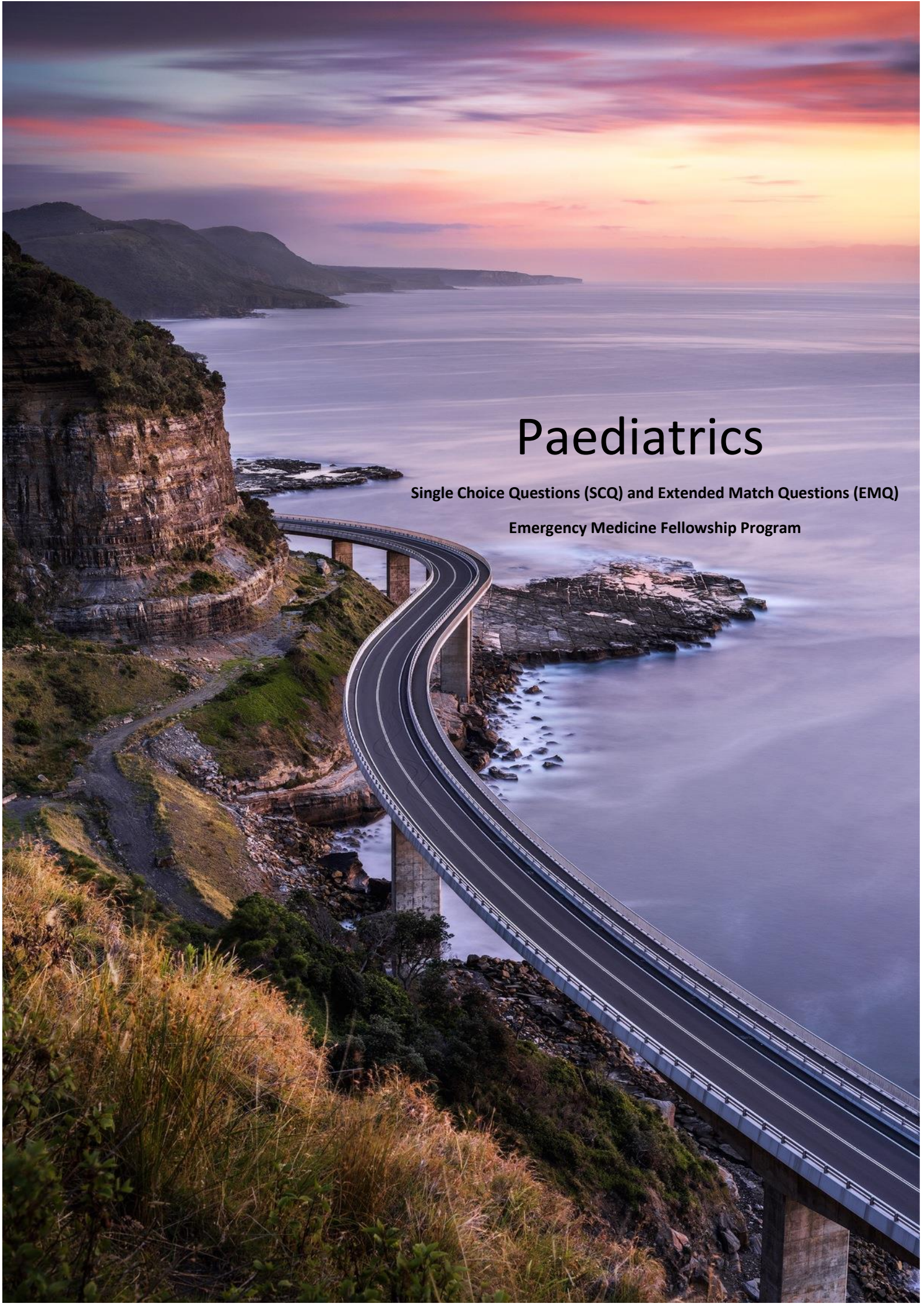

Paediatrics

Single Choice Questions (SCQ) and Extended Match Questions (EMQ)

Emergency Medicine Fellowship Program

13.Regarding SIDS which is a false statement?

a) the peak incidence is between the ages of 2-3 months

b) the incidence is 0.5:1000 live births

c) it is the leading cause of death between 1 month and one year

d) 80% of cases occur prior to 8 months of age

e) the incidence in the aboriginal population is twice that of Caucasian Australians

14.Which subgroup of infants are NOT at an increased risk of SIDS?

