LEGENDS

past papers+ kenhub

FIRST WEEK
RESPRATORY SYSTEM - MID

PREPARED BY

ANAD ALSABEALAH

BSHAR ABABNEH

EBAA ALZUBI

ESRAA ALNAIMAT

SEWAR QAWAQZEH

SUHAILA BASHIR

THE NASAL CAVITY

1 ***A MOTHER BRINGS HER NEWBORN BABY INTO YOUR CLINIC BECAUSE OF A SINUS INFECTION. WHICH OF THE FOLLOWING IS MOST LIKELY THE PARANASAL SINUS INFECTED?***

1. ***FRONTAL***
2. ***ETHMOIDAL***
3. ***MAXILLARY***
4. ***SPHENOIDAL***

2 ***A PATIENT COMPLAINS OF FRONTAL SINUS PRESSURE. YOU DETERMINE THAT IT IS AN INFECTION AND YOU ADMINISTER MUCOSAL SHRINKING MEDICATION. THE MUCUS WILL THEN DRAIN INTO THE NASAL CAVITY THROUGH WHICH OF THE FOLLOWING?***

1. ***NASOLACRIMAL DUCT***
2. ***SPHENO-ETHMOIDAL RECESS***
3. ***SPHENOPALATINE CANAL***
4. ***SEMILUNAR HIATUS***

3 ***WHICH OF THE FOLLOWING SINUSES DOES NOT DRAIN WELL GRAVITATIONALLY IN AN UPRIGHT POSITION AND MAY CAUSE TOOTH ACHE?***

1. ***ETHMOID***
2. ***MAXILLARY***
3. ***FRONTAL***
4. ***SPHENOID***

4 ***THE NASAL SEPTUM IS FORMED BY ALL THE FOLLOWING EXCEPT:***

1. ***VOMER***
2. ***PERPENDICULAR PLATE***
3. ***HARD PALATE***
4. ***SEPTAL CARTILAGE***

5 ***WHICH OF THE FOLLOWING ARTERIES REACH THE NASAL CAVITY THROUGH THE INCISIVE CANAL?***

1. ***ETHMOIDAL A.***
2. ***GREATER PALATINE A.***
3. ***SUPERIOR LABIAL A.***
4. ***SPHENOPALATINE A.***

3 , 4 , 2, 3 ,2

6 ***WHICH OF THE FOLLOWING PORTIONS OF THE ETHMOIDAL SINUS DOES NOT DRAIN INTO THE MIDDLE NASAL MEATUS?***

1. ***MIDDLE***
2. ***ANTERIOR***
3. ***POSTERIOR***

7 ***A PATIENT PRESENTS TO YOU WITH A BLOCKAGE IN THE SEMILUNAR HIATUS, WHICH OF THE FOLLOWING SINUSES WILL STILL BE ABLE TO DRAIN?***

1. ***FRONTAL***
2. ***MAXILLARY***
3. ***ANTERIOR AND MIDDLE PORTION OF ETHMOIDAL***
4. ***SPHENOIDAL***

8 ***A PATIENT COMES TO YOU WITH AN ANTERIOR NOSE BLEED. YOU REMEMBER FROM MEDICAL SCHOOL THAT ANTERIOR NOSE BLEEDS ARE FROM ARTERIES IN "KIESSELBACH'S AREA." WHICH OF THE FOLLOWING WOULD BE THE LEAST LIKELY ARTERY TO HEMORRHAGE IN THE ANTERIOR NOSE BLEED?***

1. ***LATERAL NASAL A.***
2. ***ETHMOIDAL A.***
3. ***SUPERIOR LABIAL A.***
4. ***GREATER PALATINE A.***
5. ***SPHENOPALATINE A***

9 ***YOU ARE TO PERFORM SURGERY ON A PATIENT THAT HAS A PITUITARY TUMOR. THROUGH WHAT SINUS WILL YOU BE ABLE TO ACCESS THE PITUITARY TUMOR?***

1. ***FRONTAL***
2. ***SPHENOIDAL***
3. ***MAXILLARY***
4. ***ETHMOIDAL***

10 **-Greater palatine artery is a branch of:**

a. Maxillary artery in pterygopalatine fossa

b. Anterior ethmoidal artery

c. Facial artery

d. Maxillary artery in lateral nasal wall

3, 4, 1, 2 , a

Which of the following is the largest nasal concha (concha nasalis)?

1 Superior nasal meatus

2 Middle nasal concha of ethmoid bone

3 Inferior nasal concha

4 Inferior nasal meatus

5 Superior nasal concha of ethmoid bone

The medial surface of which of the following bones forms the lateral boundary of the choanae?

