

chapter1

histology: microscopic anatomy cytology: study of cells physiology: study of diseases

^2. begin with subatomic particles: atom molecules macromolecules organelles tissues organs systems organisms

3 two organs in lymphatic and nervous system: lymphatic tonsils/spleen protects from disease nervous brain/spinal cord direct stimuli

4 define homeostasis range of values where life exists post increase rate of change neg reversal trend

4 name and planes transverse horizontal, frontal coronal, sagittal front,

5 three body cavities thoracic pleura, heart pericardial, lung peritoneal

6 mediastinum in pleura cavity separate left and right lung reduces friction lung expands/recoils

7 diff diagnostic ct computed tomography

3d images of body mri magnetic resonance imagery different organ structures^.

chapter2

1. what type of bond is between sr Ra none sr is cation

4. react with one another? to become more stable

5. two strong chemical bonds ionic, covalent

6. two weak hydrogen, van der Waals

7. oil in water oil is hydrophobic and nonpolar more attracted to self than water molecules

8. categories of lipids fat oils waxes fatty acids & glycerides

chapter3

^1 define general endothermic

atp creates po4 turns into adp

2. eicosanoids response to inflammation

1 prostaglandin 2 leukotrienes

3 steroid 6665 estrogen, testosterone, cholesterol, cortisol

4 phospholipid phosphatidylcholine

at bonds a diglyceride to a nonlipid

1 glycolipid 2 lipoprotein

5 basic protein primary-aa sequence secondary-pleated helical tertiary-complex folded quaternary-groups of 3d

6. cofactor & coenzyme cof= mineral ce= vitamins

7. denaturation change in structure of enzyme/ change in temp PH yes, if not too much damage has been done

8. nucleic acid dna- double helix has agct RNA- single stranded has u instead of t

9. metabolic turnover removal of chemical structures in a cell

1 phospholipids in neuron

2. enzymes in liver

10. phosphorylation & cellular energy phospho is the adding of a phosphate

E+adp+po4--->atp

11. omega fatty is an unsaturated fatty acid named from the left

13. cell membrane po4==>po4c phospholipid= backbone protein= transport

ch20= ID cholesterol= flexibility^.

chapter4

^1. cellular respiration w/ oxygen anaerobic pyruvate can be used or lactic acid-->atp for cell funx

2. protein synthesis translation-- mRNA+ribosomes+trna>protein transcription gene>mRNA

3. movement cell membrane determined by permeability diffusion is passive process and will move from high c to low con.

4. diff tumors benign-cell within epithelium nonthreat malignant spreads invasion deadly

1 rapidly divide

2 diapedesis into bV

3 attack to vessel wall

4 reverse diapedesis

5 angiogenesis

5. differentiation stem cell stem cell= mesenchymal or daughter cell fxn sc replace damaged tissue-& make new

6. active transport unequal concentration kkk na+na+na+ needs an ion to move

7. cellular division

1 interphase- duplicated

2 prophase- mvnt chromosome opposite side nucleus

3 metaphase- chromosome center of nucleus

4 anaphase- separate chromosomes

5 telophase- disassemble cytoplasm, cytokinesis

8. epithelial cells

1 cellularity

2 polarity

3 attachment

4 regeneration

9.

chapter4 (cont)

types epithelial squamous o protect skin stratified, cuboidal cube absorb/ secrete kidney simple, columnar (same) small intestines simple^.

chapter5

2. transitional epithelium

3 loc unusual stratified epithelium w/o damage -urinary bladder, ureters, renal pelvis

3. matrix? extracellular and ground substance of a connective tissue

6. types of leukocytes monocytes: phagocytes lymphocytes: fluid CT eosinophils, neutrophils, basophils: promote inflammation

8. satellite cell stem cells that persist in adult skeletal muscle, result smt can repair itself

9. three processes mast cell activation, inflammation, regeneration

10. types of muscles striation, ic disc, branch, neuro sk x--ach smooth x x x a c h e / e c a r d ---

chapter6

^1. list 4 fxns skin

1 protect of tissues/organs

2 excretions of salts/ water

3 storage lipids

4 detection of senses vitamin d promotes absorb of calcium blood+ liver > kidney > active vit d > gut > ca2+ absorption

2.

