

Aldeen and Rosenbaum's

# 12000

Questions

TO HELP PASS THE

# EMERGENCY Medicine Boards

THIRD EDITION

Amer Z. Aldeen  
David H. Rosenbaum

 Wolters Kluwer



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**1200**

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TO HELP YOU PASS THE**

**EMERGENCY  
MEDICINE BOARD**

**THIRD EDITION**

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To our three beautiful daughters, Arissa, Rania, and Nyla,  
You are the light of our lives. May you create a more tolerant and  
peaceful world with your knowledge, creativity, and dedication.  
Ameen.

—AMER Z. ALDEEN

To Sophie and Lucie,  
May your joy, energy, and excitement remain untempered, even by  
your sometimes impatient dad.

—DAVID H. ROSENBAUM

# Preface

The goal of this text is to help prepare you for the American Board of Emergency Medicine's (ABEM) Written Qualifying Examination. The book's content is based on the ABEM Model of the Clinical Practice of Emergency Medicine. This document, which ABEM systematically updates every 2 years to reflect changes and advancements, serves as the blueprint for ABEM's In-Training, Written Qualifying, Oral Certification, and Continuous Certification (ConCert) examinations.

In addition to ensuring that we addressed the breadth of ABEM's Model, we deliberately designed most of our questions to be slightly more difficult than the average question in ABEM's Written Qualifying Examination. As a result, most readers will agree that the questions in this book are moderately hard. In our view, it is better to overprepare than be falsely reassured by a bank of practice questions that does not adequately challenge (and add to) the reader's existing knowledge.

In this third edition of our work, we added 200 new, mostly case-based questions, many with images. We also updated many of our existing questions in response to valuable feedback from readers. The pace of new knowledge development in emergency medicine is rapid, and we have attempted to incorporate as much cutting edge information as possible.

We actively invite your feedback, both positive and critical, to help improve the quality of this work. Please do not hesitate to contact us via email ([ameraldeen@gmail.com](mailto:ameraldeen@gmail.com) or [david.h.rosenbaum@gmail.com](mailto:david.h.rosenbaum@gmail.com)) should you have any comments or questions.

Amer Z. Aldeen, MD, FACEP  
David H. Rosenbaum, MD, FACEP, FAAEM

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Amer Z. Aldeen, MD, FACEP

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David H. Rosenbaum, MD, FACEP, FAAEM



# Contents

Preface

Acknowledgments

---

**Test 1**

---

**Test 2**

---

**Test 3**

---

**Test 4**

---

**Test 5**

---

**Test 6**

---

**Test 7**

---

**Test 8**

---

**Test 9**

---

**Test 10**

---

**Test 11**

---

**Test 12**

---

Index

# TEST 1

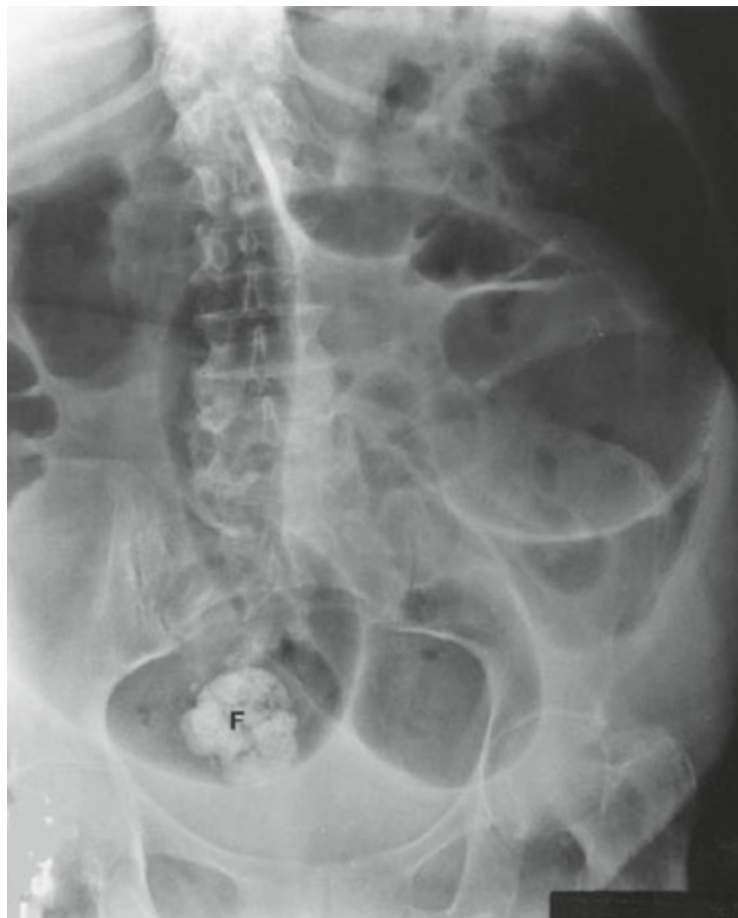
## QUESTIONS

1. A 33-year-old female presents with numbness and weakness in the right side of her face for several days as shown (Fig. 1-1). The remainder of her examination is normal and she has no other symptoms. Which of the following is the next best step in management?
- A. Valacyclovir
  - B. Prednisone
  - C. Tissue plasminogen activator
  - D. Sour candy
  - E. Amoxicillin–clavulanic acid



**Figure 1-1**

2. A 23-year-old female presents with 2 days of fever and severe right ankle pain and swelling. She denies a history of trauma. Past medical history is unremarkable. Physical examination reveals significant edema, effusion, tenderness, and pain on range of motion in the right ankle. Which of the following is the most likely etiology?
- A. *S. aureus*
  - B. *S. pneumoniae*
  - C. *S. pyogenes*
  - D. *Salmonella*
  - E. *N. gonorrhoeae*
3. A 77-year-old male with Parkinson disease is brought to the hospital with obstipation. His abdomen is distended and mildly tender with decreased bowel sounds. His abdominal x-ray is shown in Figure 1-2. Which of the following is the most likely diagnosis?
- A. Small bowel ischemia
  - B. Viscus perforation
  - C. Sigmoid volvulus
  - D. Swallowed air
  - E. Gastric outlet obstruction



**Figure 1-2**

4. A 27-year-old female without past medical history presents with 2 days of pain in her right ear. The patient notes that the symptoms started with an itchy ear which progressed to pain, discharge, and hearing loss. Examination reveals an afebrile patient who is nontoxic, with moderate tenderness on manipulation of the auricle, erythema and edema of the tympanic canal, and no external rash. Cranial nerve examination is normal. Which of the following will be most helpful in treating this condition?
- A. Antihistamines
  - B. Tympanostomy tubes
  - C. Systemic antivirals
  - D. Adenoidectomy
  - E. Acetic acid otic washes
5. A 35-year-old female without any past medical history presents with a red, painful region on her right arm where she had a bug bite 3 days before. She denies fever. She is allergic to penicillin. Vital signs are normal. Physical examination is remarkable for a  $10 \times 6 \text{ cm}^2$  area on her right arm that is red, warm, tender, and sharply demarcated. There is no lymphangitic streaking or axillary lymphadenopathy. You diagnose her with cellulitis. Which of the following is the most appropriate choice of antibiotic?
- A. Clindamycin
  - B. Doxycycline
  - C. Dicloxacillin
  - D. Linezolid
  - E. Metronidazole
6. Clinically significant hypermagnesemia almost always occurs in the setting of:
- A. Renal insufficiency
  - B. Pancreatitis
  - C. Trauma
  - D. Laxative abuse
  - E. Alcoholism
7. Which of the following is true about myasthenia gravis (MG)?
- A. Incidence peaks in the eighth decade of life.
  - B. Sensory deficits are most severe in the lower extremities.
  - C. The most frequent initial symptom is dysarthria.
  - D. Cooling decreases symptoms.