1 Perpendicular plate of ethmoid bone

2 Medial plate of pterygoid process of sphenoid bone

3 Lateral plate of pterygoid process of sphenoid bone

4 Orbital plate of ethmoid bone

5 Horizontal plate of palatine bone

Which meatus is broader in the front than behind and extends the entire length of the lateral wall of the nose?

1 Middle nasal meatus

2 Superior nasal meatus

3 Internal acoustic meatus

4 Inferior nasal meatus

5 Sphenoethmoidal recess

3,2,4

The perpendicular plate of the ethmoid bone (lamina perpendicularis ossis ethmoidalis) articulates with the posteroinferior surface of which bone?

1 Frontal bone

2 Palatine bone

3 Nasal bone

4 Ethmoid bone

5 Lacrimal bone

Which of the paranasal sinuses is most commonly affected by sinusitis due to its anatomical proportions - small drainage ostia that lie next to the roof of the sinus, close proximity of the neighbouring sinuses and teeth allowing the spread of the infection?

1 Frontal sinus

2 Sphenoidal sinus

3 Ethmoidal cells

4 Maxillary sinus

Which foramen can be found medially and it allows the pterygopalatine fossa (fossa pterygopalatina) to communicate with the nasal cavity (cavitas nasi)?

1 Sphenopalatine foramen

2 Foramen cecum

3 Lesser palatine foramen

4 Stylomastoid foramen

5 Greater palatine foramen

3,5,1

The Larynx

1- the structure that pierces the cricothyroid ligaments inferior to the constrictor muscles is?

a) internal laryngeal nerve

b) external laryngeal nerve

c) inferior laryngeal artery

d) superior thyroid artery

2- Vocal ligament formed by:

A. Cricoarytenoid ligament

B. Quadrangular membrane

C. Conus elasticus

D. Thyrohyoid membrane

Which muscle abducts the vocal lips (labia vocalia)?	1 Posterior cricoarytenoid muscle
	2 Lateral cricoarytenoid muscle
	3 Stylohyoid muscle
	4 Omohyoid muscle
	5 Transverse arytenoid muscle

C, C , 2

From the medial fibres of which muscle does the vocal muscle (musculus vocalis) arise?

1 Thyroarytenoid muscle

2 Aryepiglottic muscle

3 Posterior cricoarytenoid muscle

4 Cricothyroid muscle

5 Lateral cricoarytenoid muscle

Which structure connects the entire superior aspect of the thyroid cartilage (cartilago thyroidea) to the hyoid bone (os hyoideum)?

1 Vestibular ligament

2 Conus elasticus

3 Thyrohyoid membrane

4 Quadrangular membrane

5 Vocal ligament

Which of the following are paired cartilages of the larynx?

1 Epiglottic cartilage

2 Thyroid cartilage

3 Arytenoid cartilage

4 Cricoid cartilage

5 Corniculate cartilage

1 , 3 , (3&5)

Which branch of the vagus nerve (nervus vagus, CN X) turns back under the aortic arch and follows the trachea to the larynx and innervates it?

1. Superior laryngeal nerve
2. Anterior vagal trunk
3. Left recurrent laryngeal nerve
4. Communicating branch of glossopharyngeal nerve with auricular branch of vagus nerve
5. Celiac branch of anterior vagal trunk

What is the mucosa-covered superior border of the quadrangular membrane (membrana quadrangularis) called?

1. Cricotracheal ligament
2. Median cricothyroid ligament
3. Aryepiglottic fold
4. Vestibular ligament
5. Thyrohyoid membrane

Which anatomical structure forms the well known Adam's apple?

1. Thyroid cartilage
2. Arytenoid cartilage
3. Cricoid cartilage
4. Tracheal cartilages
5. Corniculate cartilage

3,3,1

Which ligament constitutes the inferior edge of the quadrangular membrane (membrana quadrangularis)?

1. Vocal ligament
2. Median cricothyroid ligament
3. Vestibular ligament
4. Lateral thyrohyoid ligament
5. Cricotracheal ligament

Which structure attaches the cricoid cartilage (cartilago cricoidea) superiorly to the inferior aspect of the thyroid cartilage (cartilago thyroidea)?

1. Thyrohyoid membrane
2. Median cricothyroid ligament
3. Lateral thyrohyoid ligament
4. Median thyrohyoid ligament
5. Quadrangular membrane

Which muscle is responsible for tensing the vocal cords (ligamenta vocalia)?