a) term infants who have had an ALTE

b) Premature, low birth weight babies

c) Siblings of an infant that died of SIDS

d) Infants whose mothers smoke (but did not smoke during the pregnancy)

e) Babies who sleep in a prone position

15.Which is not true with regard to SIDS?

a) up to 10% of multiple SIDS deaths are due to child abuse

b) botulinum toxin may be implicated in a small percentage of SIDS deaths

c) There is no relationship between infantile apnoea and SIDS

d) Death is a respiratory arrest not a cardiac arrest

e) Vaccinations are not associated with an increased risk of SIDS

16.Which is not currently considered a likely aetiology for SIDS?

a) airway obstruction

b) central apnoea

c) rebreathing of expired gases

d) arousal deficit

e) thermal stress

17.Which statement is correct with regards to an ALTE?

a) there is no relationship between these babies and those that die of SIDS

b) zanthine derivatives have been proven to be useful in both preterm babies who experience apnoea and term babies who have an ALTE

c) home apnoea monitors are proven to decrease the risk of SIDS in babies who experience a true ALTE

d) the definition of an ALTE includes infection with RSV

e) the degree of resuscitation required at home is of no help in distinguishing between an ALTE and other causes of apnoea

18.With regards to ecchymoses which is a false statement?

a) day 1-5 they are reddish/blue in colour

b) day 6 they are brown

c) day 7- 10 they are yellow

d) they usually have resolved by day 14

e) a bruise usually develops within 1 hour of an injury

19.Which site of bruising would make you suspicious of child abuse?

a) anterior shins

b) knees

c) upper arms

d) elbows

e) forehead

20.Which fracture would not make you concerned re NAI in a 2 year old?

a) Metaphyseal chip fracture of humerus

b) Spiral fracture of a femur

c) Fractured ribs

d) Multiple fractures

e) Transverse fracture midshaft of radius an ulnar

21.Which is not an injury you would associate with NAI in a 2 year old?

a) Lacerated frenulum of the tongue

b) Trauma to pinna of ear

c) Hyphema

d) Laceration through eyebrow

e) Liver contusion

22.If you suspected a child of a NAI what investigation would not usually be appropriate?

a) FBE

b) Clotting

c) Bone scan if child less than three years

d) Platelet count

e) CUE

23.In Shaken Baby Syndrome you would NOT find?

a) a comatose baby with no signs of trauma

b) acute subdural haematoma

c) retinal haemorrhages

d) upper arm bruising

e) fractured long bones of lower limbs

24.What Xray is not routinely included in a skeletal survey?

a) long bones

b) thoracolumbar vertebrae

c) ribs and clavicles

d) fingers and toes

e) skull

13)E 14)D 15)C 16)B 17)C 18)B 19)C 20)E 21)D 22)E 23)E 24)B

PAEDIATRIC MCQs

Q1 A 3-year-old girl is brought to the emergency department after ingesting gasoline which had been stored in a soft drink bottle. She coughed for several minutes afterward. On arrival, she is no longer coughing. Respiratory rate is 24/min. The next step in her management would be?

A)	perform gastric lavage
B)	administer activated charcoal
C)	obtain arterial blood gas
D)	obtain chest radiograph
E)	admit overnight for observation

Q2 A 3 month old child presents with episodes of cyanosis noted when she cries. There is no improvement when you apply 100 % oxygen.
This is MOST indicative of:

A)	Hypoglycaemia
B)	Cardiac disease
C)	Sepsis
D)	Respiratory disease
E)	Hypothermia

Q3 The most common neurologic manifestation of child abuse is?

A)	extradural haematoma
B)	retinal haemorrhage
C)	brain stem haemorrhage

D)	subdural haematoma
E)	brainstem infarction

Q4 You deliver a child at 36-weeks gestation and notice intestines protruding from a defect in the abdominal wall. On inspection, you note that the intestines lack a peritoneal covering. All of the following statements are true EXCEPT?

A)	the child most likely has an omphalocele
B)	associated anomalies are seen in 30–50 of children with omphalocele
C)	gastroschisis can involve major fluid losses and resuscitation should be initiated
D)	immediate surgical consultation is indicated
E)	the intestinal contents should not be reduced back into the abdominal cavity

Q5 All of the following are common causes of septic arthritis in children older than 36 months except?

A)	N Gonorrhoea
B)	S aureus
C)	Streptococcus sp
D)	Gram negative bacilli
E)	Pseudomonas

Q6 A young boy presents to the emergency department with a painful, swollen testicle. All of the following would be included in the differential diagnosis EXCEPT?