- E. Muscle weakness tends to worsen after long periods of rest.
8. A 57-year-old female with a history of hypertension presents with headache, mild confusion, and vomiting. She describes an acutely worsening global headache over the last several hours with nausea and vomiting. A family member states she is confused. She admits to noncompliance with her blood pressure medications for the last week. Vital signs are: T 98.4, HR 92, BP 220/130, RR 20, SpO<sub>2</sub> 97%. Examination reveals a patient in moderate discomfort, papilledema, hypertensive retinopathy, and a nonfocal neurologic examination. Laboratory studies, EKG, and noncontrast CT brain are all normal. Which of the following is the most appropriate next step in management?
- Neurosurgical consultation
  - Reduction of blood pressure by 25%
  - Lumbar puncture
  - Corticosteroids
  - Noncontrast MRI of the brain
9. The hallmark of rubella is:
- Generalized lymphadenopathy
  - Tonsillar exudates
  - Koplik spots
  - Febrile seizures
  - Pastia lines
10. A 24-year-old male presents with bloody diarrhea for 2 days. Which of the following antibiotics is considered first-line therapy to treat all of the following organisms: *Salmonella*, *Shigella*, *Yersinia*, *Vibrio*, and enterotoxigenic *E. coli* (ETEC)?
- Trimethoprim–sulfamethoxazole
  - Doxycycline
  - Metronidazole
  - Ciprofloxacin
  - Erythromycin
11. A 34-year-old female presents to the ED with increasing low abdominal pain. She was seen by a colleague a week ago and diagnosed with an early ectopic pregnancy in her left fallopian tube. Her OB was consulted at that time and the patient was started on methotrexate therapy. What is the *most likely* cause of her abdominal pain?
- Treatment failure and increasing size of the ectopic pregnancy
  - Tubal rupture
  - Appendicitis
  - “Separation pain” from methotrexate use
  - Pelvic inflammatory disease (PID)
12. A 28-year-old female presents with fever and painful oral lesions for 2 days as shown in [Figure 1-3](#). Which of the following is the most likely cause?

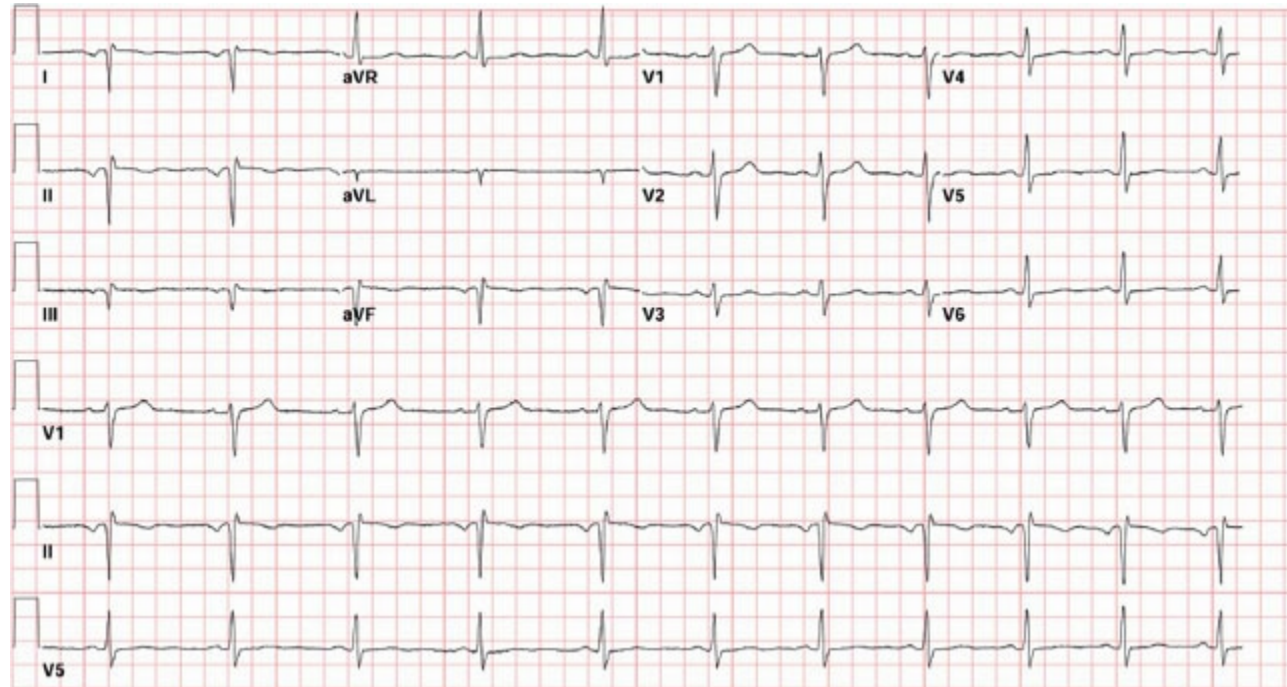


**Figure 1-3**

- HSV-1

- B. HSV-2
  - C. Epstein–Barr virus
  - D. Coxsackievirus
  - E. Group A streptococcus
3. Which of the following is the optimal vascular access for adult trauma patients?
- A. Single 14-g peripheral IV
  - B. Double 16-g peripheral IVs
  - C. Double 18-g peripheral IVs
  - D. Single triple-lumen catheter
  - E. Intraosseous catheter
4. A 34-year-old male presents after a high-speed motor vehicle collision with shortness of breath. A large flail segment is noted on his right lateral chest. Which of the following is the most appropriate therapy at this time?
- A. Place the patient in the right lateral decubitus position
  - B. Place the patient in the left lateral decubitus position
  - C. Place a heavy weight on the flail segment
  - D. Administer 100% oxygen by nonrebreather mask
  - E. Perform rapid sequence intubation
5. A 68-year-old female presents with a 2-day history of left lower quadrant pain. CT reveals diverticulitis. Which of the following is true?
- A. The recurrence rate of diverticulitis after a single, uncomplicated episode is 75%.
  - B. Avoiding nuts, seeds, and corn has not been shown to decrease recurrence.
  - C. Patients younger than 40 years with diverticulitis should have resection of the diseased segment of colon.
  - D. She should be admitted for colonoscopy to exclude colon cancer.
  - E. The mortality rate of hospitalized patients with acute diverticulitis is 35%.
5. Which of the following is true regarding botulism?
- A. It is not contagious.
  - B. It usually causes an ascending paralysis.
  - C. It usually spares the cranial nerves.
  - D. It stimulates presynaptic acetylcholine release.
  - E. Broad-spectrum antibiotic therapy significantly improves survival.
7. Which of the following has the highest sensitivity for ruling out testicular torsion?
- A. Normal cremasteric reflex
  - B. Presence of Prehn sign (relief of scrotal pain upon elevating the scrotum)
  - C. Normal urinalysis
  - D. Absence of fever
  - E. Absence of vomiting
3. A 61-year-old male presents to the ED with a chief complaint of chest pain. His EKG is shown (Fig. 1-4). Which of the following is the most likely explanation?
- A. Ectopic atrial rhythm in the low atria
  - B. Limb lead reversal
  - C. Acute ischemia
  - D. Complete heart block
  - E. Undiagnosed tetralogy of Fallot





**Figure 1-4**

9. A 29-year-old female with a history of gout presents with a diffuse rash consisting of erythematous target lesions as well as oral sores for several days (Fig. 1-5). She recently started a course of medication for a urinary tract infection the week prior but cannot remember the name. Which of the following is the most likely cause?

