ACOI Board Review Course 2016
Review Questions

RHEUMATOLOGY QUESTIONS

1.) Which of the following auto-antibodies is associated with aggressive erosive Rheumatoid Arthritis?

   a.) ANA
   b.) Anti-CCP (ACPA)
   c.) ANCA
   d.) Anti-SSA AB

Answer: b.

2.) Extra-articular manifestations of Rheumatoid Arthritis include all of the following except:

   a) Sjogren’s Syndrome
   b) Felty’s Syndrome
   c) Tophi
   d) Subcutaneous nodules

Answer: c.

3.) Inflammatory joint pain would be associated with:

   a) Prolonged morning stiffness that improves with use
   b) Knee pain that is worse with use
   c) Bone hypertrophy of the DIP joints
   d) Presence of osteophytes on radiograph

Answer: a.

4.) Anti-neutrophilic Cytoplasmic Antibodies are associated with all the following except:

   a) Granulomatosis with Polyangiitis GPA (aka Wegener’s Granulomatosis)
   b) Polyarteritis Nodosa
   c) Microscopic Polyangiitis MPA
   d) Allergic angiitis with Granulomatous (Churg-Strauss disease)

Answer: b.
5.) **Giant Cell Arteritis:**

   a) Is treated with low dose prednisone (less than 10 mg daily)
   b) Does not usually threaten vision
   c) May be associated with symptoms of Polymyalgia Rheumatica
   d) Typically affects patients younger than 50 years of age.

   **Answer:** c.

6.) **Polyarteritis Nodosa is associated with all the following except:**

   a) Hepatitis B surface antigenemia
   b) Saccular aneurysms of mesenteric arteries
   c) Mononeuritis multiplex
   d) High titers of Anti-Nuclear Antibodies.

   **Answer:** d.

7.) **Features of Spondyloarthropathies include all of the following except:**

   a) Enthesitis
   b) Familial clustering
   c) Positive Rheumatoid Factor
   d) Sacroiliitis

   **Answer:** c.

8.) **Types of Psoriatic Arthritis include:**

   a) Spondyloarthritis
   b) DIP arthritis
   c) Arthritis Mutilans
   d) All the above

   **Answer:** d.

9.) **All of the following are extra-articular manifestations of Reactive Arthritis except:**

   a) Keratoderma
   b) Uveitis
   c) Subcutaneous nodules
   d) Urethritis

   **Answer:** c.
INFECTIOUS DISEASES QUESTIONS

1.) An otherwise healthy 32 y.o. is seen in your office/ER soon after a cat bite. You decide to give an antibiotic. Which of the following is most likely to be ineffective?

   a.) cephalexin (Keflex®)
   b.) doxycycline
   c.) ampicillin
   d.) amoxicillin/clavulanate (Augmentin®)
   e.) ceftriaxone

Answer: a.

2.) The day after your patient was in a fight after “having a few,” he presents to your office/ER with a swollen hand that he thinks was the result of hitting someone in the mouth. Which of the following is most likely to be ineffective

   a.) amoxicillin/clavulanate
   b.) clindamycin
   c.) moxifloxacin
   d.) amoxicillin

Answer: b.

4.) After diagnosing secondary syphilis (rash involving palms and soles of a traveling salesman), you should recommend all but the following:

   a.) HIV testing
   b.) benzathine PCN 2.4 mill. Units I.M. x 1
   c.) benzathine PCN 2.4 mill. Units I.M. weekly x 3
   d.) azithromycin 1gm p.o. x 1
   e.) partner notification

Answer: c.

5.) Which of the following organisms is an unlikely cause of endocarditis?

   a.) S. aureus
   b.) E. coli
   c.) S. bovis/gallolyticus
   d.) Enterococcus spp.
   e.) Cardiobacterium spp.

Answer: b.
6.) Which underlying cardiac condition does not warrant endocarditis prophylaxis?

   a.) mitral valve prolapse  
b.) previous endocarditis  
c.) prosthetic valve  
d.) cardiac transplant w/ valvulopathy  
e.) unrepaired cyanotic congenital heart dx

   Answer: a.

7.) Your patient with a recently placed prosthetic aortic valve is about to undergo dental extraction. She reports anaphylaxis to amoxicillin. Which of the following should be offered?

   a.) Cephalexin 500 mg x 1 prior to procedure  
b.) Clindamycin 300 mg x 1 prior to, then 3 additional doses q 8 hrs following the procedure  
c.) Doxycycline 200mg x 1 prior to procedure  
d.) Clindamycin 600 mg x 1 prior to procedure  
e.) Ciprofloxacin 500 mg x 1 prior to procedure

   Answer: d.

8.) Within a 2-3 day time period, multiple patients from an ECF are seen in your ER with severe N/V and non-bloody diarrhea. What is the most likely explanation?

   a.) S. aureus food poisoning  
b.) B. cereus food poisoning  
c.) E. coli 0157 H7 food poisoning  
d.) Shigella - foodborne or otherwise  
e.) Norovirus - foodborne or otherwise

   Answer: e.

8.) A colleague’s wife presents to your office, ill appearing, w/ severe abdominal pain and bloody diarrhea. Dietary hx is not helpful. What should NOT be offered?

   a.) sympathy  
b.) hydration  
c.) empiric quinolones  
d.) culture of a stool specimen

   Answer: c.

9.) During the “window phase” of acute HIV infection, individuals:
a.) are most always quite ill
b.) commonly present w/ “opportunistic” infections
c.) should have CD4 and “viral loads” obtained
d.) are considered highly infections
e.) need counseling and support

Answer: d.

10.) Suspecting acute Pneumocystis pneumonia, which is the most important study to immediately order?

a.) ABGs
b.) CD4 count
c.) Viral load
d.) Blood cultures
e.) Sputum for gm stain, culture, and special studies for pneumocystis

Answer: a.

11.) When is treatment for HIV contraindicated?

a.) concomitant drug abuse
b.) pregnancy
c.) concomitant active hepatitis B and or C
d.) CD4 count above 500
e.) pt unwilling and/or non-compliant

Answer: e.

12.) A 21yo male presents to urgent care with a 1 week h/o dry cough, malaise and low-grade fever. His roommate was sick with a similar illness 2 weeks ago. CXR demonstrates b/l hazy infiltrates. Your initial treatment should be:

a.) Doxycycline
b.) Ceftriaxone IM
c.) Amoxicillin/clavulanate
d.) Dicloxacillin
e.) Trimethoprim/sulfamethoxazole

Answer: a.

13.) A 62yo male with a h/o tobacco abuse and DM presents with a fever of 101.7F and productive cough. He was diagnosed with influenza A last week and completed a course of oseltamivir. You suspect a secondary bacterial pneumonia due to:
a.) Legionella pneumophilia  
b.) Mycoplasma pneumoniae  
c.) Staphylococcus aureus  
d.) Pseudomonas aeruginosa  
e.) Haemophilus influenzae

Answer: c.

14.) A 36yo HIV+ patient on combivir/sustiva presents with a 2 day h/o fever, chills, and malaise. His CD4 = 545. Viral load <20 copies. Patient’s CXR shows a dense LLL infiltrate. You suspect pneumonia due to:

a.) Legionella pneumophilia  
b.) Mycobacterium avium complex  
c.) Pneumocystis carinii/jeroveci  
d.) Streptococcus pneumoniae  
e.) Staphylococcus aureus

Answer: d.

15.) A 64yo Hispanic man presented to the hospital with progressive SOB. CT of the chest demonstrated a large R sided pleural effusion. Thoracentesis was performed and demonstrated 76% mononuclear cells. You suspect a diagnosis of:

a.) Empyema necessitans  
b.) Mycobacterium tuberculosis  
c.) Streptococcus pneumoniae  
d.) Malignant effusion due to adenocarcinoma  
e.) Hemothorax

Answer: b

16.) An ICU nurse presents to the employee health clinic to have her PPD read. There is 2mm of induration and 11mm of erythema. You tell her:

a.) She needs to seen an infectious disease specialist for 9 months of INH and vitamin B6  
b.) She needs to go to the ER for a stat CXR to evaluate for active TB  
c.) She will be referred to the health department for initiation of 4 drug therapy including INH, rifampin, ethambutol, and pyrazinamide  
d.) She should receive a repeat PPD in 1 year  
e.) She needs to wear an N95 respirator while seeing her patients

Answer: d.
17.) A 27yo male presents with headache, photophobia and nausea for 2 days PTA. He c/o “swollen glands” and fever to 100.1F. LP demonstrates 132 WBCs with 84% mononuclear cells. In addition to CSF cultures, you should consider testing patient for:

   a.) Terminal compliment deficiency  
   b.) Mollaret’s syndrome  
   c.) HIV  
   d.) Immunoglobulin G subclass deficiency  
   e.) Lyme disease

Answer: c.

18.) An 8yo boy presents to the ER with headache, loss of sense of smell, poor appetite, and malaise. He was at a Boy Scout camp waterskiing this past weekend. In spite of intensive care, patient dies 72h later. You suspect infection due to:

   a.) Nagleria fowleri  
   b.) Schistosoma mansoni  
   c.) Parvovirus B19  
   d.) Borrelia burgdorferi  
   e.) Disseminated histoplasmosis

Answer: a.

19.) A 75yo woman presents to the ER with a 103F fever, headache, neck pain, and rash 2wk after a vacation to California. Upon arrival to the ER, patient is having trouble standing. LP shows lymphocytic pleocytosis. The most likely diagnosis is:

   a.) Herpes simplex meningoencephalitis  
   b.) Hanta virus  
   c.) Coccidioidomycosis meningitis  
   d.) Cryptococcal meningitis  
   e.) West Nile meningoencephalitis

Answer: e.

ALLERGY/IMMUNOLOGY QUESTIONS

1.) Your patient comes to you with a 2 week history of small painful red bumps on the left arm and hand. These last for several days, and leave a bruise as they heal. You suspect:

   a.) Urticaria
b.) Angioedema
   c.) Urticarial vasculitis
   d.) Contact dermatitis
   e.) Cellulitis

Answer: c.

