderma Pigmentosum
  - Discoid Lupus Erythematosus

- WHO Histological Typing of Cancer & Precancer of Oral Mucosa: 1997. 2/e, 10/p
- Textbook of Oral Medicine By Pramod R. John, 177/p

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- Epidermolysis Bullosa
- Sideropenic Dysphagia
- Dyskeratosis Congenita
- Oral Submucous Fibrosis
- Xeroderma Pigmentosum
- Discoid Lupus Erythematosus

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- Textbook of Oral Medicine By Pramod R. John, 177/p

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Yellow appearance of Elastic Cartilage

▶ Elastic Cartilage has both Elastic & Collagen Type II Fibers but its only the Elsatic / Elastic Fibers responsible for Yellow color

▶ Junqueira's Basic Histology, 13/e, 7/chap, 134/p

ELASTIC CARTILAGE

Elastic cartilage is essentially similar to hyaline cartilage except that it contains an abundant network of elastic fibers in addition to collagen type II (Figure 7–4), which give fresh elastic cartilage a yellowish color. Demonstration of the elastic fibers usually requires stains such as orcein or resorcin fuchsin

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Factors Affecting BMR

Factor Affecting BMR			
Age	• BMR is inversely proportional to Age • Premature Infants < Newborn children < Old age < Middle Age < Adult < teenagers < Healthy Children during growth years	Nutrition Status	↓ BMR with • Starvation • Fasting • Malnutrition
Sex	Male > Female	Caffeine, Benzedrine, Epinephrine, Nicotine, Alcohol	↑ BMR
Lean Body Mass (LBM)	BMR Directly proportional to LBM	Stress	↑ BMR
Height	BMR Directly proportional to Height	Exercise	↑ BMR
Climate	BMR Inversely proportional to Environmental Temperature	Lactation & Pregnancy	↑ BMR

Factor Affecting BMR

Age	• BMR is inversely proportional to Age • Premature Infants < Newborn children < Old age < Middle Age < Adult < teenagers < Healthy Children during growth years	Nutrition Status	↓ BMR with • Starvation • Fasting • Malnutrition
Sex	Male > Female	Caffeine, Benzedrine, Epinephrine, Nicotine, Alcohol	↑ BMR
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Height	BMR Directly proportional to Height	Exercise	↑ BMR
Climate	BMR Inversely proportional to Environmental Temperature	Lactation & Pregnancy	↑ BMR
Body Temperature	BMR Directly proportional to changes in Body Temperature	Adrenal Medullary, Anterior Pituitary & Thyroid Gland Hormones	↑ BMR
Body Surface Area (BSA)	BMR Directly proportional to BSA	Sleep & Most of anesthetics	↓ BMR
Barometric Pressure of Oxygen	• Significantly ↓ O_2 pressure → ↑ BMR • Mild-Moderate ↓ O_2 pressure → No change in BMR	Physical Activity	• Trained Athletes / Manual Workers > Sedentary Lifestyle
Fever	↑ BMR	Smoking	↑ BMR

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Factors Affecting Compliance

- **Reduced Compliance**
  - Pleural Fibrosis
  - Pulmonary Venous Engorgement / Congestion
  - Pulmonary Edema
  - ARDS
  - Neonates
  - Extremes of Lung volumes
  - Pneumonia
  - Chronic Bronchitis (Dynamic)
  - Increased pulmonary Smooth muscle tone
  - Increased alveolar Surface Tension
  - Atelectasis
  - Pulmonary Infiltration
  - Interstitial Pulmonary Fibrosis

- **Increased Compliance**
  - Acute Asthma
  - Increased production of Surfactant
  - Old Age
  - Emphysema
  - Pulmonary Oligaeia
  - Decreased pulmonary Smooth muscle tone

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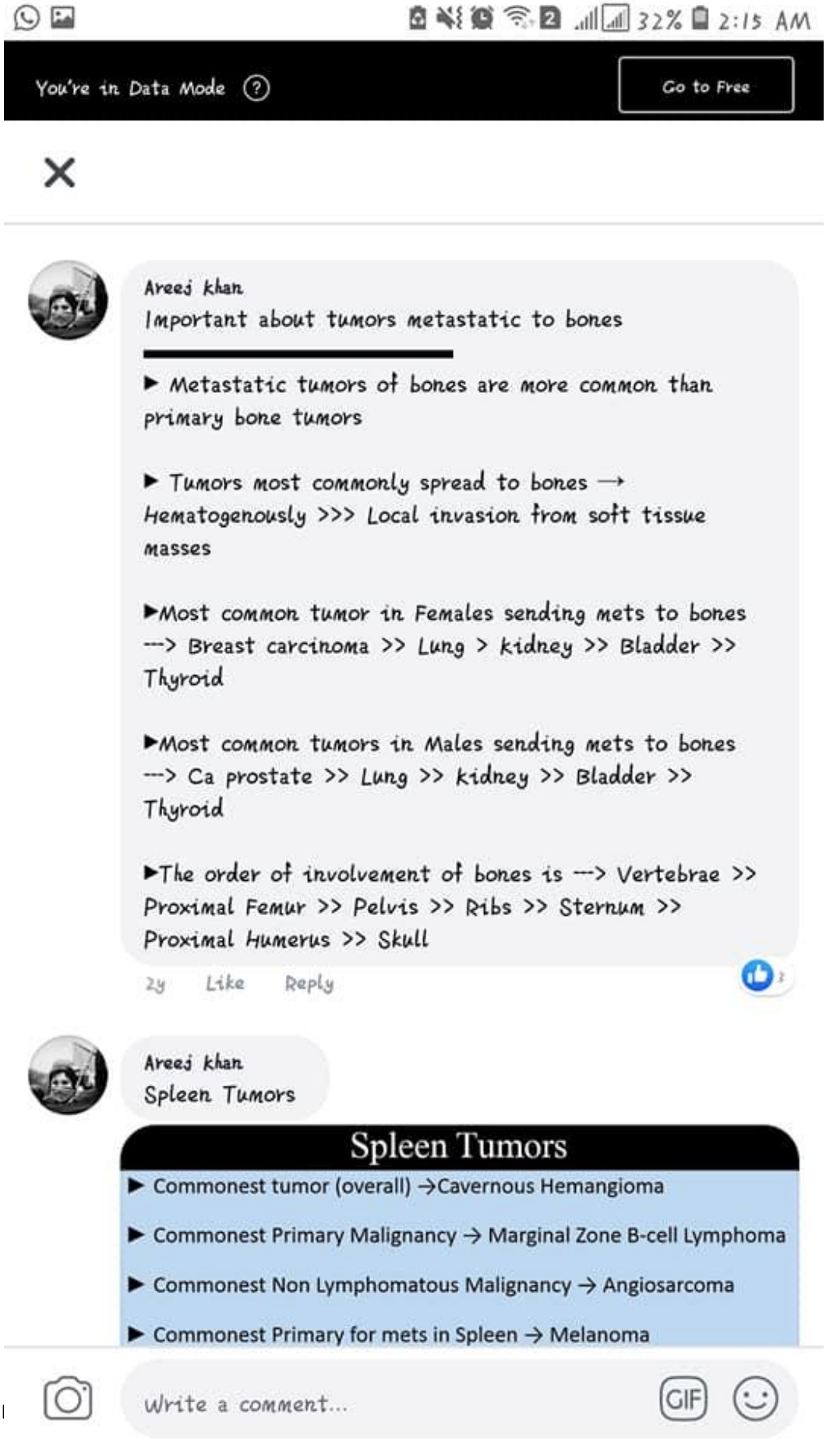
32% 2:15 AM
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Areej khan
Important about tumors metastatic to bones
▶ Metastatic tumors of bones are more common than primary bone tumors
▶ Tumors most commonly spread to bones → Hematogenously >>> Local invasion from soft tissue masses
▶Most common tumor in Females sending mets to bones --> Breast carcinoma >> Lung > kidney >> Bladder >> Thyroid
▶Most common tumors in Males sending mets to bones --> Ca prostate >> Lung >> kidney >> Bladder >> Thyroid
▶The order of involvement of bones is --> Vertebrae >> Proximal Femur >> Pelvis >> Ribs >> Sternum >> Proximal Humerus >> Skull
2y Like Reply
Areej khan
Spleen Tumors
Spleen Tumors
▶ Commonest tumor (overall) →Cavernous Hemangioma
▶ Commonest Primary Malignancy → Marginal Zone B-cell Lymphoma
▶ Commonest Non Lymphomatous Malignancy → Angiosarcoma
▶ Commonest Primary for mets in Spleen → Melanoma
Write a comment...
GIF


32% 2:15 AM
You're in Data Mode
Go to Free
Areej khan
Spleen Tumors
Spleen Tumors
▶ Commonest tumor (overall) →Cavernous Hemangioma
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▶ Commonest Non Lymphomatous Malignancy → Angiosarcoma
▶ Commonest Primary for mets in Spleen → Melanoma
▶ Commonest primary for isolated splenic Mets → Ovarian tumor
Dr. Areej Khan
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Areej khan
Anemia of chronic disease is → Normocytic Normochromic Anemia >>>> Microcytic Hypochromic Anemia
2y Like Reply
Areej khan
Hereditary Spherocytosis
▶ Mostly the mutations in HS are seen → in head region most commonly in → Ankyrin.
▶ Order of Frequency of Mutations in HS → ANK1 (Ankyrin) > SLC4A1 (Band-3 Anion Channel) > SPTA1 / SPTB (α / β Spectrin) EPB42 (band 4.2)
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Causes of Hypocalcemia in CRF
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GIF