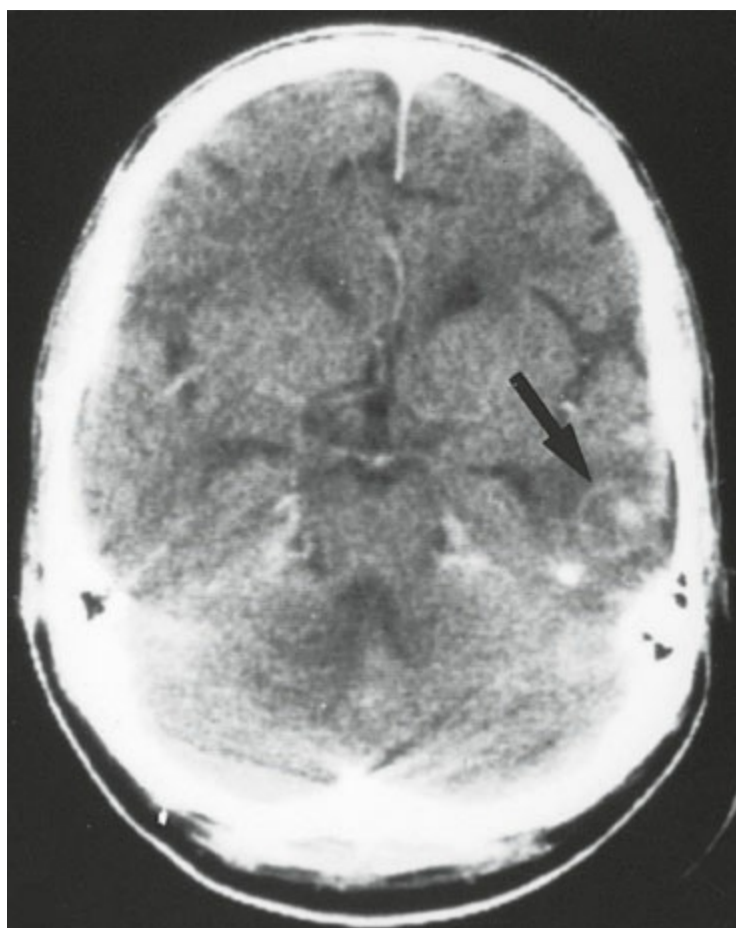
- A. Ciprofloxacin
- B. Cefdinir
- C. Cephalexin
- D. Trimethoprim–sulfamethoxazole
- E. Macrodantin



**Figure 1-5**

10. Which of the following is true regarding the treatment of a peritonsillar abscess (PTA)?
- A. Incision and drainage is superior to needle aspiration.
  - B. Recurrent PTAs typically occur > 1 year after the initial episode.
  - C. Antibiotic therapy is as effective as surgical incision and drainage.
  - D. Antibiotic coverage directed at Strep, Staph, and anaerobic species is necessary.
  - E. Clinically, it is easy to distinguish a PTA from peritonsillar cellulitis.
11. Bites from which of the following snakes would most likely result in respiratory failure and death?
- A. Rattlesnake
  - B. Cottonmouth (water moccasin)
  - C. Coral snake
  - D. Copperhead snake
  - E. All of the above

2. A first-time mother presents with her 13-day-old infant with a chief complaint of seizures. The infant had an uncomplicated term delivery, is afebrile and had been well until the day of presentation. Which of the following is the most likely cause of this infant's seizures?
- Hypokalemia
  - Hyponatremia
  - Hypocalcemia
  - Hypomagnesemia
  - Maple syrup urine disease
3. Which of the following is true regarding candidiasis?
- Cutaneous candidiasis is the most common manifestation of infection.
  - Candida* is part of the normal oral flora in most humans.
  - Thrush in otherwise healthy newborns is self-limited and does not require treatment.
  - Candida* is the most common cause of jock itch (tinea cruris).
  - Maceration and lichenification with thick scale is the hallmark of cutaneous candidiasis.
4. Which of the following is true regarding the focused assessment of sonography in trauma (FAST) scan for evaluation of blunt abdominal trauma?
- Higher accuracy for penetrating trauma than blunt trauma
  - Can distinguish between blood and urine
  - Not associated with reductions in time to surgery or CT utilization
  - More accurate than any single element of history or physical examination
  - Sensitivity is much higher than specificity
5. A 26-year-old previously healthy male presents to the ED in January with a chief complaint of a 2-day history of fever, cough, diffuse body aches, and general malaise. He reports no history of influenza vaccination. His vital signs are P 110, BP 130/75, RR 18, SaO<sub>2</sub> 97% RA. Which of the following is true?
- Oseltamivir reduces the risk of serious complications of influenza
  - Immunizing the patient with the influenza vaccine in the ED will hasten recovery
  - Oseltamivir may cause nausea and vomiting
  - Oseltamivir reduces spread of influenza to unaffected patients
  - All of the above
5. A 34-year-old male with a history of HIV presents with headache. Contrast CT scan of the brain is shown in [Figure 1-6](#). Which of the following is the most appropriate therapy?
- Surgical excision
  - Mebendazole
  - Sulfadiazine and pyrimethamine
  - Methylprednisolone
  - Clindamycin plus cefotaxime



**Figure 1-6**

7. Delayed sequence intubation (DSI) is best used for which of the following patients?
- An elderly chronic obstructive pulmonary disease (COPD) patient with hypoxia, CO<sub>2</sub> retention, and excessive somnolence
  - A 23-year-old trauma patient with hypoxia and a large hemothorax after a rollover motor vehicle collision (MVC)
  - An agitated asthmatic patient, who persistently pulls off his oxygen mask exclaiming he can't breathe
  - A 14-year-old comatose male with an intracranial hemorrhage after a biking injury
  - A middle-aged congestive heart failure (CHF) patient with hypoxia and severe hypertension
8. Which of the following is the most appropriate suture to be used for gaping intraoral lacerations involving the mucosal surface?
- 6-0 nylon
  - 6-0 polyglactin 910 (Vicryl)
  - 4-0 nylon
  - 4-0 polyglactin 910 (Vicryl)
  - 2-0 silk
9. Which of the following is the most common cause of acute respiratory distress syndrome (ARDS)?
- Sepsis
  - Near drowning
  - Multiple blood transfusions
  - Multiple blunt trauma
  - Pancreatitis
10. A 5-year-old male presents with confirmed rotavirus diarrhea. He is tachycardic and lethargic with sunken eyes, poor skin turgor, and dry mucous membranes. Which of the following is the most appropriate next step in management?
- 0.45 NS 100 mL/hour drip
  - D5 0.45 NS 20 mL/kg bolus
  - 0.9 NS 100 mL/hour drip
  - 0.9 NS 10 mL/kg bolus
  - 0.9 NS 20 mL/kg bolus
11. Which of the following is true regarding gastroesophageal reflux disease (GERD) in infants?



- A. Ranitidine and metoclopramide are often required and are the mainstays of medical therapy.
  - B. Vomiting is typically nonbilious and progressive, resulting in projectile emesis.
  - C. Most infants respond to conservative measures such as smaller, thickened feedings and frequent burpings.
  - D. Most infants with GERD ultimately suffer from failure to thrive.
  - E. Infant GERD typically persists into adulthood.
2. A 6-year-old male presents with left hip pain and a limp. There is no history of trauma. The pain is relieved by rest. Plain radiographs are shown in [Figure 1-7](#). Which of the following is true regarding this condition?
- A. It is much more common in boys than in girls.
  - B. It is usually bilateral.
  - C. It most commonly occurs in obese children.
  - D. Almost all patients require surgical fixation.
  - E. Joint aspiration confirms the diagnosis.



