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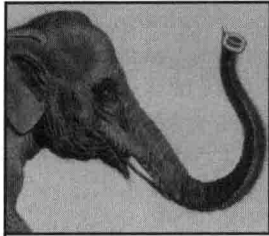
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PRACTICE TESTS™

USMLE STEP 3

Joel S. Goldberg, DO

Assistant Professor of Medicine

Department of Medicine

Drexel University College of Medicine

Philadelphia, Pennsylvania

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Contributors

David Baron, DO

Professor and Chair Department of Psychiatry,
Temple University School of Medicine,
Philadelphia, Pennsylvania

Andrew H. Crenshaw, Jr., MD

Associate Professor, Campbell Clinic of Orthopedic
Surgery, University of Tennessee Center for
Health Sciences, Memphis, Tennessee

Stephen C. Hauser, MD

Assistant Professor of Medicine, Mayo College of
Medicine, Consultant, Division of
Gastroenterology and Hepatology, Department
of Internal Medicine, Mayo Medical Center,
Rochester, Minnesota

Ann Honebrink, MD

Assistant Professor of Obstetrics and Gynecology,
University of Pennsylvania Health System,
Medical Director, Penn Health for Women,
Philadelphia, Pennsylvania

Serge A. Jabbour, MD

Associate Professor of Clinical Medicine, Division
of Endocrinology, Diabetes, and Metabolic
Diseases, Jefferson Medical College of Thomas
Jefferson University, Philadelphia, Pennsylvania

Michael K. Leonard, MD

Associate Professor of Medicine, Division of
Infectious Diseases, Emory University School of
Medicine, Atlanta, Georgia

Mary Gail Mercurio, MD

Assistant Professor of Dermatology, Strong
Memorial Hospital, University of Rochester
Medical Center, Rochester, New York

Richard Malamut, MD

Clinical Assistant Professor of Neurology, Drexel
University School of Medicine, Philadelphia,
Pennsylvania

Robert S. Park, MD

Assistant Clinical Professor, Division of Emergency
Medicine, Duke University Medical Center,
Durham, North Carolina

Otis B. Rickman, DO

Assistant Professor of Medicine, Division of
Pulmonary and Critical Care Medicine, Mayo
Clinic College of Medicine, Rochester, Minnesota

Traci L. Thoureen, MD

Resident Education Director, Assistant Clinical
Professor, Division of Emergency Medicine,
Duke University School of Medicine, Durham,
North Carolina

Cynthia M. Tracy, MD

Associate Chief, Director of Electrophysiology,
Division of Cardiology, Georgetown University
Medical Center, Washington, DC

Christopher M. Walz, MD

Resident, Division of Otolaryngology, Duke
University School of Medicine, Durham, North
Carolina

Preface

Lange Practice Tests: USMLE Step 3 was designed to be an up-to-date mirror of the USMLE Step 3 examination. The content and question types are designed around the current USMLE guidelines.

The questions are original and new. They have been produced by a faculty of clinicians who are experts in their respective fields and are deeply in-

volved with current teaching programs at their medical institutions. In this manner, you are assured of material that is both appropriate and accurate. *Lange Practice Tests: USMLE Step 3* will help you immensely in your preparation for the USMLE Step 3 examination.

Joel S. Goldberg
Philadelphia, Pennsylvania

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Practice Test 1

Questions

DIRECTIONS (Questions 1–50): Each of the numbered items or incomplete statements in this section is followed by answers or by completions of the statement. Select the ONE lettered answer or completion that is BEST in each case.

Block 1: Office/Health Center Items 1–22

You see patients in two locations: your office suite, which is adjacent to a hospital, and a community-based health center. Your office practice is in a primary care generalist group. Patients are seen for routine and urgent care at the office and health center. Most of the patients you see are from your own practice, although occasionally you will see a patient cared for by one of your associates and reference may be made to the patient's medical records. Known patients may be managed by telephone, and you may have to respond to questions about information appearing in the public media, which will require interpretation of the medical literature. The laboratory and radiology departments have a full range of services available.