1. Stylopharyngeus muscle
2. Oblique arytenoid muscle
3. Transverse arytenoid muscle
4. Lateral cricoarytenoid muscle
5. Cricothyroid muscle

3, 2, 5

The rima glottidis is the natural space between which paired structure?

1. Arytenoid cartilage
2. Thyroarytenoid muscle
3. Oblique arytenoid muscle
4. Vocal fold
5. Cricothyroid muscle

A patient is brought into the hospital in respiratory distress. It is quickly decided to create an emergency surgical airway to restore respiration. Below which of the following cartilaginous structures is an incision most commonly made?

1. Arytenoid cartilage
2. Thyroid cartilage
3. Cricoid cartilage
4. Epiglottis
5. Tracheal cartilages

An elderly lady suffers from an anaphylactic shock after eating an unknown exotic fruit. It leads to a massive swelling of the pharynx and larynx resulting in severe breathing difficulty. An intubation to secure the airways is not successful and, thus, the emergency doctor decides to perform a coniotomy. Which structure is cut during an emergency coniotomy?

1. Median cricothyroid ligament
2. Median thyrohyoid ligament
3. Cricotracheal ligament
4. Thyrohyoid membrane
5. Quadrangular membrane

4 , 2, 1

Pterygopalatine fossa

1-Which of the following arteries crossing the sphenopalatine foramen to supply the lateral wall of the nose?

1. **Greater palatine A**
2. **Long sphenopalatine A.**
3. **Short sphenopalatine A.**
4. **Lesser palatine A.**
5. **Superior labial A.**

Which branch of the trigeminal nerve (nervus trigeminus) passes through the foramen rotundum to enter the pterygopalatine fossa?	1 Maxillary nerve 2 Pharyngeal nerve 3 Infraorbital nerve 4 Ophthalmic nerve 5 Mandibular nerve

Which nerve supplies the anterior palate as well as a portion of the mucous membrane of the nasal septum and is usually anesthetized during transnasal surgery?	1 Greater palatine nerve 2 Trigeminal nerve 3 Nasopalatine nerve 4 Submandibular nerves 5 Pharyngeal nerve

3 , 1 , 3

Which of the following structures connects the pterygopalatine fossa with the nasopharynx and contains pharyngeal vessels and nerves?

1 Inferior orbital fissure

2 Pterygomaxillary fissure

3 Palatovaginal canal

4 Tympanosquamous fissure

5 Petrotympanic fissure

? an injury to the greater petrosal nerve results in?

a) Loss of secretion from parotid gland

b) Loss of taste sensation from anterior tongue

c) dryness of nasal cavity & the palate

d) Loss of secretion from submandibular gland

? The pterygopalatine ganglion, all the following statements are correct except :

a. It receives postganglionic sympathetic fibers through the lesser petrosal nerve .

b. The postganglionic parasympathetic fibers reach the lacrimal gland through the zygomaticotemporal nerve .

c. It is parasympathetic ganglion lies between the sphenoid and palatine bones .

d. The postganglionic parasympathetic and sympathetic fibers reach the nasal cavity

through the sphenopalatine foramen .

e. It receives sensory nerves from the maxillary nerve .

3 , C , A

PHYSIOLOGY

1- A healthy, 45-year-old man is reading the newspaper. Which of the following muscles are used for quiet breathing?

A) Diaphragm and external intercostals
B) Diaphragm and internal intercostals
C) Diaphragm only
D) Internal intercostals and abdominal recti
E) Scaleni
F) Sternocleidomastoid muscles

2- At the end of inhalation, with an open glottis, the pleural pressure is ?

A) greater than atmospheric pressure
B) equal to atmospheric pressure
C) less than alveolar pressure
D) equal to alveolar pressure
E) greater than alveolar pressure

3- The resistance of the pulmonary tree is so low that a 1 cm of water pressure gradient is sufficient to cause normal air flow during resting conditions. Which of the following often has a substantial resistance during pulmonary disease states that can limit alveolar ventilation?

A) Alveoli
B) Bronchioles
C) Large bronchi
D) Small bronchi
E) Trachea

D , C ,B

4- A person's normal tidal volume is 400 ml with a dead space of 100 ml. The respiratory rate is 12 breaths/min. The person is placed on ventilator for surgery and the tidal volume is 700 with a rate of 12. What is the approximate alveolar Pco2 for this person?

A) 10
B) 20
C) 30
D) 40
E) 45

5- A person with normal lungs at sea level (760 mm Hg) is breathing 50% oxygen. What is the approximate alveolar Po2?

