

### 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  $PO_4^{3-}$  turns into  $ADP^{2-}$   
 2. eicosanoids response to inflammation 1 prostaglandin 2 leukotriene 3 steroid  
 6665 estrogen, testosterone, cholesterol, cortisol 4 phospholipid phosphate that bonds a diglyceride to a nonlipid  
 1 glycolipid 2 lipoprotein 5 basic protein primary-aa sequence secondary-pleated helical tertiary-complex folding quaternary-groups of 3d  
 6. cofactor & coenzyme cof= mineral ce= vitamins 7.

### chapter3 (cont)

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 phos is the adding of a phosphate  $E + adp + PO_4^{3-} \rightarrow atp$   
 11. omega fatty is an unsaturated fatty acid named from the left 13. cell membrane  $PO_4^{3-} = PO_4^{3-} C$  phospholipid = backbone protein = transport  $CH_2O = ID$  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.

### chapter4 (cont)

4. diff tumors benign-c malignant spreads in 2 diapedesis into bV : diapedesis 5 angiogenesis stem cell = mesenchyme replace damaged tissue unequal concentration to move 7. cellular division 2 prophase-mvnt chr 3 metaphase-chromosome separation 5 telophase cytokinesis 8. epithelial cell homeostasis 4 regeneration protect skin stratified kidney simple, columnar

### chapter5

2. transitional epithelium 3. damage -urinary bladder, cellular and grand substance kocytes monocytes: phagocytes, neutrophils, basophils: phagocytes that persist in adult skin itself 9. three processes migration 10. types of muscles



chapter5 (cont)	chapter6 (cont)	chapter8	chapter9
<p>straition,ic- disc,branch,- neuro sk x-- ach smooxxx ache/e card- --</p>	<p>layersofepidermis 1corneum-thick, thin skin 2lucid- eum-thick skin palm/sole 3granuloum-superificaltopspin 4spinosum-superbasal 5basal-innermost epidermal layer 3.skincancer malignant melanoma,basal,squ- amous 4.abcd asym,bord,colo,diameter 5.2fxnegf 1duodenum, salivary glands 2accelerating production of keratin -stimulatin epidermal develop 6.stretch- marks exceeded elastin fibers 7.hairs vellus-peach terminal-coarse 8.sebaceous lubricate skin, waterp- roofskin,defenseagainstdisease 9.2sweatglands apocrine-secrete productintohairfollicle merocrine-se- crete onto skin 10.granulationtissue fibroblast&gt;macro- phage&gt;capillarynetwork cell 12.injuryrepairsequence 1invasionofmasscells 2bloodclotforms 3growthbasal cell 4basal cell adhere to 5phagocytic cell 6heali- ngscab 8.primarysecondaryintention 1w/suturetop- ottom 2w/osuturebottomup^.</p>	<p>1.clubfoot congenitaltalipesequinovarus cx abnormal muscle develeopm tx cast,surgery 2.3typesofjoints norange-synarthoro- sis-fibriouscaritldge-suture some-amp-fibrcart-syndesmasis&amp;sy- mphasysis free-di-synovial-hip 4.3fxnsynovialfluid 1lubrication 2nutrientdistribution 3shockabsorption-cushionjointexposed- toshock 5.sprain/strain sp-ligament torn st-lig stretched 6.buni- on&amp;bursa bunion-baseofbigtoe bursa-degenerativejoint disease bursistionoftoeisbunion 7.4typesofsynoviajoint 1hinge-monoaxia- l-anke 2pivot-mono-radial saddle-bi-carpometacarpal 4ball-soc- ket-triaxial-hip 8.probsivdisc slippeddisc-nucleuspomposis compressed, distortsanularfibrosis, partway vertebral canal herniated disc-nucleuspomposis breaksthru anular fibrosis portrudes vertebralcanal 9.3ligamentseblow 1radialcollateral 2ulnalcol 3anular 10.3lighip 1iliofemoral 2shiofemora 3pubof- emoral 11.diseasesaffectjoint 1rheumatoid arthristis-autoimm- uneattacksjointcapsule 2gouty-uricacidinsynovialfluid 3osteoar- hritis-degenerativejointdisease.</p>	<p>^1 .neurotransmitt herine-cardiac/sr 1producesskeleta 3mainbodytemp 4 ncesexits 4.embr ll-tissue=myoblas fmscletriad 2terr impulses run dow ca2+ and contrac oldfactinstrandtoc mentproperalignn nduremusclecont 1achreleased 2pc 4cabindtotroponir myosin, leaveacti nbind 9.twitch-col ncrease immedia</p>
<p>chapter6 ^1. list4f- uxnskin 1protect of tissue- s/organs 2excre- tions of salts/- water 3storage- lipids 4detection of senses vitamind promotes absorp of calcium blood+liv- er&gt;kid- ney&gt;actie vit d&gt;g- ut&gt;ca2+ absorption 2.</p>	<p>chapter7 1.6typesofbone 1long-femur 2short-scapoid 3flat-scapulae 4irreg- ular-hyoid 5sesamoid-patella 6sutural-cranial 3.matrix comesfrom- bonemarrow, called hydroxyapatite 4.spongybone trabeculae 5.twoossification intracartilagenous-bonereplacescartilage intram- embranous-bonedevlopsfrommesenchymal/ fibrousc 6.homeost- asisbloodcalcium parathyroid pth and calitonin help regulate calcit- onin-thyroid-inhibit osteoc, stimul osteob (vbcl) pth-parathyroid-op- posite 7.6fractures 1transverse-breakshaft 2greenstick-bro- ken,bent 3displaced-misalignment 4spiral-twisted 5potts-twobreak 6cottes-distal displacedhardest 8.rickets&amp;scurvy r-bone malasia looksfinebutflexibl scurvy-lossofbonemass/strength 9.tmj muscle- spasm&gt;misalginment&gt;pain&gt; musclecramp 10.3sinuses 1frontal 2sphenoid 3ethenoid 1immunology 2lightenskullbone 3humidifier 11.fasle rib ribsnotattachedtosternum 8-12 12.mfpelvis apperance inlet illiac m-narrow, heart shaped, deep f-braod, oval, shallow</p>		