1. A 50-year-old woman has a history of rheumatoid arthritis. She has a symmetric arthritis on exam. Her spleen is palpable. Her hemoglobin is 8.4 g/dL, mean corpuscular volume (MCV) 99, and reticulocyte count 10%. Her total bilirubin is 3.4 with 0.3 direct, and lactic dehydrogenase (LDH) is 676, which is elevated. Which of the following is the next test that should be ordered to evaluate her anemia?
 - (A) iron and total iron-binding capacity (TIBC)
 - (B) ferritin

- (C) Coombs' test (direct and indirect)
- (D) vitamin B₁₂ and folate
- (E) bone marrow test

2. A 24-year-old woman presents to your office with a chief complaint of right ptosis, diplopia on vertical gaze, and proximal muscle weakness. All symptoms may worsen later in the day. Her past medical history is significant for thyroid disease. A diagnosis of myasthenia gravis is suspected. The primary tumor most likely to be associated with myasthenia gravis is
 - (A) oat-cell lung cancer
 - (B) thyroid carcinoma
 - (C) breast cancer
 - (D) pituitary adenoma
 - (E) thymoma
3. A 53-year-old (G2P2) woman who had her last menstrual period (LMP) 6 months ago presents to your office for her annual gynecologic exam. She is complaining of hot flashes, vaginal dryness, and insomnia. Which of the following is the most helpful test to make a diagnosis?
 - (A) endometrial biopsy
 - (B) serum beta human chorionic gonadotropin (β -hCG)
 - (C) Pap smear
 - (D) antiphospholipid antibody studies
 - (E) serum follicle-stimulating hormone (FSH)

Items 4–6

A 61-year-old man complains of a 3-month history of intermittent, lancinating pains in his right jaw. Chewing can make his symptoms worse. These attacks last several seconds and do not wake him from sleep. He is pain free between attacks, which occur multiple times each day. He denies other past medical history. A mandibular x-ray suggests bone loss.

4. What is the most likely diagnosis?
 - (A) migraine headaches
 - (B) trigeminal neuralgia
 - (C) glossopharyngeal neuralgia
 - (D) parotid gland infection
 - (E) temporomandibular joint syndrome
5. What is the most effective pharmacologic therapy for this condition?
 - (A) oxycodone
 - (B) ibuprofen
 - (C) carbamazepine
 - (D) amitriptyline
 - (E) baclofen
6. The best way to determine if this patient has osteoporosis is to obtain
 - (A) serum calcium levels
 - (B) dual-energy x-ray absorptiometry (DEXA) bone density study
 - (C) dual-photon absorptiometry
 - (D) urinary hydroxyproline ratios
 - (E) hip and spine x-rays

END OF SET

7. A 36-year-old woman with no significant past medical history notices a scaly eruption near her left nipple. She thinks it is from a sports bra she recently started to wear. During her examination, she is found to have a 1.5-cm hard, erythematous, crusted lesion on the left nipple. There is no discharge, and there are no masses within the breast. She is started on antibiotics and given topical emollients and a methylprednisolone dose pack. She returns for follow-up 2 weeks later with

minimal improvement. The most appropriate next step in the management of this patient is to

- (A) continue antibiotics and local treatment
 - (B) order a mammogram and, if negative, continue with current therapy
 - (C) continue local treatment and recommend not wearing the sports bra
 - (D) order a mammogram and refer her to a surgeon for possible biopsy
 - (E) add an antifungal agent
8. A patient being treated with isoniazid (INH), ethambutol, rifampin, and pyrazinamide (PZA) for pulmonary tuberculosis presents to the health department complaining of decreased vision and difficulty in distinguishing colors. The patient is showing toxicity to
 - (A) rifampin
 - (B) INH
 - (C) ethambutol
 - (D) PZA
 - (E) vitamin B₆
9. A 7-year-old boy presents for his yearly well-child examination. He has no complaints, and his overall examination appears normal. His mother accompanies him on this visit and mentions that his school performance has been gradually worsening. Upon further questioning, she states that his teachers have noticed him repeatedly drifting off to sleep during afternoon classes. He does snore loudly while sleeping, and constantly breathes through his mouth during the day. Which of the following warrants referral for tonsillectomy and adenoidectomy?
 - (A) moderate tonsillar hypertrophy on examination
 - (B) recurrent otitis media with effusion
 - (C) two episodes of tonsillar infection within the past 2 years
 - (D) airway obstruction during sleep
 - (E) nasal voice
10. A 22-year-old woman whom you have been treating for allergy-induced asthma with

good control for the last several years advises you that she wishes to become pregnant. She asks your advice about how to best deal with her asthma in pregnancy. Which of the following do you tell her?

