

**GoldStandard FCPS:**

**Surgery & Allied**

**18th September 2019 Afternoon** 

**(Errors and omissions excepted)**

**Cram Statements**

* **hormone causes smooth muscle constriction In Arterioles?---->ADH**

ADH causes contraction of vascular smooth muscles, constriction of arterioles, and peripheral vasoconstriction. This manifests at the skin as palor and brings about vasodilation of the coronary and cerebral arteries

* **lymphadenopathy and Hepato- splenomegaly, anemia and fatigue. On Peripheral blood film unicellular structure can be seen The diagnosis is?
----> Kalazar**

Kala-azar: A chronic and potentially fatal parasitic disease of the viscera (the internal organs, particularly the liver, spleen, bone marrow and lymph nodes) due to infection by the parasite called Leishmania donovani.labs are peripheral blood smear and buffy coat smear

* **released in stress due to surgery?----> ACTH/epinephrin both are correct**

ACTH stimulates the adrenal cortical secretion of glucocorticoids so that circulating concentrations of cortisol are increased. Surgery is one of the most potent activators of ACTH and cortisol secretion, and increased plasma concentrations of both hormones can be measured within minutes of the start of surgery

* **feature of TB----> Caseous necrosis**

Microscopically, the inflammation produced with TB infection is granulomatous, with epithelioid macrophages and Langhans giant cells along with lymphocytes, plasma cells, maybe a few PMN's, fibroblasts with collagen, and characteristic caseous necrosis in the center.

* **Regarding Smooth muscle, ----> Sustained and slow contraction**

Smooth muscle cells have more voltage-gated Ca2+ channels and fewer voltage-gated Na+ channels than skeletal muscle fibers, and therefore Na+ is less important for the action potential and muscle contraction. This results in slower and more sustained contractions (Ca2+ channels are slow channels).

* **complains of decrease urine output, BP 210/160 taking antihypertensives and creatinine raised. Defect is in?----> Juxtaglomerular cells**

The juxtaglomerular cells (JG cells, or granular cells) are cells in the kidney that synthesize, store, and secrete the enzyme renin. They are specialized smooth muscle cells mainly in the walls of the afferent arterioles, and some in the efferent arterioles, that deliver blood to the glomerulus.

* **Definition of sickness?----> Sense of one not feeling well**
* **received exchanged transfusion. After 10 days she developed diarrhea and a rash on body. Diagnosis?----> Graft versus host disease/Delayed hemolytic reaction (better)**

Transfusion-associated graft-versus-host disease (TA-GvHD) is a rare complication of blood transfusion, in which the immunologically competent donor T lymphocytes mount an immune response against the recipient's lymphoid tissue. ... This can result in transfusion associated graft-versus-host disease.

* **Blood group with No agglutinins ?---->AB positive**

Persons with Type AB blood do not agglutinate blood originating from Type O, Type A, or Type B blood, because they lack the agglutinins. So people with Type AB blood are called universal recipients.

* **The function of femoral canal is:---->To provide space during straining**

The space of the canal allows for the expansion of the femoral vein when venous return from the lower limbs is increased or when increased intra-abdominal pressure (valsalva maneuver) causes a temporary stasis in the venous flow.

* **type of hepatitis is most likely prevalent in the pregnant women?---->Hep E**

Hepatitis E infection during pregnancy, especially in the third trimester, is characterized by a more severe infection that sometimes results in fulminant hepatitis, increasing maternal and fetal mortality and morbidity. Hepatitis E virus (HEV) is an emerging infectious agent causing acute viral hepatitis worldwide.

* **prevents complications regarding the procedure---->Remain within the limits of professional competence**
* **A patient with compound fracture of femur and laceration on thigh region. some serosanguinous fluid was oozing from suture site .Cause ----> Foreign body**

Soft tissue foreign bodies most commonly occur secondary to penetrating or abrasive trauma, and they can result in patient discomfort, deformity, delayed wound healing, localized and systemic infection, and further trauma during attempts at removal.

* **Tumor metaphysis of bone ---->Osteosarcoma**

Osteosarcoma is defined as the primary malignant mesenchymal bone tumor where the malignant tumor cells directly form the osteoid or bone or both. Demonstration of osteoid directly formed by the malignant cells in histopathology is essential for making the diagnosis of osteosarcoma

* **common skin tumor associated with HIV is?---->Kaposi sarcoma**

Kaposi's sarcoma (KS) is a well-known multifocal vascular tumor first described by Hungarian pathologist Moritz Kaposi in 1872, involving skin and other organs. [1] It is the most common neoplasm in patients with AIDS.

* **inflamation of throat mediators----> TNF and interleukin**

**x**An inflammatory mediator is a messenger that acts on blood vessels and/or cells to promote an inflammatory response. Inflammatory mediators that contribute to neoplasia include prostaglandins, inflammatory cytokines such as IL-1β, TNF-α, IL-6 and IL-15 and chemokines such as IL-8 and GRO-alpha.

* **Neutrophil increase by?----> -Granulocyte colony stimulating factor**

G-CSF stimulates the BM to produce granulocytes and stem cells and release them into the bloodstream. G-CSF also stimulates the survival, proliferation, differentiation, and function of neutrophil precursors and mature neutrophils via signal transduction pathways

* **right sided weakness in both upper and lower limb and deviation of angle of mouth to the left while talking. lesion?----> Internal capsule**
* **Structure which separates superficial and deep part of submandibular gland----> Mylohyoid**

Lying superior to the digastric muscles, each submandibular gland is divided into superficial and deep lobes, which are separated by the mylohyoid muscle: The superficial lobe comprises most of the gland, with the mylohyoid muscle runs under it. The deep lobe is the smaller part.

* **Damage to common peroneal nerve---->Eversion lost**

Injuries to the peroneal nerve can cause numbness, tingling, pain, weakness and a gait problem called foot drop. The branches of the common peroneal nerve innervate and control the muscles in the legs that lift the ankle and toes upward (dorsi flexion).

