



RS Final Exam

Made By: A+ Agonists

Pathology:

- 1- A man who experiences cough in winter, his WBC and IgE are normal, and he has no family history of asthma or allergy, what is possibly causing these symptoms:
- a- Elevated IL-4 and IL-5.
 - b- Hyperresponsiveness to aspergillus spores.
 - c- Bronchial hyperreactivity to chronic inflammation.

Answer: Bronchial hyperreactivity to chronic inflammation.

- 2- Which disease doesn't affect the superior lobe of the lung:
- a- Hypersensitivity.
 - b- Silicosis.
 - c- Pneumonia.
 - d- Coal workers pneumonia.
 - e- Bronchiectasis.

Answer: Bronchiectasis.

- 3- Choose the correct statement:
- a- M. Avium is contacted by unpasteurized milk.
 - b- Mycobacterium bovis causes oropharyngeal tuberculosis.

Answer: Mycobacterium bovis causes oropharyngeal tuberculosis.

- 4- Which statement is true about tuberculosis:

Answer: Lymph nodes are less affected in secondary TB.

- 5- Which of the following displays UIP:

Answer: Hypersensitivity pneumonia.

- 6- Choose the correct statement:

Answer: Hypersensitivity pneumonia is an occupational disease.

- 7- Lung cancer that shows positive calretinin and negative TTF-1 results, one of the following is true about it:

Answer: Associated with pleural effusion.

- 8- All of the following statements are true except:

Answer: SCLC can be treated with surgery

- 9- Which disease produces antibodies against collagen in glomeruli:

Answer: Goodpasture.

10- Which disease results in cobblestone appearance of the lung:

Answer: Idiopathic pulmonary fibrosis.

11- A lady complained of cough and dyspnea, no signs of lung damage or fibrosis were found, and her case improves after taking oral steroids, the possible diagnosis:

Answer: Cryptogenic organizing pneumonia.

12- Choose the correct statement:

Answer: there's no relationship between CWP and lung cancer.

13- What causes hypercalcemia in sarcoidosis:

Answer: alpha 1 hydroxylase production by macrophages.

Physiology:

1- $[O_2]$ in arteries = 18, $[O_2]$ in veins = 14, CO = 6, Find VO_2 :

Answer: 240.

2- O_2 saturation in arteries = 90%, O_2 saturation in veins = 28%, Find extraction ratio:

Answer: 69%.

3- Compared to lung apex, the base is:

Answer: (A) more ventilated, more perfused, lower V/Q ratio, more compliant.

4- Compared to systemic circulation, pulmonary circulation has:

Answer: (C) same blood flow, lower resistance, lower pressure, same osmotic colloid pressure.

5- COPD patient was treated with oxygen, which led to increasing partial pressures of both O_2 and CO_2 , what exactly did the O_2 cause:

Answer: it inhibited hypoxic stimulation of ventilation.

6- What keeps pulmonary blood pressure normal during exercise even though blood flow is increased:

Answer: Recruitment of previously closed capillaries.

7- Which of the following has the highest P_{50} :

a- HbA during exercise.

b- HbF.

c- Carboxyhemoglobin.

d- Myoglobin.

e- HbA at rest.

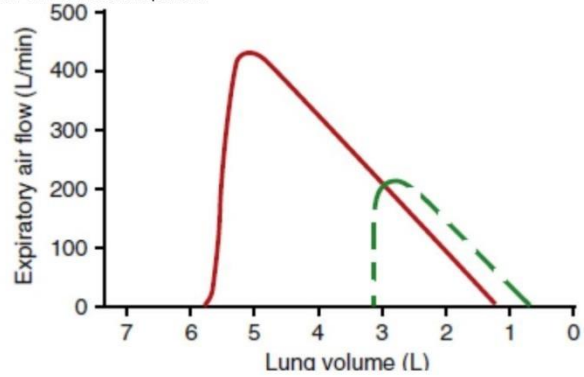
Answer: HbA during exercise.

8-

- a- Fibrosis.
- b- Asthma.
- c- Bronchospasm.
- d- Emphysema.
- e- Old age.

Answer: Fibrosis.

4. A 62-year-old man reports difficulty breathing. The figure below shows an MEFV (maximum expiratory flow-volume curve from the patient (green solid line) and from a typical healthy individual (red dotted curve). Which of the following best explains the MEFV curve of the patient?