- (A) that pregnancy and asthma are a risky combination and that she should reconsider her decision to become pregnant
 - (B) that medications for asthma are contraindicated in pregnancy and that she should immediately stop all of her medications once she becomes pregnant
 - (C) that most medications used to control asthma are safe to use in pregnancy and that she and her developing fetus are better off continuing to use medications prescribed to control her asthma than having repeated acute asthma attacks
 - (D) that the use of beta-adrenergic medications such as terbutaline should be avoided in pregnancy since they can bring on preterm labor
 - (E) that medications can be discontinued because pregnancy hormones will control asthma symptoms
11. A 54-year-old man presents with a 5-year history of recurrent itchy lesions on his extremities. Which of the following conditions would be most appropriately treated with a topical steroid?
- (A) atopic dermatitis
 - (B) urticaria
 - (C) vasculitis
 - (D) acne
 - (E) tinea
12. Which of the following conditions would be most appropriately treated with a topical antibiotic?
- (A) Lyme disease
 - (B) urticaria
 - (C) vasculitis
 - (D) acne
 - (E) tinea

Items 13–14

An 18-year-old woman presents to your office complaining of primary amenorrhea. Her past medical history has been unremarkable, and she has had normal breast development since age 13. She is 69 inches tall and weighs 150 pounds. She has sparse pubic hair and has had axillary hair for the last 4 years. She has tried to have sex but was unable to tolerate any penetration. On exam, you observe an imperforate hymen with otherwise normal female external genitalia. Abdominal exam shows sparse female pubic hair distribution and no masses or tenderness. Breast exam shows normally developed breasts.

13. Your next diagnostic step should be

- (A) magnetic resonance imaging (MRI) of the pituitary
- (B) progesterone challenge test
- (C) pelvic ultrasound
- (D) serum FSH/luteinizing hormone (LH) levels
- (E) serum growth hormone (GH) level

14. Because of the results of testing, you order a chromosomal analysis on this patient, which returns 46,XY. How do you advise the patient?

- (A) that her sex was misdiagnosed at birth and she is really a man and should start taking testosterone
- (B) that while her uterus is congenitally absent, eggs can be harvested from her ovaries and she could have a child that is genetically hers by using in vitro fertilization (IVF) and a surrogate mother for pregnancy
- (C) that she should have her gonads removed since there is a high chance they will undergo malignant transformation
- (D) that she needs to take birth control pills to be sure she won't be able to get pregnant in the future
- (E) that she will eventually become pregnant

END OF SET

15. A 60-year-old woman presents with fever and persistent bleeding from a dental extraction done several weeks ago. Her only complaint is fatigue, which she attributes to stress. She has a history of aplastic anemia and was treated with antithymocyte globulin, cyclosporine, and prednisone 10 years ago with a complete response and no evidence of relapse. On exam, she appeared ill and pale with no lymphadenopathy or hepatosplenomegaly.

Data

Hemoglobin 8.0 g/dL
MCV 117 fL
WBC 3100/ μ L
Neutrophils 21%
Lymphocytes 69%
Platelets 36,000/ μ L

The smear showed hypogranular and hyposegmented neutrophils. Teardrops were also evident. Which of the following is the most likely diagnosis?