**Figure 1-7**

3. A 78-year-old male presents with sudden onset of right-sided arm and leg weakness. He was brought in by private car by his son, who states that the patient was totally normal 20 minutes prior to arrival. You immediately recognize the potential for acute stroke and initiate your stroke protocol, which involves immediate noncontrast CT brain. His blood pressure is 169/95. As the CT scan is being cleared, performance of which of the following diagnostic maneuvers is of paramount importance?
- A. EKG
  - B. Temperature
  - C. Blood glucose
  - D. Prolactin
  - E. PO challenge
4. Which of the following patients with a febrile seizure most likely requires further evaluation with a lumbar puncture (LP) to look for an infectious source?
- A. A fully vaccinated 10-month-old
  - B. An 18-month-old with a recent “cold”
  - C. A 9-month-old currently receiving antibiotics for otitis media
  - D. A 4-year-old with a history of epilepsy
  - E. An unvaccinated 5-year-old
5. Which of the following is true regarding reduction of an anterior shoulder dislocation?
- A. The Kocher maneuver is the most reliable method.
  - B. Adequate muscle relaxation is the most important factor in successful reduction.
  - C. The Hippocratic method should be the first one attempted.
  - D. Scapular manipulation in the prone position is the method of choice in third-trimester pregnant

patients.

E. Intra-articular anesthetic injection is contraindicated.

5. Which of the following is the best modality to diagnose posterior sternoclavicular dislocation?

- A. Anteroposterior chest x-ray
- B. Lateral chest x-ray
- C. Anteroposterior clavicle x-ray
- D. CT chest
- E. Thoracic ultrasound

7. A 62-year-old female presents with left lower quadrant abdominal pain. You suspect acute sigmoid diverticulitis. Which of the following symptoms is likely to also be present?

- A. Vomiting
- B. Hematochezia
- C. Dysuria
- D. Change in bowel habits
- E. Anorexia

3. Which of the following is true regarding nitroprusside?

- A. Cyanide toxicity is common.
- B. Extravasation causes severe local skin necrosis.
- C. It decreases intracranial pressure (ICP).
- D. It is safe for use during pregnancy.
- E. It has a delayed onset of action compared with other IV antihypertensive agents.

9. Which of the following is true regarding the potential space between the labeled structures (Fig. 1-8)?

- A. It is known as the pouch of Douglas
- B. It is the most posterior part of the peritoneal cavity
- C. It is the most anterior part of the retroperitoneum
- D. It is the first view performed on the FAST scan
- E. It is more sensitive when the patient is in Trendelenburg position



**Figure 1-8**

1. A third-year medical student presents to the ED with diffuse arthralgias of the hands, wrists, and knees. She has been taking isoniazid (INH) because she was exposed to a patient with active tuberculosis and subsequently had a positive purified protein derivative (PPD) test. She is most likely suffering from a syndrome mimicking:

- A. Systemic sclerosis
- B. Systemic lupus erythematosus (SLE)
- C. Gouty arthritis
- D. Rheumatoid arthritis
- E. Sjögren syndrome

1. A 48-year-old male presents to the emergency department with abdominal pain 4 months after an uncomplicated Roux-en-Y gastric bypass. The patient's initial postoperative course was uncomplicated and he has been losing weight as expected. However, over the past few weeks, he has noted intermittent, crampy, and diffuse abdominal pain that appears unrelated to eating. In the ED, his vital signs, blood tests, and CT are normal. What's the likely explanation for the patient's symptoms?
  - A. Drug seeking
  - B. Internal hernia
  - C. Gastrogastic fistula
  - D. Postoperative gastroesophageal reflux
  - E. Cholelithiasis
  
2. A 24-year-old male presents with abdominal fullness. He is very nervous, but in no acute distress. Vital signs and physical examination are normal. An obstructive radiography series is ordered. Which of the following is the most appropriate next step in management (see Fig. 1-9)?
  - A. MRI abdomen
  - B. Surgery
  - C. Polyethylene glycol
  - D. NG aspiration
  - E. Endotracheal intubation



**Figure 1-9**

3. Which of the following is true regarding the Ottawa ankle rules (OAR)?
  - A. Patients who do not meet the OAR criteria never have an ankle fracture.
  - B. The OAR should not be applied to intoxicated patients.
  - C. The OAR criteria include a positive “squeeze” test.
  - D. The OAR can be applied to pediatric patients older than 8 years.
  - E. The specificity of the OAR is roughly 90%.
  
4. A concerned mother brings her 15-year-old daughter to the ED with a chief complaint of irregular vaginal bleeding. The patient experienced menarche at age 13 and has never had regular periods. Recently, the bleeding has been heavier and more irregular than normal. She reports no history of easy bruising and has no petechiae on examination. Her hemoglobin is 11 g/dL. Which of the following is the most likely cause of her symptoms?
  - A. Hyperthyroidism
  - B. Anovulation
  - C. Endometriosis
  - D. Asymptomatic *Chlamydia* infection
  - E. Polycystic ovarian syndrome

5. A 35-year-old male with a history of sickle cell disease presents with acute onset of fever, malaise, fatigue, and lightheadedness. Physical examination demonstrates a tachycardic patient with pale conjunctivae. You suspect aplastic crisis and draw a complete blood count with reticulocyte count. You review his old records and note that the patient's baseline hemoglobin level is 8 g/dL. Which of the following laboratory abnormalities is most consistent with an aplastic crisis?
- Hemoglobin 8 g/dL, reticulocyte count 6%
  - Hemoglobin 8 g/dL, reticulocyte count 1%
  - Hemoglobin 6 g/dL, reticulocyte count 6%
  - Hemoglobin 6 g/dL, reticulocyte count 1%
  - Hemoglobin 4 g/dL, reticulocyte count 6%
5. A 22-year-old male presents with rash, lightheadedness, and generalized malaise. He denies fever or pruritus. A few hours before presentation, he was seen in another emergency department (ED) and received treatment for syphilis. He denies any medication allergies. His vital signs are 99.2, 94, 16, 134/65, 99% RA. His physical examination demonstrates a normal uvula, no pulmonary wheezes, and a faint macular rash on his trunk and abdomen, which he states was there before he received the treatment today. Which of the following is the most appropriate next step in management?
- Immediate endotracheal intubation
  - IM epinephrine
  - Diphenhydramine and famotidine
  - Prednisone
  - Acetaminophen and observation
7. What is the most common cause of traveler's diarrhea?
- Shigella* spp.
  - Giardia lamblia*
  - Salmonella* spp.
  - Rotavirus
  - Enterotoxigenic *Escherichia coli* (ETEC)
3. A 72-year-old male arrives at the hospital with acute right-sided facial droop and right arm and leg weakness. He is immediately sent to the CT scanner where he has a generalized seizure lasting just over a minute. While the seizure terminates without intervention, the patient is brought back to the emergency department immediately because of severe bradycardia and ventricular escape beats. In addition to atropine, what other measures will most likely be helpful?
- Dopamine
  - Continuous albuterol
  - Epinephrine
  - Bicarbonate
  - Calcium
9. Which of the following is true regarding gonococcal septic arthritis?
- Open surgical drainage is usually required.
  - It is more common in men than in women.
  - Genitourinary symptoms occur in most patients.
  - Synovial fluid Gram stain is positive more often than culture.
  - The hip is the most common joint affected.
9. Which of the following parenteral agents is the initial preferred agent for blood pressure management in patients with acute aortic dissection?
- Hydralazine
  - Enalapril
  - Labetalol
  - Diltiazem
  - Nicardipine

1. A 23-year-old female with sickle cell disease presents with pain in her right shin and fevers for 2 weeks. She never has leg pain with her sickle cell pain crises. An x-ray demonstrates evidence of osteomyelitis. Which of the following is the most likely etiologic agent?
  - A. *S. aureus*
  - B. *Salmonella*
  - C. *Aspergillus*
  - D. *Neisseria gonorrhoeae*
  - E. *Pseudomonas*
  