A) 100
B) 159
C) 268
D) 330
E) 380

6- The diffusing capacity of a gas is the volume of gas that will diffuse through a membrane each minute for a pressure difference of 1 mm Hg. Which of the following gases is often used to estimate the oxygen diffusing capacity of the lungs?

A) Carbon dioxide
B) Carbon monoxide
C) Cyanide gas
D) Nitrogen
E) Oxygen

B ,A , E

7- In which of the following conditions is alveolar Po2 increased and alveolar Pco2 decreased?

A) Increased alveolar ventilation and unchanged metabolism

B) Decreased alveolar ventilation and unchanged metabolism

C) Increased metabolism and unchanged alveolar ventilation

D) Proportional increase in metabolism and alveolar ventilation

8- A 17-year-old female was bicycling without a helmet when she fell and hit her head. In the emergency room, she was not conscious and was receiving ventilator assistance. Her blood gases follow:

,PaO_2 = 52 mm Hg

$PaCO_2$ = 75 mm Hg, pH = 7.15, and HCO_3^- = 31 mM

The majority of the CO_2 was being transported as

A) CO_2 bound to plasma proteins

B) CO_2 bound to hemoglobin

C) Bicarbonate ions

D) Dissolved

9- Which of the following decreases the concentration of oxygen in the alveolar air?

a. Addition of water vapor

b. Addition of carbon dioxide

c. Removal of water vapor.

d. Addition of water vapor and carbon dioxide

10-Consider the following mixture of gases: 20% oxygen, 40% carbon dioxide, and 40% nitrogen. If the total pressure is 1000 mmHg, then what is the partial pressure of oxygen?

a 200 mmHg

b. 400 mmHg

C. 159 mmHg

d. 100 mmHg

A ,C, A , A

11- Which of the following best explains why someone may experience shortness of breath on top of a mountain?
a. Lower oxygen concentration
b. Lower atmospheric pressure
c. Higher carbon dioxide concentration
d. A weak diaphragm

12-A researcher is studying lung ventilation and uses the alveolar gas equation to better understand if a patient's lungs are properly transferring oxygen into the blood. Which of the following respiratory parameters does this equation attempt to measure?
A-Partial pressure of oxygen within the alveoli
B-Partial pressure of oxygen within the pulmonary capillary
C-Compliance
D-Pulmonary vascular resistance
E-Diffusion of a gas

13-A researcher is studying pulmonary physiology. He identifies a substance secreted by type II pneumocytes that is composed primarily of lipoproteins. This substance will likely have which of the following effects on pulmonary physiology?
A. Increased chest wall compliance
B. Increased likelihood of alveolar collapse
C. Increased lung recoil
.D. Decreased alveolar oxygen exchange
.E. Decreased alveolar surface tension

14-If the elastic fibers were removed from around the alveolar sacs, the lungs in normal breathing would lose most of their ability to: .
. A) expand so inhalation would be impeded
B) expand so exhalation would be impeded
. C) recoil so exhalation would be impeded.
D) recoil so inhalation would be impeded

B, B ,E ,C

15-A 21-year-old Emory student broke several ribs. Her medical treatment included stabilizing her chest with bandages tied in a way that reduced her tidal volume by 50% ,To compensate, she doubled her respiratory rate . Which of the following is true?

a. the post treatment minute ventilation and alveolar ventilation are decreased

b.The post treatment minute ventilation and alveolar ventilation are increased

c. The post treatment minute ventilation will not change but the alveolar ventilation will decrease

d. The post treatment minute ventilation will increase and the alveolar ventilation will decrease

16-When oxygen moves from the alveoli into hemoglobin of the red blood cells in the alveolar capillaries, the oxygen traverses the following layers in order:

A) surfactant, type I alveolar cell, interstitium, endothelial cell, red blood cell membrane

B) type I alveolar cell, interstitium, endothelial cell, plasma, red blood cell membrane

C) surfactant, endothelial cell, interstitium, type I alveolar cell, plasma, red blood cell membrane

D) type I alveolar cell, surfactant, interstitium, endothelial cell, plasma, red blood cell membrane

E) surfactant, type I alveolar cell, interstitium, endothelial cell, plasma, red blood cell membrane

C, E

17-The inner (visceral) pleural membrane is linked to the outer (parietal) pleural membrane of the pleural sac by:
A) myosin fibers
B) fluid-filled space
C) smooth muscles
D) loose connective tissue
E) skeletal muscles

18-When air is no longer moving through the respiratory tract and the airway is open to the environment, the pressure within the lung is equal to
A) systolic blood pressure
B) transpulmonary pressure
C) intrapleural pressure
D) atmospheric pressure
E) end-diastolic pressure

19-Alveolar surfactant acts to increase pulmonary:
A) surface tension
B) compliance
C) airway resistance
D) blood flow
E) both B and D above

20-A patient has a progressive lung disease that results in an ever-increasing pressure required to fill the same volume of lung. How does this disease affect lung compliance? The progressive lung disease:
A) increases lung compliance
B) does not affect lung compliance
C) decreases lung compliance
D) none of the above

B,B,B,C

21During inspiration, how does alveolar pressure compare to atmospheric pressure

A) Alveolar pressure is greater than atmospheric pressure

B) Alveolar pressure is less than atmospheric pressure .

