Musculoskeletal system

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Physiology:

- *What happens in the peak of a simple muscle Twitch:*
- *A. Highest concentration of calcium is reached in the cytosol*
- *B. The permeability of K+ is higher than in any other moment*
- *C. The sarcolemma is in depolarization*
- *D. neurotransmitters are getting out of vesicles*
- *Answer: A*

- *During a skeletal-muscle contraction :*
- *A. Both thick and thin filaments shorten*
- *B. The thin filaments stay the same size, but the thick filaments shorten*
- *C. The thick filaments stay the same size, but the thin filaments shorten*
- *D. The sarcoplasmic reticulum shortens*
- *E. The sarcomeres shorten*
- *Answer: E*

- *The autoimmune disease that has antibody against acetylcholine channels is called :*
- *A. Muscle atrophy*
- *B. Tubocurarine*
- *C. Myasthenia gravis*
- *D. Muscle dystrophy*
- *E. Methacholine*
- *Answer: C*

- *Which of the following LEAST affect the tension/force produced by a muscle :*
- *A. The amount of calcium in the cytoplasm*
- *B.The diameter of the muscle fiber*
- *C. Length of muscle fiber at the onset of contraction*
- *D. The number of meter units activated*
- *E. Number of myofibrils in the muscle*
- *Answer: B*

- *During muscle tone, muscles will have :*
- *A. Isometric contraction*
- *B. Isotonic contraction*
- *C. Muscle atrophy*
- *D. Muscle fatigue*
- *E. Muscle hypertrophy*
- *Answer: A*

- *The strength of skeletal muscle contraction is determined by all of the following EXCEPT :*
- *A. The number of motor units activated*
- *B. The length of the muscle at time of contraction*
- *C. The levels of Ca+ in the sarcoplasmic reticulum*
- *D. The number of myosin ATPase active*
- *E. The rate of action potential stimulation by the nerve*
- *Answer: C*

- *Calcium ions are released from the sarcoplasmic reticulum to initiate muscle contraction and are reabsorbed upon muscle relaxation. Which of the following occurs if calcium ions are NOT completely reabsorbed :*
- *A. The next muscle contraction will be greater than the previous muscle contraction*
- *B. There will not be a second muscle contraction until all the calcium ions are reabsorbed*
- *C. The next musele contraction will be isotonic*
- *D. The next muscle contraction will be isometric*
- *E. The next muscle contraction will be weaker than the previous muscle contraction*
- *Answer: A*

- *Which of the following is true about increase cAMP levels in the cytoplasm of smooth muscle :*
- *A. Activate the kinase activity*
- *B. Leads to relaxation of skeletal muscle*
- *C. Leads to contraction of skelétal muscle*
- *D. Inhibit the kinase activity*
- *E. Has minimal effect in both skeletal and smooth as contraction is regulated by calcium is 0 and ATP levels*
- *Answer: D*

- *The factor produced by a single skeletal muscle fiber can be increased by:*
- *A. Increasing the number of voltage-gated Na+ channels in the membrane*
- *B. Decreasing extracellular K+ concentration*
- *C. Increasing the permeability of the membrane to K+*
- *D. Increasing the amplitude of the depolarizing stimulus*
- *E. Increasing the frequency of stimulation of the nerve*
- *Answer: E*

- *The name of the protein that bind to Ca++ in skeletal muscles and allow for contraction to start is :*
- *A. Tropomyosin*
- *B. Myosin*
- *C. Titanin*
- *D. Troponin*
- *E. Actin*
- *Answer: D*

- *Which of the following is true about SLOW skeletal-muscle fibers :*
- *A. They fatigue fast*
- *B. They store more oxygen*
- *C. They mainly produce ATP by glycolysis*
- *D. They have very few mitochondria*
- *E. They can NOT do isometric contraction*
- *Answer: B*

- *The absolute refractory period of an action potential :*
- *A. is during the after hyperpolarization wave*
- *B. refers to the membrane potential at resting state*
- *C. coincides with the firing stage of an action potential*
- *D. coincides (at the same time) with the lowest activity of K+ channels*
- *E. is mostly when Na+ channels are closed and not capable for opening*
- *Answer: C*

- *Which of the following pairs of events are NOT related to each other in skeletal muscle contractile mechanisms :*
- *A. Replacement of ADP with an ATP*
- *B. rigor mortis: decreased ATP in the sarcoplasm*
- *C. T tubules: transmission of action potentials*
- *D. fatigue: increased Ach concentration in cleft*
- *E. tetanisation: frequency summation*
- *Answer: D*

- *Slow muscles are depending MOST for their energetics during their activity :*
- *A. oxidative phosphorylation*
- *B. Creatine phosphate reserves*
- *C. glycolysis*
- *D. ATP reserves*
- *E. adenylate cyclase*
- *Answer: A*

- *Which of the following precedes the activation of dihydropyridine receptors :*
- *Answer: transmission of an action potential through T-Tubules*

- *All of the following are incorrect about motor units except :*
- *Answer: they are not bunched together in the muscle*

- *An athlete swimming on daily basis for 6 months, what are the most likely changes to happen to his muscle fibers :*
- *Answer: increase in actin and myosin filaments*

- *During muscle contraction, which is correct :*
- *Answer: H zone length decreases*

- *The followings are events during excitation contraction coupling :*
  1. generation of end-plate potentials
  2. activation of chemical gated Na+
  3. activation of voltage gated Na+ channels
  4. release of Cat + from sarcoplasmic reticulum
- *QUESTION: The sequence of events above in the correct order according to their appearance is:*
- *A. 2,1,3 and 4*
- *B. 3,1,4 and 2*
- *C. 1,2,3 and 4*
- *D. 3,2,1,and 4*
- *E. 2,1,4 and 3*
- *Answer: A*

- *Which of the followings is NOT involved in smooth muscle cells contractile mechanisms :*
- *A. activation of voltage gated Ca++ channels at the sarcolemma*
- *B. release of Ca++ from intracellular stores*
- *C. activation of phospholipase C*
- *D. interaction of actin and myosin*
- *E. phosphorylation of calmodulin*
- *Answer: E*

- *Which one of the following is NOT true about smooth muscle :*
- *A. Both actin and myosin are found in the smooth muscle cell cytoplasm, but these not arranged in sarcomere units*
- *B. The needed calcium (Ca*2) for contraction comes primarily from the extracellular fluid*
- *C. Similar to skeletal muscle cells, smooth muscle cells are capable of only all-or- nothing twitches*
- *D. Smooth muscle cell contractions are weak but sustained*
- *E. No answer*
- *Answer: C*

- *The ends of the actin filaments are anchored (attached) to the :*
- *A. M-line*
- *B. Perimysium*
- *C. Sarcoplasmic reticulum*
- *D. Z-line*
- *Answer: D*

- *What factor least affects the tension of contraction in skeletal muscles :*
- *A. Diameter of muscle fibers*
- *B. Size of the muscle*
- *C. optimal length*
- *D. Motor unit recruitment*
- *Answer: A*

