

## PREP Poor Performing Questions

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## Fetus & Newborn – Jaundice

2010-52

**Practice Gap:** Know how to manage breast-feeding associated jaundice

A 5-day-old boy who was born at 38-weeks' gestation by dates, presents for his first visit after hospital discharge. He appears clinically jaundiced and has a transcutaneous bilirubin measurement of 16.0 mg/dL (273.7  $\mu\text{mol/L}$ ). He is exclusively breastfed. His birthweight was 2,900 g and today's weight is 2,800 g. According to his mother, his older brother was born at term and had no problems with jaundice. Both the mother's and baby's blood types are O+, and results of a direct Coombs test are negative. You obtain a blood sample, which confirms the bilirubin value. Of the following, the MOST appropriate approach to managing this infant's hyperbilirubinemia is to

- A 0.1%: initiate intravenous fluids in the hospital
- B 15.3%: initiate exposure to sunlight in the home
- C 7.8% initiate phototherapy
- D 6.9% interrupt breastfeeding for 12-24 hours
- E 69.7% (48.79%) supplement breastfeeding with formula at home**

## Genetics and Dysmorphology – Malformations-deformations

2009- 247

**Practice Gap:** Recognize the clinical findings of premature closure of a cranial suture such as bilateral coronal suture synostosis

A mother brings in her 4-month-old baby because she is concerned about the infant's head shape. The baby is growing and developing normally. Physical examination findings are normal except for a flat occiput and a wide biparietal diameter with a flat forehead. The head circumference is normal, and the anterior fontanelle is small but patent. Of the following, this baby's findings MOST likely are caused by

- A **56% (41%)\*: bilateral coronal suture synostosis**
- B 2%: bilateral lambdoid suture synostosis
- C 2% metopic suture synostosis
- D 33%: positional plagiocephaly
- E 4% : sagittal suture synostosis

## Genetics and Dysmorphology – Klinefelter Syndrome

2011-247

**Practice Gap:** Correlate clinical findings with a diagnosis of Klinefelter Syndrome

The parents of a 12-year-old boy bring him to the clinic because they are concerned about his lack of interest in socializing and physical activity. He was held back in school this year due to learning problems, primarily in reading and writing. He has no close friends, and his favorite activity is watching television. On physical examination, the pleasant and attractive youngster converses with you easily. His weight is at the 50th percentile and his height at the 95th percentile. He wears thick glasses due to high myopia. He has mild scoliosis in the thoracic spine. He shows no signs of puberty. Using a Woods lamp, you identify five café au lait macules on his trunk and extremities. Of the following, the MOST likely diagnosis for this boy is

- A 1.1%: Asperger syndrome
- B **70.9 (53.5%): Klinefelter syndrome**
- C 7.85%: Marfan syndrome
- D 16.9%: Neurofibromatosis
- E 3.1%: Stickler syndrome

## Allergic and Immunologic Disorders –Asthma

**2008- 189**

**Practice Gap:** Identify the characteristics of mild persistent asthma (symptoms > twice/week but < once /day, nighttime cough > twice/month, exacerbations of variable intensity with no signs of pulmonary function abnormality

An 11-year-old girl presents with a 6-month history of coughing, wheezing, and chest tightness. She usually has these symptoms three times a week during the day, but also wakes up at night once a month with the same symptoms. The symptoms have improved when she has used her mother's beta-2 agonist inhaler, but her parents are worried that she sometimes misses school because of her difficulty breathing. You suspect asthma. Based on the frequency of her symptoms, the BEST categorization of this girl's asthma severity is

- A 0%: exercise-induced asthma
- B 2%: mild intermittent asthma
- C 73% (59%): mild persistent asthma**
- D 21%: moderate persistent asthma
- E 1%: severe persistent asthma

### **Allergic and Immunologic Disorders –Skin Testing**

**2011-63**

**Practice Gap:** Stop use of amitriptyline prior to performing aeroallergen skin tests

You are evaluating a 14-year-old girl for allergic rhinitis. Her current medical diagnoses include moderate persistent asthma, gastroesophageal reflux, and migraine headaches. You discuss that before aeroallergen skin testing, some medications need to be stopped temporarily because they can suppress skin test results. Of the following, the drug that is MOST likely to suppress aeroallergen skin tests is

- A .67%: A short-acting beta 2 agonist
- B 60% (33.1%): Amitriptyline**
- C 4.5%: An inhaled corticosteroid
- D 15.1%: Montelukast
- E 19.7%: Ranitidine

## Infectious Diseases – Chlamydia

2008-246

**Practice Gap:** Know the appropriate diagnostic test for different sites of *Chlamydia trachomatis* infection (eg culture, nucleic acid amplification).