A)	testicular torsion
B)	testicular tumor hemorrhage

C)	varicocele
D)	incarcerated inguinal hernia
E)	epididymitis

Q7 The following are true of malignancies in childhood except?

A)	5-10 of Wilms' tumours are bilateral
B)	lymphomas the commonest childhood malignancy
C)	60 of Wilms' tumours present 3yrs
D)	neurological tumours are commonest solid childhood malignancies
E)	commonest leukaemia is no-a, non-b cell all

Q8 Which one of the following is CORRECT?

A)	Neonatal circumcision is painless
B)	Neonatal circumcision is safe in haemophilia, because of transplacental passage of factor VIII
C)	Meatal ulceration is a complication of circumcision
D)	Circumcision is the first stage in the repair of hypospadias
E)	The prepuce is fully retractable in 90% of uncircumcised boys aged 6 months

Q9 Features of child abuse include the following EXCEPT?

A)	Skull fractures
B)	Spiral fracture of the tibia

C)	‘Immersion’ burns
D)	Retinal haemorrhage
E)	Fractured ribs

Q10 Jervell Lange-Nielsen syndrome links:

A)	aganglionosis and colonic dilatation
B)	deafness and sudden death
C)	VSD and right ventricular hypertrophy
D)	PSVT and accessory pathways
E)	severe rigors and Lyme disease

Q11 Animal bite injuries are extremely common in children. All of the following statements regarding cat and dog bites are true EXCEPT?

A)	dog bites are more common in boys than girls
B)	the extremities are the most common site of the bite
C)	dog bites have a lower infection rate than cat bites
D)	Pasteurella multocida infections often have a rapid onset (24 hours)
E)	the offending animal is usually known to the child

Q12 All of the following statements regarding neonates are true EXCEPT?

A)	the best indicator of adequate intake in a breast-fed baby is good weight gain
B)	normal breast-fed babies may occasionally go 5–7 days without stooling

C)	colic usually does not begin until about 3 months of age
D)	respiratory pauses are common in normal babies
E)	the urinalysis is often normal in neonates with urinary tract infections

Q13 An 8-year-old girl presents with a 2-week history of cold symptoms, purulent rhinorrhea, and low-grade fever. Physical examination is unremarkable. You consider sinusitis the most likely diagnosis. Which of the following would be the next step in the management of this child?

A)	Sinus radiographs
B)	Ultrasound of the sinuses
C)	CT of the sinuses
D)	Needle aspiration of the sinuses
E)	Empiric antibiotic therapy

Q14 All of the following are indications for hospitalization of children with bronchiolitis EXCEPT?

A)	history of apnea
B)	respiratory rate of 54 breaths per minute
C)	history of bronchopulmonary dysplasia (BPD)
D)	dehydration
E)	concomitant cyanotic heart disease

Q15 Young children with asthma are more vulnerable to severe respiratory distress and respiratory failure than older children and adults because of all of the following EXCEPT?

A)	higher baseline respiratory rate

B)	higher peripheral airway resistance
C)	fewer collateral channels of ventilation
D)	more compliant chest wall
E)	mechanically disadvantaged diaphragm

Q16 All of the following statements regarding intraosseous lines are true EXCEPT?

A)	they have higher success rates and shorter insertion times than central lines
B)	aspirate may be sent for chemistries, type and cross, and complete blood counts
C)	osteogenesis imperfecta is an absolute contraindication
D)	up to 45 ml/min of crystalloid can be infused under pressure
E)	infection is rare

Q17 A young mother brings her breast-fed neonate to the emergency department complaining that he “looks yellow.” You suspect breast milk jaundice. All of the following are compatible with the diagnosis EXCEPT?

A)	presentation on day 7 of life
B)	total bilirubin of 21 mg/dl
C)	reticulocyte count of 0.5
D)	acholic stools
E)	conjugated bilirubin of 1.2 mg/dl

Q18 All of the following are true regarding epiglottitis in children EXCEPT?

A)	Most cases are caused by H. influenzae type B

B)	The vocal cords and subglottic area are usually involved
C)	Most cases have accompanying bacteremia
D)	Age of greatest incidence is 2–7 years
E)	The advent of H. influenzae vaccine has changed the etiology of disease

Q19 The daily maintenance fluid for an 8 year old child would be?