Causes of Hypocalcemia in CRF

Major Contributors
- Hypovitaminosis D
- Hyperphosphatemia

Minor Contrbutors
- Skeletal Resistance to PTH
- Hypoproteinemia

Hypovitaminosis D in CRF

- ↓ synthesis of 1-α-hydroxylase in proximal tubule cells → ↓ Vit D → ↓ absorption of calcium from the small intestine → Hypocalcemia

---

Hyperphosphatemia in CRF

- ↓ Renal Excretion of Phosphorus → ↑ Phosphorus drives calcium into bone & soft tissue → Hypocalcemia

---

Skeletal Resistance to PTH in CRF

- Hypovitaminosis D & resultant Hypocalcemia → Secondary Hyper-PTH → Increased Bone resorption → Rising Calcium In blood
- At the same time some resistance starts developing to PTH → Resorption starts decreasing
- So in CRF → there are two processes going on simultaneously → Resorption due to (Secondary PTH) and Resistance to PTH → If Resorption is predominant then Hypocalcemia is slightly compensated . If Resistance to PTH dominates then It becomes a significant contributor towards Hypocalcemia

► So in CRF → there are two processes going on simultaneously → Resorption due to (Secondary PTH) and Resistance to PTH → If Resorption is predominant then Hypocalcemia is slightly compensated . If Resistance to PTH dominates then It becomes a significant contributor towards Hypocalcemia

---

Hypoproteinemia in CRF

► Ongoing Renal protein losses & Negative protein balance → ↓ Protein → ↓ Protein Bound fraction of Calcium

---

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Risk Factors for Ca Endometrium

Risk Factors for Carcinoma Endometrium

- Age >40 yrs
- Obesity
- Diabetes (abnormal glucose tolerance is found in >60%)
- HTN
- Infertility / Nulliparity
- Unopposed estrogen stimulation
- Early Menarche (<12yrs)
- Late Menopause (>52 yrs)
- Rx with Tamoxifen
- HRT with Estrogen
- Diet High in Animal Fat
- Family History of Endometrial Ca & NHPCC
- Past h/o Breast or ovarian ca
- Previous h/o Radiation therapy for pelvic tumors etc.
- Fibroid Uterus
- Endometrial Hyperplasia

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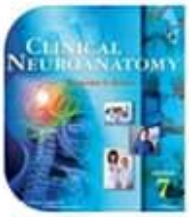
Spinal cord is suspended in the middle of the dural sheath by → Ligamentum Dentriculim



Pia Mater

The pia mater, a vascular membrane that closely covers the spinal cord (Fig. 15-9), is thickened on either side between the nerve roots to form the **ligamentum denticulatum**, which passes laterally to adhere to the arachnoid and dura. It is by this means that the spinal cord is suspended in the middle of the dural sheath. The pia

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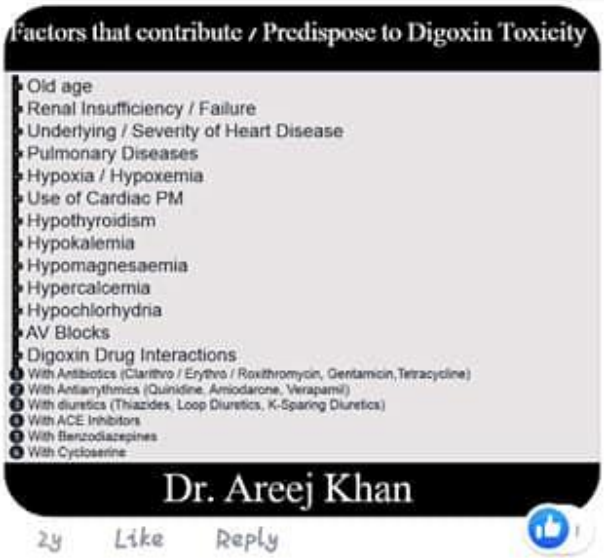
Factors that contribute / Predispose to Digoxin Toxicity



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Factors that contribute / Predispose to Digoxin Toxicity 2 (Explanations of Important Factors)

Factors that contribute / Predispose to Digoxin Toxicity

- Old age
- Renal Insufficiency / Failure
- Underlying / Severity of Heart Disease
- Pulmonary Diseases
- Hypoxia / Hypoxemia
- Use of Cardiac PM
- Hypothyroidism
- Hypokalemia
- Hypomagnesaemia
- Hypercalcemia
- Hypochlorhydria
- AV Blocks
- Digoxin Drug Interactions

1. With Antibiotics (Clarithro / Erythro / Roxithromycin, Gentamicin,Tetracycline)
2. With Antiarrythmics (Quinidine, Amiodarone, Verapamil)
3. With diuretics (Thiazides, Loop Diuretics, K-Sparing Diuretics)
4. With ACE Inhibitors
5. With Benzodiazepines
6. With Cycloserine

Dr. Areej Khan

Factors that contribute / Predispose to Digoxin Toxicity

Old Age & Digoxin Toxicity
► Old Age → ↓ Renal Clearance of Digoxin, Comorbid cardiac conditions, ↓ Body mass → Toxicity occurs at lower doses than usual

Renal Insufficiency & Digoxin Toxicity
► ↓ Renal Clearance of Digoxin → ↑↑ Serum levels of Digoxin, ↑↑ Serum Half Life , ↓ Volume of Distribution

Hypothyroidism & Digoxin Toxicity
► ↓ Activity of Na/K ATPase → ↓doses of Digoxin needed for therapeutic effect → Usual dose becomes risk for toxicity

Hypoxemia & Digoxin Toxicity
► Hypoxemia → ↑↑Digoxins's acceleration of lower pacemaker activity → Risk of producing Arrhythmias from delayed afterpotentials

Use of Cardiac PM & Digoxin Toxicity
► At risk of developing Toxicity at lower doses than usual

Hypokalemia & Digoxin Toxicity
Potassium and digitalis interact in two ways.
1. They inhibit each other's binding to Na+/K+-ATPase; therefore, hyperkalemia reduces the enzyme-inhibiting actions of cardiac glycosides, whereas hypokalemia facilitates these actions.
2. Abnormal cardiac automaticity is inhibited by hyperkalemia

► ► ► So,
- Hypokalemia → ↑↑ Binding of Digoxin to Na Pump in Myocardium → ↑↑ sensitization of digoxin to myocardium → Digoxin Toxicity
- Moderately increased extracellular K+ therefore reduces the toxic effects of digitalis
- But Severe Hyperkalemia → Further depolarization of Myocardial Conduction tissue → Potentiation of Conduction Abnormalities

Hypomagnesemia & Digoxin Toxicity
► ↓ serum Magnesium Concentration → ↓ Activity of Na/K ATPase
► ↓ serum Magnesium Concentration → Kaliuresis → Hypokalemia → Digoxin Toxicity

Hypercalcemia & Digoxin Toxicity
► Hypercalcemia → through ↑ in Intracellular Ca → ↑ Ventricular Automaticity → ↑ Digoxin Activity & Toxicity

Pulmonary Diseases & Digoxin Toxicity
► Hypoxemia & Pulmonary Failure → Arrythemogenesis

Hypochlorhydria & Digoxin Toxicity
► Hypochlorhydria → ↓ Gastric Metabolism & ↓ Non-Renal Clearance of drug

Underlying Heart Issues & Digoxin Toxicity
► Preexisting Conduction & Automaticity Issue → Independent risks for Digoxin Arrhythmias
► Heart Failure → ↓ Volume of distribution of Digoxin
► Cardiac Amyloid & Ischemic Cardiomyopathy → ↑ Sensitivity of Digoxin

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Part 8

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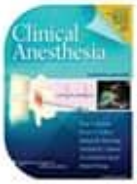
By Inhalational Anesthetics

- Order of Decrease in Cerebral Vascular resistance & Increase in Cerebral Blood flow

1. Halothane
2. Desflurane
3. Isoflurane
4. Sevoflurane



Central Nervous System

All inhalational anesthetics decrease cerebral vascular resistance and cerebral metabolic rate for oxygen. The decrease in vascular resistance increases cerebral blood flow in the following order: Halothane > desflurane > isoflurane > sevoflurane.[2] Sevoflurane

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Areej khan

Traveler's Diarrhea

Harrison

Traveler's Diarrhea

Traveler's Diarrhea

Cause of Traveler's Diarrhea

- Most Common cause of Traveler's Diarrhea → Bacteria
- Most common (overall) cause / Bacterial cause → Enterotoxigenic E. Coli
- Most common viral cause of traveler's Diarrhea → Norovirus > Rotavirus
- Most common parasitic cause of traveler's Diarrhea → G. Lamblia > Cryptosporidium

Treatment of Traveler's Diarrhea

- Watery Diarrhea < 2 episodes /day only → Oral fluids
- Watery Diarrhea < 2 episodes /day + Enteric Symptoms → Bismuth subsalicylate or Lopiramide
- Watery Diarrhea > 2 episodes /day → Loperamide + Cipro > other fluroquinolones
- Bloody Diarrhea or Fever → Loperamide + Cipro > other fluroquinolones
- Vomiting only or with 1 episode of diarrhea → Bismuth subsalicylate

So

- Antibacterial of Choice → Ciprofloxacin > other fluroquinolones
- If resistant to Cipro→ Azithromycin > Rifaximin

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PELVIS

Mesatipellic	T > AP
Platypellic	T >>>>> AP
Brachypellic	AP > T
Dolichopellic	AP >>>>> T

Mesatipellic (T > AP) → Normal Female Pelvis
Brachypellic (AP > T) → Android Type Pelvis

- T = Transverse Diameter of Pelvic Inlet
- AP = Anteroposterior Diameter of Pelvic Inlet
- > = Slightly More Than
- >>>>> = Much More Than

Dr. Areej Khan

Collagen

- ► Predominant collagen in Keloid → Type III
- ► Predominant collagen in Scar → Type I
- ► Collagen increasing/giving the strength of/to wound → Type I
- ► Collagen that is replaced during remodeling → Type III
- ► Collagen that replaces type III during remodeling → Type I

► This info might be new/controversial to many readers, different books suggest different concept in this regard and different doctors in this group also interpret differently but to me this above info is most authentic

► Bailey & Love 26/e

Greenfield's surgery 5/e

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▶ LNs involved in Lyphatic Drainage of Uterus

- Pre / Para-Aortic LNs
- Internal Iliac LNs
- External Iliac LNs
- Superficial Inguinal LNs
- Obturator LNs
- Sacral LNs
- Paracervical LNs

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Areej khan
kallman Syndrome

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KALLMANN SYNDROME

- Olfactory Bulb Agenesis / Hypoplasia → Anosmia / Hyposmia
- Defective Hypothalamic GnRH synthesis → Hypogonadism
- X-linked disorder → X-Linked KAL Gene Mutations (Most common)
- Arcuate Nucleus → Doesn't Secrete GnRH

Other Classical Important Features / associations

- ↓ Testosterone during Infancy → Micropenis & Delayed Puberty in Males
- In Females → Primary Amenorrhea & Failure of Secondary Sexual Development
- Color Blindness
- Optic Atrophy
- Nerve Deafness
- Cleft Palate
- Renal Abnormalities
- Cryptorchidism
- Neurologic Abnormalities → e.g. Mirror Movements.