* **in the last trimester of pregnancy estrogen and progesterone are produced by?---->Placenta**

This hormone is produced by the ovaries and by the placenta during pregnancy

* **Similarity between Cardiac and Skeletal muscle is?---->Transverse striations**

Cardiac and skeletal muscle are both striated in appearance, while smooth muscle is not

* **Cushing's syndrome characteristic----> Abdominal striae**

Skin striae due to hypercortisolism are often wide and purple, which contrasts with the narrow and pale or pink striae of rapid weight gain (5). Facial acne and hirsutism are attributed to increased adrenal androgen and/or cortisol secretion

* **Child with blue cell tumor and high catecholamines. Cause?---->Neuroblastoma**

Small round blue cell tumor: a group of childhood tumors that is characterized by a similar appearance under the microscope. ... The small round blue cell tumors include neuroblastoma, rhabdomyosarcoma, non-Hodgkin's lymphoma, and the Ewing's family of tumors.

* **raised in Ml in 2nd hour?----> CK MB**

Following onset of symptoms of myocardial infarction CK and CK–MB increase in serum within 3 to 6 hours; the peak levels occur between 16 and 30 hours. Significantly, CK–MB disappears from the serum at a more rapid rate than CK.

* **Pterygomandibular raphe attachment?---->Superior constrictor & Buccinator**

Its posterior border gives attachment to the superior pharyngeal constrictor muscle. Its anterior border attaches to the posterior edge of the buccinator

* **agent commonly used to wash floors after surgery?---->1% hypochlorite**
* **Post ganglionic sympathetic fibers are present in
---->All spinal nerves**

the preganglionic cells of the sympathetic nervous system are located between the first thoracic segment and third lumbar segments of the spinal cord. Postganglionic cells have their cell bodies in the ganglia and send their axons to target organs or glands.

**What manages the levels of phosphate and calcium?---->**Parathyroid hormone serves to increase blood concentrations of calcium. Mechanistically, parathyroid hormone preserves blood calcium by several major effects: ... To prevent detrimental increases in phosphate, parathyroid hormone also has a potent effect on the kidney to eliminate phosphate (phosphaturic effect

* **The most sensitive test for DIC is?---->Serum levels of fibrin degradation products (FDP)**

In a specialized setting, molecular markers for activation of coagulation or fibrin formation may be the most sensitive assays for DIC. A number of clinical studies show that the presence of soluble fibrin in plasma has a 90-100% sensitivity for DIC but, unfortunately, a relatively low specificity

* **Nerve supplying the dura of middle cranial fossa?
---->Trigeminal nerve**

A branch of the third division, the nervus spinosus, which runs along the middle meningeal artery, carries the entire trigeminal supply to the middle cranial fossa along with the nervus meningeus medius, a branch of the second division of the trigeminal nerve.

* **Amino acid source of DNA---->Histidine**

Histidine, an essential amino acid, has as a positively charged imidazole functional group. The imidazole makes it a common participant in enzyme catalyzed reactions. The unprotonated imidazole is nucleophilic and can serve as a general base, while the protonated form can serve as a general acid

* **Alveolar ventilation decreased by?---->Hering beurer reflex**

a maintained distention of the lungs of anesthetized animals decreased the frequency of the inspiratory effort or caused a transient apnea. The stimulus was therefore pulmonary inflation

* **Prostate drains mainly into which ----> Internal iliac nodes**

The lymphatic drainage of the prostate primarily drains to the obturator and the internal iliac lymphatic channels. There is also lymphatic communication with the external iliac, presacral, and the para-aortic lymph nodes.

* **weakness of internal rotation of her right arm at the shoulder. Muscle involved?---->subscapularis**
* **Co2 transport is an example of?---->Negative feedback**

Carbon dioxide is regulated by our breathing rate; as the breathing rate increases, the amounts of oxygen inhaled and carbon dioxide exhaled also increase. Control of blood glucose levels is an example of negative feedback. Blood glucose concentration rises after a meal (the stimulus

* **All adductors of shoulder lost, damage?
---->Posterior cord + upper trunk**

The posterior branch supplies the teres minor and deltoid and becomes the upper lateral brachial cutaneous nerve. Section of the axillary nerve results in paralysis of the deltoid (and incomplete abduction of the arm by the supraspinatus) and loss of sensation in a small patch of skin over the deltoid.

* **Axillar nerve damage will lead to?---->15 to 90 degree abduction lost**

Damage to the axillary nerve affects function of the teres minor and deltoid muscles, resulting in loss of abduction of arm (from 15- 90

* **loss of abduction and proximal upper arm lateral side sensation. Lesion in?----> Axillary nerve**

Damage to the axillary nerve affects function of the teres minor and deltoid muscles, resulting in loss of abduction of arm (from 15- 90

* **Type of cell with no basement membrane----> Ependyma**

Ependymal cells form a continuous epithelial sheet (the ependyma) that lines the ventricles and the central canal of the spinal cord. These cells are of glial lineage, but have many epithelial characteristics including a basement membrane, cell–cell junctions and motile cilia

* **Supporting cells in pars nervosa are?---->Pituicytes**

Pituicytes are located in the pars nervosa of the posterior pituitary interspersed with unmyelinated axons and Herring bodies. ... Pituicytes have an irregular and branched shape which resembles that of another type of glial cell: the astrocyte.

* **Most sup structure in parotid?---->Facial nerve**

Several important neurovascular structures pass through the gland: The facial nerve (cranial nerve VII), gives rise to five terminal branches within the parotid gland. These branches innervate the muscles of facial expression.

* **In Dehydration, water is mainly absorbed from?---->PCT**

Most water is recovered in the PCT, loop of Henle, and DCT. About 10 percent (about 18 L) reaches the collecting ducts. The collecting ducts, under the influence of ADH, can recover almost all of the water passing through them, in cases of dehydration, or almost none of the water, in cases of over-hydration.