- *In signal transduction mechanisms and G-proteins coupled receptors, the activation of phospholipase C (PLC) results in :*
- *A. Increasing IP3 (inositol Tri-Phosphate) concentration in the cytosol*
- *B. Increasing Ca++ transport from extracellular to intracellular fluid*
- *C. Increasing cAMP concentration in the cytosol*
- *D. Activation of Ca++ channels at plasma membrane*
- *E. More than one statement is correct*
- *Answer: A*

- *What is the difference between red and white fibers :*
- *A. red fibers have slow contraction velocity than white fibers*
- *B. white fibers have an extensive sarcoplasmic reticulum compared with red fibers*
- *C. red fibers have less glycogen store than white fibers*
- *D. all of the above*
- *Answer: D*

- *What of the following is characteristics of fast fibers :*
- *A. contain less blood supply compared with slow fibers*
- *B. depending on the oxidative phosphorylation as source of energy*
- *C. have low rate of ATP hydrolysis*
- *D. have high resistant to fatigue*
- *Answer: A*

- *Regarding troponin which one is true :*
- *A. Composed of four subunit*
- *B. Troponin I has strong affinity to actin*
- *C. Troponin T has strong affinity to titin*
- *D. Troponin C has strong affinity to chloride ions*
- *Answer: B*

- *Following the structure of the actin filament which one is wrong :*
- *A. Composed of actin, tropomyosin and troponin*
- *B. Actin backbone composed of triple stranded F-actin helix*
- *C. In resting state, the tropomyosin wrap on the top of active site of actin*
- *D. The strand of F-actin helix composed of polymerized G-actin molecules*
- *Answer: B*

- *The action potential reaches all muscles fiber due to presence of :*
- *A. Z line*
- *B. M line*
- *C. Tubules*
- *D. Titin*
- *Answer: C*

- *regarding myasthenia gravis :*
- *A. is an untreatable disease and we use drug to minimize the symptoms*
- *B. caused by excessive release of acetylcholine*
- *C. there is an increase of the AchRs and Ca voltage gated channels*
- *D. it's an autoimmune disease that affect the neuromuscular junction*
- *Answer: D*

- *Which of the following facilitate exocytosis of the Ach vesicles :*
- *A. flow of the Na ions inside the cell*
- *B. flow of the Ca ions inside the cell*
- *C. flow of the K ions outside the cell*
- *D. flow of the Ca ions outside the cell*
- *Answer: B*

- *What is the neurotransmitter in the NMJ :*
- *A. Acetyl choline*
- *B. Dopamine*
- *C. Adrenaline*
- *D. Noradrenaline*
- *E. Epinephrine*
- *Answer: A*

- *Which of the following can strongly activate the Na /K pumps :*
- *A. High Cl outside the cell*
- *B. Low proteins inside the cell*
- *C. High phosphate outside the cell*
- *D. High Na inside the cell*
- *Answer: D*

- *All of the following contribute to the resting state of action potential except:*
- *A. High concentration of Na outside the cell*
- *B. More Na channel in plasma membrane than K channel*
- *C. The selective permeability of plasma membrane doesn't allow for protein and ATP to leave the cell*
- *D. Electrogenic nature of the Na / K ATPases*
- *Answer: B*

- *The steps of muscle contraction include all the following EXCEPT:*
- *A. Generation of an action potential*
- *B. Spread of depolarization into the muscle fibres via the T system*
- *C. Release of Ca** from the sarcoplasmic reticulum*
- *D. Release of K* from troponin T*
- *E. Formation of cross linkages between actin and myosin*
- *Answer: D*

- *The cross bridges in skeletal muscles are components of:*
- *A. Myosin*
- *B. Troponin*
- *C. Actin*
- *D. Myelin*
- *E. Tropomyosin*
- *Answer: A*

- *The functions of tropomyosin in skeletal muscles include :*
- *A. Sliding on actin to produce shortening*
- *B. Releasing Ca* from the sarcoplasmic reticulum*
- *C. Binding to myosin during contraction*
- *D. Acting as a relaxing protein at rest*
- *E. Generating ATP and providing it to the contractile proteins*
- *Answer: D*

- *Troponin C:*
- *A. Interacts with tropomyosin*
- *B. Inhibits the ATPase enzvme*
- *C. Is the binding site for the myosin cross bridges*
- *D. Is a Ca* binding protein*
- *Answer: D*

- *In skeletal muscles, the transverse tubules and adjacent cisterns constitute:*
- *A. A triad*
- *B. A myofibril*
- *C. The sarcolemma*
- *D. A muscle fibre*
- *E. The sarcomere*
- *Answer: A*

- *During muscle contraction:*
- *A. The A bands remain constant*
- *B. The Z lines move further apart*
- *C. The tropomyosin molecules remain in place*
- *D. The I bands are elongated*
- *E.The H zones become wider*
- *Answer: A*

- *Which of the following is true about relative refractory period:*
- *A. Na+ channels cannot open under any condition*
- *B. It precedes the absolute refractory period*
- *C. Na+/K+ pump contributes to the relative refractory period*
- *D. Na+ channels are closed and not capable for opening*
- *Answer: D*

- *Which of the following is the correct order according to sliding theory:*
- *A. Detachment, binding, power stroke*
- *B. power stroke, bending, detachment*
- *C. Binding, bending, detachment*
- *D. Binding, detachment, power stroke*
- *Answer: C*

- *Rigormortis is caused by the depletion of which of the following:*
- *A. Ca+2*
- *B. ATP*
- *C. Na+*
- *D. Thin filaments*
- *Answer: B*

- *Of the followings, choose the LAST event that appears during stimulation-contraction coupling:*
- *A. release of Ca++ from sarcoplasmicreticulum*
- *B. action potential at sarcolemma*
- *C. generation of endplate potentials*
- *D. activation of troponin C*
- *E. conduction of action potentials along T-tubules*
- *Answer: D*

- *The absolute refractory period of an action potential:*
- *A. is during the after hyperpolarization wave*
- *B. refers to the membrane potential at resting state*
- *C. coincides with the firing stage of an action potential*
- *D. coincides (at the ne time) with the lowest activity of K+ channels*
- *E. is mostly when Na+ channels are closed and not capable for opening*
- *Answer: C*

- *Which of the following events does NOT occur at all in skeletal muscle during excitation-contraction coupling:*
- *A. activation of voltage gated K+ channels at the sarcolemm*
- *B. depolarization of the sarcoplasmic reticulum*
- *C. activation of voltage gated Na+ channels at the sarcolemma*
- *D. action potential at T tubules*
- *E. binding of Ca++ to troponin C*
- *Answer: B*

- *Decreased generation of motor end plate potentials can be a result of all the following conditions EXCEPT:*
- *A. depletion of chemical gated Na+ channels at the motor end plate*
- *B. decreased generation of action potential by motor neurons*
- *C. inhibition of chemical gate Na+ channels at motor end plate*
- *D. blocking of acetyl-choline esterase at motor end plate*
- *E. inhibition of nicotinic receptors at motor end plate*
- *Answer: D*

