Quiz 1

Why is it possible for potassium to diffuse easily into and out of cells?

The resting plasma membrane is more permeable to potassium.

A major determinant of the resting membrane potential necessary for the transmission of nerve impulses is the ratio between:

✔ Intracellular and extracellular K^+

What is a consequence of plasma membrane damage to the mitochondria?

✔ Influx of calcium ions halts ATP production.

Current research supports the belief that after heart muscle injury, the damage:

✔ Is repaired by newly matured cardiomyocytes

Free radicals cause cell damage by:

✔ Giving up an electron, which causes injury to the chemical bonds of the cell membrane

The loss of the ATP during ischemia causes cells to:

✔ Swell because of the influx of sodium chloride (NaCl)

Which statement is *true* about eukaryotic cells?

✔ They contain compartments called *organelles*.

Which mode of chemical signaling uses local chemical mediators that are quickly taken up, destroyed, or immobilized?

During cell injury caused by hypoxia, an increase in the osmotic pressure occurs within the cell because:

✔ Sodium chloride enters the cell.

When a mucous gland cell creates a new substance from previously absorbed material, this process is known as which specialized cellular function?

Quiz 2

Question 4. Question : A reduction in an individual's number of NK cells appears to correlate with an increased risk for the development of:

Student Answer:

✔ Depression

Question 6. Question : Which statement concerning exotoxins is *true*?

✔ Exotoxins are released during bacterial growth.

Question 7. Question : Which statements are *true* regarding viruses? *(Select all that apply.)*

✔ ☐ Viruses are referred to as eukaryotes.

✔ ☑ Viruses are capable of producing messenger ribonucleic acid RNA (mRNA).

✔ ☑ Viruses are capable of uncoating cytoplasmic nucleocapsids.

Question 12. Question : Cytokines are thought to cause fevers by stimulating the synthesis of which chemical mediator?

✔ ○ Prostaglandin

Question 14. Question : Fusion is the step in phagocytosis during which:

✔ ○ Lysosomal granules enter the phagocytes.

Question : The main functions of NK cells include: *(Select all that apply.)*

✔ ☑ Eliminating virus-infected cells

✔ ☑ Eliminating previously identified cancer cells

Which cytokine is needed for the maturation of a functional Th cell?

✔ ○ IL-2

Which disease is an example of a rickettsial infection?

✔ Rocky Mountain spotted fever

Quiz 3

Which characteristic among women correlates with a high morbidity of cancer of the colon, uterus, and kidney?

✔ Women who have a high body mass index (BMI)

A carcinoma refers to abnormal cell proliferation originating from which tissue?

✔ Epithelial cells

The *ras* gene converts from a proto-oncogene to an oncogene by:

✔ Altering one or more nucleotide base pairs

Which statement concerning benign tumors is *true*?

The cells are well differentiated.

Which aberrant change causes the abnormal growth in a retinoblastoma?

✔ The tumor suppressor gene is turned off.

Which cancers pose the highest risk for radiologists? Blood

Quiz 4

Individuals being effectively managed for type 2 diabetes mellitus often experience a healthy decline in blood pressure as a result of which intervention?

✔ Insulin-sensitivity medication therapy

Which factor can trigger an immune response in the bloodstream that may result in an embolus?

Amniotic fluid

An infant has a continuous machine-type murmur best heard at the left upper sternal border throughout systole and diastole, as well as a bounding pulse and a thrill on palpation. These clinical findings are consistent with which congenital heart defect?

✔ Patent ductus arteriosus (PDA)

When endothelia cells are injured, which alteration contributes to atherosclerosis?

Cells are unable to make the normal amount of vasodilating cytokines.

Question : **Which cardiac pathologic condition contributes to ventricular remodeling?**

Myocardial ischemia

What is the effect of oxidized low-density lipoproteins (LDLs) in atherosclerosis?

It causes smooth muscle proliferation

What is the trigger for angina pectoris?

Myocardial ischemia

When does systemic vascular resistance in infants begin to increase?

✔ Once the placenta is removed from circulation

Which inflammatory cytokines are released when endothelial cells are injured?

✔ Tumor necrosis factor–alpha (TNF-α), interferon-gamma (IFN-γ), and interleukin 1 (IL-1)

Which statement is *true* concerning the cells' ability to synthesize cholesterol?