► Main Rx → Exogenous GnRH

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▶ The pylorus → retards the Gastric Emptying
▶ When Pyloric portion of stomach is removed / destroyed / Byepassed → ↑ ↑ ↑ Gastric Emptying

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Areej khan
Dialysis Fluid comparison to Normal Plasma & Uremic Plasma

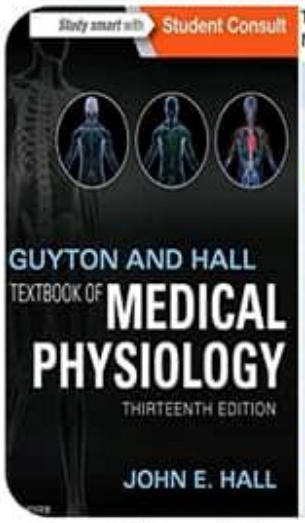

Table 32-7 Comparison of Dialyzing Fluid with Normal and Uremic Plasma

Constituent	Normal Plasma	Dialyzing Fluid	Uremic Plasma
Electrolytes (mEq/L)			
Na^+	142	133	142
K^+	5	1.0	7
Ca^{++}	3	3.0	2
Mg^{++}	1.5	1.5	1.5
Cl^-	107	105	107
HCO_3^-	24	35.7	14
Lactate$^-$	1.2	1.2	1.2
$HPO_4^=$	3	0	9
Urate$^-$	0.3	0	2
Sulfate$^=$	0.5	0	3
Nonelectrolytes			
Glucose	100	125	100
Urea	26	0	200
Creatinine	1	0	4

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Areej khan
Lateral vs Ventral Spinothalamic Tract

▶ Lateral STT → Pain & Temperature Modalities
▶ Ventral STT → Coarse Tactile & Pressure Modalities

Gray's Clinical Neuroanatomy, 136/P
Waqar khan

The lateral spinothalamic tract (Fig. 8.35) is sited in the lateral funiculus

Areej Khan

Lateral vs Ventral Spinothalamic Tract

- Lateral STT → Pain & Temperature Modalities
- Ventral STT → Coarse Tactile & Pressure Modalities

Gray's Clinical Neuroanatomy, 136/p

Waqar khan

The lateral spinothalamic tract (Fig. 8.35) is sited in the lateral funiculus, lying medial to the ventral spinocerebellar tract (see Fig. 8.17). Clinical evidence indicates that it subserves pain and temperature sensations. The ventral spinothalamic tract (Fig. 8.36) lies in the anterior funiculus medial to the point of exit of the ventral nerve roots and dorsal to the vestibulospinal tract (see Fig. 8.17), which it overlaps. On the basis of clinical evidence, it subserves coarse tactile and pressure modalities.

2y Like Reply 6

Areej khan

Comparison of Muscle Spindle & GTO (Golgi Tenson Organ)

MUSCLE SPINDLE	GLOGI TENDON ORGAN
Sensitive to Changes or Rate of Change of Length in Muscle	Sensitive to Tension or Rate of Change of Tension within Tendon
Regulate the stretch Reflex	Invokes the Inverse Stretch reflex
FACILITATES the contraction of a muscle that is being STRETCHED	INHIBITS the Contraction of a muscle that is SHORTENING
INHIBIT CONTRACTION of the Antagonist Muscles → Reflexive Activity → Reciprocal Inhibition	FACILITATES CONTRACTION of the Antagonist muscles
Protection from OVERSTRETCHING	**Protection from EXCESSIVE TENSION**
When Excited, MS cause ► AGONIST muscle to CONTRACT ► Antagonist muscle to RELAX	When Excited, GTO cause ► AGONIST muscle to RELAX ► Antagonist muscle to CONTRACT
When Tapping the knee with hammer → Reactive Extension at Knee joint → Barrier to Excess (& in disease state Effective) Stretch	When performing a Biceps Curl against a heavy Resistance → GTO INHIBIT the biceps from achieving maximal CONTRACTION / TENSION / SHORTENING + Cause Triceps to CONTRACT for further protection
DR. AREEJ KHAN	

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Factors Affecting ESR

Write a comment... GIF

MUSCLE SPINDLE	GLOGI TENDON ORGAN
Sensitive to Changes or Rate of Change of Length in Muscle	Sensitive to Tension or Rate of Change of Tension within Tendon
Regulate the stretch Reflex	Invokes the Inverse Stretch reflex
FACILITATES the contraction of a muscle that is being STRETCHED	**INHIBITS the Contraction of a muscle that is SHORTENING**
INHIBIT CONTRACTION of the Antagonist Muscles → Reflexive Activity → Reciprocal Inhibition	FACILITATES CONTRACTION of the Antagonist muscles
Protection from OVERSTRETCHING	**Protection from EXCESSIVE TENSION**
When Excited, MS cause ► **AGONIST** muscle to **CONTRACT** ► **Antagonist** muscle to **RELAX**	When Excited, GTO cause ► **AGONIST** muscle to **RELAX** ► **Antagonist** muscle to **CONTRACT**
When Tapping the knee with hammer → Reactive Extension at Knee joint → Barrier to Excess (& in disease state Effective) Stretch	When performing a Biceps Curl against a heavy Resistance → GTO INHIBIT the biceps from achieving maximal CONTRACTION / TENSION / SHORTENING + Cause Triceps to CONTRACT for further protection

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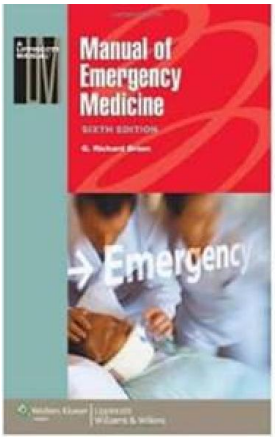

HIV TESTING

- The enzyme-linked immunosorbent assay (ELISA) detects HIV antibodies.
- ELISA is currently the best screening test available for HIV, with sensitivities and specificities of more than 98.5% and 99%.
- ELISA can be false-negative in the first 6 weeks of HIV infection.
- There are false-positives, and all positive ELISA test results should be repeated.
- If the second ELISA is positive, it must be confirmed by Western blot to establish HIV infection.

PULSE PRESSURE (PP)

Narrow (↓) PP	Wide (↑)PP	
Congestive Heart Failure	Old age / Inelastic Aorta	Fever
Aortic Stenosis	Aortic Regurgitation	Anemia
Hypovolemia (Hemorrhage / Fluid loss from Skin, Enteral or renal tracts)	Rupture of Sinus of Valsulva Aneurysm	Hyperthyroidism
Hypertrophic Cardiomyopathy	End-Stage Septic Shock	Beri Beri Heart Disease
Burns	Neurogenic Shock	Pregnancy
Cardiogenic Shock from Myocardial Failure (Coronary Ischaemia / Acute Myocarditis)	Anaphylactic Shock	Exercise
Vasoconstricting Drugs	Aorticopulmonary Window	PDA
Mitral Stenosis	Hyperdynamic States	Anxiety / Emotions
Tachycardia	Bradycardia	Raised ICP
Hypotension	Arteriosclerosis	Systolic HTN
Pericardial Constriction	Paget's Disease of Bone	Hypervolemia
Cardiac Temponade	Complete Heart Block	Aortic Dissection
	Large AV Fistula	Vasodilating Drugs

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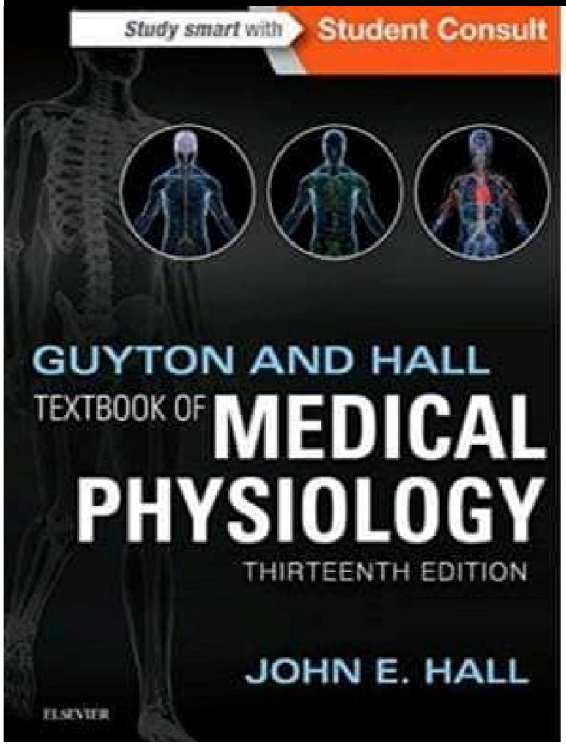