* **Pap smear showed atypical giant cells with nuclear chromasia and koilocytes. ----> Dysplasia**

Dysplasia is a broad term that refers to the abnormal development of cells within tissues or organs. It can lead to a wide range of conditions that involve enlarged tissue or pre-cancerous cells. Developmental dysplasia is common in children and can affect many parts of the body, including the skeleton.

* **homonymous hemianopia due to damage of---->Optic tract**

Vascular and neoplastic (malignant or benign tumours) lesions from the optic tract, to visual cortex can cause a contralateral homonymous hemianopsia. Injury to the right side of the brain will affect the left visual fields of each eye. ... Transient homonymous hemianopsia does not necessarily mean stroke

* **presented with weight loss, lethargy and palpitations labs =normal urea, Hyponatremia, hyperkalemia. Cause?---->Addison’s disease**

Addison's disease, also known as primary adrenal insufficiency and hypocortisolism, is a long-term endocrine disorder in which the adrenal glands do not produce enough steroid hormones. Symptoms generally come on slowly and may include abdominal pain, weakness, and weight loss.

* **Renal correction of acute hyperkalemia will result in :----> Acidosis**

the close relationship between potassium levels and ammonia production dictates that hyperkalemia per se can lead to acidosis

* **upper outer quadrant of the breast. The lymphatic drainage ---->Pectoral axillary nodes**

The pectoral nodes, at the inferior border of the pectoralis minor, drain most of the breast. 3. The posterior, or subscapular, nodes, in the posterior axillary fold, drain the posterior shoulder.

* **Regarding smooth muscles:----> Has layers of circular and longitudinal muscle**

The muscularis propria is comprised of a layer of circularly aligned muscle fibers within, and a layer of longitudinally aligned muscle fibers without, surrounding mucosal layers of loosely connected tissue. The muscle mass of the circular and longitudinal muscle layers is nearly the same.

* **Drug absorbed mostly through aqueous diffusion---->Diazepam**
* **Internal spermatic fascia is derived from?---->Fascia Transversalis**

The deeper internal spermatic fascia is deep to the cremaster muscle, directly surrounds the spermatic cord and its contents, and is a continuation of the abdominal transversalis fascia.

* **Pulmonary smooth muscles has?----> 02 sensitive K channel**

Hypoxia depolarizes the oxygen-sensitive cells, increases excitability, provokes the opening of voltage-gated Ca2+ channels, increases intracellular Ca2+, and triggers cellular responses including neurotransmitter release as well as myocyte contraction.

* **Blood supply of head of femur---->Retinacular artery**

The upper end of the femur is supplied by the nutrient artery of the shaft, the retinacular vessels of the capsule, and the foveolar artery of the ligamentum teres. ... These vessels are the chief supply to the epiphysis and femoral head at all ages.

* **Most common side effect of protamine---->Hypotension**

Common side effects of Protamine Sulfate include:
sudden fall in blood pressure,
slow heart rate (bradycardia),
pulmonary hypertension,
shortness of breath, or.
temporary flushing and a feeling of warmth

* **Radial artery passes between the tendons of---->Brachioradialis and flexor carpi radialis**

The radial artery lies superficially in front of the distal end of the radius, between the tendons of the brachioradialis and flexor carpi radialis; it is here that clinician takes the radial pulse. (where it is commonly used to assess the heart rate and cardiac rhythm).

* **Earliest sign of bupvicaine toxicity---->Ringing of ears**

Perioral numbness, a metallic taste, and ringing in the ears are common early symptoms of mild toxicity.

* **Eosinophils increase in ---->Parasitic**

A marked increase in non-blood tissue eosinophil count noticed upon histopathologic examination is diagnostic for tissue eosinophilia. Several causes are known, with the most common being some form of allergic reaction or parasitic infection

* **increased prolactin will show?---->Increase in eosinophil**

Hyperprolactinemia is the presence of abnormally high levels of prolactin in the blood. Prolactin is a hormone produced in the pituitary gland. ... Higher prolactin levels between 50-100 ng/mL may cause irregular menstrual periods and significantly decrease a woman’s fertility.

* **Immediate mediator of allergic reaction---->Histamine**

Within minutes of exposure to allergen, mast cells produce histamine, leukotriene C4, and prostaglandin D2.

* **biopsy= villous atrophy and gluten free diet doesn’t improve his symptoms. What is the probable diagnosis?---->Giardiasis**

Giardiasis is an infection in your small intestine. It's caused by a microscopic parasite called Giardia lamblia. Giardiasis spreads through contact with infected people. And you can get giardiasis by eating contaminated food or drinking contaminated water

* **Parotid gland swelling. stones in duct are found. atrophic changes are due to?---->Apoptosis**
* **Dilator muscle of ileal opening in the large intestine?----> Longitudinal muscle**

The longitudinal layer of the muscularis of the large intestine is reduced to three, strap-like structures known as the taeniae coli—bands of longitudinal muscle fibers, each about 1/5 in wide. The bands of longitudinal muscle fibers start at the base of the appendix and extend from the cecum to the rectum.

* **amount of CO2 dissolved in the Plasma at 45mmHg is?---->0.027**

Venous blood with PCO2 45 mm Hg contains 2.7ml/100ml CO2 in dissolved form

* **newborn---->C shaped vertebral column**

At around the age of 3 months, as the baby raises it's head, the cervical spine gains it's "lordosis" or reversed "C" shape curve. Around 6 months of age, the infant adopts a seated and standing posture and the lower back - lumbar spine - also becomes lordotic or "C" shaped in nature

* **First cry in neonates is necessary for?---->Pulmonary function**

The first cry carries significant information about the baby's wellbeing, about his successful adaptation to the extrauterin life. The quality of first cry is a part of the Apgar score system which is used to assess the condition of newborns after delivery

* **In small cell (oat cell) lung carcinoma tumor marker is present?----> ACTH**

Due to its high grade neuroendocrine nature, small-cell carcinomas can produce ectopic hormones, including adrenocorticotropic hormone (ACTH) and anti-diuretic hormone (ADH).