C) Alveolar pressure is equal to atmospheric pressure

D) Alveolar pressure is one of the few pressures where the reference pressure is not the atmospheric

22-A 45-year-old man at sea level has an inspired oxygen tension of 149 mm Hg, nitrogen tension of 563 mm Hg, and water vapor pressure of 47 mm Hg. A small tumor pushes against a pulmonary bloodvessel that completely blocks the blood flow to a small group of alveoli. What are the oxygen and carbon dioxide tensions of the alveoli that are not perfused (in mm Hg)?

	Carbon dioxide	Oxygen
A)	0	0
B)	0	149
C)	40	104
D)	47	149
E)	45	149

24–Which of the following statements regarding the amount of atmospheric O2 in Denver, Colorado, located approximately one mile above sea level, is TRUE? .

. A) the percentage of atmospheric O2 in Denver is higher than at sea level

B) the partial pressure of atmospheric O2 in Denver is higher than at sea . level

. C) the percentage of atmospheric O2 in Denver is lower than at sea level

D) the partial pressure of atmospheric O2 in Denver is lower than at sea . level

E) Both answers C and D are true

B , B ,D

25–A patient was diagnosed to have COPD which is a considered a type 2 respiratory failure, according to his case which of the following is true:

a. He has elevated pCO2 and p02
b. He has elevated pCO2 and decreased p02
c. He has decreased in the amount of pCO2 and p02
d. He has a decreased po2 only

26-A healthy, 25-year-old medical student participates in a 10-km charity run for the American Heart Association. Which of the following muscles does the student use (contract) during expiration?

A) Diaphragm and external intercostals
B) Diaphragm and internal intercostals
C) Diaphragm only
D) Internal intercostals and abdominal recti E) Scaleni
F) Sternocleidomastoid muscles

27-A healthy 10-year-old boy breathes quietly under resting conditions. His tidal volume is 400 ml and ventilation frequency is 12/min. Which of the following best describes the ventilation of the upper, middle, and lower lung zones in this boy?

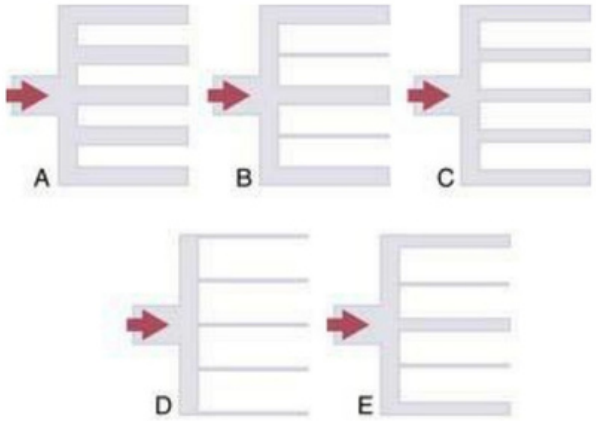
	Upper zone	Middle zone	Lower zone
A)	Highest	Lowest	Intermediate
B)	Highest	Intermediate	Lowest
C)	Intermediate	Lowest	Highest
D)	Lowest	Intermediate	Highest
E)	Same	Same	Same

B ,D ,D

28-Which of the following sets of differences best describes the hemodynamics of the pulmonary circulation when compared to the system circulation?

	Flow	Resistance	Arterial pressure
A)	Higher	Higher	Higher
B)	Higher	Lower	Lower
C)	Lower	Higher	Lower
D)	Lower	Lower	Lower
E)	Same	Higher	Lower
F)	Same	Lower	Lower

29-Which diagram best illustrates the pulmonary vasculature when the cardiac output has increased to a maximum extent



30-The forces governing the diffusion of a gas through a biological membrane include the pressure difference across the membrane (ΔP), the cross-sectional area of the membrane (A), the solubility of the gas (S), the distance of diffusion (d), and the molecular weight of the gas (MW). Which of the following changes increases the diffusion of a gas through a biological membrane?