- *Decreased generation of motor end plate potentials can result in one of the followings conditions:*
- *A. activation of chemical gate Na+ channels at motor end plate*
- *B. increased firing rates at the motor neuron*
- *C. blocking of acetyl-choline esterase at motor end plate*
- *D. blocking of Ca++ channels at nerve terminals*
- *E. activation of nicotinic receptors at motor end plate*
- *Answer: D*

- *Which of the following pairs of events are NOT related to each other in skeletal muscle contractile mechanisms:*
- *A. c-AMP and detachment of myosine heads*
- *B. T tubules and transmission of actionpotentials*
- *C. rigor mortis and decreased ATP in sarcoplasm*
- *D. exocytosis and increased Ach concentration in cleft*
- *E. tetanization and frequency summation*
- *Answer: A*

- *Correct regarding type 1 muscle fibers:*
- *Answer: ATP hydrolysis in myosin heads is slower in type 1 fibers than 2*

- *All of the following need ATP except:*
- *Answer: binding of Ach to its receptors on the motor end plate*

Pharmacology:

- *A female is put on isotretinoin she decides to stop the medicine after how much time can she conceive :*
- *A. 2 months*
- *B. 1 year*
- *C. 3 years*
- *D. 1 month*
- *E. 3 months or more*
- *Answer: D*

- *Given through an intralesional injection for the treatment of keloids :*
- *Answer: triamcinolone*

- *The treatment of melasma, which is characterized by excessive melanin production, is :*
- *Answer: hydroquinone*

- *All is true about BACTIRACIN; EXCEPT:*
- *A. Can cause allergic contact*
- *B. Systemic use can cause nephrotoxicity*
- *C. It is highly absorbed through the skin, so systemic toxicity quite frequent*
- *D. It interferes with cell wall and peptidoglycan synthesis*
- *E. Usually administered in combination neomycin, polymyxin B, or both*
- *Answer: C*

- *All of the following drugs are considered teratogenic and women shouldn't become pregnant for a period of time after using them EXCEPT:*
- *A. Isotretinoin*
- *B. Acitretin*
- *C. Tazarotene*
- *D. Miltefosine*
- *E. Permethrin*
- *Answer: E (Not required)*

- *Which of the following can be used to treat psoriasis:*
- *A. Acitretin*
- *B. Tacrolimus*
- *C. Synthetic vitamin D derivative*
- *D. All of the above*
- *Answer: D*

- *Which of the following is not an anti-fungal:*
- *A. Clotrimazole*
- *B. Metronidazole*
- *C. Amphotericin B*
- *D. Ketoconazole*
- *Answer: B*

- *Which of the following NSAIDs is a selective COX-2 inhibitor:*
- *A. Piroxicam*
- *B. Indomethacin*
- *C. Celecoxib*
- *D. Diclofenac*
- *Answer: C*

- *Which of the following property combinations is peculiar to the majority of NSAIDs:*
- *A. Antihistaminic, antipyretic, analgesic*
- *B. Immunodepressive, anti-inflammatory, analgesic*
- *C. Antipyretic, analgesic, anti-inflammatory*
- *D. Anti-inflammatory, immunodepressive, antihistaminic*
- *Answer: C*

- *Side effects of aspirin include following:*
- *A. Gastric upset (intolerance)*
- *B. Salicylism (vomiting, tinnitus, decreased hearing, and vertigo)*
- *C. Gastric ulcers and and upper gastrointestinal bleeding*
- *D. All of the above*
- *Ans is D*

- *Which of the following statements is true regarding NSAIDs:*
- *A. COX-2 inhibitors are associated with increased gastric acid secretion*
- *B. Aspirin reversibly inhibits COX-1 resulting in increased thromboxane A2 levels*
- *C. Salicylates decrease the therapeutic effects phenytoin and valproic acid*
- *D. Celecoxib is administrated IV and can be used for cardiovascular prevention*
- *E. Aspirin should be avoided in patients < 18 years old with varicella or influenza*
- *Answer: E*

- *Inflammation is a complex tissue reaction that includes the release of cytokines, leukotrienes, prostaglandins, and peptides. Prostaglandins involved in inflammatory processes are produced from arachidonic acid by:*
- *A. Cyclooxygenase 1*
- *B. Cyclooxygenase 2*
- *C. Glutathione – S – transferase*
- *D. Lipoxygenase*
- *E. Phospholipase A2*
- *Answer: B*

- *NSAID induced ulcer are treated by:*
- *A. Antacids*
- *B. H2 blockers*
- *C. Misoprostol*
- *D. PPI (proton pump inhibitors)*
- *Answer: D*

- *A 70-year-old man suffers a myocardial infarction (MI). He is admitted to the cardiac intensive care unit and is given aspirin and a β blocker. A catheterization procedure is scheduled. The patient's wife, who is a pharmacy technician, wants to know why the patient is being given aspirin and not another nonsteroidal anti-inflammatory drug (NSAID). What is the best answer to this question:*
- *A. Aspirin inhibits both COX-1 and COX-2*
- *B. Aspirin irreversibly binds to its binding site on the enzyme*
- *C. Aspirin is a weak acid*
- *D. Aspirin is excreted by the kidneys*
- *E. Aspirin has much greater antithrombotic activity*
- *Answer: E*

- *Which is true about topical application of Clindamycin:*
- *A. There is no risk of pseudomembranous colitis since its topically applied*
- *B. It works by inhibiting the transcription process*
- *C. Allergic dermatitis is very common*
- *D. Can be used to treat Acne*
- *E. All of the above*
- *Answer: D*

- *All of the following are side effects of retinoic acid derivatives except:*
- *A. Teratogenic*
- *B. Hepatoxicity*
- *C. Depression*
- *D. Bleaching*
- *Answer: D*

- *Which of the following is wrong about bacitracin:*
- *A. It is frequently used in combination with polymyxin B and neomycin*
- *B. It is greatly absorbed to the systemic circulation*
- *C. It can cause contact dermatitis*
- *D. It works by inhibiting cell wall and peptidoglycan synthesis*
- *Answer: B*

- *Which of the following drugs doesn’t treat acne vulgaris:*
- *A. Erythromycin*
- *B. Benzoyl peroxide*
- *C. Clindamycin*
- *D. Neomycin*
- *Answer: D*

- *Which of the following is correct regarding trichogenic agents :*
- *A. Minoxidil is known to decrease the microcirculation surrounding the follicle, thus decreasing cutaneous blood flow*
- *B. A frequent adverse effect of topical minoxidil is orthostatic hypotension*
- *C. Finasteride inhibits the 5-a reductase enzyme that controls the production of DHT from testosterone*
- *D. An adverse effect associated with finasteride is increased libido*
- *E. Only 6 months of finasteride is necessary for a lifelong benefit*
- *Answer: C*

- *Which of the following is correct regarding the use of isotretinoin in the treatment of acne :*
- *A. Isotretinoin is given intravenously in the treatment of acne*
- *B. Isotretinoin acts primarily on the membrane receptors*
- *C. If given in high dosages, isotretinoin can indirectly increase the concentration of Propionibacterium aces bacteria*
- *D. Isotretinoin activates prostaglandin E2 and collagenase, which causes the adverse effect of inflammation*
- *E. Isotretinoin is contraindicated in Pregnancy due to its high risk of birth defects*
- *Answer: E*