### chapter9 (cont)

summation-stim<sup>4</sup>therefractoryperiodends teatnus-maxi-  
mumforce 11.cpaaffectmusclecontraction -donates  
phosphate to adp creates atp atp help binds extend/st-  
aytogether for a contraction 12.causeparalysis botulism--  
noach chlostridium botolinum myatheniagravis-norecept-  
orache chlostridium tetani<sup>^</sup>.

### chapter10

1.4waysorganizemusclefiber 1parallel-bicepsbrachi 2convergent-pec-  
toralismuscle 3unipennate-extensordigitorium 4bipennate-rectusf-  
emoris 2.3classesoflevers 1vload fulcrum vaf neckexten 2fvl<sub>ap</sub>  
ankleexten 3f<sub>av</sub>l bicep brachiflex 3.6eyemuscles 1inferior down  
niii 2anterior rectus up NVI 3medial middle nvii 4lateral lateral nvi  
5inferior oblique rollupdown niii 6superioroblique rolldownlateral niv  
4.herniacauseloc visercal org abnormally protruding thru an opening  
in muscular wall caux increased force, in pressure, weak cT 3loc  
inguinal,umbilical,ivdisc 5.retinaculum broad band of ct tendons pass  
under it hold tendons in place 6.hamstrings bicepfemoris,semimemb-  
ranous,semitendenous quads vastusmedialis,vintermedialius,lateralis,  
rectusfemoris rotatorcuff supraspinatus,infraspinatus,teresminor,sub-  
scapularis 7.ischemia/hypoxia is-restrict/dec bloodflow to tissue hyp-  
decrease o2 in tissue 9.organellemitosis centrioles location=olfactory /  
hippocampus 10.4structuralclassficiationsneurons 1multipolar 2bipolar  
3unipolar 4anapolar 11.stepsneuralregeneration 1invasionmacrop-  
hages 2formofneuraltubebyschwanncells 3regrowthofaxon 12.neu-  
rogliaCNS 1ependymalcells-produce csf 2astrocytes-producebbb  
3oligodendrocytes-myelin 4microglial-phagocytosis

### chapter11

2.4ionchannels 1voltagegatedchanne-change<sup>transmembr-</sup>  
anepotential 2mechanicalgatedchannel-changeinphysicaldi-  
stortionofmembranesurface 3leakchannel-alwaysopenbind-  
tospecificfibers 4ligand-bindspecificchemicals 3.3diffbetwe-  
engradedresponse g /1localized 2rateofchange 3changesa-  
crossmembranepotentia ap/1restingleakchann 2depolariz  
3hyperpolar 4.hyperpolarization resetting for another ap, cell  
become neg, two ion mvm 5.summation summing (+)(-)-fro-  
mdendritestoseeifreachesthreshodtostartap @ axon hillock  
6.initialsegfx at axon hillock 7.refractoryperiodwneuron 8.salt-  
atoryconduction jumping of ap from nodetonode bc no na  
under myelin occurs @ nodes of ranvier 9.typesofneurons  
afibers-largestmyelinatedaxon bodyposition bfibers-smaller  
myelinated pain cfibers-smallestunmyelinated pain 10.chemic-  
al&electricalsynapse c-neurotransmitter to sendmessages  
exneuromuscular jnx e-nosynaptic gap so the ionic flow exthe  
eye 11.neuromodulator n-modifiesthereleaseoftheneurotra-  
nsmitters inhibits release stimulate ca2+ opioids= 1endorphins  
2endomorphins 3dynorphins 4enkephalins substance p

### chapter12

<sup>^</sup>1.directandindirect d-ligandbinc  
rotein channelopens in-ligandatt  
tor,activatesGprotein,gtp>adenc  
>cAMPopensproteinchannel 2.3  
nsmitters aminoacid:glycine,dire  
neuropeptide:endomorphines,in  
alamus purine:adenosine,indire  
ynapticinhi/fac pi:when ca2+is ir  
releases it lessens the amnt of r  
pf: when there is aninfluxof ca2+  
neurtrasm is greater 4.spatial-  
temporal-onesynapse 6.plexus i  
networkingofnerves 4componen  
sions,cords adv:overlappingfxn  
sbrachialplexus c4-c8,t1 1supra  
subscapularis 2dorsalc5 thalam  
cc5-c7omohyoid 4pectoralc5,t1  
8.segmentslumarplexus t12,l1-  
2obtulatoradductorhips 3sapher  
L2-l4 9.neuralcircuits 1converga  
3serial 4parallel 5reverbatation 1C  
spindle fxmuscletone -intrafusua  
rents-sensoryneurons 11.



By **lalax0**  
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