2.) Mr. Smith, a 37 year old patient presents with intermittent swelling of the hands bilaterally. When it occurs, he has difficulty with his work as a mechanic. What is your best screening test?

   a.) C1 Esterase
   b.) C1 Esterase inhibitor (Quantitative)
   c.) C1 Esterase inhibitor function
   d.) CH50
   e.) C3

Answer: e.

3.) Which of the following is MOST likely to be IgE mediated?

   a.) Difficulty breathing after aspirin ingestion
   b.) Shortness of breath while in the dental chair with a latex dental dam in place
   c.) Diffuse erythema (red man) after vancomycin
   d.) Dry chapped, cracked hands after using latex gloves for weeks
   e.) Reaction to radiocontrast materials during an X-ray procedure

Answer: b.

4.) Some materials can cause systemic reactions by the direct activation of mast cells, leading to the release of mast cell mediators without any influence of IgE. Which of the following is most likely to do so?

   a.) Opiates
   b.) Penicillin
   c.) Peanuts
   d.) Aspirin
   e.) Latex

Answer: a.

5.) Ms. Jones, a 29 year old patient, has a history of recurrent sinus infections and bronchitis over the past three years. These infections seem to be getting worse, and closer together. You suspect a primary immunodeficiency. What test is most likely to provide a diagnosis?
a.) Complement studies
b.) Flow cytometry to study her lymphocytes
c.) CBC
d.) Bone Marrow Biopsy
e.) Quantitative immunoglobulins

Answer: e.

6.) You suspect your patient has poor function of his phagocytes. You order a nitroblue Tetrazolium (NBT) test. What color will normal phagocytes turn the NBT?
   a.) Yellow
   b.) Blue
   c.) Green
   d.) Red
   e.) White (colorless)

Answer: b.

7.) What is the preferred treatment for selective IgA deficiency?
   a.) Bone marrow transplant
   b.) Prolonged prophylactic antibiotics
   c.) Immunoglobulin replacement (IVIG)
   d.) Nothing
   f.) Subcutaneous Immunoglobulin replacement

Answer: d.

8.) FDA approved treatment for food allergies include:
   a.) Subcutaneous immunotherapy
   b.) Sublingual immunotherapy
   c.) Oral immunotherapy
   d.) Daily small doses of the offending food
   e.) None of the above

Answer: e

9.) 19yo male with asthma since age 5. Presents with EIB and year round nasal congestion. Denies daytime symptoms, night time symptoms 2 times per month. Uses SABA pre-exercise. Never used any type of inhaler. He has moderate limitation on ability to exercise. No ER visits or Hospitalizations. What is his asthma severity?
   a.) Mild intermittent asthma
b.) Mild persistent asthma  
c.) Moderate persistent asthma  
d.) Severe persistent asthma  

**Answer:** c.

10.) **What would you do now?**

   a.) Start a LABA  
   b.) Start a medium dose ICS  
   c.) Start a high dose of ICS with LABA  
   d.) Start a low dose of ICS with a LABA  

**Answer:** b.

11.) FVC was 90%, FEV-1 was 80% and his ratio was 85%. CXR was normal. Skin tests were positive for house dust mites. Prescribed a medium dose of inhaled steroid. Started on nasal steroid. Albuterol as needed. Prednisone for severe asthma. Educated on technique, adherence, acute asthma action plan and mite avoidance. Returns in 3 month. He has been using his ICS regularly. Denies nighttime daytime symptoms, or exercise related symptoms. His QOL is good. Albuterol in the last week has been pre-exercise only. He used prednisone three times for asthma attacks over the past 12 weeks. FEV-1 was 80% with a ratio of 83%. What is his asthma control?

   a.) Mild persistent asthma  
   b.) Well controlled asthma  
   c.) Not well controlled asthma  
   d.) Very poorly controlled  

**Answer:** d.

12.) **What would you do?**

   a.) Increase to a high dose ICS  
   b.) Increase ICS to a high dose and add a LABA  
   c.) Add a short acting anticholingeric  
   d.) Add Zileutin (a lipo-oxygenase inhibitor)  
   e.) Add omalizumab  

**Answer:** b.

13.) 35 year old banker. Frustrated with his care – “they do not listen to me.” He says “I have had asthma since age 3 and always stable, but now I am miserable. I no longer can run. I have had 3 attacks this year alone requiring prednisone.” What are some possibilities that may result in his asthma attacks?
a.) Staph lung infections
b.) Warm humid air
c.) Reflux
d.) Pneumococcal infections
e.) Rhinovirus

Answer: e.

14.) What is the most common cause for poor asthma control?

a.) Poor technique
b.) Poor compliance
c.) Under treatment
d.) Failure to appropriately recognize asthma severity

Answer: a.

CARDIOLOGY QUESTIONS

1.) Mr Jones is a 50 year old banker who has 3 vessel heart disease and ask what is his yearly percent mortality?

a.) 2% per year
b.) 4% per year
c.) 10% per year
d.) 20% per year

Answer: b. JACC 1996;27:964

2.) What percent of patients with ischemic heart disease that are currently statin treatment failed to be protected from CV events?

a.) 50%
b.) 20%
c.) 10%
d.) >70%


3.) For Patients with chronic stable angina who are truly allergic to aspirin what is next currently recommended drug?

a.) Beta blocker
b.) Calcium channel blocker
c.) Clopidogrel
d.) Ranolazine


4.) 9 modifiable factors account for 90% of first MI from the INTERHEART trial. What is the single most important modifiable risk factor to treat?

a.) Hypertension  
b.) Hyperlipidemia  
c.) Smoking  
d.) Abnormal obesity


5.) What is the current recommendation for resting heart rate control in patients with atrial fibrillation?

a.) <80 beats per minute  
b.) <110 beats per minute  
c.) No current recommendation  
d.) <60 beats per minute

Answer: b. Below 110 beats per minute—new recommendation. Circulation 2011;123:104-123

6.) The use of dronedarone as an anti-arrhythmic drug is contra-indicated in patients with:

a.) Atrial fibrillation with normal ejection fraction  
b.) Patients with atrial fibrillation and thyroid disease  
c.) Patients with history of seizure disorder and atrial fibrillation  
d.) Patients with atrial fibrillation with reduced ejection fractions

Answer: d. Class III . Contra indicated in patients with depressed LVEF <35%

7.) Which one of the following is not part of the CHADS score?

a.) Heart rate  
b.) Heart failure  
c.) Hypertension  
d.) Stroke  
e.) Age greater than 75

Answer: a. Heart rate is not part of the CHADS score.
8.) Which statement is true in regards to treatment of severe hyperkalemia?

a.) Hyperkalemia is a common disorder, in up to 30% of patients who have been admitted to hospital
b.) Rarely seen with renal insufficiency and use of medications that disrupt potassium balance, such as angiotensin-converting enzyme inhibitors and potassium-sparing diuretics
c.) IV insulin (at doses of 10 to 20 units or 5 mU/kg per minute 30) can lower potassium by 0.5 mmol/L to 1.0 mmol/L in 15 minutes by shifting potassium inside cells
d.) Calcium salts (Ca2+/gluconate) increased the risk of arrhythmia by increasing resting membrane potential of myocardial cells (less likely to depolarize) lasting up to 60 minutes
e.) b and d

Answer: c. Calcium salts reduce the risk of arrhythmias.

9.) 68 yo male with class II-III dyspnea, no syncope or chest pain has an echo which demonstrates a calcified and restricted aortic valve without significant aortic regurgitation but a mean aortic valve gradient of 27 mmHg. The estimated left ventricular ejection fraction is 25-30%. Does this patient have severe aortic valve stenosis?

a.) Yes, the left ventricular ejection fraction is severely impaired and thus the valve gradient, which is only 27 mmHg is misleading due to reduced stroke volume from the impaired left ventricular.
b.) No, the valve gradient is nowhere near 40 mmHg and regardless of the valve area the aortic stenosis is most likely not severe.
c.) Possibly, despite the only moderate increase in valve gradient. More information is required, such as a dobutamine stress echo.

Answer: c.

10.) 62 yo asymptomatic and active male with history of heart murmur “for years” is evaluated in the office and found to have a 2-3/6 early to mid peaking systolic ejection murmur loudest at the base with radiation to the neck, normal to mildly decreased second heart sound and normal apical impulse. His peripheral pulses are normal (carotid, femoral and pedal). An echo performed 3 months prior by his PCP revealed a bicuspid aortic valve with mild to moderate AS (mean gradient 25 mmHg, valve area 1.3 cm2), no AR, normal left ventricular function and a dilated aortic root (5.6 cm) and ascending aorta (4.5 cm). There is no other significant valve dysfunction. His estimated pulmonary artery systolic pressure was normal. Does this patient need to be considered for surgery at present?

a.) Yes, despite a repeat echo that shows no significant change from 3 months previous.
b.) No, the AS is clearly not severe and he is asymptomatic.

Answer: a.

11.) 45 yo female with history of moderate aortic regurgitation (documented by echo) and HTN was seen recently in the office. She is clinically stable and her BP is controlled. She has no other significant medical history. 1 week later her dentist’s office calls you and requests recommendations regarding antibiotic prophylaxis prior to having a dental procedure performed. You recommend:

a.) No antibiotics necessary, based on most recent AHA guidelines.
b.) In light of relatively young age and clearly abnormal aortic valve on prior echo, she should have antibiotic prophylaxis.
c.) Not enough info to make recommendation.

Answer: a.

12.) Most common cause of death in patient’s undergoing elective AAA repair is:

a.) Cardiovascular
b.) Pulmonary Embolus
c.) Hemorrhage
d.) Multi-organ failure

Answer: a.

13.) A 76 yo male, diabetic, smoker is seen in the office with exertional bilateral leg discomfort after walking 1 block. He has a history of chronic low back pain and hyperlipidemia. You perform an exam including ABI’s and they are 1.1 on the right and 0.9 on the left. You recommend to the patient:

a.) He most likely does not have significant PAD and should be evaluated for non-vascular causes of leg pain.
b.) He may have significant obstructive PAD despite the unremarkable ABI’s and would recommend an exercise test with ABI’s
c.) In light of his history, he most likely has significant PAD as the cause of his symptoms and you recommend aggressive risk factor modification.