* **Regarding Bronchial Asthma, ---->FEV/FVC < 65%**

Airflow obstruction is defined as a reduced FEV1 and a reduced FEV1/FVC ratio, such that FEV1 is less than 80% of that predicted

* **earliest sign of Vit A deficiency?---->Conjunctival xerosis**

Historically, the most characteristic sign of ocular problems related to vitamin A deficiency has been Bitot spots – opaque whitish deposits on the scleral conjunctiva (7). At this point, conjunctival xerosis is already present, with the conjunctiva appearing dry and dull.

* **The muscle which increase the transverse and anteroposterior diameter of thorax is---->External Intercostal**

Contraction of the external intercostals raises the lateral part of the ribs causing a bucket handle motion that increases the transverse diameter of the thorax. The vertebrosternal ribs also follow a pump handle motion, which raises sternum and increases the anterior-posterior dimensions of the thorax

* **history of using antimalarial and cola color urine Diagnosis is?---->G6PD**
* **Patient reported with hyperglycemic coma. Which insulin will be used----> Regular insulin**

Patients with mild DKA should first receive a “priming” dose of regular insulin of 0.4–0.6 units/kg body wt, half as an intravenous bolus and half as a subcutaneous or intramuscular injection (22). Thereafter, 0.1 unit · kg–1 · h–1 of regular insulin should be given subcutaneously or intramuscularly.

* **Insulin secretion is increased due to ---->Secretin**

Secretin primarily functions to neutralize the pH in the duodenum, allowing digestive enzymes from the pancreas (e.g., pancreatic amylase and pancreatic lipase) to function optimally. ... It counteracts blood glucose concentration spikes by triggering increased insulin release from pancreas, following oral glucose intake.

* **Total volume of ICF in 70kg adult man
---->28 Liters**

Approximately 67% of total body water (or ~40% of total body weight) is in the intracellular fluid (ICF) compartment, which is the fluid that is present in the cytoplasm of all cells of the body. Therefore, the total volume of ICF is ~28 L (cytoplasmic volume of all cells combined).

* **Investigation of choice on pneumonia---->Sputum culture**

Sputum test. A sample of fluid from your lungs (sputum) is taken after a deep cough and analyzed to help pinpoint the cause of the infection.

* **Mature lymphocytes were found in a 70-year with anemia, fever and recurrent infection history.cause---->9:22 translocation**

History signifies CML and Philadelphia chromosomes 9:22. Abnormal levels of white blood cells and abnormally low red blood cell or platelet counts can also indicate leukemia. If you test positive for leukemia, your doctor will perform a biopsy of your bone marrow to determine which type you have. Treatment depends on your age, general health, and type of leukemia.

* **The difference between the mean of 2 groups is
---->T-test**

A t-test is a type of inferential statistic used to determine if there is a significant difference between the means of two groups, which may be related in certain features. ... A t-test is used as a hypothesis testing tool, which allows testing of an assumption applicable to a population

* **Calcitonin is a tumor marker for?---->Thyroid**

Calcitonin is a type of tumor marker. Tumor markers are substances made by cancer cells or by normal cells in response to cancer in the body. If too much calcitonin is found in the blood, it may be a sign of a type of thyroid cancer called medullary thyroid cancer (MTC).

* **thermoregulation receptors?----> Long Receptive Field**

Thermoreceptors are called phasic-type receptors in that they respond very rapidly to minute changes in temperature but adapt and quit firing as the temperature of the receptor reaches steady state.

* **Virus cause cancer by?---->Proto oncogene**

The host cell proto-oncogene was called c-src, and the Rous sarcoma viral oncogene was called v-src. Bishop and Varmus used different strains of Rous sarcoma virus in their research, and in all of the strains, they identified the v-src oncogene as responsible for causing cancer.

* **Cabergoline acts on ----> D2 agonist**

Cabergoline, an ergot derivative, is a long-acting dopamine agonist and prolactin inhibitor. It is used to treat hyperprolactinemic disorders and Parkinsonian Syndrome. Cabergoline possesses potent agonist activity on dopamine D2 receptors

* **Immediate effect of Local anesthesia on ---->C-Fibers**

anesthetics block type C fibers more easily than they do type A fibers

* **regarding fat embolism is:---->Symptoms appear after 12 hours**

Symptoms of fat embolism syndrome (FES) can start from 12 hours to 3 days after diagnosis of the underlying clinical disease. The three most characteristic features are: respiratory distress, neurological features, and skin petechiae. ... Petechiae rash usually happens in 50% of the patients.

* **Difference btw PCT and DCT is?---->PCT has extensive brush borders**

The brush border and the extensive length of the proximal tubule dramatically increase the surface area available for reabsorption

* **Relation anterior to hilum of the right kidney is?---->Second part of duodenum**

Hilus leads into the renal sinus which contains renal artery, vein and renal pelvis. Relationship: Anteriorly the right kidney is related to the Liver, duodenum and hepatic flexure of ascending colon. Anteriorly the left kidney is related to Stomach, Jejunum, Pancreas, Spleen and descending Colon.