- (A) recurrent aplastic anemia
 - (B) vitamin B₁₂ deficiency
 - (C) tuberculosis (TB)
 - (D) chronic lymphocytic leukemia (CLL)
 - (E) myelodysplasia
16. You are performing a driver's permit examination on a 16-year-old female, when she tells you that she washes her hands 20 or more times daily. Which of the following is true about obsessive-compulsive disorder (OCD)?
- (A) Lifetime prevalence is about 2 to 3%, making it the fourth most common psychiatric diagnosis.
 - (B) Obsessions are ego-syntonic; compulsions are ego-dystonic.
 - (C) People with OCD do not realize the irrationality of their obsession.
 - (D) Carrying out a compulsion increases anxiety.
 - (E) The main neurotransmitter pathology involved in OCD is dysregulation of gamma-aminobutyric acid (GABA).

17. A 45-year-old woman complains of palpitations and anxiety for the past few months. She has no medical problems and is on no medications. She has been under a lot of stress, but she sees her family physician to make sure there is no medical reason for her symptoms. On exam, she has no goiter or thyroid nodules. Routine testing comes back normal, except for a suppressed thyroid-stimulating hormone (TSH). Which of the following is the most likely next step?

- (A) start methimazole
- (B) radioactive iodine ablation
- (C) serum free thyroxine (T₄) and triiodothyronine (T₃)
- (D) thyroid ultrasound
- (E) observation

Items 18–19

A 68-year-old man is evaluated in your office for weight loss and low back pain. He has not had any preventive care or medical evaluation for at least 15 years. Examination of his prostate demonstrates a large hard prostate mass. You suspect prostate cancer.

18. What is the most common site for metastatic disease from prostate cancer?
- (A) liver
 - (B) lung
 - (C) bone
 - (D) lymphatic
 - (E) colon
19. What is the best initial therapy for advanced prostate cancer metastatic to the bone?
- (A) taxane-based chemotherapy
 - (B) external beam radiation therapy to sites of pain
 - (C) observation
 - (D) medical or surgical castration
 - (E) palliative care

END OF SET

20. A 35-year-old woman has recently returned from a trip to Mexico. She reports 4 days of persisting diarrhea. Which of the following is the most common etiology of diarrhea in people visiting a foreign country?

(A) *Cryptosporidium*
 (B) *Giardia lamblia*
 (C) *Salmonella typhi*
 (D) *Campylobacter jejuni*
 (E) *Escherichia coli*

21. A 30-year-old woman who runs 30 miles a week presents for evaluation after 6 months of amenorrhea. A pregnancy test is negative, and TSH is normal. Which set of hormones will the patient likely have?

	FSH	LH	Prolactin	Estradiol
I	Low	Low	High	Low
II	Normal	Normal	High	Low
III	Low	Low	Normal	Low
IV	High	High	Normal	Low
V	High	High	High	High

- (A) I
 (B) II
 (C) III
 (D) IV
 (E) V
22. A 30-year-old man presents to your office relating that he has had a fear of spiders for several years. He feels that his fear is getting worse, and now he is afraid to leave his home. Which of the following statements regarding theories of phobias is true?
- (A) In classical conditioning, anxiety is aroused by pairing one frightening stimulus with another frightening stimulus.
 (B) In operant theory, anxiety is a drive that motivates the organism to do what it can to obviate the painful effect.

- (C) Learning theory provides complex explanations and understanding of underlying psychic processes involved with phobias.
 (D) According to psychoanalytic theory, the phobic patient's primary defense is projection of childhood unresolved oedipal situations.
 (E) Freud's theories of phobia are based on Little Albert.

Block 2: Inpatient Facilities Items 23–30

You have general admitting privileges to the hospital, including the children's and women's services. On occasion, you follow your own patients in the critical care unit. Postoperative patients are usually seen on the regular surgical ward unless the recovery room is specified. You may also be called to see patients in the psychiatric unit. There is a short-stay unit where you may see patients undergoing same-day operations or being held for observation. Also, you may visit patients in the adjacent nursing home/extended-care facility and the detoxification unit.