- *Which of the following disease-treatment match is true*
- *A. Acne - Minoxidil*
- *B. Alopecia - Calcipotriene*
- *C. Impetigo - Isotretinoin*
- *D. Rosacea - Azelaic acid*
- *E. Psoriasis – Hydroquinone*
- *Answer: D*

- *Which is correct regarding the use of isotretinoin in the treatment of acne:*
- *A. It is used topically in the treatment of acne*
- *B. It acts primarily on the corticosteroid receptors*
- *C. It is used for milder forms of acne*
- *D. It is contraindicated in pregnancy*
- *Answer: D*

- *Which drug is a topically applied antibiotic that is thought to work through anti-inflammatory effects to treat rosacea :*
- *A. Brimonidine*
- *B. Doxycycline*
- *C. Metronidazole*
- *D. Benzoyl peroxide*
- *Answer: C*

- *Which topical antibacterial agent targets gram-negative bacteria :*
- *A. Gentamicin*
- *B. Bacitracin*
- *C. Mupirocin*
- *D. Retapamulin*
- *Answer: A*

Microbiology:

- *Regarding hematogenous osteomyelitis, which of the following is correct:*
- *Answer: hematogenous osteomyelitis is the most common form in children (Not required)*

- *Regarding Fournier gangrene, which of the following is least likely to occur:*
- *Answer: the disease progresses subacutely*

- *Which of the following pairs is matched correctly:*
- *Answer: erysipelas -> well demarcated*

- *False regarding the management of diabetic foot infections:*
- *Answer: taking samples for culture in all cases*

- *Which of the following statements is wrong regarding IMPETIGO:*
- *A. It is the most superficial infection, it can cause renal problems*
- *B. It is a highly contagious disease*
- *C. It is the most common bacterial skin infection in children*
- *D. It is caused mainly by skin flora*
- *Answer: A*

- *Which of the following is a real difference between mupirocin and retapamulin:*
- *A. Retapamulin is effective against groupA streptococci while mupirocin isn't*
- *B. Retapamulin can be associated with local irritation while mupirocin can't*
- *C. Methicillin-resistant S. aureus is sensitive to mupirocin but not to retapamulin*
- *D. Mupirocin is used systemically while retapamulin is used topically*
- *Answer: C maybe not required*

- *What is the most common bacterial skin infection in children:*
- *A. Cutaneous TB*
- *B. Nocardiosis*
- *C. Impetigo*
- *D. Necrotizing fasciitis*
- *Answer: C*

- *What makes MRSA infections more serious than other infections:*
- *A. They are hospital acquired*
- *B. Their resistance to many antimicrobials*
- *C. They are more virulent than other strains*
- *D. None of the above*
- *Answer: B*

- *Which of the following is FALSE:*
- *A. Reduced blood flow to the lower limb seen in diabetes or peripheral vascular disease promote type 1 necrotizing fasciitis*
- *B. Fournier's gangrene is more likely to be polymicrobial*
- *C. Majority of necrotizing fasciitis occur in extremities and perineum*
- *D. Group A strep cause a more fatal type of necrotizing fasciitis*
- *E. An alcoholic patientis more likely to have necrotizing skin infections*
- *Answer: (E Not sure)*

- *Which of the following is correct treatment for gas gangrene:*
- *A. Clindamycin + Penicillin*
- *B. Vancomycin*
- *C. Ampicillin/Sulbactam*
- *D. Oxacillin*
- *E. Amoxicillin*
- *Answer: A*

- *Retapamulin can be used to treat the following infections;EXCEPT:*
- *A. Infection caused by group A β-hemolyticstreptococci*
- *B. Infection caused by Staphylococcus aureus*
- *C. Infection caused by Methicillin resistant Staphylococcus aureus*
- *D. Impetigo*
- *E. None of the above*
- *Answer: C*

- *Which of the following primary antimicrobial regimen and disease combination is correct:*
- *A. Herpes simplex genital: foscarnet*
- *B. Cellulitis: doxycycline*
- *C. Gas gangrene: cephalexin*
- *D. MRSA skin infection: Oxacillin*
- *E. Group A Fascitis: Clindamycin*
- *Answer: E*

- *Which of the following can be used to measure the extent of infection in a diabetic foot setting:*
- *A. Clinical history*
- *B. Previous history of infection*
- *C. Microbiology specimen*
- *D. Imaging (MRI)*
- *E. Dorsal pedis pulse*
- *Answer: D*

- *Which of the following is the gold standard in diagnosis Pyomyositi:*
- *A. MRI*
- *B. X Ray*
- *C. Blood Culture*
- *D. CT*
- *E. PCR*
- *Answer: A*

- *Which of the following is TRUE:*
- *A. First presented, none infected diabetic foot ulcers are antibiotic naïve*
- *B. Peripheral neuropathy causes overflow of blood sugar to the limbs in diabetic foot infection which increases likelihood of infection*
- *C. Diabetic foot either can have any of musculoskeletal system infections (cellulitis or fasciitis or osteomyelitis) but usually not together*
- *D. Cellulitis alone is usually not part of diabetic foot presentation as there is no ulceration*
- *E. When necrosis in diabetic foot, obligate anaerobes are unlikely to be present*
- *Answer: A*

Histology:

- *Integumentary system, choose the WRONG match:*
- *A. Arrector pili: supplied by sympathetic fibers*
- *B. Inner root sheath: continuous with epidermis*
- *C. Stratum germinativum: stratum basale along with the deepest part of stratum spinosum*
- *D. Merkel cell: found in stratum basale*
- *E. Stratum granulosum: contains two types of granules*
- *Answer: B*

- *Which type of encapsulated nerve ending is located in dermal papillae:*
- *A. Free nerve endings*
- *B. Ruffini corouscle*
- *C. Merkel's disc*
- *D. Meissner's corpuscle*
- *E. Pacinian corpuscle*
- *Answer: D*

- *Thick skin, choose the WRONG statement:*
- *A. Composed of 5 epidermal layers*
- *B. Found on palms and soles*
- *C. Usually has a thicker dermis than thin skin*
- *D. Contains one type of sweat glands*
- *E. Has prominent epidermal-dermal ridges*
- *Answer: C*

- *Which cell is a mechanoreceptor:*
- *A. Langerhans cell*
- *B. Keratinocyte*
- *C. Melanocyte*
- *D. Merkel cell*
- *Answer: D*

- *Which of the following responds to continuous pressure*
- *A. Free nerve endings*
- *B. Ruffini's corpuscles*
- *C. Pacinian corpuscles*
- *D. Krause's end bulbs*
- *E. Meissner's corpuscle*
- *Answer: C*

- *Wrong statement about stratum granulosum:*
- *Answer: lamellar granules are non-membranous granules*

- *Which is continuous with outer epidermis of the hair follicle:*
- *Answer: outer root sheath*

- *Mismatched pair:*
- *A. Stratum spinosum >Langerhans cells are abundant*
- *B. Stratum Lucidum >not found in all skin types*
- *C. Stratum corneum >Dead cells*
- *D. Stratum granulsoum >non-membranous bound lamellar granule*
- *E. All answers are paired correctly*
- *Answer: D*