* **Organ which removes 70-80% oxygen of its arterial supply at rest?---->Heart**

the heart maintains a very high level of oxygen extraction so that 70–80% of the arterially delivered

* **Circadian rhythm is controlled by---->Supra chiasmatic nucleus**

The circadian biological clock is controlled by a part of the brain called the Suprachiasmatic Nucleus (SCN), a group of cells in the hypothalamus that respond to light and dark signals. From the optic nerve of the eye, light travels to the SCN, signaling the internal clock that it is time to be awake

* **Killed whole organism used as vaccine for---->Whooping cough**

Pertussis vaccine is a vaccine that protects against whooping cough. There are two main types: whole-cell vaccines and acellular vaccines. The whole-cell vaccine is about 78% effective while the acellular vaccine is 71–85% effective

* **Thirst center stimulated by activation of---->Angiotensin 2**

It has long been recognized that thirst is stimulated by increases in the extracellular concentration of nonpermeable osmolytes, such as Na+, that cause osmotic movement of water from body cells

* **TPN included problem will be?----> Hyperglycemia**
* **Sarcoidosis is diagnosed microscopically by?---->Granuloma with asteroid**

The inflamed microscopic granulomas seen in the affected organ with sarcoidosis are similar to those in other diseases such as tuberculosis, fungal diseases, berylliosis and farmer's lung. ... Only after the known causes of granulomas have been ruled out is the diagnosis of sarcoidosis made

* **ACTH increase in blood, ACTH would be found in---->Venous blood of anterior pituitary**

ACTH is secreted by the anterior pituitary to stimulate the adrenal cortex directly

* **Mixed venous blood sample can be
obtained from
---->Pulmonary arteries**

A true mixed venous sample (called SvO2) is drawn from the tip of the pulmonary artery catheter, and includes all of the venous blood returning from the head and arms (via superior vena cava), the gut and lower extremities (via the inferior vena cava) and the coronary veins (via the coronary sinus).

* **lymph nodes drains the fundus of stomach?---->Celiac nodes**

Lymph fluid drains into the gastric and gastro-omental lymph nodes found at the curvatures. Efferent lymphatic vessels from these nodes connect to the coeliac lymph nodes, located on the posterior abdominal wall

* **Terminal part of CBD in relation to pancreas is that it?----> Lies posteriorly**

The lower (terminal) part of the common bile duct runs behind (or sometimes through) the upper half of the head of pancreas before it joins the main pancreatic duct of Wirsung to form a common channel (ampulla), which opens at the papilla on the medial wall of the second part of the duodenum.

* **trachea starts---->C6**

The trachea begins at the cricoid cartilage (about the level of C6) and ends by bifurcating into the left and right primary bronchi at approximately the level of the T4-5 disc The trachea is kept rigid and held open by 16 to 20 cartilaginous tracheal rings.

* **60% of SA node is supplied by?---->RCA**

The sinoatrial nodal artery (or sinuatrial nodal artery or sinoatrial artery) is an artery of the heart which supplies the sinoatrial node, the natural pacemaker center of the heart, and arises from the right coronary artery in around 60% of people

* **A shoulder separation that
involves the lateral end of the clavicle sliding onto the superior aspect of the acromion would most likely result from damage to the
----> Coracoclavicular ligament**

The coracoclavicular ligament serves to connect the clavicle with the coracoid process of the scapula. It does not properly belong to the acromioclavicular (AC) joint articulation, but is usually described with it, since it forms a most efficient means of retaining the clavicle in contact with the acromion.

* **Gummatous necrosis occurs in----> Syphilis**

Gummatous necrosis is a form of necrosis that involves the growth of non-cancerous tissues during the late stages of syphilis

* **extraction of upper molar tooth, patient presents with swollen face and nasal discharge. route of spread of infection?---->Maxillary sinus**
* **if hypertensive, presented with shortness of breath (pulmonary edema), cause?---->Increase hydrostatic pressure**

CPE is caused by elevated pulmonary capillary hydrostatic pressure leading to transudation of fluid into the pulmonary interstitium and alveoli. Increased LA pressure increases pulmonary venous pressure and pressure in the lung microvasculature, resulting in pulmonary edema

* **generalized edema and proteinuria of 3.6 gm in 24 hours. Cause?---->Decreased colloid osmotic pressure**

Edema occurs when there is a decrease in plasma oncotic pressure, an increase in hydrostatic pressure, an increase in capillary permeability, or a combination of these factors.

* **on mandibular marginal pulsation which artery ---->Facial**

Due to its superficial course, the pulse of the facial artery is palpable at the anteroinferior angle of the masseter muscle against the bony surface of the mandible

* **Most abundant glial cells in gray
matter?
---->Protoplasmic astrocyte**

Protoplasmic astrocytes are found primarily in the gray matter and are involved in synaptic processes and neurotransmitter transport. The branches of protoplasmic astrocytes are largely associated with the terminal parts of axons, as well as synapses and dendrites

* **Man moving up in elevator,
balance by?
---->Saccule**

The saccule detects linear accelerations and head tilts in the vertical plane.

* **Right crus of diaphragm Arises from
---->L1, L2, L3**

The parts of the diaphragm that arise from the vertebrae are tendinous in structure, and are known as the right and left crura: Right crus – Arises from L1-L3 and their intervertebral discs.

* **The roof of the anterior horn of
the lateral ventricle is formed by?
---->Body of corpus callosum**

Anterior horn. Its roof is formed by the most anterior part of the trunk of the corpus callosum, while the floor is formed by the head of the caudate nucleus. A small part of the floor near the midline is formed by the upper surface of the rostrum of the corpus callosum.

* **Origin of diaphragm…---->Cervical somites**

 diaphragm's muscle progenitors originate from the cervical somites, likely C3-C5.

* **What type of Necrosis seen in heart?
---->Coagulative necrosis**

Coagulative necrosis occurs primarily in tissues such as the kidney, heart and adrenal glands. Severe ischemia most commonly causes necrosis of this form. Liquefactive necrosis (or colliquative necrosis), in contrast to coagulative necrosis, is characterized by the digestion of dead cells to form a viscous liquid mass.

