

Physiology

Notes:-

- 1) Cover is considered page #1.
- 2) Pages 926-927 and 931. The dr. didn't explain them but they're required from us so read them.

Correction:-

Slides #1:-

- 1) Slide #9: cholesterol composition is 25% NOT 50%.
- 2) We have studied in Biology that ion channels are considered as facilitated diffusion, but according to Guyton it's considered as simple diffusion because it's traveling through an intermolecular space without the help of carrier protein.

Slides #8, 9:-

- 1) Slide #36: it's nucleus.
- 2) Slide #37: VD₃ means vitamin D₃.

Sheet #1:-

- 1) Page #3: insulin and glucagon follows the endocrine control system.

Sheet #2:-

- 1) Page #3: proteins work as an enzyme to digest fructose not glucose.
- 2) Page #4: simple diffusion doesn't include H₂O.
- 3) Page #4: The transport itself is categorized into 3 main types:
 - a) Diffusion (simple + facilitated).
 - b) Active (primary + secondary).
 - c) Vesicle Mediated Transport: (endocytosis + exocytosis).So there're two types only for active transport and Vesicle Mediated Transport requires energy as well but it's not active transport.
- 4) Page #5,6: we calculate from mM osmolarity NOT osmolality so NaCl osmolarity is 280 mOsmo/L and so on for the other examples.

The normal osmolarity of human body is 300 mOsmo/L.

Sheet #3:-

- 1) Page #3: paracrine and autocrine their hormones are local
- 2) Page #5: prostaglandin is water soluble hormone.
- 3) Page #6: hCG is the right abbreviation.
- 4) Page #8: prohormones are going to golgi apparatus not prehormones. In this process enzymes in vesicle cleaves the prohormone into prehormone.

Sheet #4:-

- 1) Page #6: G-protein coupled receptors consist of 7 helices transmembrane receptors.
- 2) Page #8: the second figure , Ca is NOT a third messenger.

Sheet #6:-

- 1) Page #2: hormone binding domain >>> binds the receptor to the hormone
- 2) Page #3: it's site NOT side.
- 3) Page #8: insulin receptor consists of 4 subunits.

Sheet #7:-

- 1) Page #2: when it's activated it phosphorylates substrate intracellular through.
- 2) Page #2: STAT activation of gene transcription or whether activation of enzyme.
- 3) Page #5: hypokalemia causes repolarization of the membrane.
- 4) Page #7: first messenger is a hormone.
- 5) Page #7: why insulin is secreted? To decrease.
- 6) Page #9: it's triiodothyronine not thyrosile.
- 7) Page #10: third messenger is related to nucleus.
- 8) Page #10: STAT3 NOT postate3.

Sheet#8 :-

- 1) page #7 : M gate >>> is activation gate not activated
- 2) page #8 : H gate >>> is inactivation gate not in activated

Mid-term exam pages (Guyton 12th edition) :-

- 1) homeostasis : 3-9
- 2) cell membrane : 13-14 and 18-19
- 3) transport I (passive) , units: moles , osmoles , and transport II (active) : 45-56 and 290-292
- 4) excitable membrane , electrochemical equilibrium : 57-70 and 95-96
- 5) autonomic nervous system : 729-738
- 6) receptor types and adaptation : 881-891
- 7) signal transduction : 910-912 and 940-941
- 8) steroid : 926-927 and 931
- 9) cardiac action potential : 101-104 and 115-120

Past Papers

- 1) Page #3 Q21:-
Option B is wrong also NOT only c (oogonia reaches the maximum # by the 5th month NOT the 7th).
- 2) Page #6 Q18:-
Adductor polices is supplied by the ulnar nerve (true).
- 3) Page #6 Q22:-
Winged scapula results from injury of long thoracic nerve (thoracodorsal nerve innervates latissimus dorsi muscle, we haven't taken this with dr Mahir).
- 4) Page #7 Q38:-
answer is true.

Lower Limb

Sheet # 16:-

- 1) Page #2: condyles of femur for articulation with tibia only.
- 2) Page #4: the vomiting thing I believe it's better to delete it , since the dr didn't mention it.
- 3) Page #5: sartorius action is lateral rotation of the thigh NOT medial rotation.
- 4) Page #6: rectus femoris action is extension of knee joint and assists in flexion of hip joint.
- 5) Page #6: origin of vastus intermedius: anterior surface of femur (NOT written)
- 6) Page #6: about quadriceps femoris all heads originate from femur except rectus femoris from anterior inferior iliac spine.

sheet # 17:-

- 1) Page #8: origin of the hamstring part of adductor magnus is ischial tuberosity NOT ischial ramus.

sheet # 19:-

- 1) Page #7: external iliac artery continues as femoral artery not nerve.
- 2) Page #9: biceps femoris long head also extend the hip joint.

sheet # 20:-

- 1) Page #7: the deep fascia of the leg (NOT foot) sends 3 septa divide the leg into 3 compartments.
- 2) Page #7: lateral comp is for eversion of foot NOT inversion.

Upper Limb

Sheet #4:-

- 1) Page #4: axillary vein will begin at the level of the lower border of teres major NOT minor.

Slides #4:-

- 1) Slide #40 where the pyramid figure is opposite to what the figure in slide #41 says . The correct answer according to gray's is that the central group will receive lymph from lateral , anterior , posterior groups then this lymph will be sent to the apical group , as well the infraclavicular group will send lymph to the apical group then all the lymphs in the apical group will be sent to the subclavian lymph trunk.

Sheet #7:-

- 1) Page #3: line 2 it is flexion NOT extension.
- 2) Page #4: Ulna decreases in size from distal to proximal NOT increases.
- 3) page #4: last line in the box , to move the wrist laterally NOT medially.
- 4) page #5: long head of biceps brachii originates from supraglenoid tubercle of the scapula NOT humerus.
- 5) Page #6: action of the coracobrachialis assists flexion of the shoulder joint NOT elbow joint.
- 6) Page #6: Insertion of the brachialis coronoid process of ulna and tuberosity of ulna NOT coracoid.

Sheet #8:-

- 1) Page #2: Ulnar nerve and median nerve don't supply any muscle in the UPPER arm Not the arm.

Sheet #10:-

- 1) Page #5: the insertion of flexor carpi ulnaris is NOT just pisiform but also the hamate and 5th metacarpal bones.

Sheet #11:-

- 1) Page #3: Palmar branch of median N passes above the flexor retinaculum NOT below it.
- 2) Page #6: ulnar nerve supplies one and half muscles of the anterior compartment of the forearm (FCulnaris & ulnar side of FD profundus).
- 3) Page #7: Deep branch of the radial N is named like this while its within the supinator but the continuity is called posterior interosseous N (NOT as written after the two stars **).
- 4) Page #10: Radial artery passes between two muscles : Extensor Brachioradialis (NOT Flexor) and Flexor carpi radialis).
- 5) Page #11: as the dr said that nerves , arteries & veins move in both sides of the fingers.

Embryology

Sheet #9:-

- 1) Page #4 : there's nothing called 184 chrmatids so they're 46 chromosomes with 92 chromatids after duplication.
- 2) Page #5 : all books agree that after meiosis I the cell with become a haploid cell EXCEPT iron-man -- so follow him.

Sheet #14:-

- 1) Page #7: at birth it's 2 million.

Sheet #21:-

- 1) Page #4: again dr.Mahir contradict science and he says that after meiosis I the cell remains diploid. It's totally wrong but follow him.