9- Pneumothorax causes:

Answer: Inward deflation of the lung, outward bounce of the thorax.

Pharmacology:

1- Which drug does not affect the mucociliary escalator:

- a- Ipratropium bromide.
- b- Beta agonists.
- c- Beclomethasone.
- d- Sodium chromoglycate.
- e- Amiloride.

Answer: Amiloride.

2- Which drug is used for quick relief of asthma:

- a- Inhaled anticholinergics.
- b- Inhaled corticosteroids.
- c- Theophylline.

Answer: Inhaled anticholinergics.

3- Which statement is incorrect about ethionamide:

- a- It is related to rifampin.
- b- It is a cell wall inhibitor.
- c- Taken orally.
- d- Well distributed.
- e- Poorly tolerated.

Answer: It is related to rifampin.

4- What is the mechanism of action of cycloserine:

Answer: Cell wall inhibition.

5- What are the most potent drugs against TB:

Answer: Isoniazid + Rifampin.

6- Why is vancomycin used in the treatment of HAP:

Answer: Because it is active against MRSA.

7- Why is amoxicillin-clavulanate (augmentin) used in the treatment of CAP:

Answer: Because it is active against S.pneumonia, H.influenzae, M.catarrhalis, and S.pyogenes.

8- Why is a combination of different drugs needed to treat TB:

Answer: To avoid developing resistance.

9- Which drug is not a second line tuberculosis therapy:

Answer: Rifampin.

10- Which drug is contraindicated in pregnancy:

Answer: Iodine glycerol.

11- What is the best drug combination for a HAP patient with penicillin hypersensitivity:

a- Vancomycin, Meropenem, Cefepime.

b- Vancomycin, Meropenem, Azithromycin.

c- Vancomycin, Ciprofloxacin, Cefepime.

Answer: Vancomycin, ciprofloxacin, cefepime.

PBL:

1- A 50-year-old gentleman who developed wheezing a year ago and is still experiencing it. His spirometry results show an FEV1/FVC ratio of 50% and an FEV1 of 60%:

a- Abnormal chest X-ray is expected.

b- Inhaled bronchodilators is part of his management.

c- Inhaled corticosteroids is appropriate for his treatment.

Answer: Abnormal chest X-ray is expected.

2- What is the most common cause of croup among children:

Answer: Viral infection.

3- Which of the following accompany a life-threatening wheezing in children:

a- Wheezing relieved in prone position.

b- Drooling, dysphagia, extended neck.

Answer: Drooling, Dysphagia, Extended neck.

Anatomy, Embryology and Histology:

- 1- A woman was diagnosed with lung cancer in the left lung, which structure of the following is present in the affected lung:

Answer: Lingula.

- 2- A tumor obstructing the hyparterial bronchus is expected to affect which of the following:

- a- Right middle secondary bronchus.
- b- Right basal secondary bronchus.
- c- Right superior bronchus.
- d- Left superior.
- e- Left inferior.

Answer: Right middle secondary bronchus.

- 3- A stab wound in which point is not expected to cause pneumothorax:

- a- 9th intercostal space in midclavicular line.
- b- 9th intercostal space in midaxillary line.
- c- 9th intercostal space in scapular line.

Answer: 9th intercostal space in midclavicular line.

- 4- Which statement is false about the suprapleural membrane:

- a- Resists changes in intrathoracic pressure.
- b- If damaged, elevates during inspiration.
- c- A stab in it would cause pneumothorax.

Answer: A stab in it would cause pneumothorax.

- 5- In which site is tracheostomy not performed:

- a- Thyroid membrane.
- b- Cricothyroid membrane.
- c- Cricotracheal membrane.
- d- Between 1st and 2nd tracheal rings.
- e- Above the sternal notch.

Answer: Thyroid membrane.

- 6- The definitive pleural cavity is formed by:

- a- Somatopleuric mesenchyme.
- b- Incorporation from pericardial pleura.
- c- Incorporation from peritoneal pleura.
- d- Splanchnopleuric mesenchyme.

Answer: Somatopleuric mesenchyme.

7- Which statement is incorrect:

- a- Type 1 and 2 pneumocytes are formed during the 6th month
- b- Respiratory bronchioles and alveolar sacs aren't developed in the pseudoglandular period.
- c- Respiration is not possible during terminal sac period.