* **peripheral blood picture shows low Hb and raised MCV.
---->Folic acid deficiency**

Folate-deficiency anemia is the lack of folic acid in the blood. Folic acid is a B vitamin that helps your body make red blood cells. If you don't have enough red blood cells, you have anemia. ... Low levels of folic acid can cause megaloblastic anemia

* **The left atrium is supplied by
---->LCX**

The left atrium is supplied mainly by the left circumflex coronary artery, and its small branches

* **Most common cause of venous thrombosis?
---->Prolonged immobilization**

Although the presence of a central venous catheter is the most common cause of venous thrombosis in children, infection and inflammation, malignancy, hypercoagulability, dehydration, and certain sites of normal variant and pathologic anatomic narrowing all predispose to VTE in children.

* **hormone remains normal during pregnancy?
---->Growth hormone**
* **segment of ECG coincide with a-wave of JVP?
---->PR interval**

These positive deflections occur, respectively, before the carotid upstroke and just after the P wave of the ECG (a wave); simultaneous with the upstroke of the carotid pulse (c wave); and during ventricular systole until the tricuspid valve opens

* **Function and development of seminiferous tubule requires?
---->FSH and androgen**

The seminiferous tubule consists of Sertoli cells. Sertoli cells contain receptors for follicle-stimulating hormone (FSH) and androgens,

* **plot standard deviation with mean on graph?
---->Variability in data**

Standard Deviation is one of the important statistical tools which shows how the data is spread out. ... Typically standard deviation is the variation on either side of the average or means value of the data series values. We can plot the standard deviation in the Excel graph and that graph is called “Bell Shaped Curve”.

* **Blood show Hb 10, platelets normal. BT more than 27mins, APTT 28s. diagnosis?---->VWD**

BT tells platelets defect

* **L-dopa inhibit which hormone in lactating mother----> Prolactin**

L-DOPA (5 and 10 mg) prevented the release of prolactin induced by suckling, but 1-25 and 2-5 mg L-DOPA had no effect. The results indicate that oxytocin and prolactin release induced by suckling in lactating rats is inhibited by an increase of catecholamines at the hypothalamic-hypophysial axis.

* **Low doses of aspirin reduce platelet aggregation and clot formation by inhibiting the production of?---->Thromboxane A2**

Aspirin's effect on homeostasis is well-known. Low-dose aspirin (acetylsalicylic acid, 81 mg) inhibits the enzyme Cox-1, which produces thromboxane A-2, necessary for platelet aggregation. ... Fibrin, a protein, crosslinks with Factor XIII enzyme (fibrin stabilizing Factor FXIII) and combines with platelets to form a clot.

* **Alcoholic patient came with bleeding at base of hair in scalp. cell is defective?----> Fibroblasts**

In the presence of acute alcohol exposure, early wound fibroblasts are directed to produce fewer collagen I fibers and more collagen III fibers.

* **affected by action of beta 2 adrenergic?----> Glycogenolysis**

β2 adrenergic agonists' effects on smooth muscle cause dilation of bronchial passages, vasodilation in muscle and liver, relaxation of uterine muscle, and release of insulin. They are primarily used to treat asthma and other pulmonary disorders, such as Chronic obstructive pulmonary disease (COPD).

* **Peripheral smear show Large Platelets & count 45000, diagnosis?---->Bernard-Soulier syndrome**

Bernard-Soulier syndrome (BSS) is a rare inherited disorder of blood clotting (coagulation) characterized by unusually large platelets, low platelet count (thrombocytopenia) and prolonged bleeding time (difficulty in clotting).

* **overnight petechial spots & 2 weeks back he had history of abdominal pain and no hepatosplenomegaly. Diagnosis is? ---->Idiopathic thrombocytopenic purpura**

Idiopathic thrombocytopenic purpura is an immune disorder in which the blood doesn't clot normally. This condition is now more commonly referred to as immune thrombocytopenia (ITP). ITP can cause excessive bruising and bleeding. An unusually low level of platelets, or thrombocytes, in the blood results in ITP

* **BP less than 60. effect is most pronounced---->CNS ischemic response**

The medullary ischemic reflex is a big response to a drop in blood pressure in the brain particularly in the medulla, where the lack of oxygen due to decreased perfusion triggers an autonomic response from the cardiac and vasomotor centers

* **Ptosis after trauma, lesion at which site---->T1-T4**

Horner's syndrome (ptosis, miosis, anhidrosis, and absence of facial flushing) may be seen in cervical cord transection above the level of T1 owing to disruption of descending sympathetic fibers

* **Function exclusive to liver:----> Urea production**

The primary functions of the liver are: Bile production and excretion. Excretion of bilirubin, cholesterol, hormones, and drugs. Metabolism of fats, proteins, and carbohydrates

* **Difference b/w Anaphylactic and hypovolemic shock is?
---->CO**
* **early open neural tube defect which one of the following is used for screening?
----> Ultrasound**

A detailed ultrasound scan of the baby when you are around 18-20 weeks pregnant can detect almost all babies with a neural tube defect (95%). Women are usually offered an ultrasound scan at this time as part of routine pregnancy care

* **Most common site of lodging of ureteric stone is?----> Pelvic brim when crossing the iliac artery**

Most calculi originate within the kidney and proceed distally, creating various degrees of urinary obstruction as they become lodged in narrow areas, including the ureteropelvic junction, pelvic brim, and ureterovesical junction.

* **A 20-year man with rheumatic valvular heart disease has been running a low grade fever for the last of two weeks. In addition to a pan anemia weight loss for several week on examination spleenomegaly and splinter hemorrhage. Which investigation help you diagnose the illness---->Blood culture**

A blood culture test is used to identify any bacteria or fungi in your bloodstream, and it's the most important test your doctor will perform. Echocardiogram

* **Jaw fracture, fix with wiring now draining abscess yellow in color organism is?---->Staph, aureus**

aureus bacteria have also been found in 0.7 to 15 percent of dental abscesses. A dental abscess is a pocket of pus that develops around a tooth due to a bacterial infection. Symptoms can include: pain, redness, and swelling around the affected tooth.