A)	800 ml
B)	1000 ml
C)	1200 ml
D)	1600 ml
E)	2000 ml

Q20 A five-year old girl is brought to the emergency department 20 minutes after falling from the top of a bunk bed. Examination reveals avulsion of both anterior central incisors. She is accompanied by her parents who have brought the teeth in a cup of milk. Appropriate management at this time would include?

A)	immediate reimplantation
B)	immediate referral to a pediatric dentist for reimplantation
C)	suture closure of the open tooth sockets
D)	observation
E)	administer prophylactic antibiotics

Q21 A placid 4-week-old formula-fed baby has vomited feeds since the first week of life. Her maternal grandmother is convinced that the baby is ill. The mother is also concerned but says

that the baby feeds well. You confirm that she has gained weight normally, and find no clinical abnormality. You SHOULD

A)	explain that the baby probably has gastro-oesophageal reflux
B)	reassure the mother and tell her to ignore anyone who says the child is ill
C)	arrange suprapubic aspiration of urine for microscopy and culture
D)	arrange barium swallow and meal
E)	advise that the formula be diluted to make it more digestible

Q22 A one year old child would be expected to have a pulse of:

A)	100
B)	120
C)	140
D)	150
E)	160

Q23 Because of their greater surface area-to-weight ratio, children are more prone to hypothermia than adults. The primary mechanism of heat loss in children is?

A)	radiation
B)	convection
C)	conduction
D)	evaporation
E)	respiration

Q24 The following treatments are all useful for croup EXCEPT?

A)	Oral steroids
B)	Nebulised steroids
C)	Mist/ steam
D)	Nebulised adrenaline
E)	Oxygen

Q25 Which of the following is true regarding leukaemia ?

A)	peak age is between 4 and 7
B)	girls slightly more affected than boys
C)	commonest type is non-a, non-b cell aml
D)	may present as isolated cranial nerve deficit
E)	FBC usually normal

Q26 A frantic parent calls the emergency department for advice about a bulge around the “belly-button” in a 6-week-old child. Which of the following is true regarding umbilical hernias?

A)	They should be surgically repaired prior to the age of 2 years
B)	There is a greater incidence in boys
C)	They occur in up to 65 of African-American infants
D)	They occur in less than 5 of Caucasian infants
E)	None of the above

Q27 A 3-year-old boy is brought to the emergency department after choking on a watch battery. Radiographs reveal the battery in the stomach. Of the following, which is the MOST appropriate management?

A)	Observation at home
B)	Administer ipecac to induce expulsion of the battery
C)	Administer cathartics to speed transit through the gastrointestinal tract
D)	Admission to the hospital for observation
E)	Laparotomy if the battery is still in the small bowel at 48 hours

ANSWERS

1. E
2. B
3. B
4. A
5. E
6. C
7. B
8. C
9. B
10. B
11. B
12. C
13. E
14. B
15. A
16. B
17. B
18. B
19. D
20. D
21. A
22. B
23. A
24. C
25. D
26. C
27. A

1. The incident of developing a generalised seizure disorder post a febrile convulsion is

a. 0.1%

b. 0.5%

c. 1%

d. 5 %

2. The initial dose of adenosine in SVT in the paediatric population is

a. 0.1mg/kg

b 0.1mcg/kg

c. 50mcg/kg

d. 0.5mg/kg

3. The appropriate size of a cuffed tube in a 2yr old child is

a. 3

b. 3.5

c. 4

d. 4.5

4.What percentage of children who develop meningitis have a preceding URTI

a. 25%

b. 40%

c. 50%

d. >75%

5. The depth of insertion of an ETT to the gums in a 4 yr old child is

a. 12 cm

b. 13cm

c. 14 cm

d. 10cm

6. The incubation period for rubella is

a. 7-10 days

b. 14-21 day

c. 3-7 days

d 2-4 days

415. A 16-month-old child is brought to the emergency department in cervical spine precautions. The child was an unrestrained passenger in a moderate-speed motor vehicle accident. Which is the MOST correct statement regarding spinal precautions in children?