Table 76-3 Factors That Stimulate or Inhibit Secretion of Growth Hormone

Stimulate Growth Hormone Secretion	Inhibit Growth Hormone Secretion
Decreased blood glucose	Increased blood glucose
Decreased blood free fatty acids	Increased blood free fatty acids
Increased blood amino acids (arginine)	Aging
Starvation or fasting, protein deficiency	Obesity
Trauma, stress, excitement	Growth hormone inhibitory hormone (somatostatin)
Exercise	Growth hormone (exogenous)
Testosterone, estrogen	Somatomedins (insulin-like growth factors)
Deep sleep (stages II and IV)	Increased blood glucose
Growth hormone–releasing hormone	Increased blood free fatty acids
Ghrelin	Aging

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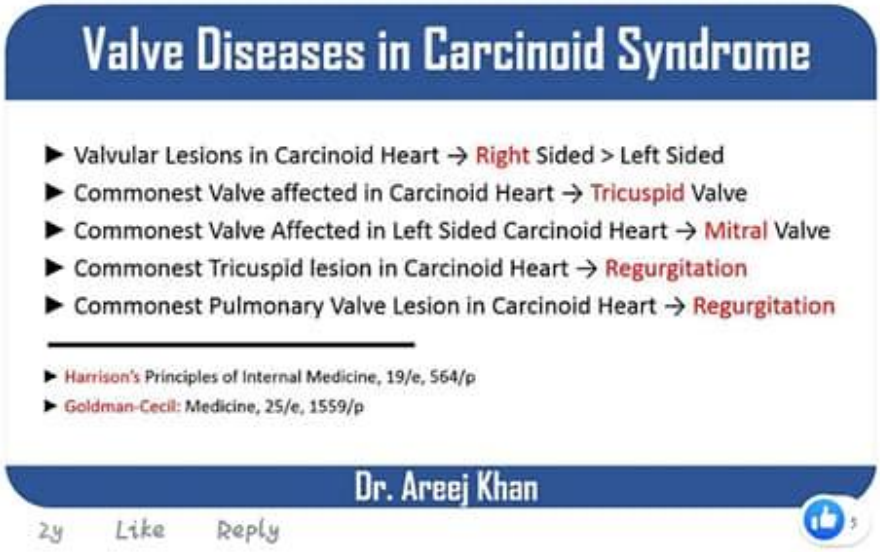
About Valve Involvement in Carcinoid Syndrome



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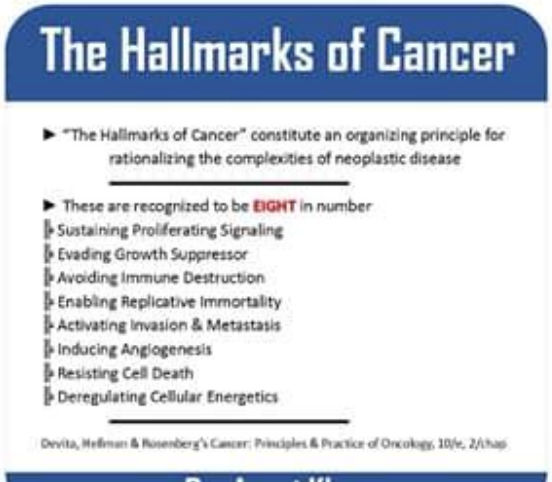
The Hallmarks of Cancer



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The Hallmarks of Cancer

- "The Hallmarks of Cancer" constitute an organizing principle for rationalizing the complexities of neoplastic disease

---

- These are recognized to be **EIGHT** in number
  - Sustaining Proliferating Signaling
  - Evading Growth Suppressor
  - Avoiding Immune Destruction
  - Enabling Replicative Immortality
  - Activating Invasion & Metastasis
  - Inducing Angiogenesis
  - Resisting Cell Death
  - Deregulating Cellular Energetics

Devita, Hellman & Rosenberg's Cancer: Principles & Practice of Oncology, 10/e, 2/chap

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Activation of Basilar Membrane

Activation of the Basilar Membrane

- **Low**-Frequency Sounds cause Maximal Activation of the Basilar Membrane Near the **APEX of the Cochlea**
- **High**-Frequency Sounds cause Maximal Activation of the Basilar Membrane Near the **BASE of the Cochlea**
- **Intermediate**-Frequency Sounds Activate the Basilar Membrane at Intermediate Distances b/w the Two Extremes **(b/w Apex & Base)**

Guyton & Hall Textbook of Medical Physiology , 13/e, X/u, 678/p

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MOA of Magnesium Sulfate (MgSO4) in Eclampsia

MOA of Magnesium in Eclampsia

- Magnesium, when administered to an Eclamptic woman, acts as
  1. Anticonvulsant
  2. Neuroprotectant
- There are 5 proposed Mechanisms of Action
  1. ↓↓↓ Pre-Synaptic release of Glutamate
  2. Blockade of Glutamatergic NMDA Receptors
  3. Potentiation of Adenosine action
  4. Improved Calcium Buffering by Mitochondria
  5. Blockage of Calcium Entry via Voltage-Gated Channels
- Williams Obstetrics, 24/e, 40/chap, 760/p

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MOA of Magnesium in Eclampsia

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- Williams Obstetrics, 24/e, 40/chap, 760/p

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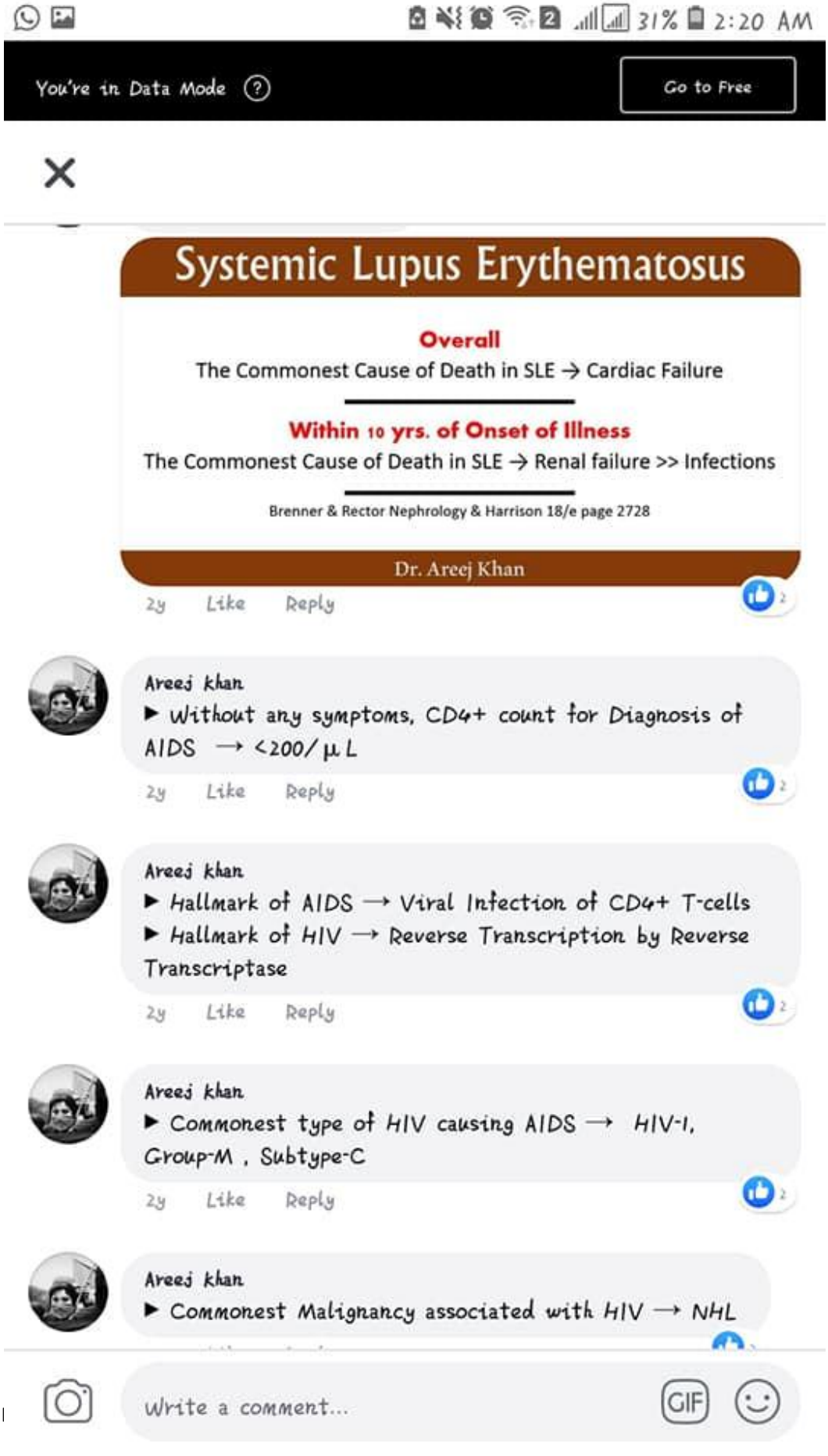
31% 2:20 AM
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Systemic Lupus Erythematosus
Overall
The Commonest Cause of Death in SLE → Cardiac Failure
Within 10 yrs. of Onset of Illness
The Commonest Cause of Death in SLE → Renal failure >> Infections
Brenner & Rector Nephrology & Harrison 18/e page 2728
Dr. Areej Khan
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▶ Without any symptoms, CD4+ count for Diagnosis of AIDS → <200/μL
2y Like Reply
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▶ Hallmark of AIDS → Viral Infection of CD4+ T-cells
▶ Hallmark of HIV → Reverse Transcription by Reverse Transcriptase
2y Like Reply
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▶ Commonest type of HIV causing AIDS → HIV-1, Group-M , Subtype-C
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▶ Commonest Malignancy associated with HIV → NHL
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▶ Commonest Malignancy associated with HIV → NHL
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▶ Commonest cause of AIDS in children → Vertical transmission
▶ Commonest mode of spread → Heterosexual Contact
2y Like Reply
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▶ Commonest opportunistic infection in HIV-infected individuals → Mycobacterium tuberculosis
▶ Commonest opportunistic infection in AIDS pneumonia → Pneumocystis Jiroveci
▶ Commonest organism to cause pneumonia in HIV → Streptococcus Pneumonia
2y Like Reply
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▶ Commonest FUNGAL infection in HIV/AIDS → Candidiasis
2y Like Reply
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▶Commonest neurological manifestation in HIV infection → AIDS Dementia Complex
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► Commonest skeletal muscle disorder → Inflammatory Myopathy
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► Commonest Lymphoma in HIV → Immunoblastic NHLs
2y Like Reply
Areej khan
► Commonest HIV associated HODGKINS LYMPHOMA → Mixed cellularity HL
2y Like Reply
Areej khan
► Window Period of HIV → 2-4 weeks (By PCR)
2y Like Reply
Areej khan
► Highest Risk of opportunistic infection , CD4+ count will be → < 200/mm3
2y Like Reply
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► Most Sensitive Test for AIDS → ELISA
2y Like Reply
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► Most Specific Test for AIDS → Western Blot
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▶ Best Screening method for AIDS → ELISA
2y Like Reply
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▶ Confirmatory test for AIDS in Adults → Western Blot
2y Like Reply
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▶ Confirmatory test for AIDS in Child born to HIV infected mother → PCR (up to age of 18 months)
2y Like Reply
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▶ Commonest Hematological manifestation in AIDS → Autoimmune Hemolytic Anemia
2y Like Reply
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▶ Commonest Space occupying CNS lesion in ADS → Toxoplasmosis
2y Like Reply
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Commonest Space occupying Tumor of Brain → Primary CNS Lymphoma
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▶ CD4+ Count for starting Antiretroviral Therapy in AIDS → < 500 / mm3
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▶ Commonest organism to cause Meningitis in AIDS → Cryptococcus
2y Like Reply
Areej khan
▶ Commonest Diarrhea in HIV/AIDS → Cryptosporidium
2y Like Reply
Areej khan
▶ Commonest cause of seizures in AIDS → HIV Encephalopathy
2y Like Reply
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▶ Commonest dermatological Manifestation in AIDS → Seborrheic Dermatitis
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NephrOtic Syndrome
Nephrotic Syndrome
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onion skin apperance of spleen seen in
A- SCID
B- AIDS
C- SLE
... See More
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Parasympathetic Effects on Nodes