* **autosomal dominant disease who don't express it phenotypically---->Incomplete penetrance**

Penetrance refers to the likelihood that a clinical condition will occur when a particular genotype is present. A condition is said to show incomplete penetrance when some individuals who carry the pathogenic variant express the associated trait while others do not

* **Correct pairing of reflex?---->Biceps - C5, C6**

Biceps reflex is a reflex test that examines the function of the C5 reflex arc and the C6 reflex arc. The test is performed by using a tendon hammer to quickly depress the biceps brachii tendon as it passes through the cubital fossa

* **multiple abscesses in neck region draining sinus outside. organism ---->Actinomyces Israeli**

Actinomycosis is a rare infectious bacterial disease caused by Actinomyces species. About 70% of infections are due to either Actinomyces israelii or A. gerencseriae. Infection can also be caused by other Actinomyces species, as well as Propionibacterium propionicus, which presents similar symptoms.

* **Osteomyelitis of mandible. Organism involved is?---->Staph Aures**

OM is usually a polymicrobial, opportunistic infection, caused primarily by a mixture of alpha hemolytic streptococci and anaerobic bacteria from the oral cavity such as Peptostreptococcus, Fusobacterium and Prevotella, (in contrast to OM of the long bones, usually caused by isolated Staphylococcus aureus infection).

* **Inguinal swelling cough impulse positive swelling moves down n medial by pulling testis----> Inguinal hernia**

An inguinal hernia is a protrusion of abdominal-cavity contents through the inguinal canal. Symptoms are present in about 66% of affected people. This may include pain or discomfort especially with coughing, exercise, or bowel movements.

* **Cause of increase pulse pressure?---->Increase Stroke volume**

The pulse pressure increases with exercise due to increased stroke volume, healthy values being up to pulse pressures of about 100 mmHg, simultaneously as total peripheral resistance drops during exercise

* **sister and mother dying of metastatic breast CA before the age of 40. gene responsible---->BRCA-1 mutation**

It's estimated that 55 – 65% of women with the BRCA1 mutation will develop breast cancer before age 70. Approximately 45% of women with a BRCA2 mutation will develop breast cancer by age 70.

* **smoker with increasing retrosternal pain and progressive dysphagia, . What is the most likely dx?
----> Esophageal carcinoma**

Esophageal Cancer: Symptoms and Signs

Difficulty and pain with swallowing, particularly when eating meat, bread, or raw vegetables. ...

Pressure or burning in the chest.

Indigestion or heartburn.

Vomiting.

Frequent choking on food.

Unexplained weight loss.

Coughing or hoarseness.

Pain behind the breastbone or in the throat

* **Rupture of #bulbar urethra urine leaks into?
---->Superficial perineal pouch**

Rupture of the urethra is an uncommon result of penile injury, incorrect catheter insertion, straddle injury, or pelvic girdle fracture. The urethra, the muscular tube that allows for urination, may be damaged by trauma. When urethral rupture occurs, urine may extravasate (escape) into the surrounding tissues

* **Most accurate measure of GFR is by?---->Inulin**

Inulin is the most accurate substance to measure because it is a small, inert polysaccharide molecule that readily passes through the glomeruli into the urine without being reabsorbed by the renal tubules.

* **Liver biopsy shows onion skin lesion. diagnosis?
----> Ulcerative colitis**
* **Hospital acquired wound infection is caused by?----> Staph aureus**

Staphylococcus aureus is the most common cause of nosocomial wound infections. Increased frequency of Methicillin-resistant Staphylococcus aureus (MRSA) in hospitalized patients and possibility of vancomycin resistance requires permanent control of MRSA spread in the hospital

* **The roof of the anterior horn of the lateral ventricle is formed by?----> Body of corpus callosum**

Anterior horn. Its roof is formed by the most anterior part of the trunk of the corpus callosum, while the floor is formed by the head of the caudate nucleus. A small part of the floor near the midline is formed by the upper surface of the rostrum of the corpus callosum.

* **unable to abduct left shoulder, loss of active flexion of left elbow and inability to supinate left arm. Most probably injury is to?---->Upper brachial plexus**

Brachial plexus lesions can be divided into three types: An upper brachial plexus lesion, which occurs from excessive lateral neck flexion away from the shoulder. Most commonly, forceps delivery or falling on the neck at an angle causes upper plexus lesions leading to Erb's palsy.Upper brachial plexus C5 C6 damage

* **Inc in no. Of mitochondria
---->Self-Replication**

The mitochondria reproduce within the host cell.

* **Amoebic liver abscess labs---->Serology b CT scan**

Serologic testing is the most widely used method of diagnosis for amebic liver abscess. In general, the test result should be positive, even in cases when the result of the stool test is negative (only extraintestinal disease).

* **Most common site of peanut lodgment is?----> Right inferior lobe**

Right main bronchus is in straight continuity with the trachea amd inferior lobe is the dependant part

* **Pancreatic trypsinogen enzyme converted to active form trypsin by help of? ---->Enterokinase**

Produced by the pancreas, it is found in pancreatic juice, along with amylase, lipase, and chymotrypsinogen. It is activated by enterokinase, which is found in the intestinal mucosa, to form trypsin. Once activated, the trypsin can activate more trypsinogen into trypsin.

* **Pain on forehead, HSV is confirmed, nerve involved---->Ophthalmic**

Herpes zoster ophthalmicus (HZO), also known as ophthalmic zoster, is shingles involving the eye. Symptoms generally include a rash of the forehead with swelling

* **Diabetic patient with 600 RBS , suffering from and polyuria which is due to;---->Increased glucose excretion by PCT**

Glucose is usually only found in the urine when blood glucose levels are raised due to diabetes

* **Most common side effect of thiazides is?----> Hypokalemia**

. Most widely recognized, the first adverse effect of thiazide diuretics is hypokalemia. As discussed above, hypokalemia is a sequelae of the aldosterone-mediated actions of the Na/K pump in the CT

* **benign tumor?---->Warthin**

Warthin tumor is a benign tumor of the salivary gland. ... Warthin tumors may increase in size over time, but few become cancerous. Though the cause is currently unknown, smoking is believed to increase the chance of developing Warthin tumor.