(A) Since the cervical vertebrae are pliable, there is less concern over fractures in childrenless than 4 years of age

(B) Children require padding under the head to maintain neutral alignment

(C) Children require padding under the back to maintain neutral alignment

(D) The relatively large head of a child plays little role in the positioning for neutral alignment

(E) If the child was ambulatory on the scene, spinal precautions are unnecessary

416. All of the following are true regarding epiglottitis in children EXCEPT

(A) Most cases are caused by H. influenzae type B

(B) The vocal cords and subglottic area are usually involved

(C) Most cases have accompanying bacteremia

(D) Age of greatest incidence is 2–7 years

(E) The advent of H. influenzae vaccine has changed the etiology of disease

417. You deliver a child at 36-weeks gestation and notice intestines protruding from a defect in the abdominal wall. On inspection, you note that the intestines lack a peritoneal covering. All of the following statements are true EXCEPT

(A) the child most likely has an omphalocele

(B) associated anomalies are seen in 30–50% of children with omphalocele

(C) gastroschisis can involve major fluid losses and resuscitation should be initiated

(D) immediate surgical consultation is indicated

(E) the intestinal contents should not be reduced back into the abdominal cavity

418. Anatomic factors that complicate airway management in children include all of the following EXCEPT

(A) large tongue

(B) high position of glottis

(C) lack of dentition

(D) increased lymphoid tissue

(E) prominent occiput

419. A young boy presents to the emergency department with a painful, swollen testicle. All of the following would be included in the differential diagnosis EXCEPT

(A) testicular torsion

(B) testicular tumor hemorrhage

(C) varicocele

(D) incarcerated inguinal hernia

(E) epididymitis

420. The tender mass in the boy from question number 419 is determined to be a torsed testicle and a stat Urology consult is obtained. Which of the following statements regarding testicular torsion is true?

(A) The “bell-clapper” deformity protects against torsion because the tunica vaginalis is more firmly attached to testes

(B) Immediate urological consult is important because nearly 100% of testicles operated on by 12 hours are salvaged

(C) Torsion is more common with the right testicle secondary to a longer spermatic cord on that side

(D) Previous orchiopexy does not preclude the possibility of torsion

(E) None of the above

421. All of the following statements regarding intraosseous lines are true EXCEPT

(A) they have higher success rates and shorter insertion times than central lines

(B) aspirate may be sent for chemistries, type and cross, and complete blood counts

(C) osteogenesis imperfecta is an absolute contraindication

(D) up to 45 ml/min of crystalloid can be infused under pressure

(E) infection is rare

422. An infant is brought to the emergency department by its mother, who states the child has been feeding poorly. The baby is tachypneic and pale. You consider sepsis, but determine that supraventricular tachycardia (SVT) is present causing congestive heart failure. Which statement is correct regarding SVT?

(A) Jugular venous distension and peripheral edema are common signs of right heart failure in children

(B) Volume replacement is the most essential treatment

(C) Uncommon dysrhythmia in infants

(D) Cardioversion with 0.01 watt-sec/kg is indicated for profound shock

(E) None of the above

423. A 6-year-old boy is brought to the emergency department by his mother who complains that he appears “puffy.” All of the following statements regarding glomerulonephritis and nephrotic syndrome are true EXCEPT

(A) group A strep infections of the skin may cause post-streptococcal glomerulonephritis

(B) periorbital edema is commonly the only visible manifestation of nephrotic syndrome

(C) over 90% of patients with minimal change nephrotic syndrome will respond to oral steroids

(D) fluid restriction is indicated in nephrotic syndrome to avoid worsening volume overload

(E) hematuria and edema are the most common presentations of glomerulonephritis

424. A frantic parent calls the emergency department for advice about a bulge around the “belly-button” in a 6-week-old child. Which of the following is true regarding umbilical hernias?

(A) They should be surgically repaired prior to the age of 2 years

(B) There is a greater incidence in boys

(C) They occur in up to 65% of African-American infants

(D) They occur in less than 5% of Caucasian infants

(E) None of the above

425. All of the following are indications for calcium therapy in pediatric resuscitation EXCEPT

(A) hyperkalemia

(B) beta-blocker overdose

(C) hypermagnesemia

(D) hypocalcemia

(E) calcium channel-blocker overdose

426. Which of the following statements is true regarding pediatric airway obstruction?

(A) Supraglottic obstruction causes grunting respirations

(B) Expiratory stridor occurs with obstruction below the carina

(C) The Heimlich maneuver is recommended for children over one year of age

(D) A coin foreign body oriented in the coronal plane is most likely in the trachea

(E) None of the above

427. All of the following statements regarding neonates are true EXCEPT

(A) the best indicator of adequate intake in a breast-fed baby is good weight gain