	ΔP	A	S	d	MW
A)	Increase	Increase	Increase	Increase	Increase
B)	Increase	Increase	Increase	Increase	Decrease
C)	Increase	Decrease	Increase	Decrease	Decrease
D)	Increase	Increase	Increase	Decrease	Increase
E)	Increase	Increase	Increase	Decrease	Decrease

E ,A, E

31-A child has been eating round candies approximately 1 and 1.5 cm in diameter and inhaled one down his airway blocking his left bronchiole. Which of the following will describe the changes that occur?

	Left lung alveolar P_{CO_2}	Left lung alveolar P_{O_2}	Systemic arterial P_{O_2}
A)	↑	↑	↔
B)	↑	↔	↑
C)	↓	↓	↓
D)	↑	↑	↑
E)	↑	↓	↓

32-During exercise, the oxygenation of blood is increased not only by increased alveolar ventilation but also by a greater diffusing capacity of the respiratory membrane for transporting oxygen into the blood. Which of the following sets of changes occur during exercise?

	Surface area of respiratory membrane	Ventilation-perfusion ratio
A)	Decrease	Improvement
B)	Increase	Improvement
C)	Increase	No change
D)	No change	Improvement
E)	No change	No change

?-A researcher is studying lung ventilation and uses the alveolar gas equation to better understand if a patient's lungs are properly transferring oxygen into the blood. Which of the following respiratory parameters does this equation attempt to measure?

A. Partial pressure of oxygen within the alveoli

B. Partial pressure of oxygen within the pulmonary capillary

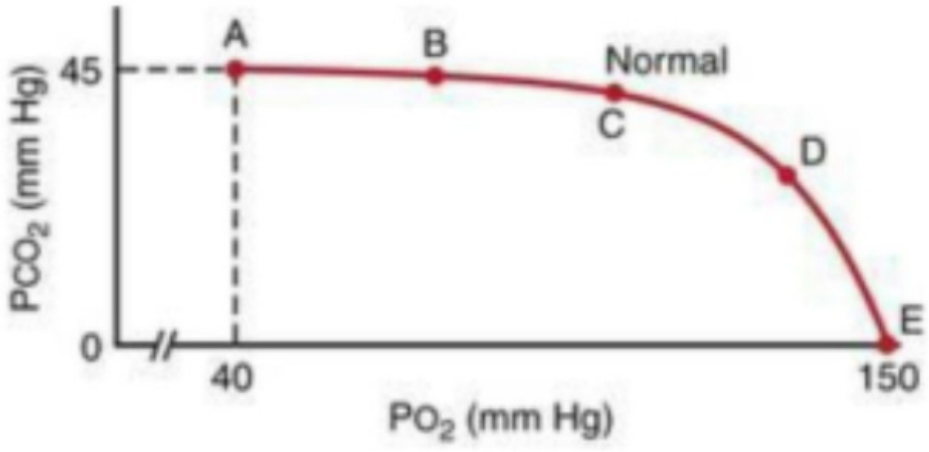
C. Compliance

D. Pulmonary vascular resistance

E. Diffusion of a gas

E,B ,B

Question 33 + 34



33-A 67-year-old man has a solid tumor that pushes against an airway partially obstructing air flow to the distal alveoli. Which point on the ventilation-perfusion line of the O2-CO2 diagram corresponds to the alveolar gas of these distal alveoli?

(A

(B

(C

(D

(E

34-A 55-year-old male has a pulmonary embolism that partially blocks the blood flow to his right lung. Which point on the ventilation-perfusion line of the O2-CO2 diagram corresponds to the alveolar gas of

?his right lung

(A

(B

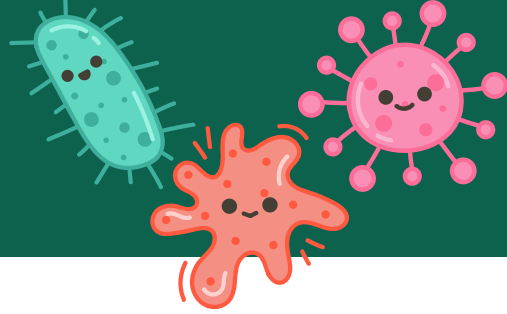
(C

(D

(E

A ,E

microbiology



❓the live attenuated vaccine of influenza virus is administered:

A. Oraly

B. Deep Intramuscular

C. Intravenous

D. Intranasal (Ans)

E. Subcutaneous

❓Which of the following toxins can cause scarlet fever?

a-DNAse

b- Streptolysin S

C-Hyalinase.