chapter6 (cont)

layers of epidermis 1. corneum--thick, thin skin 2. lucideum-thick skin palm/sole 3. granulosum-superficial to spin 4. spinosum-superficial to spin 5. basal-innermost epidermal layer 3. skin cancer malignant melanoma, basal, squamous 4. abcd asym, bord, colo, -diameter 5. 2fxnegf 1. duodenum, salivary glands 2. accelerating production of keratin -stimulating epidermal develop 6. stretch-marks exceeded elastin fibers 7. hairs vellus-peach terminal--coarse 8. sebaceous lubricate skin, waterproof skin, defense against disease 9. 2 sweat glands apocrine-secrete product into hair follicle merocrine-secrete onto skin 10. granulation tissue fibroblast > macrophage > capillary-network cell 12. injury repair sequence 1. invasion of mass cells 2. blood clot forms 3. growth basal cell 4. basal cell adhere to 5. phagocytic cell 6. healing scab 8. primary secondary intention 1w/suture to top bottom 2w/osuture bottom up^.

chapter7

chapter8

1. clubfoot congenital talipes equinovarus
cx abnormal muscle develop tx cast, surgery 2. 3 types of joints norange-synarthrosis-fibrous cartilage-suture some-amp-fibcart-syndesmosis & symphysis free-di-synovial-hip 4. 3fxn-synovial fluid 1. lubrication 2. nutrient distribution 3. shock absorption-cushion joint exposed to shock 5. sprain/strain sp-ligament torn st-lig stretched 6. bunion & bursa bunion-base of big toe bursa--degenerative joint disease bursitis of toe is bunion 7. 4 types of synovial joint 1. hinge-monoaxial-anke 2. pivot-mono--radial saddle-bi-carpometacarpal 4. ball--socket-triaxial-hip 8. prolsiv disc slippe-ddisc-nucleus pulposus compressed, distorts annular fibrosis, partway vertebral canal herniated disc-nucleus pulposus break thru annular fibrosis protrudes vertebral canal 9. 3 ligament blow 1. radial collateral 2. ulnar collateral 3. annular 10. 3 lig hip 1. iliofemoral 2. ischiofemoral 3. pubofemoral 11. diseases affect joint 1. rheumatoid arthritis-autoimmune attack joint capsule 2. gouty-uric acid in synovial fluid 3. osteoarthritis-degenerative joint disease

chapter9

^1. neurotransmitter muscles ach-skeletal epinephrine-cardiac-smooth 2. 5fxn skeletal muscle 1. produce skeletal mv 2. maintain body post 3. main body temp 4. protect soft tissue 5. guard sentrance sexits 4. embryonic devl pmuscle tissue stem cell-tissue=myoblast myoblast-embryonic 5. m/u of muscle triad 2. terminal cisternae 1. tubule impulses run down tubule into SR which release ca2+ and contraction begin 7. nebulin-protein hold factin strand together titin-keep thick/thin filament proper alignment factin-banded to myosin to end of muscle contract 8. n/t describe muscle cont 1. ach released 2. polarity changed 3. ca2+ released 4. cabind to troponin, change/force away tropomyosin, leave active site open on actin 5. actin-myosin bind 9. twitch-contr/relax treppe-stimulation & increase immediately after refractory period 10. summation-stim 4th refractory period ends at tetanus-maximum force 11. cp affect muscle contraction -donates phosphate to adp creates atp atp help binds extend/stay together for a contraction 12. cause paralysis botulism-noach chlostridium botulinum myasthenia gravis-noreceptorache chlostridium tetani^.

chapter10

1. 4 ways organize muscle fiber 1. parallel-biceps brachii 2. convergent-pectoralis muscle 3. unipennate-extensor digitorum 4. bipennate-rectus femoris 2. 3 classes of levers 1. load fulcrum vaf neck exten 2. fvl ap ankle exten 3. afvl bicep brachii flex 3. 6 eye muscles 1. inferior down niii 2. anterior rectus up NVI 3. medial middle nvii 4. lateral lateral nvi 5. inferior oblique roll up down niii 6. superior oblique roll down lateral niv 4. hernia cause loc visceral org abnormally protruding thru an opening in muscular wall caux increased force, in pressure, weak ct 3. loc inguinal, umbilical, iv disc 5. retinaculum broad band of ct tendons pass under it hold tendons in place 6. hamstrings bicep femoris, semimembranosus, semitendinosus quads vastus medialis, venter medialis, lateralis, rectus femoris rotator cuff supraspinatus, infraspinatus, teres minor, subscapularis 7. ischemia/hypoxia is-restrict/dec blood flow to tissue hyp-decrease o2 in tissue 9. organelle mitosis centrioles location=olfactory / hippocampus 10. 4 structural classifications neurons 1. multipolar 2. bipolar 3. unipolar 4. anapolar 11. steps neural regeneration 1. invasion-macrophages 2. form of neuraltube by schwann cells 3. regrowth of axon 12. neuroglia CNS 1. ependymal cells-produce csf 2. astrocytes-produce bbb 3. oligodendrocytes-myelin 4. microglial-phagocytosis

1. 6 types of bone 1 long-femur 2 short-scapula 3 flat-scapulae 4 irregular-hyoid 5 sesamoid-patella 6 sutural-cranial