Answer: b.

14.) Which of the following is not considered part of routine initial anti-thrombotic therapy for NSTEMI patients, at time of presentation to the ER?

a.) Aspirin
b.) Clopidigrel
c.) Heparin
d.) Abciximab (a IIb/IIIa inhibitor)

Answer: d.

15.) A 45 yo male smoker presents to the ER with 2 hours of severe chest pain, diaphoresis and nausea. EKG reveals extensive ST elevation in leads V 1-5. His BP is 100 mmHg systolic and he is diaphoretic with mildly labored respirations. You do not have a cath lab in your hospital but have arrangements with a regional center for transfer of STEMI’s for primary PCI. Transfer will take ~ 30-60 mins. Best course of action now?

a.) Give ASA, O2, heparin and clopidigrel and arrange for STAT transfer for Primary PCI.
b.) Give ASA, O2, lytic therapy and heparin and arrange for STAT transfer.
c.) Give ASA, O2, clopidigrel, heparin, integrin and arrange for STAT transfer.
d.) Give ASA, O2, heparin and integrin, dopamine and fluids to stabilize patient and if not stable arrange for STAT transfer.

Answer: a or b.

16.) A 58 yo female with history of type II diabetes, smoker, remote history of NSTEMI and stenting of circumflex artery, presents to the ER with 24 hrs of intermittent chest pain. The initial EKG demonstrates ST depression in the inferior leads. Her symptoms resolve readily with conservative medical therapy and she is hemodynamically stable. A repeat EKG demonstrates resolution of ST changes and the patient feels well. Serial cardiac enzymes are mildly increased (troponinI = 0.03, 0.60, 0.90). The best approach to this patient is?

a.) Conservative, with hospital admission and continued medical therapy with anti-thrombotics, beta-blockers, statin, long acting nitrate and subsequent stress testing.
b.) Invasive approach, with recommendation for cardiac cath with possible PCI
c.) Consider aggressive anti-thrombotic therapy including lytic therapy with pre-discharge stress testing.
d.) Discharge to home on medications from ER if same-day stress test is normal.

Answer: b.

17.) 63 yo male presents to the ER with retro-sternal chest pain and has inferior ST elevation on his EKG and BP of 100/70. He is recommended emergent transfer to the cath lab and given ASA in the ER. During transfer to the cath lab, he passes out and is unresponsive. The portable telemetry monitor reveals V-fib and he is rapidly resuscitated with a single shock. In the cath lab, he is found to have total occlusion of the proximal RCA which is successfully opened and stented without complication. He is alert and hemodynamically stable after the procedure and the remainder of his hospital stay is uncomplicated. An echo performed the day after his cath reveals
an LV ejection fraction of 40 % with inferior hypokinesis and no significant valve dysfunction. He is deemed stable for discharge to home 3 days post-MI. Before discharge, one of the house staff questions whether this patient should have an implantable defibrillator placed before discharge, in light of his V-Fib arrest.

a.) No, he does not have an indication for ICD placement at this point in time.
b.) Yes, he should have an ICD implanted in light of his episode of cardiac arrest.
c.) He may need an ICD if he first has an electrophysiogy study which demonstrates inducibility of VT or VF.

**Answer:** a.

**ENDOCRINOLOGY**

1.) According to the American Thyroid Association 2015 Guidelines in regards to differentiated thyroid cancer, which of the following is supported by good evidence for screening a sibling?

   a.) Thyroid ultrasound
   b.) Nuclear thyroid scan
   c.) TSH
   d.) Thyroglobulin
   e.) Insufficient evidence

**Answer:** e. Insufficient evidence for screening relatives

2.) The American Thyroid Association 2015 guidelines support which of the following for evaluation and treatment in a patient with a thyroid nodule on physical exam?

   a.) TSH and if suppressed then thyroid ultrasound
   b.) TSH and if elevated then nuclear thyroid scan
   c.) TSH and if suppressed then nuclear thyroid scan
   d.) Thyroglobulin and if low then surgery
   e.) Thyroglobulin and if high then surgery

**Answer:** C. Suppressed TSH then nuclear thyroid scan

3.) According to the Endocrine Society guidelines for initial testing for Cushing Syndrome, which of the following if the preferred test?

   a.) Urine free cortisol
   b.) Insulin tolerance test
   c.) 8 AM Salivary Cortisol
   d.) Pituitary MRI
e.) Adrenal Cat Scan

Answer: A. Urine free cortisol

4.) A 22 yo male presents with a BMI 20 and fasting serum glucose = 580 mg/dL. He reports thirst and frequent urination with a 10 pound weight loss over 6 weeks. Standard treatment is initiated for glucose. He has poor compliance over the next 25 years of care for his glucose. Blood pressure is controlled on Lisinopril during the same time frame. Which of the following is the most likely resulting retinal image prior to retinal treatment?

![Retinal Images]

Answer: c. Diabetic Retinopathy

5.) A normal weight 28 year old female with secondary oligomenorrhea and galactorrhea presents to your office. Her prolactin level is elevated. MRI of the sella reveals a 5 mm pituitary microadenoma. You suspect this is a prolactinoma. Other pituitary hormones are normal. Which of the following statements regarding prolactinomas is true?

a.) she will never be able to become pregnant due to the adenoma
b.) cabergoline or bromocriptine would likely be effective choices to lower the prolactin level and cause the prolactinoma to decrease in size
c.) MRI should be obtained yearly to follow the size, even if the prolactin level is suppressed with cabergoline
d.) galactorrhea and oligomenorrhea will likely not improve with treatment.
e.) prolactinomas occur only in females.

Answer: b.

6.) A patient presents to the hospital with head trauma. He has an elevated sodium level and a large volume of dilute urine. He is found to have diabetes insipidus.

a.) This might represent partial or complete central diabetes insipidus
b.) DDAVP (desmopressin) should be started immediately even if sodium level is low
c.) fluid restriction should be initiated
d.) DDAVP (desmopressin) will work well if this is nephrogenic or central diabetes insipidus
e.) MRI of the head with attention to the pituitary does not have to be obtained, since it is obvious that head trauma caused the diabetes insipidus

Answer: a.

7.) A patient with a large non-functioning pituitary macroadenoma is found to have pan-hypopituitarism. He has had orthostasis, nausea, and weight loss for 8-12 months. Which of these would be most consistent with pan-hypopituitarism from a pituitary macroadenoma?

a.) low or inappropriately normal TSH and low free T4
b.) hypergonadotrophic hypogonadism
c.) striae and supraclavicular fat pads
d.) normal ACTH stimulation test
e.) bilateral central visual field defects

Answer: a.

8.) A 65 year old male presents with recurrent calcium kidney stones. He is found to have a calcium level of 11.8 mg/dl. PTH level is elevated. Serum creatinine is 1.4 mg/dl. 24 hour urine calcium excretion is elevated. Parathyroid Sestamibi scan is performed but does not reveal any abnormality. The most likely cause of the hyperparathyroidism is:

a.) solitary benign parathyroid adenoma, but more than one adenoma is possible
b.) parathyroid cancer
c.) MEN syndrome
d.) tertiary hyperparathyroidism due to renal insufficiency
e.) occult malignancy either metastatic to bone or producing PTH-related peptide

Answer: a.

9.) Treatment of the above patient with hypercalcemia might best include:

a.) hydration; followed by monthly doses of zoledronic acid or pamidronate
b.) surgical neck exploration if: age under 50 years old; calcium 1 mg/dl or more higher than the top normal range; worsening renal function; bone density with a T-score of -2.5 or worse
c.) stop all vitamin D supplementation
d.) glucocorticoids
e.) furosemide

Answer: b.

10.) A 74 year old Caucasian female had a bone density study (DXA) which revealed T-score of the right femoral neck of -2.8, left femoral neck of -2.9. The spine had degenerative changes and could not be interpreted. FRAX calculation revealed fracture risk of 10% ten year risk of hip fracture and 30% ten year risk of major osteoporotic fracture. She had a traumatic wrist fracture a few years ago. Family history is positive for a mother with a hip fracture. Management of this patient would best include:

a.) no treatment since her wrist fracture was traumatic
b.) No treatment since her FRAX risk is low
c.) estrogen
d.) denosumab (Prolia), or a bisphosphonate, or Forteo could be used interchangeably since they all are anti-resorptive agents
e.) replete vitamin D if low and start an anti-resorptive or anabolic agent

Answer: e.

11.) A healthy but obese 55 year old African-American male has a fasting glucose of 150 mg/dl and an A1c of 7% at his yearly office visit. He is told he has type 2 diabetes mellitus. He is given a referral to see the dietitian and start diabetes education classes. Liver and kidney function tests are normal. He is given a prescription for a glucose monitor. The best next step is:

a.) MRI of the head and adrenals since he likely has Cushing’s syndrome.
b.) institute metformin at this visit since his renal and hepatic function tests are normal
c.) avoid exercise completely since he likely has undiagnosed heart disease
d.) start a sulfonylurea or Actos as monotherapy at this visit
e.) wait 3 months and if his A1c is still 7% or higher, start metformin
Answer: b.

12.) A 62 year old obese female with type 2 diabetes mellitus for 12 years is on a sulfonylurea alone. Metformin was stopped two years ago due to diarrhea at even a low dose. A1c is 10% but she has been having frequent hypoglycemia, even after reducing the dose of the sulfonylurea. She has significant lower extremity edema and recurrent episodes of congestive heart failure. The best answer is:

a.) stop the sulfonylurea and change to a DPP-4 inhibitor since the risk of hypoglycemia is low on a DPP-4 inhibitor
b.) pioglitazone is contra-indicated in her due to chronic congestive heart failure
c.) add Lantus to the sulfonylurea
d.) since she is likely insulin deficient, the A1c is very high, and she has had diabetes for a long time, she is probably not a candidate for basal plus bolus insulin therapy
e.) she doesn’t need to go to a dietitian or diabetes education classes since she is non-compliant

Answer: b.