2. A 64-year-old male with a history of hypertension presents to the ED with a painful rash on the right side of his back spreading to his trunk (see Fig. 1-10). Which of the following underlying diseases should be suspected?
  - A. Chronic lymphocytic leukemia
  - B. Human immunodeficiency virus (HIV)
  - C. Asplenia
  - D. Rheumatoid arthritis
  - E. He is most likely to be healthy



**Figure 1-10**

3. A 57-year-old female with a history of hypertension presents for evaluation of a 1-day history of pleuritic right-sided chest pain. She has no leg pain or swelling. She is afebrile with a P 82, RR 14, SaO<sub>2</sub> 97% on room air. Which of the following is true?
  - A. The pulmonary embolism (PE) rule-out criteria ("PERC rule") can be used to exclude pulmonary embolism
  - B. A d-dimer with an age-adjusted cutoff could be used to determine if imaging is needed
  - C. A CT pulmonary angiogram (CTA) of the chest should be performed to exclude pulmonary embolism
  - D. No further testing is needed because the patient is low-risk by Wells criteria
  - E. Negative Doppler venous imaging of the patient's legs excludes a pulmonary embolism
  
4. The most common sexually transmitted organism in the United States is:
  - A. *T. pallidum*
  - B. *C. trachomatis*
  - C. *Neisseria gonorrhoeae*
  - D. HSV
  - E. *H. ducreyi*
  
5. A 22-year-old G1 female at 28 weeks gestational age presents to the ED after a motor vehicle

- collision. She has right-sided pneumothorax and a unilateral pubic ramus fracture, for which she is being treated. Review of records indicates that her blood type is A negative. Which of the following is the most appropriate next step in management?
- Transfusion of one unit packed red blood cells
  - Transfusion of six units of fresh frozen plasma (FFP)
  - Administration of 50 mcg RhIG
  - Administration of 300 mcg RhIG
  - No specific management
5. A 65-year-old male presents with acute onset of back pain and bilateral leg weakness after a recent diagnosis of prostate cancer. Physical examination demonstrates 3/5 strength in both of his lower extremities and tenderness to palpation of his lower back. An emergent MRI demonstrates epidural lumbar spinal cord compression secondary to metastasis. Which of the following is the most appropriate initial consultation?
- Radiation oncology
  - General surgery
  - Urology
  - Neurology
  - Neurosurgery
7. A 23-year-old female presents with pain in her right lateral chest after a low-speed motor vehicle collision. She is most tender in the fifth rib at the posterior axillary line. Her vital signs are normal. Which of the following is the most appropriate next step in evaluation?
- Chest x-ray
  - Rib x-rays
  - CT abdomen/pelvis
  - CT brain
  - Cervical spine radiographs
3. A 35-year-old female presents in a coma (Glasgow Coma Scale 3) after a motor vehicle crash and is intubated for airway protection. Further evaluation reveals no life-threatening chest, abdomen, or pelvic injuries. Vital signs are normal. A computed tomography (CT) scan of the head is normal. Which of the following is the most likely diagnosis?
- Epidural hematoma
  - Subdural hematoma
  - Diffuse axonal injury (DAI)
  - Cerebral contusion
  - Intraparenchymal hematoma
9. Which of the following correctly matches the vasculitic syndrome to its primary clinical manifestations?
- Polyarteritis nodosa (PAN) and peripheral neuropathy and bowel ischemia
  - Takayasu arteritis and oral and genital ulcerations
  - Wegener granulomatosis and cardiac ischemia
  - Behçet disease and sinusitis, otitis, and nasal congestion
  - Churg–Strauss syndrome and glomerulonephritis
1. A 52-year-old previously healthy female collapses while coaching her daughter's soccer team and bystanders initiate chest compressions. When EMS arrives, they find the patient in ventricular fibrillation. EMS immediately defibrillates the patient and initiates ACLS. They also placed a temporary supraglottic airway. After following ACLS algorithms for 14 minutes including three defibrillation attempts, the patient experiences a return of spontaneous circulation (ROSC). Shortly after arrival in the emergency department (ED), a definitive airway is obtained and placement is confirmed by x-ray. The patient is noted to be comatose, with a GCS of 3, and has the following vital signs: T 95.8°F, P 115, BP 79/40 (mean arterial pressure [MAP] = 53), SaO<sub>2</sub> 97% on the ventilator. Which of the following is true?



- A. The patient is not a candidate for therapeutic hypothermia because her GCS score is too low.
- B. The patient should undergo immediate cooling with a specialized intravenous cooling catheter.
- C. The patient is not likely to benefit from cooling because her core temperature is already low.
- D. Vasopressors are needed to raise her blood pressure prior to the initiation of cooling.
- E. Shivering is an expected, benign side effect of therapy, and does not require treatment.

1. Which of the following is the most common cause of death among African-American adolescents?

- A. Infection
- B. Cancer
- C. Motor vehicle collision
- D. Gunshot wound
- E. Drug overdose

2. Which of the following is true about appendicitis in adult women?

- A. Pregnant women are twice as likely as nonpregnant women to develop appendicitis.
- B. Cervical motion tenderness (CMT) rules out appendicitis.
- C. Even in the third trimester, most pregnant women still have pain in the right lower quadrant.
- D. Due to anatomic changes, appendicitis in pregnant women occurs most often in the third trimester.
- E. Fetal abortion occurs in 50% of pregnant women with perforated appendicitis.

3. A 44-year-old male presents with hypotension after a motor vehicle collision. His chest x-ray is normal. Pelvis x-ray is shown in [Figure 1-11](#). Which of the following is the most important next step in management?

- A. Foley catheterization
- B. CT scan of the abdomen and pelvis
- C. Tightening a bedsheet around the pelvis
- D. ED thoracotomy
- E. Inlet and outlet radiographs of the pelvis



**Figure 1-11**

4. When compared to younger adults, which of the following traumatic injuries is more common in elderly patients?

- A. Subdural hematoma
- B. Odontoid fracture
- C. Flail chest
- D. Central cord syndrome
- E. All of the above

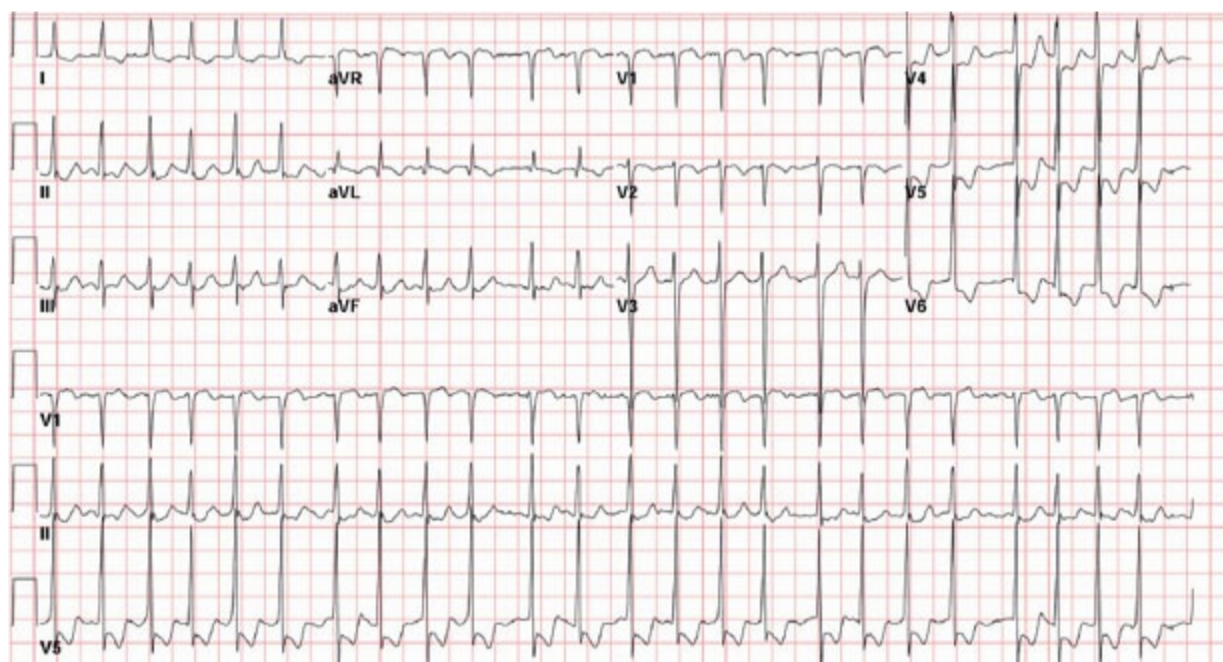
5. Which of the following is true regarding the role of ipratropium in asthma management?