A 2-week-old girl presents to the clinic with a history of drainage from her right eye. Her mother states that she noticed “the white part of her eye” turning red yesterday, but today the eye was redder and swollen with some drainage. The infant was born at term via normal spontaneous vaginal delivery without complications and is the mother’s second child. The mother denies any illness or sexually transmitted disease during her pregnancy, but states that she did smoke one quarter pack of cigarettes per day. Physical examination reveals an afebrile, healthy-appearing female whose only abnormality involves her right eye. The upper and lower eyelids are slightly swollen, and her conjunctiva is erythematous, with a nonpurulent-appearing discharge. You suspect she has neonatal conjunctivitis due to *Chlamydia trachomatis*. Of the following, the MOST sensitive method for establishing the diagnosis is

- A 19%: conjunctival culture
- B 0%: detection of eosinophilia on a complete blood count
- C 8%: Giemsa staining of conjunctival scrapings
- D 69% (56%): nucleic acid amplification test of conjunctival cells**
- E 1%: serum immunoglobulin G testing for *C trachomatis*

## Infectious Diseases - Haemophilus influenzae

2009-223:

**Practice Gap:** Know that nontypeable *Haemophilus influenzae* is the predominant bacterial pathogen in acute bacterial rhinosinusitis

A 4-year-old girl presents with a 2-week history of bilateral discolored rhinorrhea, nasal congestion, and decreased oral intake. Her mother states that at the onset of this illness, she developed clear rhinorrhea 2 days after attending child care. Despite using over-the-counter antihistamines and decongestants, the child’s symptoms have persisted. A quick review of her chart shows that her immunizations are up to date, including her pneumococcal conjugate vaccine series and her annual influenza vaccination. On physical examination, the child has appropriate vital signs for her age, infraorbital edema bilaterally, and yellowish mucus in her nares. You suspect acute bacterial rhinosinusitis (ABRS) and discuss evaluation and treatment options with the mother. Of the following, a TRUE statement regarding this child’s condition is that

- A 1%: a sinus radiograph should be performed prior to initiating antibiotic therapy for ABRS
- B 1%: ABRS can be distinguished easily from a viral upper respiratory tract infection
- C 27%: allergic rhinitis is the most common risk factor for developing ABRS
- D 3%: the gold standard test for organism identification in ABRS is a nasal swab culture
- E 65% (44%): the most likely bacterial pathogen is *Haemophilus influenzae***

**Infectious Disease – *Staphylococcus aureus***

**2008-156:**

**Practice Gap:** Identify an infection due to methicillin-resistant *Staphylococcus aureus* (MRSA) and manage appropriately.

A 3-year-old girl presents to the clinic with the complaint of a recurrent abscess on her buttock. The area has been indurated for 3 to 4 days, but the mother reports that some “nasty” drainage began last night. On physical examination, the girl is afebrile and has an erythematous, indurated area on her right buttock of approximately 2 cm in diameter. With pressure, it drains purulent material. Of the following, in addition to incision and drainage, the BEST treatment is

- A 2%: amoxicillin/clavulanate
- B 5%: cephalexin
- C 17%: clindamycin
- D 48% (33%): observation**
- E 24%: trimethoprim-sulfamethoxazole

**2009- 236**

**Practice Gap:** Recognize that infections 96 hours after an animal bite that produce purulence are usually due to *Staphylococcus aureus* and that infections that develop within 24 hours of a bite are usually caused by *Pasteurella multocida*.

A 5-year-old girl presents approximately 96 hours after being bitten by a dog on her leg. Her mother states that she developed fever and swelling of the leg around the bite site over the past 12 hours. Physical examination reveals a nontoxic-appearing girl who has a temperature of 101.8°F (38.8°C) and an open wound with visible purulence and surrounding erythema. Of the following, the MOST likely pathogen responsible for these symptoms is

- A 2%: *Eikenella corrodens*
- B 0%: *Kingella kingae*
- C 32%: *Pasteurella multocida*
- D 59% (38%): *Staphylococcus aureus***
- E 3%: *Streptococcus pyogenes*

### **Infectious Disease – Shigella**

**2009-156**

**Practice Gap:** Know the mode of transmission of *Shigella* species and that *Shigella* can cause child care diarrheal outbreaks.

You are the physician for the child care center that your child attends. When an outbreak of diarrhea occurs at the center, the director calls you. She knows infections due to *Giardia lamblia* are common in child care centers, but asks if she needs to be worried about anything else. Of the following, the organism MOST likely to cause a child care outbreak is

- A 3%: *Aeromonas hydrophila*
- B 17%: *Campylobacter jejuni*
- C 17%: *Salmonella* sp
- D 58% (43%): *Shigella* sp**
- E 2%: *Yersinia enterocolitica*

### **Infectious Disease – Enterovirus in Neonates**

**2011-204**

**Practice Gap:** Know appropriate treatment for GBBHS during labor and correlate clinical findings with echovirus infection

A 6-day-old infant is brought to the emergency department in August with a 1-day history of decreased feeding, decreased activity, tactile fever, and rapid breathing. He was born at term by normal spontaneous vaginal delivery and weighed 3,742 g. His mother reports that she had a nonspecific febrile illness 1 week before delivery for which she received no treatment. Her group B Streptococcus screen was positive at 36 weeks' gestation, and she received two doses of ampicillin (>4 hours apart) during labor. The baby received no antibiotics and was discharged at 48 hours of age. Physical examination today reveals a toxic, lethargic infant who is grunting and has a temperature of 39.4°C, heart rate of 180 beats/min, and respiratory rate of 60 breaths/min. His lungs are clear, with subcostal retractions. He has a regular heart rhythm with gallop, his pulses are thready, his capillary refill is 4 seconds, and his extremities are cool. Of the following, the MOST likely cause of this baby's illness is

- A 20.3%: early-onset group B Streptococcus infection
- B 71.2% (51.8%): echovirus 11 infection**
- C 4.0%: herpes simplex virus infection
- D 3.8% hypoplastic left heart syndrome
- E .5%: respiratory syncytial virus infection

## Endocrine Disorders- Thyroid

**2008-26**

**Practice Gap:** Know the laboratory studies that distinguish Hashimoto thyroiditis from other causes of thyroid enlargement and hypothyroidism and know how to manage Hashimoto's thyroiditis.