d- C5a protease

e- Erythrogenic toxin

❓Which of the following statements concerning antigenic drift in influenza viruses is Correct?

a- It results in major antigenic change

b- It is exhibited only by influenza A viruses

c- It is caused by frameshift mutations in viral genes

d- It results in new subtypes over time

e- It affects predominantly the matrix protein

D , E, D

❓Highly pathogenic H5N1 avian influenza HPAI can infect humans with a high mortality rate, but it has not yet resulted in pandemic. The following are characteristics of HPAI, except for one. Which one is not?

a- Efficient human-to-human transmission

b- Presence of avian influenza genes

c- Efficient infection of domestic poultry

d- Contains segmented RNA genome

e- Both high pathogenicity and low pathogenicity avian influenza viruses can cause disease in human beings

❓All the following are true about S. pyogenes except:

a- Can’t be diagnosed by smear

b- Available vaccine against its capsule

c- Treated by penicillin with no resistance

d- The capsule is an important virulence factor

❓Which of the following sentences is wrong:

a- Antibiotics prevent glomerulonephritis and rheumatic fever .

b- Strep. pyogenes is Bacitracin sensitive.

c- Untreated pharyngitis may results in otitis media.

d- People who are infected by GAS and develop later on AGN , will not develop this again If they’re reinfected again by GAS .

A ,B ,A

❓All of the following are associated with Group A streptococci EXCEPT:

a- Necrotizing fasciitis.

b- Impetigo

c- Neonatal sepsis.

d- Erysipelas

e- Cellulitis.

❓A boy present to the ER with strawberry tongue, rash on the chest and fever, his mother noticed whitish exudate on his tonsils 3 days ago, the causative microorganism ??

a- Strep. agalactiae

b- Strep. pyogenes

c- Strep. Bovis

❓Which of the following statements regarding the prevention and treatment of influenza is correct?

a- Booster doses of vaccine are not recommended.

b- Drugs that inhibit neuraminidase are active only against influenza A.

c- As with some other live vaccines, the attenuated influenza vaccine should not be given to pregnant women.

d- The influenza vaccine contains several serotypes of virus.

e- The virus strains in the influenza vaccine do not vary from year to year.

❓Which of the following symptoms is not typical of influenza?

a- Fever

b- Muscular aches c- Malaise

d- Dry cough

e- Rash

C , B ,D ,E

❓Which of the following infectious agents is most likely to cause a pandemic?

a- Influenza A virus

b- Streptococcus pyogenes

c- Influenza B virus

d- Respiratory syncytial virus

e- Influenza C virus

❓A primary mechanism responsible for the pathogenesis of AGN?

a- A net increase in intracellular cyclic adenosine monophosphate

b- Action of M protein

c- Action of IgA1 protease

d- Action of enterotoxin A

e- Inactivation of elongation factor 2

❓An 8-year-old girl develops Sydenham's chorea ("St. Vitus dance") with rapid uncoordinated facial tics and involuntary purposeless movements of her extremities, strongly suggestive of acute rheumatic fever. She has no other major manifestations of rheumatic fever (carditis, arthritis, subcutaneous nodules, skin rash). The patient's throat culture is negative for Streptococcus pyogenes (group A streptococci). However, she, her brother, and her mother all had sore throats 2 months ago. A test that if positive would indicate recent S pyogenes infections:

a- Ant streptolysin S antibody titer

b- Polymerase chain reaction for antibodies against M protein

c- ASO antibody titer

d- Esculin hydrolysis

e- Anti-hyaluronic acid antibody titer

A ,B , C

❓**A 48-year-old alcoholic man is admitted to a hospital because of stupor. He is unkempt and homeless and lives in an encampment with other homeless people, who called the authorities when he could not be easily aroused. His temperature is 38.5°C, and his blood pressure 125/80 mm Hg. He moans when attempts are made to arouse him. He has positive Kernig and Brudzinski signs, suggesting meningeal irritation. Physical examination and chest radiography show evidence of left lower lobe lung consolidation. An endotracheal aspirate yields rust- colored sputum. Examination of a Gram-stained sputum smear shows numerous polymorphonuclear cells and numerous *gram-positive lancet-shaped diplococci*. On lumbar puncture, the cerebrospinal fluid is cloudy and has a white blood cell count of 570/µL with 95% polymorphonuclear cells; Gram stain shows numerous gram-positive diplococci. Based on this information, the likely diagnosis is:**

a- Pneumonia and meningitis caused by Staphylococcus aureus
b- Pneumonia and meningitis caused by Streptococcus pyogenes
c- Pneumonia and meningitis caused by Streptococcus pneumoniae
d- Pneumonia and meningitis caused by Enterococcus faecalis
e- Pneumonia and meningitis caused by Neisseria meningitidis

❓**All the following statements regarding the hyaluronic acid capsule of S pyogenes are correct except:**
a- It is responsible for the mucoid appearance of the colonies in vitro.
b- It is antiphagocytic.
c- It binds to CD44 on human epithelial cells.
d- t is an important virulence factor.
e- A vaccine against the capsule is currently available.