13.) Regarding type 1 diabetes mellitus,

a.) insulin pump therapy should be reserved for non-compliant patients or patients who have very high A1c’s on conventional insulin therapy
b.) many patients will benefit from MDI (multiple daily injections) including basal and bolus insulins, but must be taught how to use this regimen effectively
c.) DCCT (Diabetes Control and Complications Trial) was a major trial of patients in type 2 diabetes mellitus; UKPDS (United Kingdom Prospective Diabetes Study) was a major trial in type 1 diabetes
d.) severe DKA (diabetic ketoacidosis) should generally be treated with intravenous Humalog drip or intravenous Novolog drip
e.) antibodies that might help diagnosis this include GAD-65 antibody and insulin antibody. Other autoimmune diseases, such as celiac disease, hypothyroidism (Hashimoto’s disease), rheumatoid arthritis, etc.) are rare in patients with type 1 diabetes mellitus

Answer: b.

GENERAL MEDICINE QUESTIONS

1.) A 75-year-old man with new back pain comes to your office. He describes his new back pain with shooting pain down his leg. He notes that he has low back pain with numbness in the left leg. On examination, you find a normal mental status and cranial nerve examination. On motor examination, he has weakness of foot extension and cannot stand on his toes on the left foot. He also has a dropped ankle jerk on the left. This is a lesion of which of the following roots?
2.) A 48-year-old woman with lung cancer presents with onset of weakness in her legs and falls. She notices that she has been having some difficulty with losing control of urine. On motor examination, she presents with bilateral arm/leg weakness with increased tone. The most appropriate test would be:

   a. Lumbosacral magnetic resonance imaging (MRI)
   b. Cervical-thoracic MRI
   c. Electromyography/nerve conduction study
   d. Test for a ruptured L4 disk

**Answer:** b. A cervical spinal cord lesion can present with a sensory loss at the level of the abdomen. The clue to the area of the spinal cord lesion is the arm weakness and increased reflexes. This is a cervical spinal cord lesion causing a quadriplegia, and, as C6-C8 innervate the hands and arms, the lesion must be here or higher. Therefore, an MRI of the thoracic spinal cord or higher is needed. This patient's sensory level is not localizing; it defines the lowest level at which the lesion might be. A lumbosacral MRI will look at the bottom of the cord and roots. There can be no arm weakness and increased tone/reflexes with a lumbosacral lesion.

3.) A 30-year-old woman fell asleep with her legs crossed during a graduate lecture. When she awoke, she noted that the right foot was tingling and noted the foot was "slapping" on the ground. These symptoms most likely represent which of the following?

   a. Cauda equina syndrome
   b. Guillain-Barré syndrome
   c. Peroneal nerve palsy
   d. L5 radiculopathy

**Answer:** c. She has developed a compressive neuropathy of the peroneal nerve at the level of the fibular head. Cauda equina syndrome presents with bowel and bladder dysfunction, and flaccid lower extremity paralysis. Guillain-Barré syndrome presents as
an areflexic motor paralysis, with or without a sensory disturbance. An L5 radiculopathy represents a more proximal process.

4.) A 72-year-old man presents to your outpatient clinic with the complaint of recurrent spells of hand numbness. On exam he has weakness of finger spreading. He also has sensory loss in the last two fingers splitting the ring finger. The most likely etiology for his symptoms is:

   a.) Recurrent transient ischemic attacks (TIAs)
   b.) C6 radiculopathy
   c.) C7 radiculopathy
   d.) Ulnar neuropathy

**Answer:** d. Ulnar neuropathies present with sensory loss in the fourth and fifth digit of either hand, usually splitting the ring finger. The major differential for this is a C8 radiculopathy, which would also present with grip weakness as well as a dropped triceps reflex. A C6 radiculopathy or C7 radiculopathy would not present with sensory loss in that distribution. Ulnar weakness is primarily that of finger spreading within the horizontal plane, and loss of bulk in the muscle pad just lateral to the first finger. TIAs are unlikely, given the fact that the sensory loss occurs every day and only at night and that he can "shake it out." The distribution of weakness and sensory loss is atypical for a high cortical lesion.

5.) A 75-year-old patient presents with numbness of the first three fingers of the right hand. Which of the following findings on physical exam are supportive of the diagnosis of carpal tunnel syndrome?

   a.) There is reproduction of symptoms with gentle tapping at the carpal tunnel
   b.) There is a dropped biceps reflex on the same side as the numbness in the hand
   c.) There is weakness of grip strength
   d.) There is sensory loss is that does not split the ring finger

**Answer:** a. Tinel's sign, while not always present, is fairly specific for a carpal tunnel compression. All the other findings are consistent with a radiculopathy, which can also present with numbness in the same distribution but is treated entirely differently.

6.) A 32-year-old woman describes that she has had 1 month of intermittent double vision. During a clinic visit, she has a normal examination with normal motor gait, cranial nerves, and reflexes. The most appropriate work-up at this time would be:

   a.) Electromyography/nerve conduction study (EMG/NCS) and antiacetylcholine antibody testing
   b.) Computed tomography/lumbar puncture/electroencephalography (CT/LP/EEG)
   c.) Cervical spine magnetic resonance imaging (MRI)
   d.) Emergent neurosurgical consultation
Answer: a. Electromyography/nerve conduction study (EMG/NCS) and antiacetylcholine antibody testing. This patient presents with a classic symptom complex for a neuromuscular junction problem: fatigue, not really tiredness, but neurologic symptoms involving the cranial nerves that worsen at the end of the day. A neurologic examination in the morning may be entirely normal. This is a reasonable presentation for myasthenia gravis. An MRI or CT/LP and neurosurgical consults would all be unrevealing. EMG/NCS and acetylcholine antibodies test would demonstrate abnormalities at any time of day.

7.) A 59-year-old woman presents with subacute onset of tingling in her toes. Her reflexes are depressed with downgoing toes. The finding that suggests most strongly that this is Guillain-Barré syndrome and not a spinal cord problem is:

a.) Her age  
b.) The subacute onset  
c.) The dropped reflexes  
d.) The lack of bowel or bladder incontinence

Answer: d. Her age is noncontributory. The subacute onset suggests more of a nerve problem than spinal cord issue, but spinal cord lesions can present this way. Dropped reflexes typically occur with nerve problems, but spinal shock can present with spinal cord lesions that result in acute and subacute dropped reflexes. Bowel and bladder incontinence occurs late in Guillain-Barré syndrome and usually when patients are quadriplegic and intubated. Bowel/bladder incontinence is common in spinal cord lesions.

8.) A 45-year-old man presents to your office reporting diplopia in all directions. He has a history of hypothyroidism. Blood work and brain magnetic resonance imaging (MRI) are entirely normal. What would you do next?

a.) Write in his chart that he is malingering  
b.) Schedule him for a lumbar puncture  
c.) Consider Guillain-Barré syndrome  
d.) Schedule him up for an electromyography/nerve conduction velocity (EMG/NCV) study with repetitive stimulation, computed tomography (CT) scan of the chest, and anti–acetylcholine receptor antibody level

Answer: d. Because this patient presents with myasthenia gravis with bulbar involvement, you should schedule him for an EMG/NCV study with repetitive stimulation, a CT scan of the chest, and an anti–acetylcholine receptor antibody level. An EMG/NCV study and anti–acetylcholine receptor antibody assay should provide confirmatory results, while the chest CT scan seeks evidence of a thymoma. He is not malingering. Spinal fluid will not provide the disease-specific findings of an EMG/NCV study and anti–acetylcholine receptor antibody screen. Guillain-Barré syndrome presents as an areflexic motor paralysis, with or without a sensory disturbance.
9.) A 28-year-old female has a throbbing, one-sided headache three times a month. It occurs suddenly, persists for 2 days. This is what type of headache?

   a.) Migraine with aura
   b.) Migraine without aura
   c.) Tension-type headache
   d.) Cluster headache

**Answer:** b. This headache is a migraine without aura. The pain is throbbing, unilateral, and incapacitating, and has clear precipitants. A young female is the typical host. Cluster headaches would involve parasympathetic activity and would not last 2 days. Tension-type headaches are not typically incapacitating.

10.) A 31-year-old male presents to your office reporting that he has the onset of a severe, unilateral headache that has been intermittent for 1 week at night. He denies tobacco or drug use. His physical exam is normal. What is the likely diagnosis?

   a.) Migraine without aura
   b.) Tension headache
   c.) Cluster headache
   d.) Subarachnoid hemorrhage
   e.) Trigeminal neuralgia

**Answer:** c. This patient presents with a cluster headache. The host for cluster headaches is usually male. The headaches are severe, unilateral, and "cluster" for periods of time, and have a circadian or nightly pattern. The parasympathetic overactivity is also part of this type of headache. Migraine without aura typically does not have the parasympathetic features, and patients tend to want to rest in a dark room. Tension-type headaches are typically not as incapacitating. Subarachnoid hemorrhage is not usually associated with parasympathetic features. Trigeminal neuralgia typically involves only the second or third division of the trigeminal nerve.

11.) A 60-year-old female with a 30-year history of migraine headaches with visual auras presents for her clinic visit. She reports that her headaches have become more frequent over the last 3 months. What would you suggest next?

   a.) Start a β-blocker as prophylaxis
   b.) Refer her for magnetic resonance imaging (MRI) of brain
   c.) Send her for audiology testing
   d.) Ask her to discontinue any nonsteroidal medications she is taking
   e.) Measure an erythrocyte sedimentation rate (ESR)

**Answer:** e. The change in headache pattern in this older patient should warrant further evaluation. Her systemic symptoms are suggestive of giant-cell arteritis (GCA), and an
elevated ESR would confirm your diagnosis. Without the systemic symptoms suggesting GCA, MRI would be warranted due to the change in headache pattern.

12.) A 50-year-old female with a 25-year history of migraine headaches with visual auras presents for her clinic visit and has been having them more frequently (once a week) exam is What would you suggest next?

a.) Start a β-blocker as prophylaxis for the headaches  
b.) Refer for magnetic resonance imaging of the brain  
c.) Send her for audiology testing  
d.) Ask her to discontinue any nonsteroidal anti-inflammatory drug or aspirin she is taking

Answer: b. The change in headache character in a patient above age 50 and new neurologic symptoms (tinnitus) would be considered "red flags" of a possible underlying pathology for the headaches. Neuroimaging is warranted.