23. A 47-year-old man presents with right-sided flank pain. No fever, chills, weight loss, or hematuria are reported. A palpable mass is noted on exam with no costovertebral tenderness. A hemoglobin is 8.2 with an alanine transaminase (ALT) of 180 U/L and an LDH of 300 U/L. Diagnostic studies show a right-sided mass in the kidney with possible extension into the perineal fat. No adenopathy and no evidence of direct invasions are noted. No focal lesions are noted in the liver. The management of this patient should include
- (A) intravenous pyelography
 (B) alpha-interferon
 (C) interleukin-2 therapy
 (D) resection of the renal mass
 (E) bone scan

24. A 24-year-old man is being treated under your service for pneumonia. After several days of antibiotics, he develops diarrhea. What spore-forming organism is the most likely culprit?
- (A) *Enterococcus*
 - (B) *Clostridium difficile*
 - (C) *Proteus*
 - (D) *Pseudomonas*
 - (E) *Staphylococcus*
25. A 39-year-old plumber complains of arthralgias in the second and third metacarpophalangeal (MCP) joints of both hands; otherwise, he is well. His physical exam is unremarkable. A serum ferritin is 572 $\mu\text{g/L}$ (normal, 20–300 $\mu\text{g/L}$), fasting transferrin saturation is 68%, and liver function tests (LFTs) are normal. X-rays of his hands demonstrate mild joint space narrowing and chondrocalcinosis of the affected joints only. He is found to be a C282Y homozygote. Which of the following is the next most appropriate step?
- (A) MRI of the liver
 - (B) liver biopsy
 - (C) phlebotomy
 - (D) recheck liver function tests in 3 to 6 months
 - (E) a trial of a cyclooxygenase-2 (COX-2) inhibitor, but advise against acetaminophen
26. A macrosomic, 4500-gram infant is delivered and appears initially vigorous. The baby has a 1-minute Apgar of 8, but a 5-minute Apgar is 6, with points off for color, muscle tone, and reflex irritability. The most likely cause for this baby's condition is
- (A) hyperglycemia
 - (B) hypoglycemia
 - (C) sepsis
 - (D) congenital cardiac abnormality
 - (E) Down syndrome
27. A 24-year-old woman is examined by you during a preoperative physical exam in her hospital room. You note a thyroid nodule on examination. She has no complaints. There is no family history of thyroid cancer. On exam, you palpate a 2-cm right thyroid nodule; otherwise, her exam is normal. A serum TSH is 2 $\mu\text{U/mL}$ (normal, 0.4–4.5). What would you do next?
- (A) thyroid uptake and scan
 - (B) serum free T_4
 - (C) fine-needle aspiration biopsy
 - (D) right lobectomy
 - (E) observation
28. A 42-year-old woman undergoing workup for a malabsorption syndrome is noted to have a bright red, sore, and atrophic tongue. Her evaluation should include screening for deficiency of which of the following vitamins?
- (A) A
 - (B) B_{12}
 - (C) C
 - (D) D
 - (E) E
29. A 62-year-old woman previously in good health is admitted to your service for new epigastric discomfort and "difficulty eating." At endoscopy, a 1.5-cm nodular mass/lesion in her antrum is biopsied. A breath test for *Helicobacter pylori* is positive. The pathology is consistent with a malignancy. Which of the following would most likely benefit from chemotherapy?
- (A) low-grade mucosa-associated lymphoid tumor (MALToma), restricted to mucosa by endoscopic ultrasound
 - (B) adenocarcinoma of the stomach
 - (C) carcinoid tumor of the stomach
 - (D) non-Hodgkin's lymphoma, with intra-abdominal lymphadenopathy positive for lymphoma on fine-needle biopsy with endoscopic ultrasound
 - (E) metastatic pancreatic carcinoma
30. A 58-year-old man with long-standing hypertension is seen with complaints of chest pain