Answer: Respiration is not possible during terminal sac period.

8- Which of the following is not simple squamous:

- a- Type 1 pneumocytes.
- b- Capillary epithelial cells.
- c- Mesothelium.
- d- Surfactant producing cells.

Answer: Surfactant producing cells.

MicroBiology:

1- A 45-year-old smoker presents with sudden onset fever, pleuritic chest pain, and productive "rusty-colored" sputum. Examination reveals decreased chest expansion, dull percussion on the right upper lobe, and crackles. Chest X-ray shows lobar consolidation. What is the most likely causative agent?

Answer: S. Pneumonia.

2- Role of CYA toxin:

- a- Inhibits killing of bacteria by macrophages.
- b- Anchors bordetella to respiratory membrane.
- c- Causes paralysis of cilia.
- d- Increases levels of lymphocytes in blood.

Answer: Inhibits killing of bacteria by macrophages.

3- Diagnosis for a case presenting with currant jelly sputum:

Answer: Klebsiella Pneumonia.

4- Diagnosis for a cystic fibrosis patient that presents with respiratory infection, after culture, the bacteria produces blue/green pigment and grape-like smell:

Answer: Pseudomonas aeruginosa.

5- How is legionnaires disease transmitted:

Answer: Through cooling systems and humidifiers.

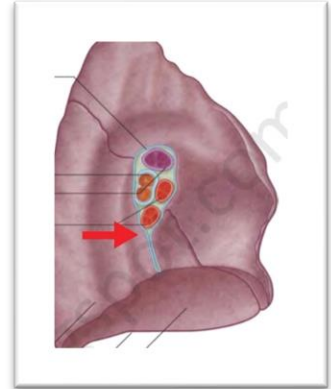
6- Treatment of pneumocystis pneumonia:

Answer: Trimethoprim-sulfamethoxazole.

Practical: Anatomy

1- What forms this impression:

Answer: Esophagus.



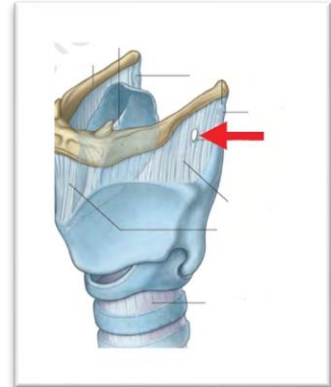
2- The origin of a structure that crosses through this foramen:

a- Superior thyroid artery.

b- Internal laryngeal artery.

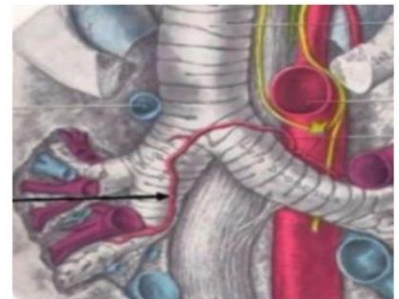
c- Inferior laryngeal artery.

Answer: Superior thyroid artery.



3- Identify the pointed structure:

Answer: Bronchial artery.



4- This is the site of drainage for:

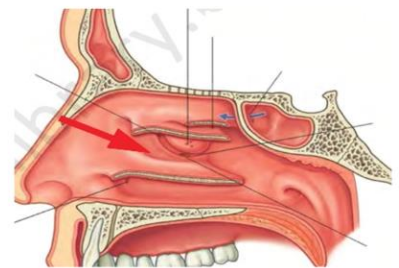
a- Frontal sinus.

b- Anterior ethmoidal sinus.

c- Middle ethmoidal sinus.

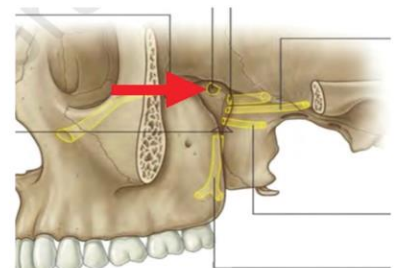
d- posterior ethmoidal sinus.

Answer: Frontal sinus.