Parasympathetic Effects on Nodes

►► Parasympathetic / Vagal Stimulation → Acetylcholine released at vagal nerve endings → ↑↑↑ Permeability of fiber membrane to **Potassium Ions** → Rapid leakage of Potassium out of conducting fibers → ↑↑↑ Negativity inside fibers → Hyperpolarization → It has 2 Effects

❶ RMP at SA node become considerably more Negative (-65 to -75 mV) than usual (-55 to -60 mV) → Initial rise SA nodal membrane potential by Influx of Na & Ca requires much longer to reach the threshold potential for excitation → ↓ ↓ ↓ Rate of Rhythmicity of SA nodal Fibers

❷ Hyperpolarization → Atrial fibers entering AV Node can't produce enough Electricity → AV Nodal fibers don't get much excited → ↓ ↓ ↓ & Delay in Conduction of Impulse

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Areej khan
Droplet Infection Spread

Droplet Infection

► The droplet infection spread is limited to a distance of → 30-60cm (1-2 feet)

► Health care workers should wear mask when working within → 3 feet of patient susceptible to droplet infection spread

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Droplet Infection

- The droplet infection spread is limited to a distance of → 30-60cm (1-2 feet)
- Health care workers should wear mask when working within → 3 feet of patient susceptible to droplet infection spread
- If a pathogen travels more than 1 meter (≈> 3 feet) → It's considered airborne transmission.

- Bailey & Scott's Diagnostic Microbiology 13/e, 79/chap , 995/p
- Park's Preventive and social Medicine 23/e, 97/p
- Microbiology with Disease by Taxonomy 4/e, 422/p .

Dr. Areej Khan

Bcl-2 Family / BCL Family

BCL Family / Bcl-2 Family → 3 Subfamilies

1. **Anti**-Apoptotic → Pro-Survival
2. **Pro**-Apoptotic → Anti-Survival
3. **Arbiters** / Sensors

- **Anti**-Apoptotic Members → **Bcl-2**, Bcl-xL, Mcl-1 etc
- **Pro**-Apoptotic Members → **BAX**, BOK, **BAK**
- **Arbiters** / Sensors → BAD, BIM, BID, BIK, Puma, Noxa

- These proteins are found in → Outer Mitochondrial Membrane , Cytosol & ER membranes
- So when an MCQ asks about Bcl-2 written **ALONE** → Its Anti-Apoptotic
- When an MCQ asks about BCL Family or Bcl-2 **FAMILY** → Keep in mind the concept of 3 subfamilies

---

- This is the simplest concept → For Details & Further Concept
  - Robbins, 13/e, 2/chap, 55/p
  - Rubin's Pathology, 7/e, 1/chap, 43/p

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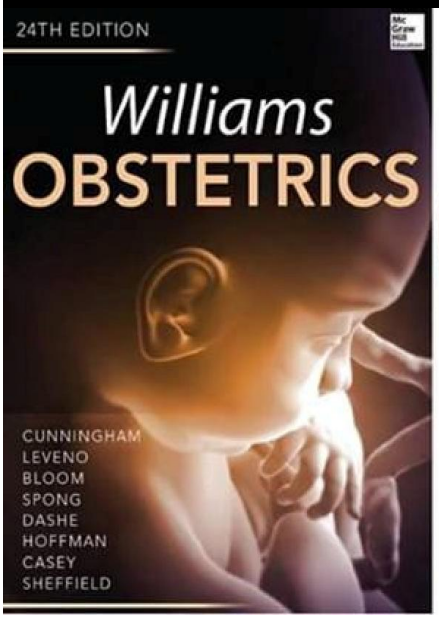

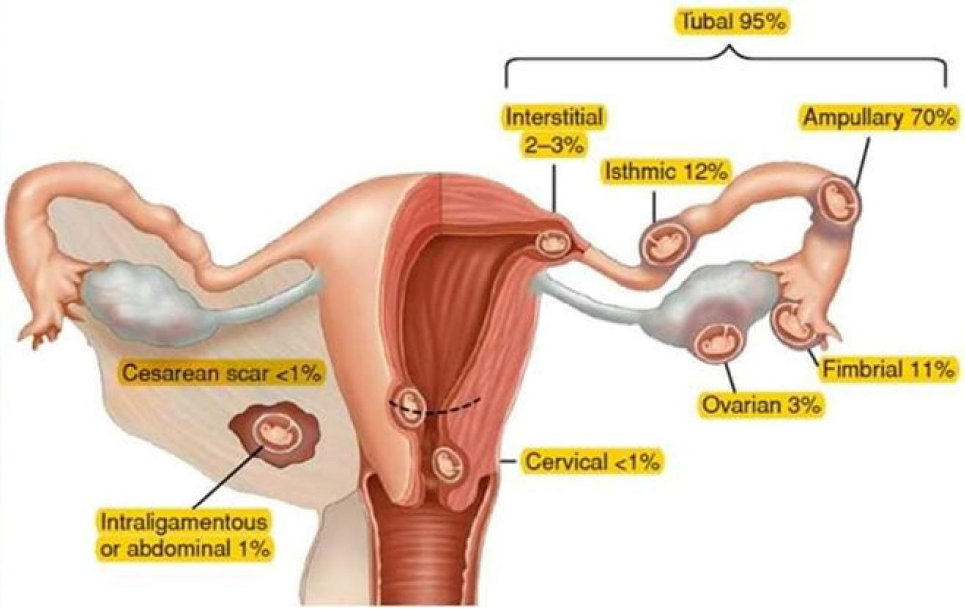

Areej khan

Congenital Heart Diseases

▶ Goldman-Cecil Medicine, 25/e, 1/vol, 69/chap, 405/p .

Bicuspid aortic valve occurs in about 2% of the general population, is the most common congenital cardiac anomaly encountered in adult populations, and accounts for up to half of surgical cases of aortic stenosis in adults (Chapter 75). ASDs constitute 30 to 40% of cases of congenital heart disease in adults, with ostium secundum ASD accounting for 7% of all congenital lesions. A solitary VSD represents 15 to 20% of all congenital lesions and is the most common congenital cardiac lesion observed in children; its high spontaneous closure rates explain the lesser prevalence in adults. Patent ductus arteriosus (PDA) accounts for 5 to 10% of all congenital cardiac lesions in infants with a normal birthweight. Pulmonary stenosis and coarctation of the aorta represent 3 to 10% of all congenital lesions.

Tetralogy of Fallot is the most common cyanotic congenital anomaly observed in adults. Together with complete transposition of the great arter

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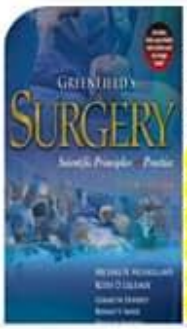
▶ Most common organism causing sepsis after Splenectomy is Streptococcus Pneumoniae / Pneumocccus (50% of all cases) .