You are seeing a 10-year-old girl for her yearly health supervision visit. On physical examination, you palpate a smooth and symmetric thyroid that seems twice normal size (Item Q26). There are no palpable nodules. Serum free thyroxine and thyroid-stimulating hormone (TSH) values are both normal. Serum thyroperoxidase antibody concentrations are elevated. Of the following, the initial BEST approach to management is to

*Data from CD-ROM users only:*

A 11%: obtain a 123-I thyroid scan

B 14%: obtain thyroid ultrasonography

**C 68%: recheck TSH concentration in 6 months**

D 5%: start treatment with triiodothyronine

E 0%: start treatment with TSH

## Endocrine Disorders – Puberty

**2009-10**

**Practice Gap:** Know that patients with Turner syndrome are at higher risk of developing chronic lymphocytic thyroiditis and hypothyroidism than the general population and that thyroid-stimulating hormone assays are appropriate to monitor.

A 13-year-old girl who has just moved to the United States from Brazil comes to your office because her mother is worried that she is not "developing yet." On physical examination, her height is 50 inches, and she has a triangular face, a low hairline, high-arched palate, and a shield-shaped chest (Item Q10). Breast tissue is not visible or palpable, but there is Sexual Maturity Rating 3 pubic hair. You obtain bone age radiography and a karyotype and measure serum luteinizing hormone and follicle-stimulating hormone. Of the following, the MOST appropriate additional laboratory measurement is

A 3% adrenocorticotrophic hormone

B 4% prolactin

C 12% 17-hydroxyprogesterone

D 5% testosterone

**E 73% (55%): thyroid-stimulating hormone**

**2009- 218**

**Practice Gap:** Recognize the hormones that should be measured to rule out tumors causing precocious puberty

The parents of a 6-year-old boy are concerned because he has been developing pubic hair over the past 6 months. On physical examination, you note a recent growth spurt, Sexual Maturity Rating 3 pubic hair, a penis that is 8 cm in length and androgenized, and testes that are 5 mL in volume. Other findings are normal. His bone age is 7 years. You order measurements of serum testosterone, 17-hydroxyprogesterone, dehydroepiandrosterone, luteinizing hormone, and follicle-stimulating hormone. Of the following, the MOST important additional test is measurement of serum

A 20%: adrenocorticotrophic hormone

B 1%: estradiol

C 11%: free testosterone

**D 56% (39%): human chorionic gonadotropin**

E 8%: prolactin

## **Gastrointestinal Diseases – Gastrointestinal Bleeding**

**2008-237**

**Practice Gap:** Distinguish among the etiologies of occult blood and bright red blood per the rectum

A 3-year-old child presents with a history of intermittent painless rectal bleeding. Approximately once or twice a week, she passes a formed stool that contains up to “a teaspoon” of blood. Physical examination demonstrates no fissures or hemorrhoids. Hematocrit measurement and results of coagulation studies are normal. The bleeding persists despite stool softeners. Of the following, the test that is MOST likely to establish a diagnosis is

- A 67% (47%): colonoscopy**
- B 0%: computed tomography scan of the abdomen
- C 30%: Meckel scan (radionuclide technetium scan)
- D 0%: magnetic resonance angiography
- E 0%: stool culture

## **Gastrointestinal Diseases – Endoscopy**

**2008-145**

**Practice Gap:** Know the indications for endoscopy in chronic recurrent abdominal pain

A 13-year-old boy who has a 1-year history of abdominal pain in the epigastric and periumbilical regions presents for further evaluation. According to his history, the pain occurs one to three times per week and sometimes interferes with school attendance and physical activity. Findings on physical examination are normal. You review the diagnostic studies that have been performed in the past year. Of the following, the finding that MOST warrants referral for upper endoscopy is

- A 6%: abnormal lactose breath hydrogen test result
- B 0%: elevated serum alkaline phosphatase value
- C 4%: elevated serum amylase value
- D 18%: mild anemia (hematocrit, 33% [0.33])
- E 69% (55%): positive tissue transglutaminase antibody**

## **Gastrointestinal Diseases – Pancreatitis**

**2010-145**

**Practice Gap:** Correlate test results with a diagnosis of recurrent pancreatitis

A 5-year-old girl has a 2-year history of intermittent, poorly localized abdominal pain. She now presents with a recurrence of crampy pain, and she has vomited after each meal for the past 24 hours. She has no history of fever or diarrhea. The child woke frequently last night because of pain, and she seemed more comfortable lying on her side in a knee-chest position. The family history is negative for gastrointestinal disease. Both parents are 42 years of age, and the child's father underwent a coronary artery bypass procedure last year. The girl is difficult to examine, complaining of pain wherever her abdomen is palpated. Initial laboratory data include:

- White blood cell count,  $10.4 \times 10^3/\text{mcL}$  ( $10.4 \times 10^9/\text{L}$ )
- Hemoglobin, 12.5 g/dL (125 g/L)
- Sodium, 135 mEq/L (135 mmol/L)
- Chloride, 100 mEq/L (100 mmol/L)
- Potassium, 4.5 mEq/L (4.5 mmol/L)
- Amylase, 240 units/L
- Lipase, 700 units/L
- Aspartate aminotransferase, 60 units/L
- Alanine aminotransferase, 70 units/L

Of the following, the test that is MOST likely to demonstrate the underlying cause of this girl's illness is

- A 16.7%: abdominal ultrasonography
- B 16.9%: magnetic resonance cholangiopancreatography
- C 1.4%: serum calcium measurement
- D 61.4% (46.6%): serum lipid measurement**
- E 3.3%: positive tissue transglutaminase antibody

**2010-193**

**Practice Gap:** Correlate Clinical & laboratory data with a diagnosis of Wilson's disease

You are completing a routine pre-camp examination of a 12-year-old boy. His mother reports that he recently has been experiencing some difficulties in school, and the boy admits to problems concentrating and to frequent daydreaming in class. On physical examination, his height is 160 cm and weight is 70 kg. The only other finding of note is a firm liver edge palpated 2.5 cm below the right costal margin. Diagnostic studies demonstrate aspartate aminotransferase of 65 units/L and alanine aminotransferase of 80 units/L. Findings on computed tomography scan of the abdomen are consistent with fatty infiltration of the liver. Of the following, the single MOST important additional laboratory test to obtain is serum

- A 3.7%: alpha-fetoprotein
- B 1.2%: antismooth muscle antibody
- C 72.3% (54.9%): ceruloplasmin**
- D 1.1%: hepatitis B serology
- E 21.51%: lipids

**Gastrointestinal Diseases – Alcohol Induced Gastritis****2010-209**

**Practice Gap:** Correlate alcohol consumption with GI Bleeding

A 19-year-old previously healthy boy who is a sophomore at a local college began experiencing an intermittent "burning feeling" in the epigastric region 2 weeks ago. Early this morning, he awoke feeling nauseated and vomited last evening's dinner, along with a few "dark specks." Now he complains of a headache, epigastric discomfort, and a feeling of fullness. He reports that his grades have declined recently and that he has been receiving mostly "C's" this year. He attended a party last night and admits to "having a few beers." Physical examination demonstrates an alert, well-hydrated young man. Abdominal examination reveals epigastric tenderness without rebound, and the rectal examination produces a small amount of brown stool that is positive for occult blood. A hematocrit in your office is 42% (0.42). Of the following, the MOST important next step is to

- A 3.5%: obtain serum Helicobacter pylori antibodies
- B 4.7%: prescribe lansoprazole 60 mg bid for 6 weeks
- C 9%: prescribe sucralfate 1 g four times a day for 1 month
- D 72.7% (51.7%): recommend that he stop drinking alcohol**
- E 17.9%: refer for immediate upper gastrointestinal endoscopy

**Renal Disorders – Recurrent UTI**

**2010-44**

**Practice Gap:** Select best antibiotic for recurrent urinary tract infection

A 7 year-old-girl presents to your office with a 1-day history of a temperature of 38.9°C. Notable findings from her past medical history include static encephalopathy, seizure disorder, and recurrent urinary tract infections. She is receiving intermittent straight catheterization and trimethoprim-sulfamethoxazole (TMP-SMX) prophylaxis. Her medications also include phenytoin, albuterol via nebulizer, ipratropium, and ranitidine. Urinalysis reveals more than 100 white blood cells per high-power field and is positive for leukocyte esterase and nitrites. Of the following, the BEST option for oral empiric therapy pending culture results is

- A 8.6%: amoxicillin
- B 0.7%: azithromycin
- C 62.2% (44.87%): ciprofloxacin**
- D nitrofurantoin: 23.5%
- E trimethoprim-sulfamethoxazole: 4.79%

**Renal Disorders – Ectopic Ureter****2010-253**

**Practice Gap:** Correlate ectopic ureter with history, clinical findings and laboratory values

A 6-year-old girl presents with complaints of persistent daytime and nighttime wetting. She has no dysuria, frequency, urgency, polyuria, polydipsia, abdominal pain, or constipation. According to her mother, the girl has shown signs of toilet training since 3 years of age, using the bathroom whenever she felt the urge to urinate. Despite these behaviors, however, her mother states that her daughter is "always wet." The child is doing well in school and has no physical limitations. She has had no urinary tract infections. Findings on her physical examination are normal. Urinalysis reveals a urine specific gravity of 1.025; pH of 6; and negative blood, protein, leukocyte esterase, nitrite, and microscopy findings. A urine culture is negative. Of the following, the MOST likely explanation for this child's clinical condition is