- *Apocrine sweat glands and sebaceous glands are similar to Each other in which of the following features:*
- *A. Location in the body*
- *B. Association with hair follicles*
- *C. Their mode of secretion*
- *D. The produced material*
- *Answer: B*

- *Which of the following statements is wrong regarding thick skin:*
- *A. It is found in palms and soles*
- *B. Its epidermis consists of five layers*
- *C. Its dermis is thicker than the dermis of thin skin*
- *D. It has no hair or sebaceous glands*
- *Answer: C*

- *Merkel cells and melanocytes are located in:*
- *A. Stratum corneum*
- *B. Stratum granulosum*
- *C. Stratum spinosum*
- *D. Stratum basale*
- *Answer: D*

- *Thin skin, choose the CORRECT statement:*
- *A. Contains one type of sweat glands*
- *B. Usually has a thicker dermis than thick skin*
- *C. Found on palms and soles*
- *D. Has prominent epidermal-dermal ridges*
- *E. Composed of 5 epidermal layers*
- *Answer: b*

- *Which of the following is False about melanocytes:*
- *A. They store the melanin pigment, so they appear brown in color*
- *B. They are located in stratum basale*
- *C. They transfer melanosomes to near by keratinocytes*
- *D. Their proliferation is stimulated by exposure to sun light*
- *Answer: B*

- *Correct statement:*
- *Answer: apocrine gland opens directly to the hair follicle*

- *Which of the following layers is made of loose connective tissue:*
- *A. epidermis*
- *B. reticular layer of dermis*
- *C. hypodermis*
- *D. reticular layer of dermis and hypodermis*
- *Answer: C*

- *Which of the following statements is wrong regarding thin skin:*
- *A. the stratum corneum layer thickness plays a significant role in determining the thickness dierence between thin and thick skin*
- *B. it has less prominent stratum granulosum*
- *C. its dermis is less cellular in comparison to that of the thick skin*
- *D. the interdigitations between the epidermis & dermis are as developed as those in thick skin*
- *Answer: C*

- *Which of the following statement is NOT TRUE:*
- *A. The substance most produced in the hair is melanin*
- *B. The substance most produced in the epidermis is keratin*
- *C. The substance most produced in the dermis is collagen*
- *D. The substance most produced in the subcutis is fat*
- *E. All answers are True*
- *Answer: A*

- *Which of the following statements about eccrine sweat glands is true:*
- *A. They are absent in thick skin*
- *B. They are holocrine glands*
- *C. They have a narrow duct lined by a stratified cuboidal epithelium*
- *D. They secrete an oily material called sebum*
- *E. They empty into hair follicles*
- *Answer: C*

- *Which layer of the epidermis contains star shaped cells*
- *A. Stratum basale*
- *B. Stratum spinosum*
- *C. Stratum granulosum*
- *D. Stratum lucidum*
- *E. Stratum corneum*
- *Answer: B*

- *Choose the correct statement regarding hair follicles:*
- *A. Males have more follicles than females*
- *B. Females have more follicles than males*
- *C. Males and females have the same number of follicles*
- *D. Children have more follicles than adults*
- *Answer: C*

Pathology:

- *Which one of the following statements best describes bone tumors:*
- *A. Chondrosarcoma is the most common malignant primary sarcoma of bone*
- *B. Primary bone tumors are very common*
- *C. Benign tumors are more common than their malignant counterparts*
- *D. Giant cell tumor of bone is an aggressive malignancy with frequent lung metastasis*
- *E. Codman triangle is a specific radiological feature of osteosarcoma*
- *Answer: C*

- *Which one of the following statements best describes vascular necrosis of femoral head:*
- *A. Can be seen as a complication of chronic steroid therapy*
- *B. Congenital factors are the mainstay of its pathogenesis*
- *C. Familial disorders are responsible for more than 80% of the cases*
- *D. Radiation is the most common predisposing factor*
- *E. Extravascular compression is the main mechanism in sickle cell patients*
- *Answer: A*

- *A 60 years old female patient came to the clinic and was physically Diagnosed with bone weakness .AnX-ray was done ,and it was noticed that she has compression fractures in her vertebrae .Which of the following tests should be done:*
- *A. Blood test looking for certain enzymes.*
- *B. Taking a biopsy*
- *C. MRI*
- *D. DEXA*
- *Answer: D*

- *Most common malignancy of bones is:*
- *A. Osteosarcoma*
- *B. Ewings saroma*
- *C. Metastasis*
- *D. Lymphoma*
- *E. Chondrosarcoma*
- *Answer: A*

- *A 71-year-old woman presents with sudden severe low back pain. Physical examination revealed severe kyphosis, while an x-ray of her back reveals a compression fracture of a vertebral marked thinning of her bones. Serum calcium, phosphorous, and alkaline phosphatase levels are all within normal range. Identify the best statement that describes this disease:*
- *A. Bone densitometry (DEXA scan) is needed to confirm the diagnosis*
- *B. Secondary forms are the most common form of this disease*
- *C. Bone biopsy is indicated to confirm the diagnosis*
- *D. Uncommon disorder due to enhanced osteoblastic activity*
- *E. Decreased osteoclast activity is a major etiology*
- *Answer: A*

- *A 55-year-old male patient came with pathologic fracture of his femoral neck. The surgeon describes the bone as abnormal and similar features are seen radiologically in the whole femur. The histological examination of the fractured bone revealed an abnormal lamellar bone with a characteristic "mosaic pattern". Identify the best statement describing this disease:*
- *A. Increased badly formed bone due to genetic and environmental factors*
- *B. Autosomal dominant disorder of collagen type 1synthesis*
- *C. X-linked disorder of collagen type III synthesis*
- *D. The osteosclerotic phase is the initial phase of the disease*
- *E. Congenital disorder of increased osteoprotegerin (OPG) activity*
- *Answer: A*

- *You evaluated a 3-year-old child who came with history of multiple recurrent bone fractures and hearing difficulty. Examination showed triangular face, broad forehead and blue sclera,This disease is characterized by:*
- *A. Deficiency of type I collagen synthesis (autosomal dominant)*
- *B. Fibroblast growth factor receptor abnormalities*
- *C. Impaired endochondral and intramembranous ossification*
- *D. Impaired osteoclast activity*
- *E."Marble bone" on X-ray*
- *Answer: A*

- *A patient is present with impaired hearing and blue sclera,Which of the following is right regarding his disease:*
- *A. Bone denser than usual is another symptom*
- *B. It is caused by a defected synthesis of collagen type III*
- *C. Some forms of this disease do not affect normal life span*
- *D. It is the most common X-linked disease*
- *Answer: C*

- *The brown tumor, osteoporosis and osteitis fibrosa are related to:*
- *A. Osteogenesis Imperfecta*
- *B. Untreated primary HPT*
- *C. Marble bone disease*
- *D. Osteomalacia*
- *Answer: B*

- *Most common causes of morbidity and mortality from osteopetrosis are:*
- *A. Immunologic reactions*
- *B. Respiratory insufficiency*
- *C. Leukopenia*
- *D. Bone fractures and their complications*
- *Answer: d*