▶ Order of infections Post-Splenectomy → S. Pneumoniae > H. Influenza > Meningococcus > β-Hemolytic Strept > Staph. Aureus > E.coli > Pseudomonas

▶▶ Ref : Greenfield's Surgery: Scientific Principles & Practice, 5/e, 1218/p



Typically, encapsulated organisms cause the postsplenectomy sepsis-related infection. These bacteria have special features that allow them to be opsonized and cleared from circulation by the spleen, making them more dangerous in hyposplenic or splenectomized patients. The most common organism causing postsplenectomy sepsis is *Streptococcus pneumoniae*, which accounts for 50% of septic episodes in most series. In decreasing order of frequency, other bacteria associated with postsplenectomy sepsis are *Haemophilus influenza*, *Neisseria meningitidis*, β-hemolytic streptococcus, *Staphylococcus aureus*, *Escherichia coli*, and *Pseudomonas* species.[25] The current recommendations

Areej khan

Local Anesthetics : Dose Requirement for Systemic Toxicity

Systemic Toxicity of Local Anesthetics

Systemic reactions to local anesthetics primarily involve

1. The Central Nervous System
2. The cardiovascular System

In general, the susceptibility to actions of Systemic Local Anesthetics

CNS > CVS

The Dose or Blood Level of local anesthetic required to produce CNS Toxicity is LOWER than that resulting in CVS Collapse

Miller's Anesthesia, 8/e, 36/chap, 1047/p

Dr. Areej Khan

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Blood Concentration of Local Anesthetics

Blood Concentration of Local Anesthetics

Comparison of the Blood Concentration of Local Anesthetics after various routes of administration

IN ORDER OF DECREASING CONCENTRATION

1. Intercostal Nerve Blockade
2. Injection Into Caudal Epidural Space
3. Injection Into Lumbar Epidural Space
4. Injection Into Brachial Plexus
5. Injection Into Subcutaneous Tissue

Miller's Anesthesia, 8/e, 36/chap, 1046/p

Dr. Areej Khan

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Blood Concentration of Local Anesthetics

Comparison of the Blood Concentration of Local Anesthetics after various routes of administration

IN ORDER OF DECREASING CONCENTRATION

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3. Injection Into Lumbar Epidural Space
4. Injection Into Brachial Plexus
5. Injection Into Subcutaneous Tissue

Miller's Anesthesia, 8/e, 36/chap, 1046/p

Dr. Areej Khan

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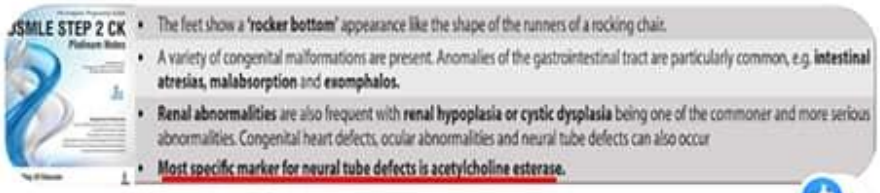
Most Specific Marker of Neural Tube Defects → AcetylCholinesterase (NOT AFP)



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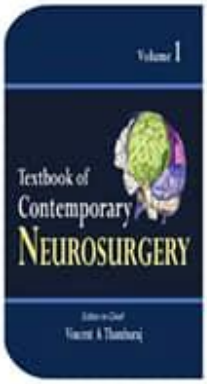
AcetylCholinesterase vs AFP in Neural Tube Defects



Elevated serum alpha-fetoprotein (AFP) test during pregnancy helps to identify the presence of open spinal defects. A level that shows 2.5 times of the normal, indicates the need for additional studies.[60,71,87] If maternal serum AFP is elevated, amniocentesis may be carried out to measure amniotic fluid levels of AFP and acetylcholinesterase. Acetylcholinesterase is more specific to the central nervous system, separating open spinal defects from abdominal wall defects, which can also cause elevated AFP levels.[86] Fetal karyotype may be carried out on amniotic fluid to rule out chromosomal abnormalities.

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Some Neurotransmitters

Some Neurotransmitters

- Cortico-Striate Fibers → Glutamate
- Striato-Pallidal Fibers → GABA
- Nigro-Striate Fibers → Dopamine
- Striato-Nigral Fibers → GABA + Ach + Sub P
- Brainstem-Striate Fibers → Serotonin
- Spinal Cord-Striate Fibers → Serotonin

Snell Clinical Neuroanatomy, 7/e

Dr. Areej Khan

Part 9

Areej Khan

Inflammatory Myopathy → Polymyositis (PM), Dermatomyosititis (DM) & Inclusion Body Myositis (IBM)

▶ Muscle biopsy → is the Most Sensitive & Specific test for establishing the diagnosis of inflammatory myopathy (& for excluding other NM diseases).

▶ Inflammation is the Histologic Hallmark for these diseases

Harrison's Principles of Internal Medicine, 19/e, 2200/p

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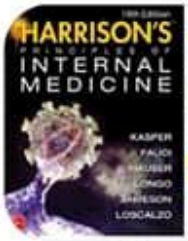
Most Sensitive Action of INSULIN → ↓ ↓ Lipolysis in Adipose Tissue



adipose-tissue triglyceride stores released by intracellular lipolytic enzymes. Fatty acids are also derived from the lipolysis of triglyceride-rich lipoproteins in tissues by lipoprotein lipase. Insulin mediates both antilipolysis and the stimulation of lipoprotein lipase in adipose tissue. Of note, the inhibition of lipolysis in adipose tissue is the most sensitive pathway of insulin action. Thus, when insulin resistance develops, increased lipolysis produces more fatty acids, which further decrease the antilipolytic effect of insulin. Excessive fatty acids enhance

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Someone asked about Diagnostic Test for Heparin Induced Thrombocytopenia

---

▶ The most specific diagnostic test for HIT → Serotonin Release Assay

---

Harrison's Principles of Internal Medicine, 19/e, 752/p

Coagulation System During Pregnancy

Factor I	↑	Dr. Areej Khan	Free Protein S	↓
Factor II	No Significant Change		Protein C	No Significant Change
Factor V	No Significant Change		Activated Protein C Resistance	↑
Factor VII	↑		Antithrombin III	No Significant Change
Factor VIII	↑		Plasminogen	↑
Factor IX	No Significant Change		α_2-AntiPlasmin	↓
Factor X	↑		BT	No Significant Change
Factor XI	↓		PT	No Significant Change
Factor XII	↑		APTT	No Significant Change
Factor XIII	↓		CT	No Significant Change
vWB	↑		Plasma D-Dimers	↑
PAI I & II	↑		Thromboxane-A_2	↑
tPA activity	↓		Platelets	↓

Some Books say different about some of the variables given in the table, this info is from authentic books:

1- William's Obstetrics, 25/e, 4/chap, 57/p

2- The American College of Gynecology & Obstetrics, Practice Bulletin #123, Sep-2011, 1/Tab


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The Most Specific Diagnostic Test for H.Pylori Infection → Microbial Culture
Harrison's Principles of Internal Medicine, 19/e, 1040/p
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▶ The Gold Standard Diagnostic Test for H.Pylori Infection → Microbial Culture
Davidson, 22/e, 22.39/tab
2y Like Reply
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▶ Commonest cause of Chronic Hypercalcemia → Primary Hyper-PTH
▶ Second Commonest cause of Chronic Hypercalcemia → Underlying Malignancy
Anesthesiology: Examination & Board Review, 7/e, 94/p
2y Like Reply
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▶ The Commonest Electrolyte Alteration by Thiazide Diuretics → Hypokalemia (± Hypochloremic Metabolic Alkalosis)
Anesthesiology: Examination & Board Review, 7/e, 121/p
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▶ The commonest Post-Op visual Complication following General Anesthesia → Corneal Abrasion
Anesthesiology: Examination & Board Review, 7/e, 138/p
2y Like Reply
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▶ The commonest cause of primary Severe Postpartum Hemorrhage → Uterine Atony
Anesthesiology: Examination & Board Review, 7/e, 272/p
2y Like Reply
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▶ The Commonest Neuropathy related to Child Birth → Meralgia paresthetica (Neuropathy of the Lateral Femoral Cutaneous Nerve)
Anesthesiology: Examination & Board Review, 7/e, 276/p
2y Like Reply
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▶ The commonest Lobe affected by Congenital Lobar Emphysema → Left Upper Lobe
Anesthesiology: Examination & Board Review, 7/e, 300/p
2y Like Reply
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▶ The commonest among defects associated with TEF / Esophageal Atresia → Cardiac Defects

Anesthesiology: Examination & Board Review, 7/e, 304/p

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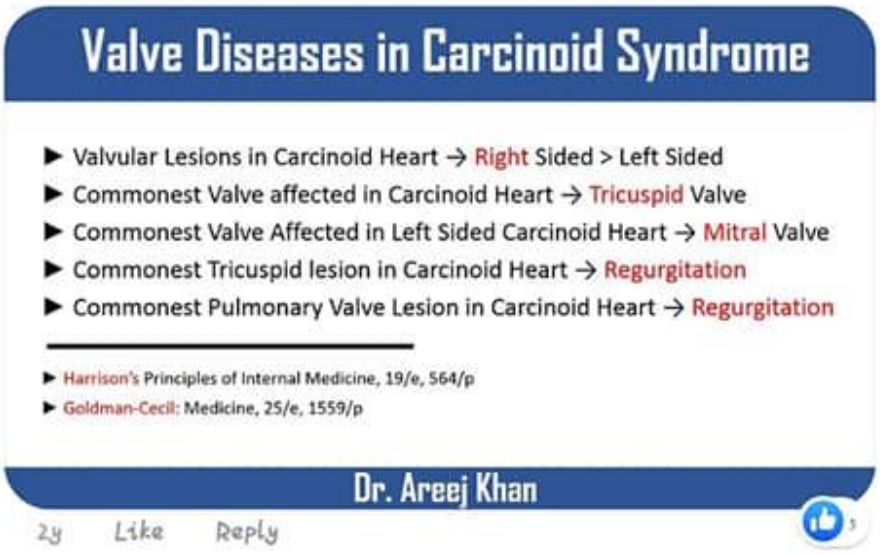
About Valve Involvement in Carcinoid Syndrome