13.) A 58-year-old man presents with pain and stiffness of his right shoulder and clumsiness of the right hand and reports his handwriting has gotten smaller. He has fell on the stairs and has bad balance. What is the most likely diagnosis that you have in mind as you start your exam?

a.) Arthritis of the shoulder joint  
b.) Rotator cuff injury on the right side  
c.) Parkinson disease  
d.) Stroke affecting the left hemisphere

Answer: c. Parkinson disease typically manifests with unilateral rigidity and bradykinesia in early stages of the disease. Initial presentation as unspecific pain of the neck, shoulder, and arm is fairly common, and should not be mistaken for an orthopedic problem. Approximately 25% of patients do not have a noticeable tremor, and more than 50% do not report a resting tremor as one of their initial symptoms. Therefore, the absence of tremor does not rule out Parkinson disease. Insidious onset and slowly progressive symptoms, as well as the combination of symptoms in the absence of actual weakness, make a stroke as the underlying condition exceedingly unlikely.

14.) An 87-year-old man with long-standing dementia presents with a sudden loss of consciousness and a fall. A head computed tomography scan reveals a large left frontal lobar hematoma. The most likely diagnosis is:

a.) Intracerebral hemorrhage from amyloid angiopathy  
b.) Intracerebral hemorrhage from rupture of an arteriovenous malformation (AVM)  
c.) Intraparenchymal rupture of a cerebral aneurysm of the circle of Willis  
d.) Frontal lobe contusion  
e.) Intracerebral hemorrhage from metastatic tumor
Answer: a. Amyloid angiopathy is a condition associated with older age and particularly with Alzheimer disease. Amyloid deposition in the cerebral vessels leads to fragmentation and weakening of the vessel walls, resulting in lobar hemorrhages, which are often recurrent. AVMs and aneurysms are more common causes of intracranial hemorrhage in younger patients. Metastatic tumor can cause multiple lobar hemorrhages, but it is unlikely a patient would recover from such a hemorrhage because the tumor would likely continue to grow.

15.) A 56-year-old woman with a history of atrial fibrillation presents with 3 hours of acute-onset aphasia, hemiparesis, neglect, and forced gaze deviation. CT was WNL. The most common reason for this is:

a.) Malingering
b.) CT scans are often normal in the first 6 hours after stroke
c.) The etiology is a hemorrhage that does not show up on CT scan
d.) This is not stroke but status epilepticus

Answer: b. Conventional CT scans can be normal for hours after an acute stroke. Signs of stroke can be very subtle. Magnetic resonance imaging with diffusion-weighted imaging can identify strokes within minutes of onset.

16.) A 66-year-old woman presents to the emergency room with 5 hours of right-sided face and arm numbness and weakness. In the ER, her examination confirms both a sensory and motor deficit involving the right face and arm. Which of the following statements is true regarding her condition?

a.) Antiplatelet therapy is a reasonable choice for treatment
b.) The lesion is most likely located in the thalamus
c.) The lesion is most likely located in the internal capsule
d.) If carotid Doppler exams reveal a right-sided stenosis of 50%, she would definitely benefit from carotid endarterectomy
e.) First-line treatment is tissue plasminogen activator (tPA) administered immediately

Answer: a. This woman is suffering from an acute infarct. Given involvement of unilateral face and arm but sparing of the leg, it is likely to be a cortical stroke resulting from embolization from carotid artery atherosclerosis. Antiplatelet therapy with aspirin or clopidogrel is a reasonable course of action. A thalamic lesion would most likely produce a unilateral sensory deficit but not a motor deficit as in this patient. An internal capsule lesion would involve motor weakness of the leg in addition to the face and arm. Carotid endarterectomy is most beneficial in symptomatic patients with carotid stenoses of 70% or greater. Finally, the patient's presentation after 5 hours of symptoms would preclude her from receiving tPA (it should be given within 3 hours of the onset of symptoms for the benefit to outweigh the risk).
17.) A 34-year-old woman with history of a miscarriage 5 years ago presents with new right-sided hemiparesis and slurred speech for the past 2 hours. Her symptoms slowly resolve while in the emergency department. Which of the following is an appropriate course of action?

a.) No further testing is necessary, as this is her first transient ischemic attack (TIA)
b.) Check protein C and protein S levels
c.) Check for antiphospholipid antibodies
d.) Check factor VIII levels
e.) Both B and C

Answer: e. Stroke or TIA in a young patient with no cardiac risk factors always deserves further evaluation. Patients should have a hypercoagulability work-up, including antithrombin III levels, proteins C and S levels, lupus anticoagulant, antiphospholipid antibodies, and homocysteine level. Factor VIII levels are not part of the screen for hypercoagulability (rather a deficiency, hemophilia A, leads to bleeding and not to thrombosis). Other related factors should also be considered when the young individual presents with an ischemic event, such as cocaine or stimulant use.

18.) A patient shows eosinophilic folliculitis on skin biopsy of some pruritic lesions on his back. He most likely has which type of infection?

a.) Staphylococcus
b.) Mycobacterium
c.) HIV
d.) Corynebacterium
e.) Pityrosporum

Answer: c.

19.) A patient with myasthenia gravis presents with a bullous dermatitis with involvement of the oral mucosa and a positive Nikolsky’s sign. He most likely has:

a.) erythema multiforme.
b.) DRESS syndrome.
c.) small vessel vasculitis.
d.) Staphylococcal cellulitis.
e.) pemphigus.

Answer: e.

20.) It would be most logical to screen a patient with vitiligo for the presence of which antibodies?

a.) Thyroid
b.) Mitochondrial
c.) Cardiolipin
d.) Smooth muscle
e.) Tissue transglutaminase

Answer: a.

21.) A 42 y/o male patient with a family history of type 2 diabetes is on metformin for glucose intolerance and lisinopril for hypertension. LDL-cholesterol is found at 133 mg/dL and a statin is started. Which of the following should be monitored more closely?

   a.) HDL-C
   b.) LDL-C
   c.) Glucose
   d.) BP
   e.) urine for proteinuria

Answer: c.

22.) A 45 y/o male patient with a history of angina develops an outpatient pneumonia and is placed on azithromycin. The patient should be told to avoid:

   a.) St John’s wort
   b.) grapefruit juice
   c.) antacids
   d.) vitamin A
   e.) yogurt

Answer: b.

23.) A 55 y/o female has been on alendronate for 4 years. Bone mineral density measurement shows a T score of −1.8. She has a history of GERD and reports one episode of atrial fibrillation. There is no fracture history. Best advice to this patient is to:

   a.) switch to zoledronic acid.
   b.) take a drug holiday.
   c.) continue the alendronate for two more year.
   d.) continue alendronate indefinitely.
   e.) discontinue alendronate permanently.

Answer: b.

24.) Which of the following diets should be prescribed to a patient with Parkinson disease?
25.) Which of the following diets would be most helpful to a patient with gout?

a.) low protein
b.) mediterranean
c.) paleolithic (paleo)
d.) Atkins
e.) low-fat dairy

Answer: e.

26.) Infections with *Burkholderia cepacia* are typically associated with which of the following inherited disorders?

a.) cystic fibrosis
b.) hemochromatosis
c.) sickle cell anemia
d.) Wilson disease
e.) G6PD deficiency

Answer: a.

27.) Mutations of the ATP7B gene is characteristic of which of the following?

a.) cystic fibrosis
b.) hemochromatosis
c.) sickle cell anemia
d.) Wilson disease
e.) G6PD deficiency

Answer: d.

GASTROENTEROLOGY QUESTIONS

1.) A 62 yo man presents with reflux-predominant dyspepsia and no alarm signs or symptoms. What would you do?
a.) EGD
b.) Test for H.Pylori
c.) Prescribe PPI

Answer: a.

2.) What is the single most informative study in pts with medically refractory GERD?

a. EGD
b. pH monitor
c. Barium swallow
d. CT scan of chest

Answer: b.

3.) 31-year-old female presents with 6 months of dysphagia and recurrent chest pain. She has difficulty swallowing after every meal. Dysphagia has progressed to solids and liquids. She had a previous fundoplication. EGD showed it intact. Manometry showed no peristalsis, high LES pressure and no relaxation with wet swallows. The most likely diagnosis?

a. Failed reflux surgery
b. Nutcracker esophagus
c. Nonspecific motility disorder
d. Achalasia

Answer: d.

4.) 16 yo presents with sudden onset of odynophagia after waking in the am. She is fairly healthy with hx of exercise induced asthma and acne. Her only meds are albuterol prn and doxycycline. What is the likely diagnosis?

a. Schatki ring
b. Hiatal hernia
c. Pill esophagitis
d. Infectious esophagitis

Answer: c.

5.) Pt with celiac has followed a gluten free diet for 6 months and was doing well but now diarrhea has returned. Review of her diet shows compliance. Endomysial antibody testing is now normal. What is the next step?

a. Repeat small bowel biopsy
b. SBFT
c. CT scan of abdomen  
d. Colonoscopy with biopsies  
e. Bacterial aspirate if small bowel contents

Answer: d.

6.) 52 yo recently traveled to Puerto Rico for 3 months. He developed fatigue, malaise and abdominal cramps 1 week after returning, followed by diarrhea and dyspepsia. Stools are “oatmeal-like”. Lab Hgb 11.3 with MCV 103. Stool studies neg. Enteroscopy is performed. Likely diagnosis?

a. Celiac sprue  
b. Giardia  
c. Tropical sprue  
d. Lactase def.

Answer: c.

7.) 45 yo has had malabsorption for the last year with low volume diarrhea, polyarthritis and occasional visual hallucinations. PE is neg. CT shows generalized lymphadenopathy. EGD shows broad flattened villi in the duodenum. Bx show numerous PAS + macrophages in the submucosa. Which therapy may be useful for this pt?

a. Gluten free diet  
b. Steroids  
c. Antibiotics  
d. Antacids

Answer: c.

8.) Which of the following is untrue regarding diabetic gastropathy?

a. It’s common, occurring in 50% of type I diabetics.  
b. Can occur in type II as well as type I diabetics.  
c. Usually associated with autonomic neuropathy.  
d. It’s not affected by serum glucose levels.