- A. The main benefit of ipratropium, instead of atropine or other anticholinergic drugs, is ipratropium has a more rapid onset of action.
- B. Ipratropium is useful as a sole bronchodilator in the treatment of acute asthma exacerbations.

- C. Ipratropium is most useful as an adjunct for patients with severe asthma exacerbations.  
 D. Ipratropium has never been proven to be of benefit in patients with acute asthma exacerbations.  
 E. None of the above
5. A 22-year-old female presents with intermittent fever and chills for 2 weeks. She has no past medical history, but reports using intravenous heroin several times a week. Physical examination reveals a febrile, ill-appearing woman with a heart murmur. Blood cultures are most likely to reveal which of the following organisms?
- S. aureus*
  - Streptococcus pneumoniae*
  - Streptococcus viridans*
  - Pseudomonas aeruginosa*
  - Candida albicans*
7. A 67-year-old female with diabetes, hypertension, and a history of an aortoiliac bypass graft presents with abdominal pain and dark, “funny-smelling” stools. She states the symptoms started 2 days ago and seem to have gone away as she had a “nearnormal” bowel movement this morning and no longer has pain. On examination, she has guaiac positive, dark brown, but not melanic stool. Which of the following must be excluded as a cause of hemorrhage?
- Acute mesenteric ischemia
  - Abdominal aortic aneurysm (AAA)
  - Aortoenteric fistula
  - Duodenal ulcer
  - Ischemic colitis
3. A 26-year-old female presents with dyspnea and pleuritic chest pain and is subsequently diagnosed with a PE. She is not pregnant, takes no oral contraceptive therapy, and is a nonsmoker, but she notes that her mother has had two PEs. Which of the following is the most likely cause of this patient’s PE?
- Plasminogen deficiency
  - Nephrotic syndrome
  - Cervical cancer
  - Factor V Leiden
  - Protein S deficiency
9. A 34-year-old male is brought into the emergency department (ED) after a motor vehicle collision. Which of the following findings is an indication to perform a computed tomography (CT) of the abdomen/pelvis with IV contrast to look for renal injury in this patient?
- Microscopic hematuria
  - Gross hematuria
  - Flank pain
  - Flank ecchymosis
  - Penile hematoma
0. A 42-year-old female who is a self-described “seafood fanatic” presents with a chief complaint of an “allergic reaction.” Thirty minutes after eating tuna at a local restaurant she developed a severe headache, palpitations, nausea, abdominal cramping, and remarkable facial flushing. She has eaten fish for her entire life without incident. Which of the following is true?
- She should be given subcutaneous epinephrine and parenteral corticosteroids.
  - Perioral paresthesias are typically a classic feature of this illness.
  - Upon discharge, the patient should be advised to avoid all seafood products in the future.
  - The patient should expect symptoms to resolve slowly over the course of 1 week.
  - The symptoms are due to excessive histamine levels in the fish.
1. Which of the following is true regarding posterior shoulder dislocations?
- External rotation is usually intact.
  - Neurovascular injury is more common than in anterior dislocations.



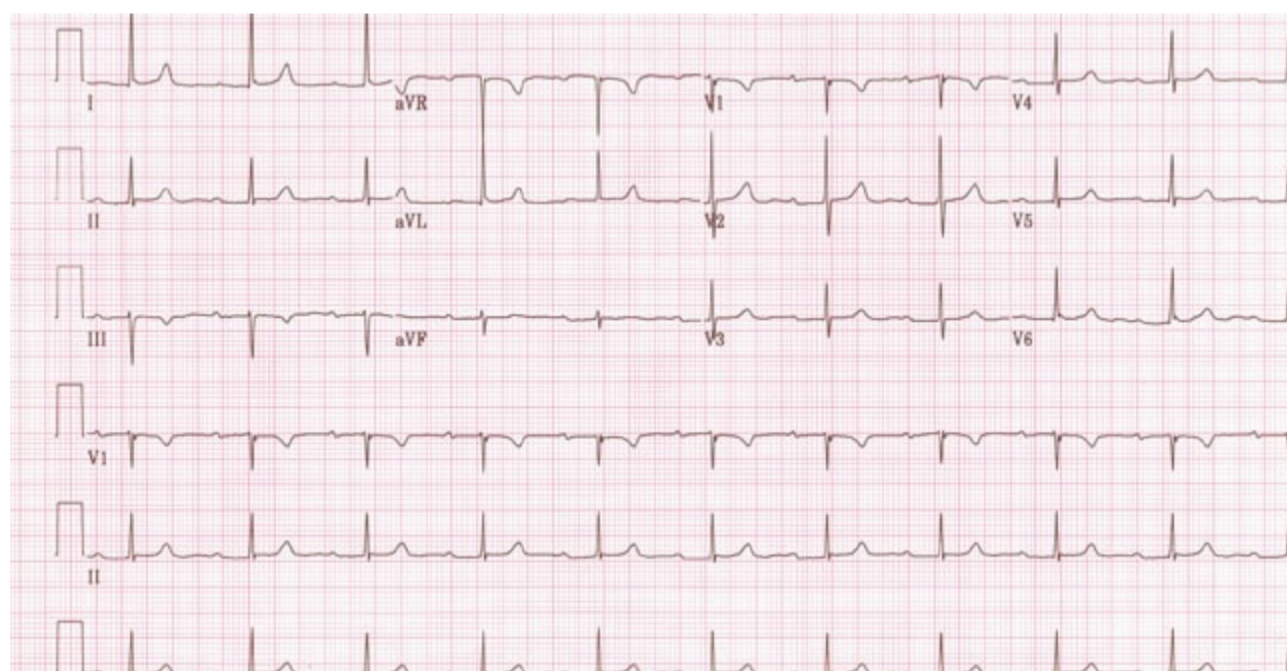
- C. The absence of pain excludes the diagnosis.
  - D. Seizures are a common mechanism of injury.
  - E. Recurrent injury is more common than in anterior dislocations.
2. In a perilunate dislocation, which bone is dorsally dislocated?
- A. Lunate
  - B. Scaphoid
  - C. Capitate
  - D. Hamate
  - E. Pisiform
3. Which of the following is true with respect to carditis caused by Lyme disease?
- A. Patients most commonly experience initial symptoms several years after the initial tick bite.
  - B. Patients most commonly present with variable degrees of atrioventricular (AV) block.
  - C. Patients most commonly suffer from symptoms of CHF.
  - D. The prognosis of patients with Lyme carditis is poor, as almost one-third of patients ultimately require a heart transplant.
  - E. Most patients are sero-negative for anti-Borrelia antibodies at the time of presentation.
4. A 76-year-old female with a history of hypertension, diabetes, and hyperlipidemia presents with rapid palpitations that started one day prior to her ED evaluation. They have waxed and waned in intensity but seemed more persistent on the day of presentation. Her EKG is shown (Fig. 1-12). Aside from tachycardia, her vital signs are stable. Which of the following is true?
- A. The two pads for cardioversion should both be placed on the front of the chest
  - B. Electrical cardioversion is the treatment of choice
  - C. The primary ED treatment goal should be controlling the heart rate
  - D. If the patient converts to normal sinus rhythm, no anticoagulation is needed
  - E. In patients with heart failure, digoxin is the preferred agent