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The Hallmarks of Cancer

The Hallmarks of Cancer

- "The Hallmarks of Cancer" constitute an organizing principle for rationalizing the complexities of neoplastic disease

---

- These are recognized to be **EIGHT** in number
  - Sustaining Proliferating Signaling
  - Evading Growth Suppressor
  - Avoiding Immune Destruction
  - Enabling Replicative Immortality
  - Activating Invasion & Metastasis
  - Inducing Angiogenesis
  - Resisting Cell Death
  - Deregulating Cellular Energetics

Devita, Hellman & Rosenberg's Cancer: Principles & Practice of Oncology, 10/e, 2/chap

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FACTORS AFFECTING ESR

DR. AREEJ KHAN

► Causes of Increase in ESR

- ↑in Fibrinogen
- ↑ in Globulin
- ↓in Albumin
- Bacterial Proteins & Toxins
- Most Products of inflammation
- ↓ in RBC count
- Just after meal
- Biconcavity of RBCs
- ↓ in Viscosity of Blood
- ↑ In temperature
- Sodium Citrate & Other fluid Anticoagulants
- ↑Age
- Female gender
- Pregnancy beyond 1st Trimester
- Acute non-infective inflammations like gout
- Nephrosis
- Massive Trauma
- All malignancies
- Bone & Joint disease like Tuberculosis, Osteomyelitis , RA
- Collagen Vascular diseases
- All Anemias less Spherocytosis, Sickle Cell anemia, & Pernicious anemia

► Causes of Decrease in ESR

- ↓in Fibrinogen
- ↓ in Globulin
- ↑ in Albumin
- ↓ in Temperature
- ↑ in Viscosity
- ↑in MCV
- Infancy compared to advanced age
- Spherocytosis
- Pernicious anemia
- Sickle cell anemia
- Severe Allergic Rxn
- Severe Hypoxia (CHF, Severe Emphysema, CHD)
- Polycythemia

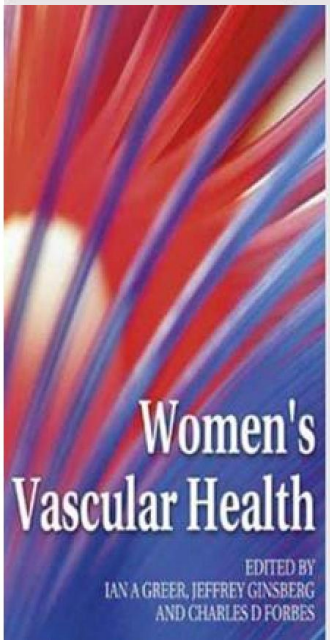

Table 9.1 Obstetric complications predisposing to acute or chronic disseminated intravascular coagulation (DIC)

Acute DIC	Chronic DIC
Amniotic fluid embolism	Preeclampsia
Abruptio placentae	HELLP syndrome
Septic abortion	Retained dead fetus
Acute fatty liver	
Uterine rupture	
Extensive surgery	

Table 16.4 Muscles acting during different types of respiration

Type of respiration	Inspiration (elevation of ribs)	Expiration (depression of ribs)
Quiet respiration	• External intercostal muscles • Diaphragm	• Passive • No muscles
Deep respiration	• External intercostal muscles • Scalene muscles • Sternocleidomastoid • Levatores costarum • Serratus posterior superior • Diaphragm	• Passive • No muscles
Forced respiration	• All the muscles involved in deep inspiration (*vide supra*) • Levator scapulae • Trapezius • Rhomboids • Pectoral muscles • Serratus anterior	• Quadratus lumborum • Internal intercostal muscles • Transverse thoracis • Serratus posterior inferior

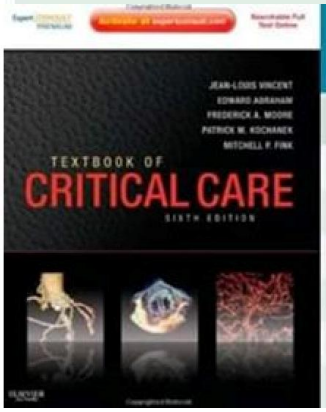

TABLE 14-1 Electrocardiogram Changes Caused by Abnormal [K^+]

Hyperkalemia	*Hypokalemia*
Peaked T waves	Broad, flat T waves
Loss of P waves	ST depression
Widening QRS complexes	U wave
Sine wave	QT interval prolongation
Ventricular arrhythmias	Ventricular arrhythmias
Asystole	

	• Diaphragm	• No muscles
Deep respiration	• External intercostal muscles • Scalene muscles • Sternocleidomastoid • Levatores costarum • Serratus posterior superior • Diaphragm	• Passive • No muscles
Forced respiration	• All the muscles involved in deep inspiration (*vide supra*) • Levator scapulae • Trapezius • Rhomboids • Pectoral muscles • Serratus anterior	• Quadratus lumborum • Internal intercostal muscles • Transverse thoracis • Serratus posterior inferior

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Commonest Complication of Peripheral Parenteral Nutrition (PN) → Hyperglycemia

Metabolic Complications

Metabolic complications may develop as a consequence of the glucose, amino acid, lipid, vitamin, electrolyte, or mineral content of the PN solution.[80] Hyperglycemia is the most common complication and is directly related to PN dextrose content, the patient's glucose tolerance, and the rate of PN infusion. Critically ill patients and those with preexisting

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ECG Changes (Especially QT Prolongation) in Hypokalemia

TABLE 14-1 Electrocardiogram Changes Caused by Abnormal [K⁺]

Hyperkalemia	*Hypokalemia*
Peaked T waves	Broad, flat T waves
Loss of P waves	ST depression
Widening QRS complexes	U wave
Sine wave	QT interval prolongation
Ventricular arrhythmias	Ventricular arrhythmias
Asystole	

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Growth hormone secretion is inhibited by Somatomedins

PULSE PRESSURE (PP)

Narrow (↓) PP	Wide (↑)PP	
Congestive Heart Failure	Old age / Inelastic Aorta	Fever
Aortic Stenosis	Aortic Regurgitation	Anemia
Hypovolemia (Hemorrhage / Fluid loss from Skin, Enteral or renal tracts)	Rupture of Sinus of Valsulva Aneurysm	Hyperthyroidism
Hypertrophic Cardiomyopathy	End-Stage Septic Shock	Beri Beri Heart Disease
Burns	Neurogenic Shock	Pregnancy
Cardiogenic Shock from Myocardial Failure (Coronary Ischaemia / Acute Myocarditis)	Anaphylactic Shock	Exercise
Vasoconstricting Drugs	Aorticopulmonary Window	PDA
Mitral Stenosis	Hyperdynamic States	Anxiety / Emotions
Tachycardia	Bradycardia	Raised ICP
Hypotension	Arteriosclerosis	Systolic HTN
Pericardial Constriction	Paget's Disease of Bone	Hypervolemia
Cardiac Temponade	Complete Heart Block	Aortic Dissection
	Large AV Fistula	Vasodilating Drugs

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FOREGUT	MIDGUT	HINDGUT
Artery: CA	**Artery: SMA**	**Artery: IMA**
Parasympathetic innervation: vagus nerves, **CNX**	**Parasympathetic innervation: vagus** nerves, **CNX**	**Parasympathetic innervation: pelvic** splanchnic nerves, **S2-S4**
Sympathetic innervation: •Preganglionics: **greater** splanchnic nerves, **T5-T9** •Postganglionics: **celiac ganglion**	**Sympathetic innervation:** •Preganglionics: **lesser** splanchnic nerves, **T10-T11** •Postganglionics: **superior mesenteric ganglion**	**Sympathetic innervation:** •Preganglionics: **lumbar** splanchnic nerves, **L1-L2** •Postganglionics: **inferior mesenteric ganglion**
Sensory Innervation: DRG T5-T9	**Sensory Innervation: DRG T10-T11**	**Sensory Innervation: DRG L1-L2**
Referred Pain: Epigastrium	**Referred Pain: Umbilical**	**Referred Pain: Hypogastrium**

2 ANASTOMOSES

Trochanteric (at greater trochanter):

Descending superior gluteal
Inferior gluteal
Ascending branches of medial & lateral circumflex femoral

Cruciate (at lesser trochanter):

Transverse branches of medial & lateral circumflex femoral
Descending branch of inferior gluteal
Ascending branch of 1st perforating artery


S1 vs S2
Pitch
S2 > S1
Frequency
S2 > S1
Sharpness
S2 > S1
Duration
S1 > S2
Dullness
S1 > S2
Loudness
S2 > S1
Loudest at
S1 Apex
S2 Base
Relation to Carotid pulse
S1 Precedes CP
S2 Follow CP