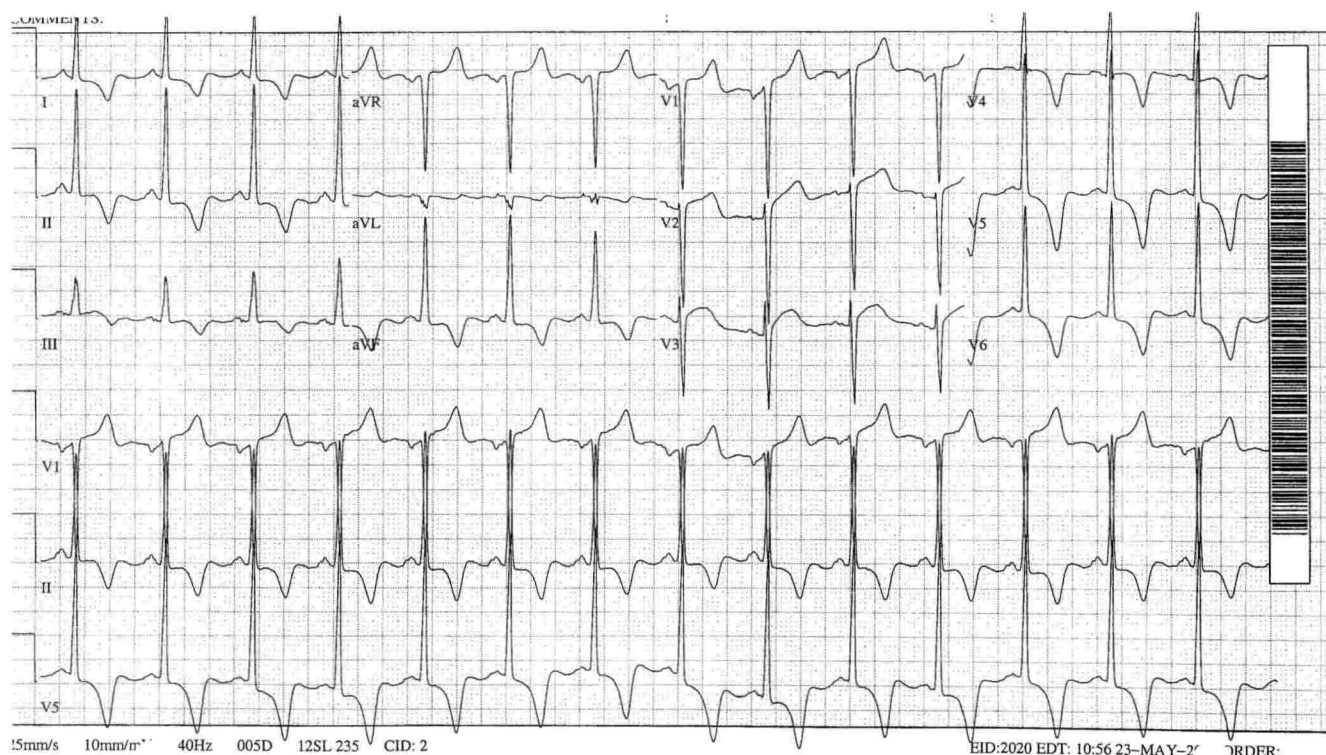


Figure 1.1

and dyspnea on exertion. His electrocardiogram (ECG) is shown in Figure 1.1. The most helpful test to evaluate his symptoms is

- (A) stress ECG
- (B) coronary arteriography
- (C) echocardiogram
- (D) stress echocardiogram
- (E) stat cardiac enzymes

Block 3: Emergency Department Items 31–50

Most patients in this setting are new to you, but occasionally you arrange to meet there with a known patient who has telephoned you. Generally, patients encountered here are seeking urgent care. Also available to you are a full range of social services, including rape crisis intervention, family support, and security assistance backed up by local police.

31. A 57-year-old man comes to the emergency department (ED) complaining of anxiety and rapid heartbeat. He states that he was wash-

ing his car when the symptoms started about 2 hours ago. He did not experience any other symptoms such as dizziness, chest pain, or shortness of breath. He has been under stress at work lately but has been in good health. His past medical history is notable for mild hypertension, for which he is on hydrochlorothiazide 25 mg daily. His physical exam shows a blood pressure (BP) of 208/68. His respiratory rate is 12. He is anxious but in no acute distress. His lungs are clear, and his cardiac exam is notable only for the tachycardia. His workup shows a potassium of 3.4 mEq/L. His ECG is shown in Figure 1.2. Which of the following is the correct diagnosis at this time?