C, E

❓Important methods for classifying and speciating streptococci are:

a- Agglutination using antisera against the cell wall group specific substance

b- Biochemical testing

c- Hemolytic properties (α-, β-, nonhemolytic)

d- Capsular swelling (quellung) reaction

e- All of the above

❓A 15-year-old girl develops a sore throat, fever, and earache of approximately one week duration. Upon examination by her physician, an erythematous rash is noted covering most of her body and her tongue appears bright red. Which of the following is the description of the causal agent?

a- Gram-positive coccus, alpha hemolytic, catalase negative

b- Gram-positive coccus, beta hemolytic, catalase negative

c- Gram-positive coccus, alpha hemolytic, catalase positive

d- Gram-positive coccus, beta hemolytic, catalase positive

e- Gram-positive coccus, gamma hemolytic, catalase negative

❓which of the following about influenza is incorrect

A. The antigenic variations occur only in type A due to its wide host range.

B. Worldwide epidemics is caused by type A influenza.

C. Antigenic drift is caused from a mutation in ribonucleoprotein.

D. Antigenic shift, a major change that result from reassortment of viral genome.

E. Antigenic drift happens in both hemagglutinin and neuraminidase.

E ,B, C

❓Which of the following is optochin sensitive?

A. Sterp. Pneumonia

B. Strep. Pyogenes

C. Strep. Viridans

D. Staph. Aureus

E. Strep. Agalactiae

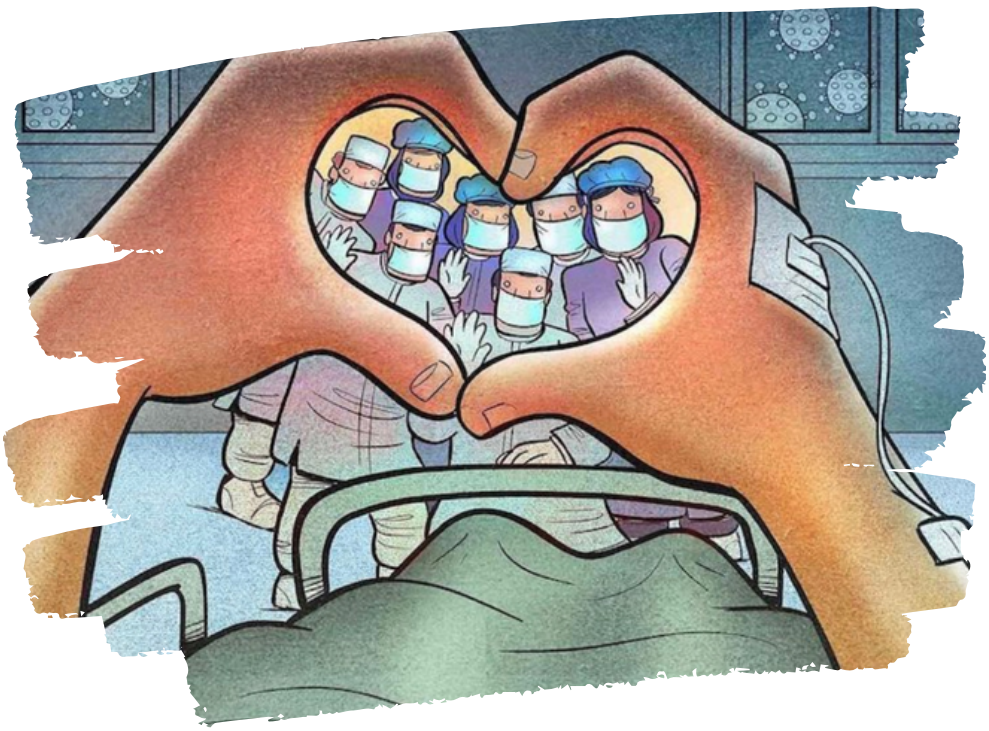
❓a bacterium which is alpha hemolytic, optochin sensitive, bile
soluble, which of the following is considered of its virulence factors?

A. Capsule and pneumolysin

B. M protein

C. Filamentous hemagglutinin and pertactin

D. Adenylate cyclase



A, A