✔ Most body cells are capable of producing cholesterol.

What is the usual source of pulmonary emboli?

✔ Deep venous thrombosis

Amyloidosis, hemochromatosis, or glycogen storage disease usually causes which form of cardiomyopathy?

✔ Restrictive

Which condition is consistent with the cardiac defect of transposition of the great vessels?

✔ The aorta arises from the right ventricle.

Quiz 5

: **Which statement is *true* regarding hypoxemia?**

✔ Respiratory alterations cause hypoxemia.

. Question : **Which statement about the advances in the treatment of RDS of the newborn is *incorrect*?**

✔ Administering oxygen to the mother during preterm labor increases her arterial oxygen before the birth of the fetus.

Question : The collapse of lung tissue caused by a lack of collateral ventilation through the pores of Kohn is referred to as which type of atelectasis?

✔ Absorption

Quiz 6/Midterm

What pathologic change occurs to the kidney's glomeruli as a result of hypertension?

✔ Ischemia of the tubule

Which structure is not associated with any lymphatic vessels?

✔ Acinus

What is an example of compensatory hyperplasia?

Student Answer:

✔ Hepatic cells increase cell division after part of the liver is excised.

Question : **Which is an example of an endogenous antigen?**

✔ Cancer cells

Which factor contributes to the production of mucus associated **with chronic bronchitis?**

✔ Increased goblet cell size

Which type of cell adaptation occurs when normal columnar ciliated epithelial cells of the bronchial lining have been replaced by stratified squamous epithelial cells?

✔ Metaplasia

Some older adults have impaired inflammation and wound healing because of which problem?

✔ Underlying chronic illnesses exist.

Which statement is *true* for the process of cellular reproduction?

✔ Two diploid cells, called *daughter cells*, have been formed.

: During an Immunoglobulin E (IgE)-mediated hypersensitivity reaction, the degranulation of mast cells is a result of which receptor action?

✔ Histamine bound to H_2

Vaccines against viruses are created from:

✔ Live organisms weakened to produce antigens

Why is osmolality preferred over osmolarity as the measurement of osmotic activity in the clinical assessment of individuals?

- ✔ More of the weight of plasma is influenced by solutes, such as protein and glucose, rather than by water.

In addition to osmosis, what force is involved in the movement of water between the plasma and interstitial fluid spaces?

- ✔ Hydrostatic pressure

Why does tissue damage occur in acute rejection after organ transplantation?

- ✔ Th1 cells release cytokines that activate infiltrating macrophages, and cytotoxic T (Tc) cells directly attack the endothelial cells of the transplanted tissue.

Quiz 8

Compared to a younger individual, how is the specific gravity of urine in older adults affected?

- The specific gravity of urine in older adults is considered low normal.

What effects do exercise and body position have on renal blood flow?

- They activate renal sympathetic neurons and cause mild vasoconstriction.

What causes vesicoureteral reflux to occur in children?

- The submucosal segment of a child's ureter is short, making the antireflux mechanism inefficient.

Detrusor hyperreflexia develops from neurologic disorders that originate where?

- Above the pontine micturition center

Which statement is *false* about the causes of enuresis?

- Excessive nocturnal levels of vasopressin may cause enuresis.

Which effect do natriuretic peptides have during heart failure when the heart dilates?

- Inhibition of renin and aldosterone

Which statement is *false* concerning the skeletal alterations caused by chronic renal failure when the glomerular filtration rate (GFR) declines to 25% of normal?

- The parathyroid gland is no longer able to secrete sufficient parathyroid hormone.

Quiz 9

A blunt force injury to the forehead would result in a *contrecoup* injury to which region of the brain?

✔ Occipital

The link between major depression and cortisol secretion is that individuals with depression:

✔ Show that persistently elevated plasma cortisol levels can result in inflammation that is believed to trigger depression.

Which person is at the greatest risk of developing delirium?

✔ An individual on the second day after hip replacement

Posthyperventilation apnea (PHVA) ceases and rhythmic breathing is resumed when levels of arterial:

✔ Carbon dioxide become normal

Question : Which intracerebral disease process is capable of producing diffuse dysfunction?

✔ Infarct embolus