- (A) acute inferior myocardial infarction (MI)
- (B) hypertensive crisis
- (C) atrial flutter
- (D) panic attack
- (E) supraventricular tachycardia and cardiac block

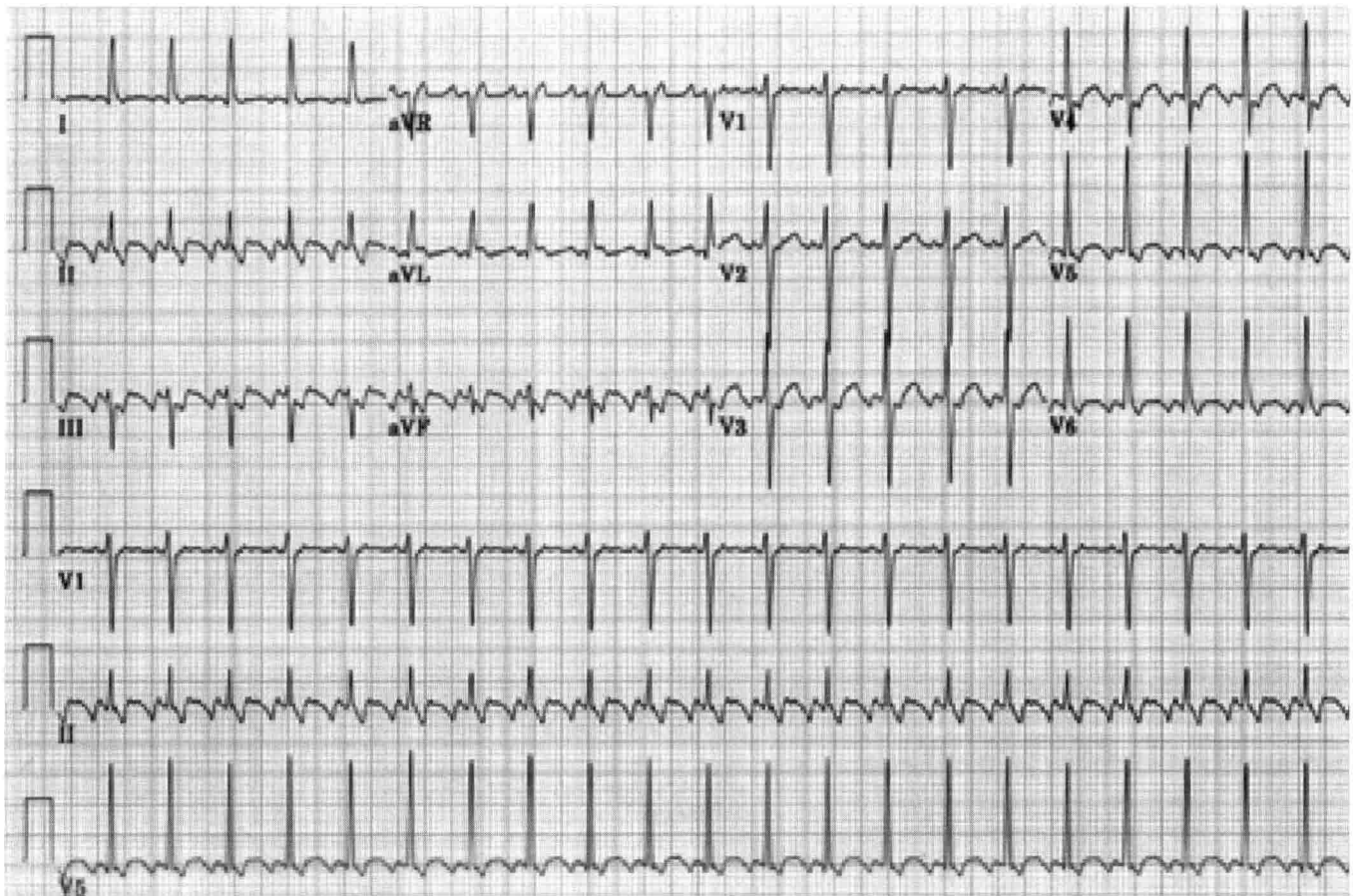


Figure 1.2

Items 32–34

A 3-year-old Hispanic boy presents to the ED with his mother. She states that he was bitten by an insect 2 days ago. This morning, however, his mother noticed that the area was swollen and red. She denies that the child has had fever, vomiting, or diarrhea. His vital signs are as follows: temperature 37°C (98.6°F), heart rate 110, and respiratory rate 20. The child is awake and seated on the examining table. There is obvious swelling of the left periorbital area and a 1-cm papule at the outer aspect with surrounding erythema and induration under the lower aspect of the eye. The area is warm to touch. The swelling does not extend onto the upper lid. There is no fluctuance noted on palpation of the skin. The eyes have a full range of motion. There is no discharge from the eye. The child cooperates with the exam. The rest of the skin exam is normal.

32. Which of the following is the most appropriate treatment for this infection?
 - (A) IV cephazolin
 - (B) PO cephalexin
 - (C) incision and drainage
 - (D) conjunctival culture
 - (E) IV gentamicin
33. Which of the following is rare in children and typically would not include lid swelling?
 - (A) conjunctivitis
 - (B) orbital cellulitis
 - (C) periorbital cellulitis
 - (D) allergic reaction
 - (E) iritis

34. What is most likely organism for this infection?

- (A) *Haemophilus influenzae*
- (B) Streptococcus
- (C) adenovirus
- (D) *Chlamydia*
- (E) herpes simplex virus (HSV)

END OF SET

35. A 55-year-old woman presents with a displaced distal radius fracture after a same-level fall. The patient undergoes an uneventful reduction, and a splint is applied. The patient's neurologic examination is normal postreduction. During the next 2 hours, the patient begins to complain of numbness in her fingers. Her two-point discrimination in the median nerve distribution is 5 mm. Her splint is spread open, ice is applied, and the hand is elevated. Thirty minutes later, two-point discrimination is 10 mm in the median nerve distribution. Which of the following is the next appropriate course of action?