- A 72.3% (52.35%): ectopic ureter**
- B 14.7%: neurogenic bladder
- C 5.5%: pollakiuria
- D 6.7%: ureterocele
- E .7%: viral cystitis

**Renal Disorders – Acute Glomerulonephritis**

**2011-190**

**Practice Gap:** Correlate elevated serum creatinine value with acute glomerulonephritis

The mother of a 7-year-old girl reports that her daughter's urine has a "cola" color but contains no clots. She was well until she developed a sore throat yesterday. She has no dysuria, frequency, back pain, or trauma. On physical examination, the girl has trace edema but no suprapubic or flank tenderness. Her temperature is 38.1°C, heart rate is 80 beats/min, respiratory rate is 16 breaths/min, and blood pressure is 134/84 mm Hg. Urinalysis reveals:

- Specific gravity, 1.020
- pH, 6
- 3+ blood
- 3+ protein
- Negative nitrite
- 1+ leukocyte esterase
- More than 100 red blood cells/high-power field (hpf)
- 5 to 10 white blood cells/hpf

Of the following, the MOST likely associated laboratory abnormality is

- A .22%: Bilateral cysts on renal ultrasonography
- B 26.6%: Depressed complement component 3
- C 69.8% (49.75%): Elevated serum creatinine**
- D 2.0%: Elevated urinary calcium-to-creatinine ratio
- E 1.2%: Positive urine culture

**Renal Disorders – Enuresis**

**2011-238**

**Practice Gap:** Correlate clinical and laboratory findings with a diagnosis of nocturnal enuresis and prescribe appropriate treatment

As you are examining a 6-year-old boy during a routine health supervision visit, his mother expresses concerns about his bedwetting at night. He achieved daytime dryness at age 3 years. The boy experiences daytime urgency and frequency, but he has no daytime accidents or associated dysuria, fever, abdominal pain, or constipation. Urinalysis reveals a specific gravity of 1.025; pH of 6; and no blood, protein, nitrite, or leukocyte esterase. Microscopy yields negative findings. Of the following, the MOST appropriate treatment for this patient's symptoms is

- A 4.5%: desmopressin acetate (DDAVP)
- B 27%: enuresis alarm
- C 2.0%: imipramine
- D 65.9% (42.2%): oxybutynin chloride**
- E .37%: trimethoprim-sulfamethoxazole

**Cardiovascular Disorders – Systemic diseases**

**2008-118**

**Practice Gap:** Know the importance of cardiovascular evaluation when there is a family history of hypertrophic cardiomyopathy

You are seeing a 10-year-old boy for a health supervision visit. His brother and sister accompany him and his mother to the visit. The mother reports that her husband recently underwent a heart transplant for a “thick heart.” As you explore the family history in more detail, you learn that the boy’s paternal uncle and grandfather both have been diagnosed with hypertrophic cardiomyopathy. The boy has never had chest pain, palpitation, shortness of breath, dizziness, or syncope. He participates in sports and activities without any problems. Findings on physical examination are within normal limits. Of the following, the MOST appropriate next step is

A 1%: cardiology referral for this patient

**B 65% (49%): cardiology referral for this patient and all of his siblings**

C 9%: cardiology referral for this patient and his male siblings

D 19%: electrocardiography and echocardiography, followed by cardiology referral if results of either are abnormal

E 3%: genetic testing for the entire family

**Cardiovascular Disorders- Rate and Rhythm Disorders**

**2008-102**

**Practice Gap:** Identify the clinical manifestations of common cardiac arrhythmias

A 6-month-old previously healthy girl is brought to your office because she has not been eating well today. The mother reports that the baby is interested in taking the bottle, but stops feeding within 1 minute and seems to have trouble breathing. She is irritable but consolable in her mother’s arms. She is pale, afebrile, and has a respiratory rate of 70 breaths/min. Her heart rate is too fast to count, she has palpable pulses in all extremities, and her perfusion is fair, with a capillary refill time of 2 to 3 seconds. Of the following, the MOST likely additional finding expected in this child is

A 25%: crackles over the lungs

B 0%: conjunctivitis

**C 72% (53%): hepatomegaly**

D 0%: nuchal rigidity

E 0%: rash on the extremities

**2009-197**

**Practice Gap:** Know that patients with a family history of hypertrophic cardiomyopathy should be evaluated as often as yearly with detailed history, physical examination, and diagnostic testing that includes electrocardiography and echocardiography

You are performing screening sports participation examinations at the local high school. One of the students, a 16-year-old boy, reports that his father has hypertrophic cardiomyopathy but that none of his three older brothers has it. He also reports that he was seen by a cardiologist at age 10 years and was "fine." As you take his history, you find that he has never had shortness of breath, chest pain, exercise intolerance, dizziness, or fainting. He has always participated in sports and has excelled. Of the following, the BEST plan of management for this boy is

- A 0%: chest radiography
- B 12%: electrocardiography
- C 4%: genetic testing for hypertrophic cardiomyopathy
- D 73% (57%): referral to a cardiologist**
- E 7%: unrestricted sports participation unless symptoms develop