**Figure 1-12**

5. A 23-year-old female presents with fever, chills, and right flank pain. She just completed treatment for pyelonephritis with a 2-week course of ciprofloxacin. The patient states that the symptoms are very similar to when she had pyelonephritis and she cannot understand why she did not get better with the antibiotics. She admits to having waited “longer than usual” before seeking care for the pyelonephritis during the first visit, but swears that she took all the antibiotics as directed. The initial urine culture revealed *E. coli* that was sensitive to ciprofloxacin. Which of the following is the most appropriate next step in management?
- A. Switch to cefpodoxime for 10 days
  - B. Continue ciprofloxacin for 7 more days
  - C. Switch to trimethoprim–sulfamethoxazole (TMP-SMX) for 3 days
  - D. Switch to metronidazole for 3 days
  - E. CT scan of the abdomen/pelvis

5. A 26-year-old female involved in an MVC has persistent abdominal tenderness after a negative CT of the abdomen and pelvis. Her vital signs are normal and there is no seatbelt sign. Which of the following is true?
- She should be admitted for further observation and serial physical examinations
  - She should undergo ED observation with repeat CT imaging in 6 hours if her tenderness persists
  - A FAST scan should be performed to detect intraperitoneal bleeding that may have been missed by CT
  - She may be discharged with close outpatient follow-up
  - She should be under repeat CT testing with oral contrast to further investigate possible bowel injuries
7. A 22-year-old male presents with acute onset of right scrotal pain for 2 hours. He has severe, colicky pain with nausea and vomiting but no fevers, chills, or dysuria. Vital signs are normal, but the patient is in extreme discomfort. Abdominal examination is normal. Testicular examination reveals a tender right testis with an absent ipsilateral cremasteric reflex. Which of the following is the most appropriate next step in evaluation?
- CT scan of the abdomen and pelvis
  - MRI of the abdomen and pelvis
  - Color Doppler ultrasonography of the scrotum
  - Retrograde urethrogram
  - Elicitation of the bulbocavernosus reflex
3. A 29-year-old male is sent by his primary care doctor's office for evaluation of an abnormal EKG. He is asymptomatic and his physical examination is normal. The EKG is shown in [Figure 1-13](#). Which of the following is the most appropriate next step in management?
- No acute therapy
  - Atropine 1 mg IV
  - Amiodarone 150 mg IV
  - Transcutaneous pacing
  - Synchronized cardioversion at 50 J



**Figure 1-13**

9. Which of the following sleeping positions is the best method to reduce the risk of sudden infant death syndrome (SIDS)?
- Prone
  - Supine
  - Side
  - Standing
  - Head down
10. A 32-year-old male presents to the ED with headache and fever for 2 days. He also reports a stiff neck and photophobia. Past medical history is unremarkable. Physical examination reveals a febrile patient

with nuchal rigidity, no papilledema, and no focal neurologic deficits. Which of the following is the most appropriate next step in management?

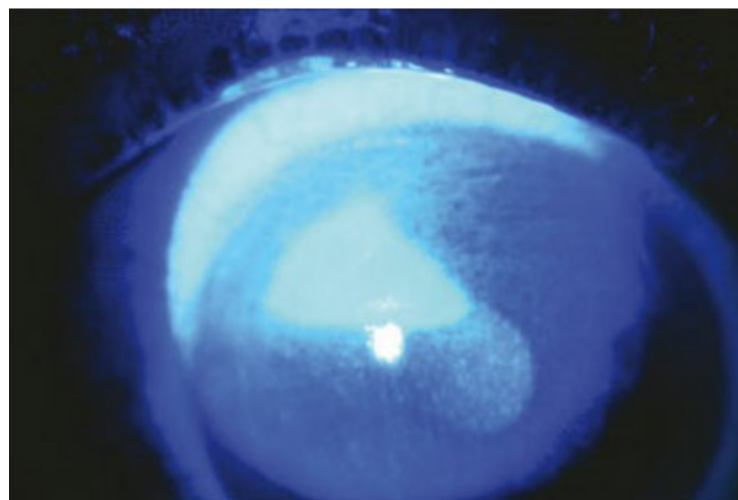
- A. Antibiotic therapy
- B. Antibiotic therapy with corticosteroids
- C. CT brain with IV contrast
- D. MRI brain with gadolinium contrast
- E. Lumbar puncture

1. A 78-year-old male presents with marked left foot weakness and hypoesthesia. In addition, his family states that he is not acting himself and seems to be having difficulty making decisions. Which of the following arteries is most likely affected?

- A. Vertebrobasilar artery
- B. Posterior cerebral artery
- C. Middle cerebral artery
- D. Anterior cerebral artery
- E. None of the above

2. A 37-year-old male presents with left eye pain and redness after rubbing his eye the day before. Slit lamp evaluation with fluorescein stain is shown in [Figure 1-14](#). Which of the following is the most appropriate next step in management?

- A. Topical antivirals
- B. Topical steroids
- C. Topical antibiotics
- D. Intravenous acetazolamide
- E. Emergent ophthalmologic consultation



**Figure 1-14**

3. A 34-year-old male complaining of neck pain and leg pain is brought in by EMS after hitting a tree while driving his car. A cervical spine CT is negative and x-rays of his foot reveal no fracture. He has no neurologic complaints and his neurologic examination is normal. However, he has persistent cervical spine tenderness on examination. Which of the following is true?

- A. A cervical spine MRI should be performed
- B. Flexion and extension views of the spine are needed
- C. Either MRI or flexion–extension plain films should be performed to diagnose ligamentous injury
- D. Cervical spine CT may miss 15% of cervical spine fractures
- E. Injuries found on MRI are unlikely to require surgical intervention

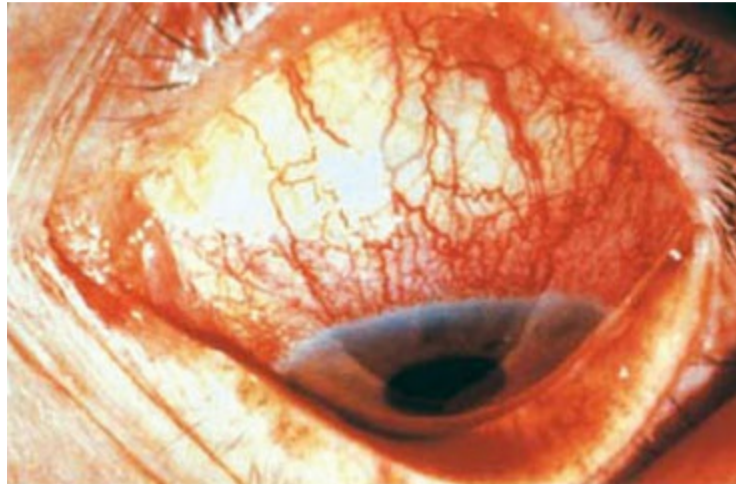
4. A 29-year-old female with a history of multiple sclerosis (MS) presents to the ED with a chief complaint of a 2-day history of right arm weakness and clumsiness. She reports that these symptoms are similar to a past “MS flare.” Her examination reveals proximal and distal right arm weakness but no other findings. Which of the following is the best next step?