Answer: d.

9.) Which of the following is not a cause of large gastric folds?

a. Menetrier’s disease  
b. Autoimmune metaplastic atrophic gastritis.  
c. Hypertrophic Hypersecreteory Gastropathy  
d. Zollinger-Ellison syndrome.
10.) *Helicobacter Pylori* infection may result in all but which of the following?

   a. Dumping syndrome  
   b. Acute gastritis  
   c. Gastric Malt Lymphoma  
   d. Environmental metaplastic atrophic gastritis.

**Answer:** a.

11.) Crohn’s disease rarely results in which of the following?

   a. Strictures.  
   b. Colorectal carcinoma.  
   c. Abscesses  
   d. Transmural inflammation.

**Answer:** b.

12.) Treatment of choice for ulcerative colitis is which?

   a. Mesalamine  
   b. Corticosteroids  
   c. A biologic  
   d. An immunomodulator like azathioprine.

**Answer:** a.

13.) Diarrhea that has been going on for several years, is non-bloody and doesn’t occur through the night is most consistent with which disease?

   a. Ulcerative colitis  
   b. Crohn’s disease  
   c. Diverticulitis  
   d. Irritable Bowel Syndrome

**Answer:** d.

14.) Which of the following is not true regarding cancer of the pancreas?

   a. It more often occurs in people over the age of 60.  
   b. Adenocarcinoma of the pancreas arises from the ducts of the pancreas.  
   c. Adenocarcinoma of the pancreas is usually a cystic rather than solid lesion.  
   d. Diagnosis may be obtained by percutaneous biopsy.

**Answer:** c.
15.) Which is true of Familial Adenomatous Polyposis (FAP)?

a. It has a genetic basis.
b. Right sided colon polyps predominate.
c. For an afflicted individual the risk of colon cancer approaches 40%.
d. Screening either with genetic analysis or colonoscopy is unnecessary in relatives of patients who have FAP.

Answer: a.

16.) The most common risk factor for adenocarcinoma of the colon is which of the following?

a. Female sex
b. Northern European ancestry.
c. Age
d. A diet high in red meat.

Answer: c.

17.) Which of the following does not cause pancreatitis?

a. Alcohol
b. Ace inhibitors
c. Billiary disease
d. Hypertriglyceridosis

Answer: b.

18.) The best therapy for acute pancreatitis is which of the following?

a. IV fluids and pain control
b. IV fluids and abdominal peritoneal lavage.
c. Pain control and CT aspiration of peripancreatic fluid.
d. Pain control and biliary stenting.

Answer: a.

19.) Calcifications in the pancreas on an imaging study are due to which disease?

a. Cancer of the pancreas
b. Acute pancreatitis
c. Chronic pancreatitis
d. Autoimmune pancreatitis
Answer: c.

HEMATOLOGY/ONCOLOGY QUESTIONS

1.) All are true in anemia except:

   a.) Ferritin may be normal or elevated in true iron deficiency if there is coexistent inflammation
   b.) Nearly all patients who have gastric bypass for weight loss will eventually require IV iron replacement.
   c.) Patients who have Thalassemia should never take iron.
   d.) Anemia of chronic disease is a diagnosis of exclusion.
   e.) A senior who’s hemoglobin is < 13 should be considered anemic and deserves work-up.

Answer: c.

2.) All the following are false in thrombocytopenia except:

   a.) Low molecular weight heparin and fondaparinux never cause HIT.
   b.) The diagnosis of DIC can be made with a concomitant decline in platelet count and fibrinogen level.
   c.) The diagnosis of TTP requires a bone marrow biopsy.
   d.) A platelet transfusion is always needed when the platelet count declines below 20,000.
   e.) Platelets are never transfused in a patient with a normal platelet count.

Answer: b.

3.) In thrombosis and hemostasis, all the following are true except:

   a.) The most common cause of spontaneous bleeding after the age of 50 is a Factor VIII inhibitor.
   b.) The diagnosis of mild vonWillebrand’s disease can be difficult as factor levels are frequently normal.
   c.) Warfarin should be started day 1 of treatment for DVT/PE
   d.) Patients who develop spontaneous thrombosis before age 50 should undergo a hypercoaguable work-up.
   e.) Myocardial infarction or stroke at a young age is not considered a reason to obtain a hypercoaguable work-up.

Answer: e.

4.) The biology of tumor growth most commonly follows which of the following mechanisms?
a.) Logarithmic progression.
b.) Logarithmic regression.
c.) Gompertzian kinetics.
d.) Michaelis-Mendelson kinematics.
e.) Orwellian statistical realization models.

Answer: c.

5.) Vinyl chloride exposure is most commonly associated with which malignancy?

   a.) Mantle cell lymphoma.
b.) Anaplastic astrocytoma.
c.) Renal cell carcinoma.
d.) Urothelial carcinoma of the bladder.
e.) Hepatic angiosarcoma.

Answer: e.

6.) Which of the following is considered a non-modifiable risk factor for cancer development?

   a.) Obesity.
b.) Smoking cessation.
c.) Use of sunscreens.
d.) Genetic instability.
e.) Occupational safety.

Answer: d.

7.) In Leukemia, all are true except:

   a.) WBC is always elevated at the time of diagnosis of acute leukemia
   b.) The diagnosis of CLL is usually made on routine lab work rather than symptoms
   c.) It is common for CML to present with unusual infections
   d.) The Philadelphia chromosome may not always be present in CML
   e.) The molecular hallmark of CML is BCR/ABL

Answer: a.

8.) All are false in lymphoma except:

   a.) The diagnosis of lymphoma is easily made by FNA
   b.) B symptoms are a good prognostic feature
   c.) Reed-Sternberg cells are the classic cells of Hodgkin lymphoma
d.) The combination of chemotherapy and radiation therapy rarely increases the risk of secondary malignancies
e.) All lymphomas require treatment

Answer: c.

9.) All are true except:

a.) Serum M protein is always elevated in myeloma at diagnosis
b.) Bence Jones proteins are not always present in 24 hour urine in myeloma
c.) A bone scan is not usually helpful in diagnosing boney lesions of myeloma
d.) Erythropoietin alone is usually the first treatment of choice in MDS
e.) Not all genetic changes in MDS indicate a poor prognosis

Answer: a.

10.) Which of the following is not known to predispose to the risk of developing transitional cell carcinoma of the bladder?

a.) Smoking.
b.) Paint and leather industrial workers.
c.) Textile workers.
d.) Past infection with Schistosoma hematobium.
e.) Workers in tire and rubber plants.

Answer: d.

11.) Which of the following measures improve the utility of serum prostate-specific antigen (PSA) in screening for prostate cancer?

a.) Digital rectal examination.
b.) PSA velocity.
c.) Measurement of free vs bound PSA.
d.) Needle biopsy of suspicious masses.
e.) All of the above.

Answer: e.

12.) Which of the following would be the most appropriate treatment for a 32 year-old, otherwise healthy, male with a newly diagnosed AJCC Stage IIB non-seminomatous germ cell tumor?

a.) Retroperitoneal radiation only.
b.) Chemotherapy only.
c.) Radical orchiectomy with either retroperitoneal lymph node dissection and/or chemotherapy.
d.) Radical orchiectomy followed by observation.
e.) Radical orchiectomy followed by autologous stem cell transplantation.

Answer: c.

13.) For which of the following circumstances would anastrozole be best indicated?

a.) A 25 year-old woman with a 2 cm, lymph node negative, ER- tumor
b.) A 37 year-old woman with a 0.2 cm, lymph node negative ER+ tumor.
c.) A 30 year-old pregnant woman with a 3 cm, lymph node positive, ER+ tumor.
d.) A 69 year-old woman with a 3 cm, lymph node negative, ER+ tumor.
e.) A 31 year-old woman with a 2.8 cm, lymph node positive, ER+, Her2+ tumor.

Answer: d.

14.) Which of the following does not increase the risk of developing endometrial carcinoma?

a.) Obesity.
b.) Unopposed estrogenic stimulation.
c.) Anovulation.
d.) Li Fraumeni syndrome.
e.) Veganism.

Answer: e.

15.) Which of the following is not associated with an increased risk for developing epithelial ovarian carcinoma?

a.) Late menopause.
b.) Nulliparity.
c.) Age less than 30 at first pregnancy.
d.) Oral contraceptives.
e.) Lynch syndrome.

Answer: d.

16.) In the patient with cancer, which of the following are correct regarding fever?

a.) It is usually attributable to underlying infection.
b.) The type of infection may be unusual due to cancer-related debility or granulocytopenia from treatment.
c.) Infection by endogenous organisms may be causative.
d.) Occasionally, be attributed to a cause intrinsic to the neoplasm itself.
e.) All of the above are correct.
Answer: e.

17.) Which of the following mechanisms best explains how antimetabolites work in cancer treatment?

   a.) Inhibition of DNA transcription by direct binding and cross-strand breakage.
   b.) Inhibition of topoisomerases.
   c.) Inhibition of tyrosine kinases.
   d.) Compete with normal precursors for the catalytic site of key enzymes or substitute for metabolites that are incorporated into DNA or RNA.
   e.) Intercalation with DNA causing disruption of transcription.

Answer: d.

18.) A 54-year-old man with rectal carcinoma is receiving 5-FU by continuous infusion along with preoperative radiation. He presents with painfully swollen hands and feet, and blistering is noted. The most appropriate treatment for this patient is:

   a.) Reassurance.
   b.) Hold treatment and manage supportively until improved.
   c.) Discontinue treatment.
   d.) Topical steroid creams.
   e.) Topical antimicrobial ointments and oral cephalexin.

Answer: b.