* **Final common Motor pathway?---->Alpha efferent of spinal motor neuron**

Skeletal (striated) muscle contraction is initiated by “lower” motor neurons in the spinal cord and brainstem. ... Lower motor neurons, therefore, are the final common pathway for transmitting neural information from a variety of sources to the skeletal muscles.

* **During Voluntary muscle contraction:----> Both alpha and gamma motor neuron in descending pathway are excited**

When the gamma motor neuron is excited at the same time, the afferent volleys do not pause. This simultaneous activation of alpha and gamma motor neurons during muscle contraction is called alpha‐gamma coactivation

* **The oocyte released during ovulation is called?---->Secondary oocyte**

Ovulation is the release of eggs from the ovaries. In women, this event occurs when the ovarian follicles rupture and release the secondary oocyte ovarian cells. After ovulation, during the luteal phase, the egg will be available to be fertilized by sperm.

* **Acrosome in spermatid is formed---->Golgi bodies**

The acrosome is an organelle that develops over the anterior half of the head in the spermatozoa (sperm cells) of many animals including humans. It is a cap-like structure derived from the Golgi apparatus. Acrosome formation is fully completed 5–10 years after testicular maturation.

* **During LP after crossing flavum at L3, L4 the needle touches which structure first?
---->Epidural space**

The Lumbar Puncture needle pierces in order: skin, subcutaneous tissue, supraspinous ligament, interspinous ligament, ligamentum flavum, epidural space containing the internal vertebral venous plexus, dura, arachnoid, and finally the subarachnoid space

* **Regarding pia mater: .---->Extends into sulci and fissures of brain tissue**

Although the pia mater is primarily structurally similar throughout, it spans both the spinal cord's neural tissue and runs down the fissures of the cerebral cortex in the brain. It is often broken down into two categories, the cranial pia mater (pia mater encephali) and the spinal pia mater (pia mater spinalis).

* **Test for patients with purpura and
ecchymosis?
----> Platelet count**

A number of routine tests, beginning with a complete blood count (CBC) blood test, help investigate the cause of purpura. A CBC will reveal whether the patient has low platelets and whether any underlying infections are occurring. If the doctor suspects ITP, they may order bone marrow testing

* **A farmer presented with right lower lobe coin like mass 3.4cm in size. The most common cause is?---->Aspergillosis**

Aspergillosis is an infection caused by a type of mold (fungus). The illnesses resulting from aspergillosis infection usually affect the respiratory system, but their signs and severity vary greatly. The mold that triggers the illnesses, aspergillus, is everywhere — indoors and outdoors.

* **Dilation of esophagus will compress which part of heart----> Left Atrium**

The relation between the heart and the oesophagus within the mediastinum, with the oesophagus being posterior to, and separated from the left atrium by, the pericardium, is used to advantage by cardiologists during transoesophageal echocardiographic examinations.

* **A thyroid mass usually moves- with swallowing because the thyrofc gland is enclosed by which of the following fascia?----> Pretracheal fascia**

The thyroid gland is invested in a sheath derived from the pretracheal fascia

* **smoker .Primary site of tumor origin?---->Lungs**

Cigarette smoking is the number one risk factor for lung cancer.

* **Regarding Cimetidine-sucralfate interaction?---->Sucralfate prevent cimetidine absorption**

Sucralfate is not systemically absorbed but does prevent the absorption of drugs capable of chelating with aluminum, including fluoroquinolones, tetracyclines, and digoxin.

* **Lymph flow is decreased by?----> Hemorrhage**
* **substances is produced by the action of lipoxygenase on arachidonic acid, is a potent chemotactic factor ---->Leukotriene B4**

Leukotriene B4 (LTB4) is a leukotriene involved in inflammation. It is produced from leukocytes in response to inflammatory mediators and is able to induce the adhesion and activation of leukocytes on the endothelium, allowing them to bind to and cross it into the tissue.

* **Excitation of nerve trunk is shown by?----> Compound potential**

The compound muscle action potential or compound motor action potential is an electromyography investigation. The CMAP idealizes the summation of a group of almost simultaneous action potentials from several muscle fibers in the same area. These are usually evoked by stimulation of the motor nerve

* **In venous blood RBCs have----> More CL**

The term "chloride shift" refers to this exchange. Consequently, chloride concentration is lower in systemic venous blood than in systemic arterial blood: high venous pCO2 leads to bicarbonate production in RBCs, which then leaves the RBC in exchange for chloride coming in

* **Nerve supply to adrenal medulla is from?----> Greater thoracic splanchnic nerve**

They also provide the sympathetic innervation to the adrenal medulla, stimulating catecholamine release. The lesser splanchnic nerve travels inferiorly, lateral to the greater splanchnic nerve. ... The nerve modulates the activity of the enteric nervous system of the midgut.

* **Virus associated with Nasopharyngeal Ca?----> EBV**

However, the cancer has been strongly linked to the Epstein-Barr virus (EBV). Although EBV infection is common, not everyone who has EBV will get nasopharyngeal cancer.

* **Klinefelter Syndrome karyotype?---->47 XXY**

The most common karyotype is 47,XXY, which accounts for 80-90% of all cases. ... The mosaic forms of Klinefelter syndrome are due to mitotic nondisjunction after fertilization of the zygote. These forms can arise from a 46,XY zygote or a 47,XXY zygote.

* **testicular swelling. Biopsy shows mature specialized cells. Diagnosis---->Teratoma**

A teratoma is a tumor made up of several different types of tissue, such as hair, muscle, teeth, or bone. They typically form in the ovary, testicle, or tailbone and less commonly in other areas. Symptoms may be minimal if the tumor is small. A testicular teratoma may present as a painless lump.

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