- A. CT to exclude a stroke
- B. Admission for plasma exchange
- C. Neurology consult
- D. MRI to verify a demyelinating plaque is causing the symptoms



E. 1,000 mg IV methylprednisolone

5. A 37-year-old male presents with eye pain and redness as shown (Fig. 1-15). He has experienced no trauma. Which of the following is the most likely diagnosis?
- A. Corneal abrasion
  - B. Anterior uveitis
  - C. Acute angle closure glaucoma
  - D. Pinguecula
  - E. Pterygium



**Figure 1-15**

5. An 11-year-old male hit the curb while riding his bicycle and was thrown forward into his handlebars. The classic injury associated with this accident is:
- A. Myocardial contusion
  - B. Pancreatic injury
  - C. Liver contusion
  - D. Splenic contusion
  - E. Diaphragmatic rupture
7. The best indicator of successful neonatal resuscitation is:
- A. Improved skin color
  - B. Improved oxygen saturation
  - C. Improved respiratory rate
  - D. Improved heart rate
  - E. Improved muscle tone
3. A 62-year-old healthy male presents with a 1-day history of painful, partially crusted vesicular rash over his left flank radiating to his left hemiabdomen that appears most consistent with shingles. Which of the following is true?
- A. Prednisone is a useful adjunct to reduce the incidence of postherpetic neuralgia
  - B. Antiviral therapy decreases the rate of postherpetic neuralgia with or without steroids
  - C. Antiviral therapy speeds healing from the rash
  - D. The shingles vaccine may help hasten recovery from the rash and acute neuritis
  - E. All of the above
9. Which of the following is the most frequently affected structure in thoracic outlet syndrome?
- A. Subclavian artery
  - B. Subclavian vein
  - C. Ulnar nerve
  - D. Radial nerve
  - E. Median nerve
0. A 25-year-old female presents with acute onset of a severe occipital headache. CT reveals a subarachnoid hemorrhage (SAH). Which of the following clinical findings is likely present?
- A. Focal neurologic deficit

- B. Exertional activity immediately before symptoms
  - C. Seizure
  - D. Nausea
  - E. Intraocular hemorrhage
1. When compared with patients with deep venous thrombosis (DVT) of the lower extremities, patients with an upper extremity DVT
    - A. Tend to be older
    - B. Are more likely to have an underlying diagnosis of cancer
    - C. More often have an inherited or acquired hypercoagulable state
    - D. Do not require anticoagulation
    - E. More commonly experience complications as a result of the DVT
  2. Thirty minutes after a 35-year-old female presents to the ED with a severe asthma exacerbation, you intubate her because she is showing signs of fatigue and ventilatory failure. You use ketamine and succinylcholine, and pass the endotracheal through the vocal cords without difficulty. A colleague who is assisting you aggressively “bags” the patient until the respiratory therapist connects the mechanical ventilator. Thirty seconds after intubation, the nurse reports that the patient’s blood pressure (BP) has dropped to 93/46. Her BP before intubation was 138/80. The patient has an 18-gauge peripheral intravenous (IV) line in her left antecubital fossa and her trachea appears midline. What is the best course of action?
    - A. Ask the nurses to place a second large-bore peripheral IV and immediately bolus the patient with 2 L of normal saline.
    - B. Extubate the patient and deliver breaths using a bag–valve mask.
    - C. Disconnect the ventilator but keep the endotracheal tube (ETT) in place and allow the patient to exhale.
    - D. Ask the nurses to start a dopamine drip at 5 µg/kg/minute.
    - E. Perform an immediate needle thoracostomy.
  3. A 55-year-old female presents with 1 to 2 days of palpitations, anxiety, agitation, tachycardia, and hypertension. Her thyroid-stimulating hormone level is very low and her free T<sub>4</sub> and free T<sub>3</sub> levels are elevated. Which of the following is the most appropriate sequence in which to administer ideal therapies?
    - A. Potassium iodide → Propranolol → Propylthiouracil → Dexamethasone
    - B. Potassium iodide → Propylthiouracil → Dexamethasone → Propranolol
    - C. Dexamethasone → Propranolol → Propylthiouracil → Potassium iodide
    - D. Propylthiouracil → Potassium iodide → Propranolol → Dexamethasone
    - E. Propranolol → Potassium iodide → Dexamethasone → Propylthiouracil
  4. The most common cause of hypomagnesemia in the ED is likely
    - A. Alcoholism
    - B. Diuretic therapy
    - C. Acute tubular necrosis
    - D. Chronic diarrhea
    - E. Diabetic ketoacidosis (DKA)
  5. A 3-year-old previously healthy female is brought to the emergency room after ingesting three of her mother’s 2.5 mg glyburide tablets, believing they were candy. Her mother estimates that the ingestion occurred almost 2 hours before presenting, but she only noticed the open box shortly before arrival. She states her daughter seems “ok” but has been a bit more tired and irritable than normal. The patient’s initial blood glucose is 58. Which of the following is the best next step?
    - A. Administration of ½ an ampule of intravenous D50W and observation in the emergency room for 4 hours.
    - B. Administration of 5 mL/kg of intravenous D25W and observation in the emergency room for 4 hours.
    - C. Administration of 5 mL/kg of intravenous D10W and admission for overnight observation.

- D. Administration of 10 mL/kg of intravenous D10W and observation in the emergency room for 4 hours.
- E. Administration of 5 mL/kg of intravenous D10W, subcutaneous octreotide at 1 mcg/kg, and observation in the emergency room for 4 hours.
5. Which of the following is the most common cause of dysuria?
- Bacterial infection
  - Viral infection
  - Fungal infection
  - Parasitic infection
  - Allergic urethritis
7. The most widely used critical care ventilatory strategy in acute asthmatic patients aims to accomplish which of the following objectives?
- Patients are purposefully hypoventilated, maintaining elevated  $P_{aCO_2}$  values, to keep their airway pressures at safe levels to avoid barotrauma.
  - Patients are purposefully hyperventilated to bring their  $P_{aCO_2}$  levels back to normal because ventilatory failure is the primary reason for intubating patients in status asthmaticus.
  - The initial ventilator settings are no different than for a patient intubated for airway protection due to altered mental status.
  - Inspiratory flow rates are set very low to avoid causing very high peak airway pressures due to bronchoconstriction.
  - The inspiratory flow curve should be a ramp-style wave instead of a square-style wave to maximize expiratory time.
3. A 65-year-old female pedestrian presents after being struck by a car moving at about 20 mph. She has an obvious, open, deformed leg fracture and was unable to walk at the scene. Her prehospital vital signs are P 105, 85/55, and 100% RA. She is awake and alert and in significant pain. You confirm that her airway, breathing, and pulses are intact. On visual inspection, she has an open tibial shaft fracture and has decreased sensation distal to the fracture. Which of the following is the most important next step in management?
- Splint application to leg
  - Irrigation of leg wound
  - IV gentamicin and cefazolin
  - Tetanus immunization
  - Chest and pelvis x-rays
9. A 65-year-old female presents with right eye pain, irritation, foreign body sensation, and tearing. Skin lesions are seen on the right side of the forehead and the conjunctivae are injected. Slit lamp examination reveals pseudodendrites. Which of the following is true?
- Patients with associated nasal vesicles should not receive topical ophthalmic steroids.
  - A prodrome is uncommon.
  - Cranial nerve VII is most commonly involved.
  - Anterior uveal involvement is dependent upon severity of corneal disease.
  - Systemic antivirals are more effective than topical antivirals.
10. Which of the following is true regarding the management and prognosis of trigeminal neuralgia?
- Remission, with or without treatment, rarely occurs.
  - Antiviral medications directed at herpes and corticosteroids have been shown to reduce the duration of pain and prevent recurrence.
  - In addition to medical treatment, all patients should be referred to a neurologist for further evaluation by MRI.
  - Fifty percent of patients will eventually require neurosurgical ablation of the trigeminal nerve.
  - All patients should be loaded with phenytoin and prescribed an outpatient regimen.