- *What is the function of OPG:*
- *A. Blocks NFκB receptor*
- *B. Blocks M-CSF receptor*
- *C. Blocks RANK-L, stimulating osteoclast differentiation*
- *D. Blocks RANK-L, inhibiting osteoclast differentiation*
- *Answer: D*

- *You are an intern in the emergency room on Thursday night. A 12-year-old boy comes with sudden pain in his right knee and was limping when you saw him. His right knee is swollen, red and feels hot on touch. He has fever and his white blood count is 19,000/ mL with increased neutrophils. Which statement best describes this condition:*
- *A. Consider lower femur fracture, X-ray will be diagnostic*
- *B. Most consistent with juvenile idiopathic arthritis*
- *C. Consider acute septic arthritis caused by gram-positive cocci*
- *D. Most likely acute gouty arthritis , aspirate to check for crystals*
- *E. Biopsy of the joint will show necrotizing granuloma*
- *Answer: C*

- *Multiple lytic lesions of the vertebrae of a 43-year-old male patient were biopsied. Microscopic examination revealed collection of epithelioid histiocytes surrounded by plasma cells and lymphocytes. Central necrosis was also seen. The most likely diagnosis is:*
- *A. Pott disease*
- *B. Pannus formation*
- *C. Metastatic histocytoma*
- *D. Severe osteoarthriris*
- *E. None of the following are correct*
- *Answer: A*

- *Which of the following is true regarding lamellar bone:*
- *A. It is found in the fetus*
- *B. Fibers are disorganized*
- *C. Has stronger structural integrity than woven bone*
- *D. Its formation is rapid*
- *Answer: C*

- *A 17-year-old girl suffers a spiral fracture of her right tibia, and the leg is casted. Unfortunately, the fracture does not heal correctly due to excessive motion and interposition of soft tissue at the fracture site. Which of the following represents the most likely complication of nonunion in this patient:*
- *A. Codman triangle formation*
- *B. Cup-shaped epiphysis*
- *C. Involucrum formation*
- *D. Osteomyelitis*
- *E. Pseudoarthrosis*
- *Answer: E*

- *A 9-year-old boy complains of 2 weeks of pain in the hip. His temperature is 38°C (101°F). Laboratory studies show an elevated erythrocyte sedimentation rate. An X-ray reveals a mottled radiolucent defect in the upper femur, with abundant periosteal new bone formation. Fine-needle aspiration returns numerous neutrophils and cocci. Staphylococcus aureus is cultured from the bone lesion. A biopsy shows a fragment of necrotic bone embedded in fibrino purulent exudate. Which of the following terms best describes the necrotic bone:*
- *a. Cloaca*
- *b. Involucrum*
- *c. Osteophyte*
- *d. Sequestrum*
- *Answer: D*

- *Supernumerary is caused by:*
- *A. Abnormal fusion between two bones*
- *B. Abnormalities in homeobox genes, cytokines and its receptors*
- *C. Abnormal formation of sutures*
- *D. A single specific gene mutation*
- *Answer: B*

- *Which of the following is true about osteocytes:*
- *A. They are large and multinucleated*
- *B. They have high metabolic activity*
- *C. They are mature bone cells*
- *D. They are essential for bone resorption*
- *Answer: C*

- *Which of the following is FALSE regarding bone:*
- *A. Lamellar bone is the mature bone*
- *B. Formation of woven bone is much faster than lamellar bone*
- *C. Both types have similar composition in general*
- *D. The presence of woven bone in adults is normal*
- *Answer: D*

- *Osteogenesis imperfecta can be best described as:*
- *A. X-linked mutation in collagen I synthesis*
- *B. Autosomal dominant mutation in collagen I synthesis*
- *C. Mutation in collagen III synthesis*
- *D. None of the above*
- *Answer: B*

- *The most common cause of dwarfism is:*
- *A. Thanatophoric dysplasia*
- *B. Dysostosis*
- *C. Achondroplasia*
- *D. Osteopetrosis*
- *Answer: C*

- *Which of the following is true regarding paget disease:*
- *A. Measles virus is the only suspected cause*
- *B. More than one bone is involved in most cases*
- *C. Osteoprotegerin (OPG)is stimulated, inhibiting osteoclast's differentiation*
- *D. A radiograph showing mosaic appearance is pathognomonic for paget disease*
- *Answer: B*

- *Which one of the following statements best describe bone structure and its histophysiology:*
- *A. The osteoid constitutes 85% of the matrix.*
- *B. Type II collagen is the main protein in matrix*
- *C. Lamellar bone is less cellular than woven bone*
- *D. Osteocytes are large multinucleated cells*
- *E. Osteoclasts are small bone forming cells*
- *Answer: c*

- *Pott disease of the spine is characterized by:*
- *A. Multiple osteophytes*
- *B. Necrotizing granulomas*
- *C. Crystals in the lesion aspirate*
- *D. Involuted subchondral cysts*
- *E. Pannus formation*
- *Answer: B*

- *The most common cause of inherited disorders of connective tissue is:*
- *A. Achondroplasia*
- *B. Thanataophoric dysplasia*
- *C. Osteogenesis imperfecta*
- *D. Osteopetrosis*
- *E. Bone dysostosis*
- *Answer: C*

- *In contrast to lamellar bone ,woven bone is characterized by being:*
- *A. More seen in elderly people than younger groups*
- *B. Seen after complete healing of fractures*
- *C. More cellular and less linear/parallel than lamellar*
- *D. Harder in consistency than lamellar*
- *E. Stronger than lamellar*
- *Answer: C*

- *Which one of the following statements best describes bone fractures:*
- *A. Non-displaced fractures are always compound*
- *B. Simple fractures always communicate with skin*
- *C. Greenstick fractures occur mainly in mature flat bones*
- *D. Pathologic fractures are very common in young adults*
- *E. Compound fractures are most likely displaced*
- *Answer: E*

- *Congenital dysplasia of bone is characterized by:*
- *A. Dysostosis such as syndactyly syndromes*
- *B. Disorganized bone and cartilage due to gene mutation*
- *C. Abnormal condensation and migration of bone mesenchyme*
- *D. Disorders of homeobox genes*
- *E. involves cytokines abnormalities such as bone aplasia*
- *Answer: B*

- *A 13-year-old boy was brought by his parents with right forearm pain and swelling. Imaging showed an infiltrative diaphyseal tumor with two Codman triangles one proximal and one distal. The fine needle aspiration smears revealed numerous small tumor cells with high nuclear cytoplasmic ratio. The molecular signature abnormality of this tumor is:*
- *A. t(11;22)(q24;q12)*
- *B. MDM2 translocation*
- *C. t (x;18)(p12;q15)*
- *D. Point mutation of osteoblast P53 tumor suppressor gene Gene*
- *E. mutation in fibroblast growth factor receptor 3*
- *Answer: A*

- *A patient was diagnosed with renal failure in early stage. Parathyroid glands are noticed to be stimulated with no hyperplasia. Which if the following may be found in serum:*
- *A. High levels of Alkaline phosphatase*
- *B. Low levels of Phosphate*
- *C. Low levels of Calcium*
- *D. Low levels of parathyroid hormone(PTH)*
- *Answer: C*