MAX AORTIC PRESSURE~
SLOW EJECTION

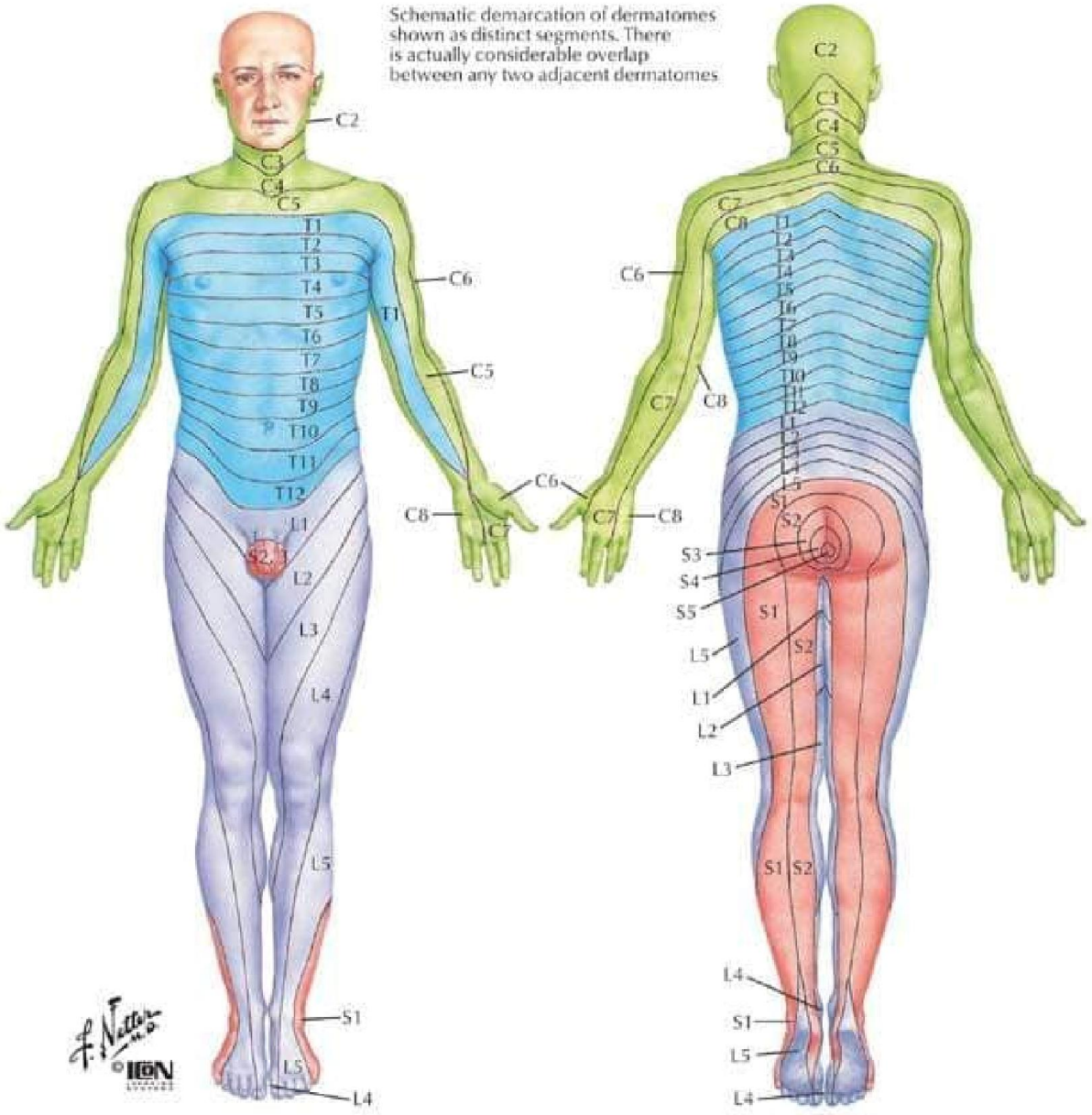
MIN AORTIC PRESSURE~
ISOVOLUMETRIC CONTRACTION

MAX INTERVENTRICULAR PRESSURE~
RAPID EJECTION

MIN INTERVENTRICULAR PRESSURE~
RAPID FILLING

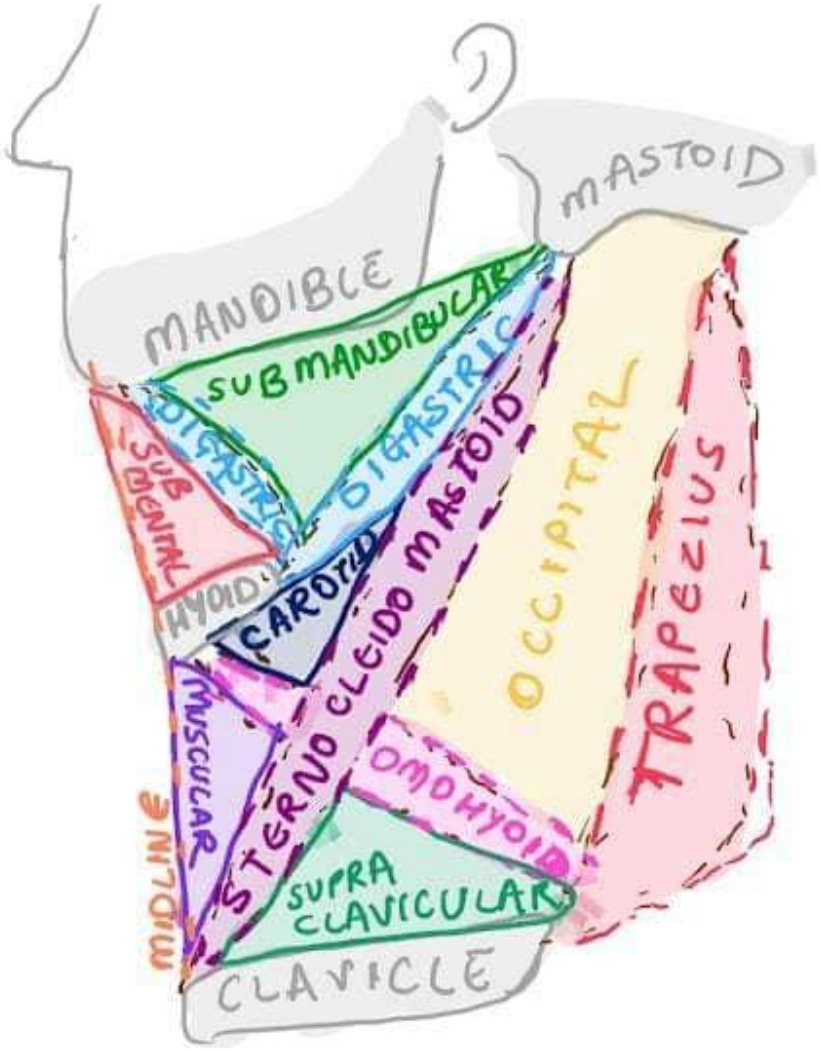
#head_of_humerus>>>>Arcuate arteries,
if not in options then anterior circumflex humeral.
#Neck_of_humerus>>>posterior circumflex humeral
#head_of_femur >>retinacular arteries, If not in options then medial and lateral circumflex.

#Head_of_femur in children>>obturator artery
#Neck_of_femur.....medial and lateral circumflex



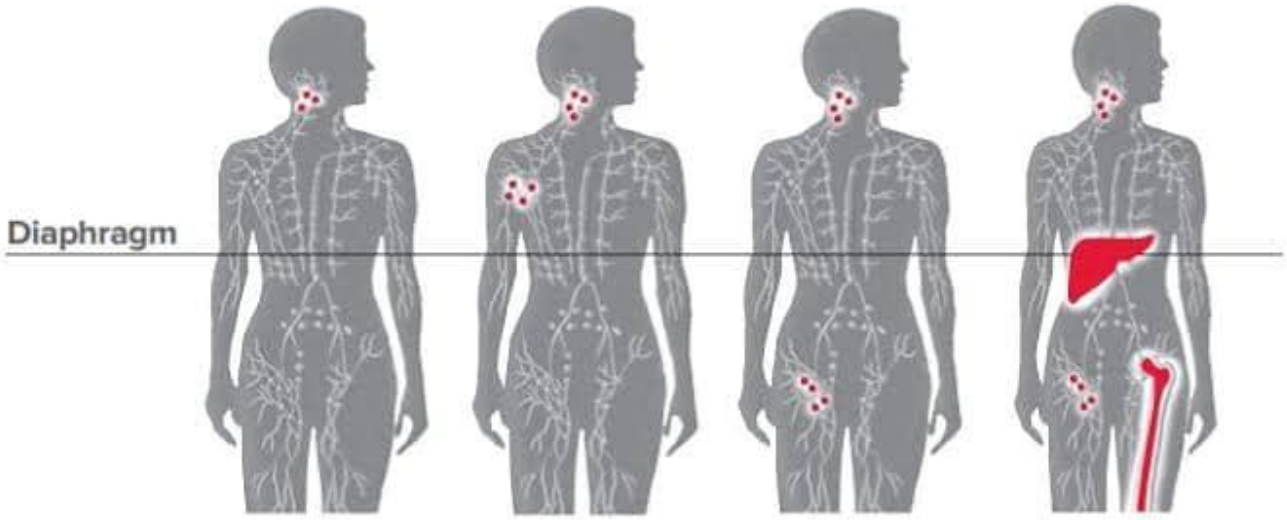
Levels of principal dermatomes

C5	Clavicles
C5, 6, 7	Lateral parts of upper limbs
C8, T1	Medial sides of upper limbs
C6	Thumb
C6, 7, 8	Hand
C8	Ring and little fingers
T4	Level of nipples
T10	Level of umbilicus
T12	Inguinal or groin regions
L1, 2, 3, 4	Anterior and inner surfaces of lower limbs
L4, 5, S1	Foot
L4	Medial side of great toe
S1, 2, L5	Posterior and outer surfaces of lower limbs
S1	Lateral margin of foot and little toe
S2, 3, 4	Perineum



Triangles of the neck diagram and mnemonic

by Medicowesome 2014



Stage I
Localized disease; single lymph node region or single organ

Stage II
Two or more lymph node regions on the same side of the diaphragm

Stage III
Two or more lymph node regions above and below the diaphragm

Stage IV
Widespread disease; multiple organs, with or without lymph node involvement

THE END