3. matrix comes from bone marrow, called hydroxyapatite 4. spongy bone trabeculae 5. two ossification intracartilagenous-bone replaces cartilage intramembranous-bone develops from mesenchymal/fibrous 6. homeostasis blood-calcium parathyroid pth and calcitonin help regulate calcitonin-thyroid-inhibit osteoc, stimulate osteob (vbl) pth-parathyroid-opposite 7. 6 fractures 1 transverse-break shaft 2 greenstick-broken, bent 3 displaced-misalignment 4 spiral-twisted 5 Pott's two break 6 Colles-distal displaced hardest 8. rickets & scurvy r-bone malasia looks fine but flexible scurvy-lossof bone mass/strength 9. tmj muscle spasm > misalignment > pain > muscle spasm

10. 3 sinuses 1 frontal 2 sphenoid 3 ethmoid 1 immunology 2 light skull-bone 3 humidifier 11. false rib ribs not attached to sternum 8-12 12. mp pelvis appearance inlet iliac m-narrow, heart shaped, deep f-broad, oval, shallow



By **lalax0**
cheatography.com/lalax0/

Published 10th December, 2014.
 Last updated 11th May, 2016.
 Page 2 of 4.

Sponsored by **ApolloPad.com**
 Everyone has a novel in them. Finish Yours!
<https://apollopad.com>

chapter11

2.4ionchannels 1voltagegatedchanne-
hangetransmembranepotential 2mecha-
nicalgatedchannel-changeinphysicaldi-
stortionofmembranesurface 3leakchan-
nel-alwaysopenbindtospecificfibers
4ligand-bindspecificchemicals 3.3diffbe-
tweengradedresponse g /1localized
2rateofchange 3changesacrossmemb-
ranepotentia ap/1restingleakchann
2depolariz 3hyperpolar 4.hyperpolar-
ization resetting for another ap, cell
become neg, two ion mvm 5.summation
summing (+)(-)fromdendritestoseeifreac-
hesthreshodtostartap @ axon hillock
6.initialsegfx at axon hillock 7.refractory-
periodwneuron 8.saltatoryconduction
jumping of ap from nodetonode bc no
na under myelin occurs @ nodes of
ranvier 9.typesofneurons afibers-largest-
myelinatedaxon bodyposition bfibers-s-
maller myelinated pain cfibers-smalles-
tunmyelinated pain 10.chemical&elect-
ricalsynapse c-neurotransmitter to
sendmessages exneuromuscular jnx e-
nosynaptic gap so the ionic flow exthe
eye 11.neuromodulator n-modifiesthere-
leaseoftheneurotransmitters inhibits
release stimulate ca2+ opioids= 1endor-
phins 2endomorphins 3dynorphins
4enkephalins substance p .

chapter12

^1.directandindirect d-ligandb-
indstopprotein,protein channe-
lopens in-ligandattachestorecep-
tor,activatesGprotein,gtp>aden-
olatcyclase,atp>cAMPopenspr-
oteinchanel 2.3classesneuro-
transmitters aminoacid:glycine,-
direct,spinalcord neuropept-
ide:endomorphines,indirect,hyp-
othalamus purine:adenosine,i-
ndirect,cortex 3.presynapticin-
hi/fac pi:when ca2+is inhibited
from gaba releases it lessens
the amnt of neurotransmitters pf:
when there is aninfluxof ca2+
the amnt of neurtrtransm is
greater 4.spatial-many synapse
temporal-onesynapse 6.plexus
interwoven networkofnerves
4componens: root,trunk,divisio-
ns,cords adv:overlappingfxn
7.spinalsegmentsbrachialplexus
c4-c8,t1 1suprascapularc5-c6
subscapularis 2dorsalc5
thalamus 3longthoracicc5-c7-
omohyoid 4pectoralc5,t1
pectoralis 8.segmentslumba-
rplexus t12,l1-l4 1femoralthigh
2obtulatoradductorhips
3saphenous pectoralis all L2-l4
9.neuralcircuits 1convergance
2divergance 3serial 4parallel
5reverbatation 10.m/umuscle-
spindle fxmuscletone -intrafus-
ualfibers-gamaefferents-sensor-
yneurons 11.

chapter12 (cont)

meninges -pia mater(bottom) -
subarachnoid (space) -arachnoi-
d(middle) -dura (top) -epidura(-
space) ALLprotectCNS^.



By **lalaxo**
cheatography.com/lalaxo/

Published 10th December, 2014.
Last updated 11th May, 2016.
Page 3 of 4.

Sponsored by **ApolloPad.com**
Everyone has a novel in them. Finish
Yours!
<https://apollopad.com>