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- *D. Harder in consistency than lamellar*
- *E. Stronger than lamellar*
- *Answer: C*

- *Which of the following statements best describes acute pyogenic osteomyelitis:*
- *A. Most cases can be managed by oral antibiotics at home*
- *B. Sequestrum is the fistula seen in severe forms of acute osteomyelitis*
- *C. Mycobacteria is the most common cause in adults*
- *D. Sickle cell disease patients are more likely to have gram negative cocci osteomyelitis*
- *E. Staphylococcus aureus is the most frequent causative agent*
- *Answer: E*

- *A 2-year-old boy is treated for recurrent fractures of his long bones. Physical examination reveals blue sclerae, loose joints, abnormal teeth, and poor hearing. Molecular diagnostic studies will most likely demonstrate a mutation in the gene encoding which of the following proteins:*
- *A. Collagen*
- *B. Dystrophin*
- *C. Lysyl hydroxylase*
- *D. Fibrillin*
- *E. Fibroblast growth factor receptor*
- *Answer: A*

- *A 30-year-old man with dwarfism is admitted to the hospital for hip replacement due to severe osteoarthritis. He has short arms and legs and a relatively large head. His parents do not show signs of this congenital disease. This patient most likely has a spontaneous mutation in the gene encoding which of the following proteins:*
- *A. Collagen type I*
- *B. Collagen type II*
- *C. Fibroblast growth factor receptor*
- *D. Growth hormone receptor*
- *E. Insulin-like growth factor*
- *Answer: C*

- *A 24-year-old man on chronic corticosteroid therapy for severe asthma presents with a 6-month history of increasing hip pain. This patient most likely exhibits symptoms of which of the following metabolic bone diseases?*
- *A. Gaucher disease*
- *B. Osteomalacia*
- *C. Osteopetrosis*
- *D. Osteoporosis*
- *E. Paget disease*
- *Answer: D*

- *A 55-year-old man presents with pain in the left arm. Laboratory studies show elevated serum levels of calcium and parathyroid hormone. An X-ray of the left arm reveals multiple small bone cysts and pathologic fractures. Biopsy of the affected bone discloses numerous giant cells in a cellular and fibrous stroma. The patient undergoes removal of a parathyroid adenoma. Which of the following best describes the pathogenesis of bone pain and pathologic fractures in this patient:*
- *A. Enhanced osteoblast activity*
- *B. Impaired mineralization of osteoid*
- *C. Increased bone resorption*
- *D. Increased mineralization of bone*
- *E. Osteoporosis*
- *Answer: C*

- *A 4-year-old girl is brought to the pediatrician's office. Her mother says that she noticed that her legs seem unsteady and bowed when the girl stands. She noticed this for the first time 2 months ago. What is the most likely diagnosis:*
- *A. Osteopenia*
- *B. Osteoporosis*
- *C. Paget disease*
- *D. Rickets*
- *E. None are correct*
- *Answer: D*

- *A10-year-old boy complains of increasing pain in his left hip. He began limping shortly after playing a baseball game at school. He is febrile. An X-ray of the femoral head shows a fracture and irregular densities of the cancellous bone. You make a diagnosis of Legg-Calvé-Perthes disease. Which of the following best describes the pathologic findings in this patient :*
- *A. Avascular osteonecrosis*
- *B. Chondroma*
- *C. Fibrous dysplasia*
- *D. Osteitis fibrosa cystica*
- *E. Osteopetrosis*
- *Answer: A*

- *A patient with many fractures, no severe traumas, he has loose joints, abnormal teeth, his X-Ray showed thinned bones, one of the following is another feature for this disease:*
- *Answer: hearing loss and blue sclera*

- *Male patient complaining of bone pain in the hip / X-ray shows sclerotic, lytic and mixed lesions, which of the following serum measures an help in diagnosis?*
- *Answer: elevated levels of alkaline phosphate but normal calcium and phosphate levels*

- *True regarding Maffucci syndrome:*
- *Answer: multiple enchondromas with skin hemangiomatosis*

- *New bone formation surrounding a sequestrum as a result of osteomyelitis is known as*
- *A. osteophyte*
- *B. osteosarcoma*
- *C. sequestrum*
- *D. involucrum*
- *Answer: D*

Anatomy:

- *Orbicularis Oculi, choose the WRONG statement:*
- *A. Lies in the superficial fascia*
- *B. The orbital part closes the eye gently*
- *C. Has a lacrimal part that aids in the flow of tears*
- *D. It surrounds completely each orbital orifice and extends into each eyelid*
- *E. Is supplied by facial nerve*
- *Answer: B*

- *You are on your emergency medicine rotation and are assisting in the examination of a patient who has been in a vehicular accident. You noticed when testing the cranial nerves, deviation of the angle of the mouth to the right side. Which cranial nerve is damaged in this case:*
- *A. The mandibular division of trigeminal on the right*
- *B. The facial nerve on the left*
- *C. The facial nerve on the right*
- *D. Both the maxillary and mandibular divisions of trigeminal on the left*
- *E. The mandibular division of trigeminal on the left*
- *Answer: B*

- *Regarding the dural venous sinuses, which of the following pairs is matched INCORRECTLY:*
- *A. Sigmoid sinus: jugular foramen*
- *B. Superior sagittal sinus: superior cerebral veins*
- *C. Transverse sinus: occipital bone*
- *D. Straight sinus: free border of falx cerebelli*
- *E. Cavernous sinus: pituitary gland*
- *Answer: D*

- *All the followings are branches of external carotid artery EXCEPT:*
- *A. Posterior auricular artery*
- *B. Superficial temporal artery*
- *C. Facial artery*
- *D. Supraorbital artery*
- *E. Maxillary artery*
- *Answer: D*

- *The cutaneous nerve supply of the face, choose the WRONG statement:*
- *A. The infraorbital nerve is a continuation of the maxillary nerve*
- *B. Motor branches of trigeminal nerve emerge from the parotid gland*
- *C. The supratrochlear and supraorbital nerves supply forehead and scalp*
- *D. Auriculotemporal nerve is a branch of mandibular nerve*
- *E. Lacrimal nerve supplies the skin on the lateral part of the upper eyelid*
- *Answer: B*

- *The following veins and/or dural venous sinuses drain directly from or to cavernous sinus EXCEPT:*
- *A. Superior petrosal sinus*
- *B. Ophthalmic veins*
- *C. Inferior sagittal sinus*
- *D. Inferior petrosal sinus*
- *E. Pterygoid plexus of veins*
- *Answer: C*

- *Which of the followings does NOT travel through the jugular foramen:*
- *A. Internal jugular vein*
- *B. Accessory nerve*
- *C. Glossopharyngeal nerve*
- *D. Vagus nerve*
- *E. Hypoglossal nerve*
- *Answer: E*

- *Cutaneous innervation the auricle is derived from:*
- *A. Auriculotemporal nerve*
- *B. Great auricular nerve*
- *C. Lessor occipital nerve*
- *D. All of the mentioned*
- *E. Vagus nerve*
- *Answer: D*