### **Cardiovascular Disorders – Heart Murmur**

**2010-101**

**Practice Gap:** Correlate clinical findings with a diagnosis of atrial septal defect

You are evaluating a 12-year-old girl as part of a sports screening program at the local school. She tells you that she has trouble keeping up with her friends during gym class and on the soccer field. On physical examination, she appears well and is in no distress. Her precordial examination demonstrates a mild lift. The first heart sound is normal, and the second heart sound is prominently split and does not vary with respiration. There is a 3/6 systolic ejection murmur at the upper left sternal border (Item Q101). Diastole is clear, and her pulses are normal in all extremities. Of the following, the MOST likely cause of this patient's signs and symptoms is

- A 10.8%: aortic stenosis
- B 67.0% (53.29%): atrial septal defect**
- C .5%: patent ductus arteriosus
- D 19.2%: pulmonary stenosis
- E 2.3%: ventricular septal defect

## Neurologic Disorders –Seizures

**2008-197**

**Practice Gap:** Select the maintenance drug for treatment of complex partial epilepsy

At 8 am, your nurse urgently calls you to see a child in the waiting room. You come out and observe a 5-year-old boy whose eyes are glassy and staring off to the right. He is making chewing movements and has urinated. He is not responding to his mother's calls or touch. He then blinks several times and begins to respond, but is clearly confused. His mother explains that her son has been diagnosed with epilepsy, but she ran out of medication 2 days ago. Of the following, the MOST appropriate maintenance antiseizure medication for this child is

- A 72%( 52%): carbamazepine**
- B 1% diazepam
- C 18% ethosuximide
- D 3% phenobarbital
- E 3% phenytoin

**2008-167**

**Practice Gap:** Know how to manage a child following a single seizure

An 8-year-old girl is brought to the emergency department via ambulance. On the playground, she suddenly stopped playing, bent forward and fell to the ground, and had jerking of her arms and legs. She drooled excessively and was unresponsive. Afterwards, she was confused, her speech was slurred, and she was somewhat combative for about 30 minutes. In the emergency department, she is responding appropriately, is afebrile, and has normal findings on general and neurologic examinations. Her mother states that she has always been healthy and is an average student. Review of systems reveals no headaches or recent illness. Of the following, the MOST appropriate next step prior to discharge from the emergency department is to

- A 70% (50%): educate the family about prognosis and safety**
- B 2%: obtain a stat electroencephalogram
- C 13%: obtain magnetic resonance imaging of the brain
- D 11%: order measurement of serum electrolytes
- E 0%: perform a lumbar puncture

## Neurologic Disorders –Headache Treatment

**2011-22**

**Practice Gap:** Correlate opiate use with induction of chronic headaches

A 14-year-old boy who was diagnosed with migraines at age 11 presents to the emergency department with a severe migraine. For the past 2 months, he has had two to three such headaches per week. His mother asks about using stronger pain medications. You are concerned about the possible complications of medication overuse. Of the following, the class of abortive medications that is MOST likely to induce chronic headaches is

- A 14.9%: caffeine-containing medications
- B 0.4%: isometheptene compounds
- C 16.6%: nonsteroidal anti-inflammatory drugs
- D 64.7% (36.93%): opiates**
- E 3.2%: triptans

### **Musculoskeletal Disorders – Trauma**

**2009-67**

**Practice Gap:** Understand that occult fractures can cause gait disturbances in young children

A 16-month-old boy is brought to your clinic because his mother says he is "walking funny" today. She states that he has been walking for 4 months and is very active, but she is unaware of any trauma or falls. She denies fever or other symptoms. He appears well and has normal vital signs. Physical examination reveals mild tenderness to palpation over the medial aspect of the lower leg just above the ankle. There is no overlying bruising, erythema, or edema, and you can elicit full range of motion in the hips, knees, and ankles. Of the following, the MOST likely diagnosis is

- A 6% aneurysmal bone cyst
- B 9% ankle sprain
- C 72% (50%): fracture**
- D 1% osteomyelitis
- E 10% transient synovitis

## Ear, Nose, and Throat Disorders – Chronic Sinusitis

2010-47

**Practice Gap:** Diagnose cause of recurrent sinusitis

An 18-year-old girl presents with a 12-month history of severe nasal congestion and anosmia. She was diagnosed with allergic rhinitis at age 13 and has been receiving allergen immunotherapy for the past 3 years. Despite allergy shots, allergy medication (oral antihistamine and nasal corticosteroid), and two 21-day courses of antibiotics, her symptoms have persisted. She describes her rhinorrhea as thick and "peanut buttery." On physical examination, her height and weight are at the 75th percentile for age and she has bilateral nasal polyps. The remainder of the examination results are normal. Computed tomography scan of her sinuses shows complete unilateral opacification of the right maxillary sinus. Of the following, the MOST likely diagnosis is

- A **70.2% (54.26%): allergic fungal sinusitis**
- B .7%: allergic rhinitis
- C 10.0%: chronic bacterial sinusitis
- D 7.6%: cystic fibrosis
- E 11.4%: primary ciliary dyskinesia

