1. Your patient is a 55-year-old woman with the history of type II diabetes. She has been working at the post office for over 25 years. She complains of chronic pain in her left shoulder that has been bothering her for over 9 months. She claims that her pain is more intense at nighttime and she feels uncomfortable to lie on her left shoulder. She reports that the pain is easily aggravated by movement. On examination, there is global loss of active and passive range of motion and there is pain at the end range of motion. There is a global loss of passive glenohumeral joint movement. To manage the patient, you asked the patient to lie on her right side, and then you sequentially, followed the following steps on her left arm: extended and then flexed the arm; applied circumduction with compression; applied traction with circumduction; abducted and then adducted the arm; internally rotated the arm; and finally passively stretched the arm or in other words perform the pumping action. Which of the following options would have been the most probable diagnosis for the patient?

(A) Rotator cuff injury
(B) Referred pain from cervical spine
(C) Glenohumeral arthritis
(D) Shoulder adhesive capsulitis
(E) Biceps tendinopathy

2. A 55-year-old man is brought to the emergency room. He is dyspneic; heart rate, 45; and blood pressure, 85/40 mmHg. Lab results are significant for hyperkalemia and hypoglycemia. ECG shows normal QRS and prolonged PR interval. His wife mentions that he has been taking a medication for hypertension. Among the given options, which one has most likely caused these findings?

(A) Captopril
(B) Diazoxide
(C) Nifedipine
(D) Prazosin
(E) Propranolol

3. Within the past ten years a 32-year-old woman has been diagnosed with schizophrenia. Her history is significant for substance abuse and two unsuccessful attempts at committing suicide. Despite receiving several antipsychotics she is still classified as a high-risk suicidal patient and exhibits extreme withdrawal symptoms. Of the following medications which one is more effective in treating her negative symptoms of schizophrenia?

(A) Chlorpromazine
(B) Clozapine
(C) Haloperidol
(D) Risperidone
(E) Thioridazine

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4. A 21-year-old female college student is brought to the emergency department for evaluation of fever, vomiting and severe myalgia that she has had for about 7 hours. On admission she is mildly confused and has high temperature and high pulse rate. She is on her period and uses tampons. Her systolic blood pressure is 70 and diastolic 30. She has a rash resembling a sunburn, particularly on her palms and soles. Her history is significant for heavy menstrual periods. The patient immediately receives an antibiotic treatment with nafcillin. But her symptoms not only persevere but they get augmented within the next 36 hours. She is then scheduled to receive an alternative IV medication (medication X). As part of her therapeutic management her serum creatinine level is monitored carefully. Which of the following listed medications if co-administered with the IV medication X may predispose to serious and irreversible ototoxicity?

(A) Streptomycin
(B) Amikacin
(C) Cisplatin
(D) Etacrynic Acid
(E) Any of the above medications

5. A 72 year old woman has been in the intensive care unit after a car accident that caused her to incur multiple hip and leg fractures. On day 8 of her stay she is presented with rapid onset of high fever, productive cough, dyspnea and hemoptysis. Chest X-ray shows lobar consolidations in the upper right lung. Culture and gram-staining of sputum reveals gram-positive bacteria that are coagulase-positive. She receives a particular antimicrobial medication. Which of the following options better describes the mechanism of action of the prescribed antibiotic?

(A) Inhibition of microbial 50S ribosomal subunit
(B) Inhibition of microbial 30S ribosomal subunit
(C) Inhibition of microbial DNA gyrase
(D) Inhibition of cross-linking of the peptidoglycan subunits
(E) Inhibition of microbial beta-lactamase
(F) Inhibition of folate reductase enzyme

6. A 77-year-old female presents with complaints of chest pain with minimal exertion. She has had three recent histories of syncope while climbing the stairs at her home. She has a systolic murmur that is best heard at the right upper sternal border. There is radiation of the murmur into the neck. Her ECG is significant for left ventricular hypertrophy. Which of the following options is the most likely diagnosis for the patient?

(A) Aortic insufficiency
(B) Aortic stenosis
(C) Mitral stenosis
(D) Mitral regurgitation
(E) Tricuspid regurgitation
(F) Pulmonic valve stenosis

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7. A newborn presents with ambiguous external genitalia. The genitalia seem more like an enlarged clitoris than penis. There is a scrotum–like structure that has resulted from labial fusion. Ultrasound confirms normal ovarian development and presence of bilaterally enlarged adrenal glands. Karyotyping indicates a 46 XX karyotype. Of the following conditions which one is the most likely cause of these findings?