- *Which statement is CORRECT:*
- *A. Facial artery passes deep to the submandibular gland*
- *B. The mastoid process of the temporal bone can be palpated easily in the newborn*
- *C. The internal carotid artery passes through foramen lacerum*
- *D. Jugular foramen is located between the sphenoid bone and petrous part of temporal bone*
- *E. The optic canal has 2 cranial nerves passing through it*
- *Answer: A*

- *Paralysis of the buccinator muscle would probably result in:*
- *A. Inability to protrude the lower lip*
- *B. Dribbling of saliva from the angle of the mouth*
- *C. Inability to close the mouth*
- *D. Decrease salivation*
- *E. Inability to open the mouth*
- *Answer: B*

- *Which of the following statements concerning a patient with a large swelling restricted to the area over the occipital bone is CORRECT:*
- *A. The edge of the swelling is limited by the attachment of the periosteum to the sutural ligaments*
- *B. The hematoma was located just beneath the epicranial aponeurosis and was superficial to the periosteum of the occipital bone*
- *C. The hematoma, although large, did not extend forward to the orbital margins and did not extend laterally as far as the temporal lines*
- *D. The hematoma is restricted to one skull bone and is situated beneath the periosteum*
- *E. The swelling did not occupy the subcutaneous tissue of the scalp*
- *Answer: A*

- *Scalp, choose the CORRECT statement:*
- *A. Its wounds do not bleed easily*
- *B. The large blood vessels of the scalp run in the subaponeurotic loose areolar tissue*
- *C. Its skin and superficial fascia move on the aponeurosis*
- *D. Its veins communicate directly with the cavernous sinus*
- *E. Its wounds do not gape if superficial to aponeurosis*
- *Answer: E*

- *Falx cerebri, choose the WRONG statement:*
- *A. Is attached anteriorly to crista galli and frontal crest*
- *B. It limits the rotatory movements of the brain within the skull*
- *C. Is supplied by the maxillary division of trigeminal nerve*
- *D. Is formed by the meningeal layer of the dura*
- *E. The inferior sagittal sinus runs in its lower concave free margin*
- *Answer: C*

- *One of the following structures pass through the tendinous ring:*
- *Answer: ophthalmic artery*

- *One of the following bones participate in nasal septum formation:*
- *Answer: vomer and ethmoid*

- *All of the following pass through the cavernous sinus except:*
- *Answer: mandibular branch of trigeminal nerve*

- *Which of the following can be seen in patients with paralyzed buccinator muscle:*
- *Answer: dribbling of saliva from the angle of the mouth*

- *If the cornea is adducted, and the person moves the cornea upward, which is the most effective muscle for elevating the eyeball:*
- *Answer: inferior oblique*

- *Which of the following is true regarding the SCALP:*
- *A. The area around the eye is supplied by branches of external carotid artery*
- *B. Supraorbital and Supratrochlear veins drain directly in to ophthalmic vein*
- *C. The area behind the auricle is supplied by lesser occipital nerve, a branch from dorsal root ofC2*
- *D. None of the above*
- *Answer: D*

- *A patient can’t close his eyes tightly. What is the affected nerve:*
- *A. Oculomotor nerve*
- *B. Facial nerve*
- *C. Ophthalmic nerve*
- *D. B+C*
- *Answer: B*

- *Which of the following doesn’t drain directly to cavernous sinus:*
- *A. Superior ophthalmic vein*
- *B. Superior petrosal sinus*
- *C. Inferior petrosal sinus*
- *D. Superior sagittal sinus*
- *Answer: D*

- *A patient’s angle of the mouth is pulled to the right .Which nerve is affected:*
- *A. Left facial nerve*
- *B. Right facial nerve*
- *C. Left mandibular nerve*
- *D. Right mandibular nerve*
- *Answer: A*

- *Which of the following statements is true:*
- *A. The whole skin of the face is supplied by the trigeminal nerve*
- *B. The mastoid process is not prominent in the new-borns*
- *C. The ophthalmic nerve carries the motor portion of trigeminal nerve*
- *D. Botulinum toxin works by stimulating muscles of facial expression*
- *Answer: B*

- *The correct path of maxilary nerve is:*
- *A. Lateral wall of cavernous sinus > Foramen rotundum >Pterygopalatine fossa > Inferior orbital fissure*
- *B. Lateral wall of cavernous sinus>Foramen ovale>Infratemporal fossa > Inferior orbital fissure*
- *C. Lateral wall of cavernous sinus > Foramen rotundum > Pterygopalatine fossa > Superior orbital fissure*
- *D. Through the cavernous sinus > Superior orbital fissure*
- *Answer: A*

- *A fracture in the cribriform plate of ethmoid can lead to the loss of which ofthe special senses:*
- *A. Taste*
- *B. Vision*
- *C. Hearing*
- *D. Olfaction*
- *Answer: d*

- *Mismatched pair:*
- *A. Sphenoid bone / Cavernous sinus*
- *B. Inferior part of petrous bone / Inferior petrosal sinus*
- *C. Superior part of petrous bone / Superior petrosal sinus*
- *D. Ethmoid bone / Transverse sinus*
- *Answer: D*

- *Which of the following is true regarding scalp:*
- *A. If the cutis superficial to the aponeurosis it will not gape*
- *B. The skin and connective tissue move on the aponeurosis*
- *C. The subcutaneous tissue is the most dangerous area of the scalp*
- *D. It is easy to stop the bleeding of a scalp wound*
- *Answer: A*

- *Which of the following is wrong about buccinator muscle:*
- *A. It arises from the maxilla ,mandible, and pterygo mandibular ligament*
- *B. The central fibers decussate at the angle of the mouth*
- *C. It is pierced by the parotid duct*
- *D. It is supplied by buccal branch of mandibular nerve*
- *Answer: D*

- *Which of the following is false about scalp:*
- *A. Injuries in the 2Nd layer cause profuse bleeding*
- *B. 2Nd layer is called the dangerous layer of the scalp*
- *C. Skin, subcutaneous tissue and aponeurosis move as a single layer*
- *D. Gaps form when there's a cut in aponeurosis*
- *Answer: B*

- *Vesti bulocochlear nerve leaves cranial cavity through:*
- *A. Carotid canal*
- *B. Internal acoustic meatus*
- *C. Superior orbital fissure*
- *D. Jugular foramen*
- *Answer: B*

- *To enter the cranial cavity, olfactory nerves pass through part of which bone:*
- *A. Ethmoid bone B. Sphenoid bone A. Parietal bone D. Temporal bone*

- *Answer: A*

- *A branch from cervical plexus:*
- *Answer: lesser occipital nerve*

- *False about anterior fontanelle:*
- *Answer: it can be palpated in the baby at the junction of sphenoid and temporal bones*

- *All of the following innervation the upper eyelid except:*
- *Answer: infraorbital nerve*

- *The muscle which doesn't arise from the tendinous ring is:*
- *Answer: Superior oblique*

- *Choose the wrong statement*
- *Answer: Bleeding in the space under the occiptofrontalis muscle doesn’t go anteriorly*

Till here we finish… if you are a nerd & I'm sure you are(: , continue and visit this link

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The END