- (A) observation because nerve function will return
- (B) an emergent carpal tunnel release
- (C) electromyography/nerve conduction velocity (EMG/NCV) to document median nerve compression at the wrist
- (D) application of a cast
- (E) night splints and oral B₆ daily

36. A previously healthy 62-year-old woman develops over a few hours the worst headache of her life. She also notes decreased vision in both eyes. She is brought to the ED 2 days later. MRI of the head shows extensive bleeding into a previously undiagnosed large pituitary tumor, consistent with pituitary apoplexy. Which of the following abnormalities is likely on hormone testing, assuming normal pituitary function prior to acute onset of headache?

- (A) low TSH, low T₄
- (B) low FSH and LH, low estradiol

- (C) abnormal cortisol response to corticotropin stimulation test
- (D) normal cortisol response to hypoglycemia
- (E) low estradiol

Items 37–39

A 75-year-old man with a history of cirrhosis presents to the ED via ambulance after his wife found him to be extremely confused. He had been running a low-grade fever and has a cough productive of yellow sputum. On examination, his temperature is 40.5°C (104.9°F), pulse 130, BP 100/64, respiratory rate 30, and SaO₂ of 89%. Testing reveals a WBC of 16,000 and normal electrolytes, and chest radiograph reveals a right lower lung zone consolidative infiltrate.

37. What further diagnostic testing or therapy is indicated?

- (A) pleural biopsy
- (B) chest CT
- (C) blood cultures
- (D) immediate antibiotics
- (E) observation only

38. In which setting should this patient be treated?

- (A) outpatient
- (B) nursing home
- (C) general medical ward
- (D) intensive care unit (ICU)
- (E) long-term care facility

39. What antibiotics are indicated in treating this patient?

- (A) fluoroquinolone and third-generation cephalosporin
- (B) vancomycin
- (C) third-generation cephalosporin only
- (D) fluoroquinolone only
- (E) penicillin

END OF SET