- (A) 11 alpha-hydroxylase deficiency
- (B) 17 alpha-hydroxylase deficiency
- (C) 21 alpha-hydroxylase deficiency
- (D) Desmolase deficiency
- (E) Turner’s syndrome

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8. A 38-year male botanist has been staying in a desert camp in New Mexico for several months to study the endogenous flora. He is now admitted to a nearby hospital with flu-like symptoms, malaise, fever, chills, myalgia, arthralgia, and chest pain. Examination is significant for swollen ankles and knees, and reddish tender measles-like spots on the right foot. Chest X-ray reveals pleural effusions and significant shadows in both lungs. Lab analysis of the pleural fluids is significant for eosinophilia. Which of the following options is the most likely etiology of these findings?

- (A) Infection by Mycobacterium marinum
- (B) Infection by Mycoplasma pneumoniae
- (C) Blastomycosis
- (D) Coccidioidomycosis
- (E) Histoplasmosis

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9. A 72 year-old man with a 90-pack-year history of smoking and a long history of poorly controlled hypertension presents with fatigue, lethargy, and progressively worsening shortness of breath (dyspnea) over the past year. Initially, he experienced difficulty breathing only with exertion, but recently he has experienced dyspnea at rest and admits to supporting himself with two pillows at night to help with breathing. Examination reveals distended neck veins, bibasilar pulmonary crackles, pitting edema of the ankles and cardiomegaly on chest X-ray. Results of Echocardiography shows ejection fraction (EF) of 65%. The patient has no valvular abnormalities. Lab indicates increased brain natriuretic peptide. Which of the following options IS NOT among your top diagnostic differentials?

- (A) Longstanding hypertension
- (B) Ischemic heart disease
- (C) Restrictive cardiomyopathy
- (D) Aortic stenosis with a normal left ventricular ejection fraction
- (E) Cor pulmonale
- (F) Hypertrophic cardiomyopathy

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10. A 34-year-old swimmer is diagnosed with external ear infection. He receives an antibacterial eardrop prescription. Assuming that the medication is shown to cause ototoxicity and vestibular damage in individuals with perforated eardrums, which of the following options would better describe the mechanism of action of the prescribed drug?

(A) Inhibition of microbial 50S ribosomal subunit  
(B) Inhibition of microbial 30S ribosomal subunit  
(C) Inhibition of microbial DNA gyrase  
(D) Inhibition of cross-linking of the peptidoglycan subunits  
(E) Inhibition of synthesis of cell wall mycolic acid  
(F) Inhibition of DNA dependent RNA polymerase  
(G) Inhibition of ergosterol synthesis

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11. In the following two pedigree diagrams the solid squares and circles indicate genetically affected individuals. Which one of them is most likely affected with 17-hydroxylase deficiency?

(A) A  
(B) B  
(C) C  
(D) A and B  
(E) C and D  
(F) B, C and D

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12. A thirty-eight-year-old woman presents with a 2-month history of gradual weight loss, fatigue, heat intolerance and palpitations. On examination she has a blood pressure of 170/70. Her pulse rate is 95. Lab results are significant for a very low TSH and high levels of free T4. She is scheduled to receive a fine-needle aspiration biopsy of her thyroid gland. Which of the following findings will indicate a more favorable (better) prognosis for the patient?

(A) A hot thyroid nodule  
(B) A cold thyroid nodule  
(C) A colloid nodule  
(D) A papillary thyroid neoplasm  
(E) An anaplastic thyroid neoplasm  
(F) A parathyroid adenoma

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A 4-year-old Caucasian girl is being evaluated for anemia and jaundice. Lab results are significant for increased reticulocytes, reduced serum haptoglobin and increased urinary hemosiderins. No sickle cells or spherocytes are identifiable in the child’s blood. She has a mild splenomegaly but lacks hepatomegaly. She has no history of any recurrent infections.

Which of the following findings if present would suggest phosphofructokinase deficiency as the etiology of these findings?

(A) Right shift of hemoglobin-oxygen dissociation curve
(B) A high level of 2, 3 diphosphoglycerate in the red cells
(C) Presence of creatine and creatine kinase in serum
(D) History of recent use of aspirin
(E) Recent history of splenectomy

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COMLEX Performance Analysis

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<tr>
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<td>9 - 11</td>
<td>500 - 570 (Fair to Good)</td>
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If after review of the suggested links you may still need assistance or further explanation about the correct answers on each of the above test items, please send us an email to: Contactus@NorthwesternMedicalReview.com

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