NEPHROLOGY QUESTIONS

1.) A 56-year-old woman is found to have normochromic-normocytic anemia, hypophosphatemia, hypouricemia, glycosuria, proteinuria (11 by dipstick testing), and renal insufficiency (serum creatinine concentration of 2.6 mg/dl). Urine protein excretion was 3.1 g/d. Which ONE of the following is the MOST LIKELY cause of this constellation of findings?

   a.) Medullary cystic disease
   b.) Lead intoxication
   c.) Aristolochic acid intoxication
   d.) Multiple myeloma
   e.) Adult-onset cystinosis

Answer: d.
2.) 26-year-old man is found to have IgA nephropathy on a renal biopsy performed for intermittent hematuria and persistent proteinuria (1.8 g/d). His serum creatinine is 1.2 mg/dl. Urinary protein excretion declines to 1.5 g/d, and the serum creatinine increases to 1.3 mg/dl after 3 months of lisinopril 10 mg/d. The urinary Na excretion is 180 mmol/d. Which ONE of the following should be done next?

a.) Add 50 mg/d losartan  
b.) Increase lisinopril to 20 mg/d  
c.) Add 25 mg/d spironolactone  
d.) Start oral steroids at 1 mg/kg per d  
e.) Instruct on a low NaCl diet

Answer: e.

3.) A 36-yr-old Afro-Caribbean woman presents with Raynaud’s phenomenon, arthralgias, widely scattered purpuric lesions on the lower extremities, fever, and mild diarrhea. She also has had episodes of clumsiness in the right lower extremity. She takes no medications. Her physical examination reveals a BP of 140/80 mmHg. Areas of confluent purpura are present over the dorsum of both feet. The plantar reflex is upgoing on the right. Laboratory studies show a serum creatinine of 1.0 mg/dl, and the urinalysis reveals 2+ protein and 2+ blood. The hemoglobin is 10.0 g/dl, the white blood cell count is 4500/mm3, and the platelet count is 18,000/mm3. Schistocytes are present in the peripheral smear. C3 and C4 complements are normal. A FANA is elevated at 1:160. The prothrombin time and activated partial thromboplastin time are normal. Which ONE of the following is MOST likely to explain the underlying cause of her disorder?

a.) Anti-DNA–double-stranded DNA immune complexes deposited in glomeruli and extraglomerular vessels provoking a systemic vasculitis  
b.) Antibodies to ADAMTS13 provoking impaired cleavage of von Willebrand factor multimers, platelet microthrombi, and a thrombotic microangiopathy  
c.) Antibodies to topo-isomerase-I provoking a sclerodermatous lesion in renal vessels  
d.) Peripheral embolic disease from lupus-induced marantic (nonbacterial) endocarditis of the mitral valve  
e.) Intestinal infection with E. Coli 0157.H7

Answer: b.

4.) A 49-year-old African-American man presents with an unremarkable history. Six months ago, his serum creatinine was 0.9 mg/dl. He presents with 2+ pitting edema to the knees. A renal biopsy revealed FSGS not otherwise specified. When compared with an identical Caucasian patient, which ONE of the following statements is MORE likely to be true in African Americans?

a.) Response to corticosteroids is better.
b.) Progression to end-stage kidney disease is more rapid
c.) Peak age of onset is older.
d.) APOL-1 mutation is less frequent.

Answer: b.

5.) A homeless man is discovered unconscious in the park and is brought to the emergency department. He reeks of alcohol, is unkempt, and is incoherent. Physical examination shows a BP of 90/50 mmHg, heart rate of 120 bpm, temperature of 39°C, slight scleral icterus and dullness, and bronchial breath sounds over the right lower lung fields. Laboratory data reveal the following: Serum Na 131 mEq/L, K 2.9 mEq/L, Cl 70 mEq/L, CO2 21 mEq/L, blood urea nitrogen 34, creatinine 1.4 mg/dl, glucose 240 mg/dl, serum osmolality 320 mOsm/kg H2O, serum ketones weakly positive, pH 7.53, PaCO2 25 mmHg, PaO2 60 mmHg, and serum albumin 3.8 g/dl. Which ONE of the following choices BEST describes his acid-base disturbance?

a.) Metabolic acidosis
b.) Respiratory alkalosis
c.) Metabolic acidosis and respiratory alkalosis
d.) Metabolic acidosis and metabolic alkalosis
e.) Metabolic acidosis, metabolic alkalosis, and respiratory alkalosis

Answer: e.

6.) A 65-year-old man presents with the chief complaint of progressive weakness over the past several months. He is normotensive, and his physical examination is unremarkable. Laboratory studies reveal the following: Na 135 mmol/L, Cl 105 mmol/L, K 3.0 mmol/L, HCO3 18 mEq/L, creatinine 1.8 mg/dl, BUN 22 mg/dl, glucose 110 mg/dl, PCO2 28 Torr, pH 7.33, hematocrit 25%, white blood cell count 5600/mm3, and platelets 340,000/mm3; urinalysis shows trace protein, 1+ glucose, normal sediment, and 24-h urine protein of 4.8 g. Which ONE of the following is a CHARACTERISTIC of the renal abnormality present in this patient?

a.) Evidence of nephrocalcinosis on kidney ureters-bladder x-ray of the abdomen.
b.) The serum HCO3 concentration will increase after the administration of oral bicarbonate at 80 mEq/d but then decrease to 18 mmol/L after the therapy is discontinued.
c.) Bicarbonate therapy will cause the serum K to decline slightly as a result of a shift into cells.
d.) The urine pH will be persistently alkaline.
e.) The urine anion gap will be negative.

Answer: b.

7.) A 78-year-old Caucasian woman is brought to the emergency department secondary to abdominal pain. During the past 2 months, she has noticed
periumbilical pain that is brought on by food ingestion. As a result of worsening pain, the patient began taking acetaminophen 4 g/d for the past week. Medical history is significant for stable two-block claudication and transient ischemic attack. Physical examination reveals the following: Temperature of 38.1°C, pulse 98 bpm, BP of 158/88 mmHg, left-sided carotid bruit, normoactive bowel sounds, abdominal bruit, and pain to deep palpation in the mid-epigastrium without rebound. Admission laboratory studies reveal the following: Na 138 mmol/L, K 4.9 mmol/L, Cl 102 mmol/L, HCO3 7 mEq/L, creatinine 1.4 mg/dl, BUN 30 mg/dl, glucose 126 mg/dl, serum osmolality 295 mOsm/L. Arterial blood gas shows pH of 7.17, PCO2 of 18 Torr, and PO2 of 104 Torr; urinalysis shows pH of 5.5, trace ketones, and negative sediment. The anion gap acidosis in the presence of vascular disease and history consistent with intestinal angina led to a diagnosis of ischemic bowel. The patient was taken to the operating room for an exploratory laparotomy. No evidence of ischemic bowel was found. A lactate level sent earlier came back at 2.8 mEq/L. Which ONE of the following is the MOST likely cause of the metabolic acidosis in this patient?

a.) Pyroglutamic acidosis resulting from the administration of acetaminophen.
b.) D-Lactic acidosis as a result of bacterial overgrowth.
c.) Malignant hyperthermia with secondary lactic acidosis.
d.) Diabetic ketoacidosis.
e.) Salicylate toxicity.

Answer: a.

8.) A 71-year-old woman who has had nocturia for several years is admitted to the hospital secondary to increasing weakness and frequency of urination. She has been well until 2 days ago, when she felt weak and could not climb the stairs to her apartment. She has a history of duodenal ulcer many years ago that responded to intensive antacid therapy. She currently takes calcium carbonate for treatment of osteoarthritis, and she takes bicarbonate of soda for heartburn. She has a 40 pack-year history of smoking. On physical examination, she is frail and oriented only to person. Pulse is 106/min, and BP is 110/80 supine and 90/70 mmHg sitting. The remainder of the examination is normal. Laboratory studies reveal the following: Hematocrit 41, Na 152 mmol/L, K 3.0 mmol/L, Cl 100 mmol/L, HCO3 39 mEq/L, BUN 98 mg/dl, creatinine 7.1 mg/dl, Ca 14.4 mg/dl, phosphate 6.3 mg/dl, serum 1, 25-dihydroxyvitamin D 30 pg/ml (35 to 85 pg/ml), parathyroid hormone 16 pg/ml (30 to 50 pg/ml). Urinalysis shows specific gravity of 1.007, trace protein, Na of 49 mmol/L, creatinine of 70 mg/dl, and urine osmolality of 260 mOsm/kgH2O. Renal ultrasound shows normal-sized kidneys and no hydronephrosis. The clinical and laboratory findings are MOST consistent with which ONE of the following?

a.) Vitamin D intoxication.
b.) Chronic kidney disease as a result of longstanding hypertension.
c.) Multiple myeloma.
d.) Milk-alkali syndrome.
Answer: d.

9.) You are treating a 66-year-old man with stable angina with a statin, a b-blocker, a diuretic, and an ACE inhibitor. His BP is 130/82 mmHg and his heart rate is 64 beats/min. He generally feels fine; however, he has started to play golf since his retirement 4 months ago and his knee osteoarthritis is more apparent now. Which ONE of the following treatment recommendations would you suggest for this patient?

a.) Any over-the-counter nonsteroidal anti-inflammatory agent at the doses commended by the manufacturer should be fine.
b.) Acetaminophen in doses ≤3 g/d is a safe choice.
c.) Celecoxib should be avoided because it increases the LDL cholesterol concentration.
d.) Current data indicate that the choice of pain medication is less important than the effect it has.
e.) He should try to limit analgesic usage to just the times when he plays golf

Answer: b.

10.) You manage the care of a 55-year-old engineer with a home BP device that has been shown to give reliable readings. He is treated with a diuretic, an ACE inhibitor, a calcium channel blocker, and eplerenone. His home readings for the last 6 months show values (±S/D) of 124±11/73±7 mmHg with >109 readings taken (paired and averaged) at morning and evening time periods. His examination is unremarkable. His in-office BP is 140/88 mmHg. Which ONE of the following statements BEST reflects his high BP control?

a.) The home readings likely best reflect his overall BP control.
b.) The office readings, by virtue of the 10-mmHg difference between office versus ambulatory systolic pressure, are more precise for reflecting BP control.
c.) You need ABPM to estimate the degree of daytime BP control.
d.) You need a urine albumin/creatinine ratio to determine whether the home BP values are truly reflective of overall control.

Answer: a.