## Ear, Nose, and Throat Disorders – Hearing Loss

2010-123

**Practice Gap:** Know how to develop language skills in a child with hearing loss

The parents of a newborn in whom a congenital severe-profound hearing loss has been diagnosed are seeking guidance about how to promote their infant's language development. You recommend enrollment in an early intervention program and obtaining hearing aids when the infant is young. His parents have never been exposed to an individual who has a hearing loss. They ask your opinion on the best approach for him to learn language. Of the following, the MOST important factor in language development of an infant or young child who has hearing loss is the use of

- A **64% (44.3%): a high amount of verbal nonverbal (gestures) communication between parents and child**
- B 8.3%: an oral-aural method emphasizing the teaching of speech and the use of a child's residual hearing
- C 10.5%: hand-cued speech (using combined speech and hand cues)
- D .52% manually coded English between parents and child
- E 16.5% the bilingual (ASL and English)-bicultural (hearing and deaf culture) approach

## Skin Disorders

**2008-97**

**Practice Gap:** Plan the treatment for acne vulgaris with first-line topical medications, retinoic acid and benzoyl peroxide

A 14-year-old boy requests treatment for his acne. He is using no medications and has no known drug allergies. Physical examination of the face reveals a few small inflammatory papules and numerous blackheads and whiteheads; there is no scarring (Item Q97). No acne lesions are present on the chest and back. Of the following, the MOST appropriate treatment is

- A 26% benzoyl peroxide topically
- B 3% benzoyl peroxide topically and tetracycline orally
- C 62% (38%): benzoyl peroxide topically and tretinoin topically**
- D 1% clindamycin topically
- E 5% tretinoin topically

**2008-129**

**Practice Gap:** Recognize the spectrum of severity of erythema multiforme ranges from targetoid lesions to Stevens-Johnson syndrome

You are evaluating a 7-year-old girl who has a 2-day history of a rash without fever or other symptoms. The only notable findings on physical examination are round, erythematous, thin plaques, each of which has a central violaceous discoloration or blister (Item Q129). The lesions are concentrated on the extremities, including the hands and feet, with relative sparing of the trunk. Of the following, the MOST likely diagnosis is

- Data from CD-ROM users only:*
- A 8%: erythema migrans
  - B 69%: erythema multiforme**
  - C 1%: Stevens-Johnson syndrome
  - D 9%: toxic epidermal necrolysis
  - E 10%: urticaria

## Emergency Care

**2008-150**

**Practice Gap:** Plan the therapy for a hypertensive emergency

You are evaluating a 17-year-old boy whom you have known since early childhood. He is complaining of headaches over the past 2 weeks. He has a history of asthma, which has been well controlled, and he is an otherwise healthy member of the varsity football team at school. He has had a significant weight gain of 30 lb (13.5 kg) since his visit to you 1 year ago. He denies using illicit or prescription drugs. On physical examination, he appears very muscular and has a blood pressure of 180/120 mm Hg. You repeat the measurement using a leg cuff to ensure adequate cuff size and obtain the same result. Of the following, the BEST management plan is

*Data from CD-ROM users only:*

A 6%: angiotensin-converting enzyme inhibition as an outpatient

B 2%: beta blocker therapy as an outpatient

C 7%: diuretic therapy as an inpatient

D 11%: repeat blood pressure measurement in 1 to 2 weeks

**E 71%: vasodilator therapy as an inpatient**

**2008-144**

**Practice Gap:** Know the therapeutic options for an avulsed tooth

You are on the sidelines of a girl's high school lacrosse game when one of the players is struck in the mouth with the ball. She does not lose consciousness but runs off the field complaining of severe mouth pain. On inspection of her mouth, you observe profuse bleeding, lacerations of the upper alveolar mucosa, and avulsion of the right upper central incisor. Her teammate finds the missing tooth on the field and brings it to you. You apply direct pressure to the bleeding gums and make arrangements for the player to be transported to the emergency department. Of the following, the MOST appropriate method for preparing the tooth for transport with the patient is to

A 0% dispose of the tooth because it cannot be saved

**B 70%: (54%): have the player hold the tooth inside her cheek**

C 8%: place the tooth on ice in a plastic bag

D 1%: rub all debris from the tooth and place it in a dry plastic bag

E 18%: wrap the tooth in a paper towel moistened with water

**2008-250**

**Practice Gap:** Plan outpatient treatment for minor burns; Distinguish between first-degree burns and more serious burns

A mother brings her 2-year-old son to the office 30 minutes after spilling a cup of hot coffee onto his arm and chest. Physical examination reveals a 2x3-cm ruptured blister on his chest that has an erythematous, tender base and a 3x5-cm area of erythema on his right upper arm. Of the following, a TRUE statement regarding the management of the burns is that

**A 73% (57%): the burns should be cleaned with soap and water after debridement of the blistered area**

B 2% the patient should be given a 5-day course of prophylactic cephalixin

C 4% the patient should be referred to a burn center because of the extent of his burns

D 0% the patient will require skin grafting for the burn on his chest

E 18% the burn on his upper arm should be dressed with bacitracin ointment and gauze

**2009-211**

**Practice Gap:** Know the appropriate management of corneal abrasions and that topical anesthetic drops may slow healing and mask persistence of symptoms.