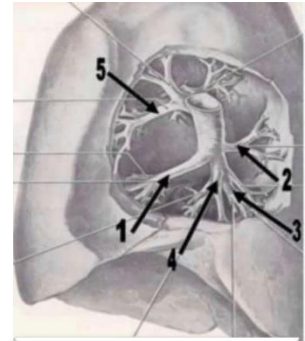
5- Structures that pass through this foramen:

Answer: Sphenopalatine vessels.



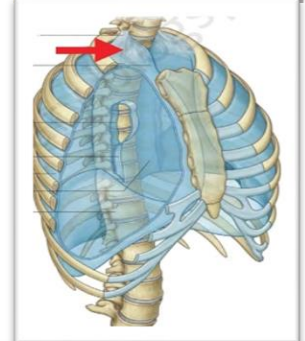
6- An object falling into the respiratory tract would go to:

[Answer:](#) 3



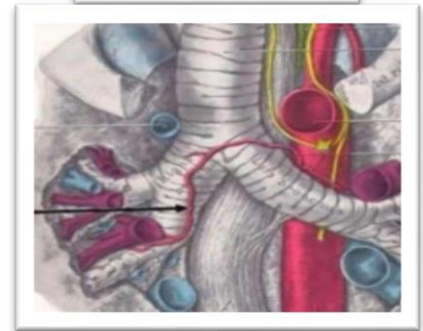
7- Lateral attachment:

[Answer:](#) Medial surface of first rib



8- Which structure does not pass anterior to trachea:

[Answer:](#) Phrenic nerve.



Practical: Physiology

1- FEV1 < 80%, FVC < 80%, TLC is decreased, which of the following is expected to be normal:

[Answer:](#) FEV1/FVC.

2- Which condition might cause improvement of gas diffusion across the respiratory membrane:

- a- Polycythemia.
- b- COPD.
- c- Pulmonary fibrosis.
- d- Pulmonary edema.

[Answer:](#) Polycythemia.

Practical: MicroBiology

1- An organism that produces green color on CHROM agar

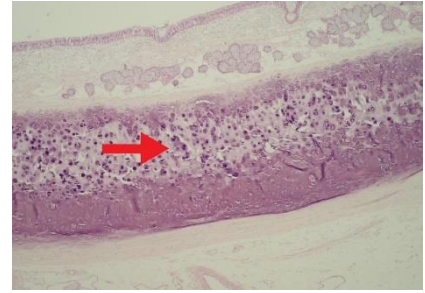
[Answer:](#) Candida albicans.

2- What is the first step to differentiate between strains of gram positive bacteria:

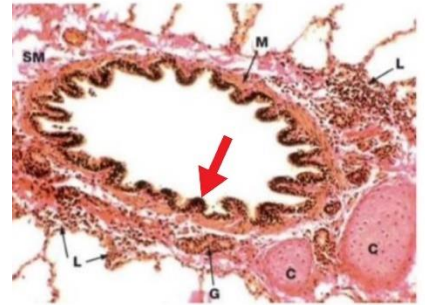
[Answer:](#) Catalase test.

Practical: Histology

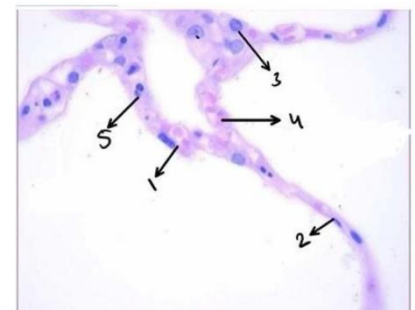
- 1- Tissue type:
[Answer:](#) Hyaline cartilage.



- 2- Type of epithelium:
[Answer:](#) Pseudostratified ciliated columnar epithelium with goblet cells.



- 3- Type 1 pneumocytes:
[Answer:](#) 2

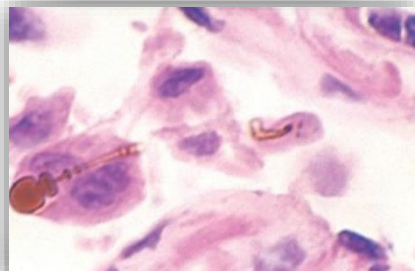


- 4- Type of epithelium:
[Answer:](#) Pseudostratified ciliated columnar epithelium with goblet cells.



Practical: Pathology

- 1- Correct statement about this structure:
[Answer:](#) Coated with an iron containing material.



- 2- Diagnosis:
[Answer:](#) Squamous cell carcinoma.