11.) A 62-year-old man is referred to you for the evaluation and management of right-sided renal artery stenosis (approximately 75%) that was identified incidentally during a computed tomography (CT) angiogram obtained for the evaluation of claudication. He has a history of coronary artery disease and hypertension. His medications include lisinopril, metoprolol, aspirin, and atorvastatin. On examination, his BP is 126/78 mmHg and his heart rate is 64 beats/min. Other than decreased pedal pulses on the left, his examination is
unremarkable. Serum creatinine is 1.1 mg/dl, and was 1.0 mg/dl 1 year ago. A CT scan shows that his kidney size is normal and similar on both sides. Which ONE of the following describes the MOST appropriate course of action at this time?

a.) No change in management. Repeat imaging in 6–12 months.
b.) Lisinopril should be discontinued. Repeat imaging in 6–12 months.
c.) Surgical (open bypass) revascularization is indicated.
d.) Angioplasty with stenting is indicated.
e.) Addition of warfarin is indicated. Repeat imaging in 6–12 months.

Answer: a.

12.) A 48-year-old woman is admitted to the hospital after developing “searing” back pain during renal angioplasty and stenting. Postprocedure imaging confirmed development of an aortic dissection from the site of instrumentation at the origin of the renal artery. Immediate BP management of this patient would BEST be achieved by which ONE of the following?

a.) Intravenous nicardipine
b.) Transdermal clonidine
c.) Oral minoxidil
d.) Intravenous labetalol

Answer: d.

13.) A patient presents with a 3 day history of nausea, vomiting, fever, chills and dark urine. He has been healthy prior to this episode. His lab: Na 128, K 5.8, Cl 98, CO2 12, BUN 56 and creatinine 2.0. BP 98/60 and pulse is 120. Your first therapeutic order would be?

a. Fluid challenge with normal saline 1000 ml
b. 3% hypertonic saline 500 ml
c. IV toradol and vancomycin
d. fluid restriction for the hyponatremia
e. 60 mg furosemide

Answer: a.

14.) Which is true of AKI?

a. oliguric (<400 ml/da) has the same prognosis as non oliguric
b. prerenal rarely becomes ATN
c. sepsis is the most common cause of ATN in the ICU
d. contrast is the most common cause of ATN in the ICU
e. all of the above
Answer: c.

15.) Which is (are) seen in multiple myeloma?

   a. anemia  
   b. low anion gap  
   c. hyperuricemia  
   d. hypercalcemia  
   e. all of the above

Answer: e.

PULMONARY DISEASES QUESTIONS

1.) Which of the following hypercoaguable states is associated with both arterial and venous thrombosis?

   a.) Factor V Leiden  
   b.) Prothrombin G20210A  
   c.) Hyperhomocysteinemia  
   d.) Protein C deficiency  
   e.) Protein S deficiency

Answer: c.

2.) In a patient with pulmonary embolism thrombolytic therapy should be given:

   a.) to all patients unless there are contraindications  
   b.) to patients who are hypotensive  
   c.) only to normotensive patients  
   d.) in combination with low molecular weight heparin  
   e.) after unfractionated heparin has been

Answer: b.

3.) A patient with suspected pulmonary embolism has a low Wells score and a negative D-dimer. The patient should:

   a.) be treated with low molecular weight heparin then CT pulmonary angiogram.  
   b.) be sent for pulmonary angiogram without anticoagulation  
   c.) have venous ultrasound of both lower extremities  
   d.) have a ventilation-perfusion lung scan performed  
   e.) have no further work up.

Answer: e.
4.) In a patient with sepsis which of the following would likely be elevated?

   a.) arterial bicarbonate
   b.) arterial oxygen tension
   c.) arterial carbon dioxide tension
   d.) mixed venous oxygen tension
   e.) mixed venous oxygen tension

Answer: d.

5.) In order to reduce autoPEEP you should increase:

   a.) expiratory time
   b.) tidal volume
   c.) minute ventilation
   d.) plateau pressure
   e.) PEEP

Answer: a.

6.) When interpreting spirometry findings which of the following best reflects the level of obstruction?

   a. FVC
   b. FEV1
   c. FEV1/FVC
   d. FEF25-75%
   c. PEF

Answer: c.

7.) A 25 Y.O. male presents with a cough of three months duration and erythematous nodules on his legs for three weeks. He worked around asbestos briefly as a teenager. His chest radiograph showed bilateral, upper lobe interstitial infiltrates. The most likely diagnosis is:

   a.) Idiopathic pulmonary fibrosis
   b.) Asbestosis
   c.) Langerhans cell granulomatosis
   d.) Sarcoidosis
   e.) Chronic eosinophilic pneumonia

Answer: d.

8.) Which of the following diseases is often associated with an acute clinical course?
a.) Idiopathic pulmonary fibrosis  
b.) Asbestosis  
c.) Rheumatoid lung  
d.) Langerhans cell granulomatosis  
e.) Bronchiolitis obliterans organizing pneumonia

Answer: e.

9.) **Hypersensitivity Pneumonitis is:**

a.) Associated with inhalation of an inorganic dust  
b.) Sometimes associated with granuloma formation  
c.) Not chronic in its course  
d.) Associated with lymphocytic infiltrates during acute disease  
e.) More common in children

Answer: b.

10.) **All of the following are obstructive lung diseases except:**

a.) Cystic Fibrosis  
b.) Idiopathic Pulmonary Fibrosis  
c.) Alpha 1 Antitrypsin Deficiency  
d.) Bronchiectasis  
e.) Asthma

Answer: b.

11.) **All of the following decrease theophylline clearance except:**

a.) Marijuana  
b.) CHF  
c.) Cirrhosis  
d.) Viral infections  
e.) Caffeine

Answer: a.

12.) **A rare side effect of leukotriene antagonists is:**

a.) Langerhans cell histiocytosis  
b.) Systemic Lupus Erythematosus  
c.) Cirrhosis  
d.) Eosinophilic pneumonia  
e.) Churg Strauss Syndrome
13.) Which of the following is a subtype of bronchogenic adenocarcinoma?

a.) Adenoid cystic carcinoma
b.) Bronchoalveolar cell carcinoma
c.) Mucoepidermoid cell carcinoma
d.) Atypical carcinoid
e.) Sarcomatoid carcinoma

Answer: b.

14.) Which of the following is usually not an option in the treatment of small cell lung cancer?

a.) Radiation therapy
b.) Prophylactic cranial irradiation
c.) Chemotherapy
d.) Surgery
e.) Surgery and radiation

Answer: d.

15.) The most common type of lung cancer in nonsmoking women is:

a.) Carcinoid
b.) Squamous cell carcinoma
c.) Adenocarcinoma
d.) Large cell carcinoma
e.) Bronchoalveolar cell carcinoma

Answer: c.

SLEEP MEDICINE QUESTIONS

1.) A 45-year-old woman is scheduled for a hysterectomy. She has hypertension treated with hydrochlorothiazide. She snores softly and does not have observed apnea. Her Epworth Sleepiness Score is 4. BMI is 36, and neck circumference is 39.3cm (15.5in). She will be screened preoperatively for obstructive sleep apnea using the STOP (snoring, tiredness, observation, blood pressure)-Bang (BMI, age, neck circumference, Gender) questionnaire. In addition to hypertension, which of the following findings is considered a risk for the presence of obstructive sleep apnea?
a.) Female sex
b.) Soft snoring
c.) Epworth sleepiness score 4
d.) BMI of 36
e.) Neck circumference of 39.3cm (15.5 in)

Answer: d.

2.) A morbidly obese 30-year-old woman with a BMI is 45, undergoes polysomnography during evaluation for bariatric surgery. Her apnea hypoxemia index is 45 per hour with 350 desaturations to a nadir arterial oxygen saturation of 75%. The patient undergoes a CPAP titration; a CPAP of 12cm of water pressure is optimal. After surgery, she has lost a considerable amount of weight to achieve a BMI of 35. She now returns to the clinic for follow-up and reports that she no longer uses the CPAP. She states that she sleeps well without CPAP and does not report any daytime sleepiness or snoring. Which of the following would you recommend for this patient now?

a.) Split-night (diagnostic and PAP titration if indicated) study)
b.) CPAP titration study
c.) Diagnostic sleep study if weight loss is not maintained
d.) Diagnostic sleep study six months after additional weight loss.

Answer: a.

3.) A 70-year-old woman slept well until the death of her husband 3 years ago. Since that time, she has insomnia associated with sleep onset and maintaining maintenance as well as depression. Her medical history is notable for hip fractures from a fall and treatment for panic attacks. Patient reports difficulty relaxing at night and says that she “cannot turn off her mind.” Her primary care physician prescribes an antidepressant, which improves her mood but not her insomnia.

a.) Ramelteon (Rozerem)
b.) Zolpidem (Ambien)
c.) Cognitive behavioral therapy
d.) Wean of antidepressant

Answer: c.

4.) A 36-year-old woman has had an annoying sensation in her legs at night for approximately 10 years. When the sensation became more frequent her primary care physician prescribed medication for restless leg syndrome. After the patient took the medication at 10 PM every night for 3 months, she noticed that her leg sensations began disturbing her earlier in the evening. Symptoms also progressed to her upper legs and trunk. Which of the following medications I this patient most likely to be taking?
a.) Ropinirole (Requip)  
b.) Pramipexole (Mirapex)  
c.) Levodopa  
d.) Gabapentin (Neurontin)  
e.) Methadone (Dolophine)  

Answer: c.

5.) A 52-year-old man is referred for presumed shift work disorder. He works for an automotive plant. The plan is in operation 24 hours a day, 6 days a week. There are 3 shifts: daytime, evening and night shifts. The patient reports that the day and evening shifts do not affect his job performance. However during the night shift rotation, he notices lapses in attention and difficulty staying awake. Over the last few weeks, he has noticed worsening forgetfulness, and the control supervisor has noticed shoddy work, from his production line. A diagnostic sleep study was negative. Which of the following is the most appropriate strategy when the patient is changed to the night shift?

a.) Drink a caffeinated beverage  
b.) Perform bright light exposure from 4:00AM to 5:00AM  
c.) Take armodafinil (Nuvigil)  
d.) Take ramelteon (Rozerem)  
e.) Take zolpidem (Ambien)  

Answer: C.