A 13-year-old girl comes to your office with a 1-day history of right eye pain and tearing. She denies trauma, but says she rubbed her eyes a lot the day before because it was windy outside. Her right bulbar and palpebral conjunctivae are very injected, and copious clear discharge is present. There is no hyphema, and the pupils are normal. She complains of pain with the eye examination. After applying fluorescein to the eye, you see a single linear abrasion on the cornea. When you evert the eyelid, you find no foreign body. Of the following, the MOST appropriate management for this condition is

**A 60% (39%): oral analgesic**

B 3%: oral antistaphylococcal antibiotic

C 13%: tight patching of the eye

D 19%: topical anesthetic drops

E 2%: topical steroid drops

**2009- 179**

**Practice Gap:** Identify the radiograph finding most likely associated with child abuse

You are evaluating a 10-month-old boy brought to the emergency department because of fussiness for 1 day. His mother reports that she was carrying him while answering the phone yesterday and that he fell from her arms onto the linoleum floor. Physical examination reveals a thin boy who is crying. He resists weight-bearing on the left leg, but you cannot elicit specific tenderness. He has bruises on the left temporal region, upper arm, and thighs. You suspect nonaccidental trauma and order a skeletal survey. Of the following, the skeletal survey finding that is MOST specific for nonaccidental trauma is

- A 2%: linear nondisplaced skull fracture
- B 3%: long bone nondisplaced shaft fracture
- C 65% (48%): metaphyseal chip fracture**
- D 19%: spiral tibial fracture
- E 8%: subperiosteal new bone formation

**2009-144**

**Practice Gap:** Recognize that severe brain injury/trauma may be present in a patient who has no external signs of trauma

A 3-month-old infant is brought to the office for fussiness, increased sleeping, and poor feeding. According to his mother, he was doing well until 4 days ago, when his formula intake decreased from 6 oz every 3 to 4 hours to 1 to 2 oz every 4 hours and she had to awaken him to feed. He has had no vomiting, diarrhea, or fever. He was born at term, and the mother had no antenatal infections. On physical examination, the infant is difficult to console and has a high-pitched cry. His temperature is 98.2°F (36.8°C), heart rate is 160 beats/min, and respiratory rate is 30 breaths/min. His anterior fontanelle is flat, pupils are 4 mm and equally reactive, and there is no evidence of corneal abrasions. His lungs are clear, heart sounds are normal, and abdominal evaluation findings are benign. His extremities are warm, well-perfused, and have normal tone. Results of the initial laboratory evaluation, including a complete blood count with differential count, electrolytes, and urinalysis, are normal. The fecal occult blood test result is negative. Of the following, the MOST appropriate next study is

- A 3%: abdominal ultrasonography
- B 2%: chest radiography
- C 66% (49%): computed tomography scan of the brain**
- D 20%: serum ammonia determination
- E 6%: urine organic acid screen

**Emergency Care – Knee Injury**

**2010-128**

**Practice Gap:** Know when to authorize return to play after a knee injury

A 16-year-old girl comes to your office after sustaining an acute right knee injury 3 days ago during a soccer game. She reports that as she turned while running down field, an opposing player struck her right knee. She felt immediate pain and the sensation of knee instability. She was unable to continue playing. On physical examination, you note moderate swelling and tenderness over the medial aspect of her right knee. Valgus stress testing reveals a 5-mm opening at the joint line with associated pain. She has 4/5 strength for resisted straight leg raise. There is no evidence of anterior or posterior cruciate ligament instability. She has a mildly antalgic gait and feels as if the leg is going to give out when she turns to the right. She wants to know if she can play next weekend. Of the following, the MOST appropriate criterion for her return to sports participation is

- A 5.3%: complete resolution of swelling
- B 68.2% (48.5%): nearly full strength in the knee**
- C 19.8%: normal findings on magnetic resonance imaging of the knee
- D 1.5%: range of motion returned to 75% of normal
- E 5.0% 3-mm opening at the joint line on valgus stress testing

**Sports Medicine and Physical Fitness - Hematoma**

**2010-208**

**Practice Gap:** Correlate history and clinical findings with possible complication of myositis ossificans

A 17-year-old football player is brought to the emergency department because of an upper leg injury he sustained while being tackled. He recalls that when he was tackled, an opposing player's knee "rammed into" his right thigh. He has been unable to walk because of pain. Paramedics were called, his thigh was splinted, and he was transported to the emergency department. On physical examination, he is alert and in moderate pain, his thigh is markedly swollen, but there is no other obvious deformity. His heart rate is 100 beats/min, respiratory rate is 20 breaths/min, and blood pressure is 130/60 mm Hg. His lower leg is neurovascularly intact. A plain radiograph of his right thigh reveals no fracture or dislocation. Of the following, the MOST likely potential complication of this injury

- A 72.9% (57.7%): myositis ossificans**
- B .9%: Osgood-Schlatter disease
- C 23.5%: rhabdomyolysis
- D 1.5%: slipped capital femoral epiphysis
- E 1.0%: unicameral bone cyst