(B) normal breast-fed babies may occasionally go 5–7 days without stooling

(C) colic usually does not begin until about 3 months of age

(D) respiratory pauses are common in normal babies

(E) the urinalysis is often normal in neonates with urinary tract infections

428. A young mother brings her breast-fed neonate to the emergency department complaining that he “looks yellow.” You suspect breast milk jaundice. All of the following are compatible with the diagnosis EXCEPT

(A) presentation on day 7 of life

(B) total bilirubin of 21 mg/dl

(C) reticulocyte count of 0.5%

(D) acholic stools

(E) conjugated bilirubin of 1.2 mg/dl

429. A 2-year-old child is brought to the emergency department because of fever and pulling at the left ear. The MOST important diagnostic clue in confirming your suspicion of otitis media is

(A) decreased mobility of the tympanic membrane with loss of landmarks

(B) hyperemia of the tympanic membrane in the absence of crying

(C) retraction of the tympanic membrane accompanied by upper respiratory infection symptoms

(D) loss of the tympanic light reflex

(E) the presence of otalgia and upper respiratory infection symptoms

430. Evaluation of an 18-month-old boy with fever and decreased feeding reveals the presence of an exudative pharyngitis and enlarged cervical lymph nodes. A rapid antigen detection test for Group A streptococcus (GAS) is negative. Which of the following statements regarding this situation is true?

(A) Rapid strep tests are highly sensitive, so it is highly unlikely that this child has acute GAS pharyngitis

(B) While GAS is unlikely at this age, detection is important because of the significant risk of acute rheumatic fever in untreated patients

(C) Appropriate treatment options if the test had been positive include a dose of intramuscular procaine penicillin

(D) If the test had been positive, early institution of appropriate antibiotics would likely have shortened the clinical course of the illness

(E) Infectious mononucleosis is not a consideration in this case because of the child's age

431. A 5-day-old baby presents to the emergency department with purulent conjunctivitis. His mother has a history of syphilis treated prior to this pregnancy. She had no prenatal care. Topical erythromycin prophylaxis was given in the nursery. Which of the following is the MOST likely cause of this baby's conjunctivitis?

(A) Syphilis

(B) Gonorrhea

(C) Group B streptococcus

(D) Herpes simplex virus

(E) Chlamydia trachomatis

432. An 8-year-old girl presents with a 2-week history of cold symptoms, purulent rhinorrhea, and low-grade fever. Physical examination is unremarkable. You consider

sinusitis the most likely diagnosis. Which of the following would be the next step in the management of this child?

(A) Sinus radiographs

(B) Ultrasound of the sinuses

(C) CT of the sinuses

(D) Needle aspiration of the sinuses

(E) Empiric antibiotic therapy

433. Young children with asthma are more vulnerable to severe respiratory distress and respiratory failure than older children and adults because of all of the following EXCEPT

(A) higher baseline respiratory rate

(B) higher peripheral airway resistance

(C) fewer collateral channels of ventilation

(D) more compliant chest wall

(E) mechanically disadvantaged diaphragm

434. All of the following are indications for hospitalization of children with bronchiolitis EXCEPT

(A) history of apnea

(B) respiratory rate of 54 breaths per minute

(C) history of bronchopulmonary dysplasia (BPD)

(D) dehydration

(E) concomitant cyanotic heart disease

435. All of the following are true of febrile seizures EXCEPT

(A) they are experienced by up to 4% of all children

(B) they may recur during the same febrile illness

(C) they may be prevented with phenobarbital

(D) they typically occur early in the course of the febrile illness

(E) they are recurrent (during subsequent febrile illnesses) in approximately 10% of cases

436. A 3-day-old baby presents to the emergency department with bilious vomiting and abdominal distention. He was the term product of an uncomplicated pregnancy. The MOST likely diagnosis is

(A) pyloric stenosis

(B) ruptured appendicitis

(C) necrotizing enterocolitis (NEC)

(D) intussusception

(E) volvulus

437. A 14-year-old girl presents to the emergency department with a 4-month history of progressive weight loss, decrease in strength, and general malaise. She has had two previous emergency department visits during this time because of vomiting and dehydration. The physical exam is notable for generalized hyperpigmentation of the skin. Blood pressure is 101/57 mm Hg and heart rate is 110 bpm. The remainder of the vital signs are normal. Laboratory reveals: Na^+ = 119 mEq/L; K^+ = 5.9 mEq/L; and HCO_3^- = 20 meq/L. Complete blood count is unremarkable. The MOST likely diagnosis is

(A) diabetes insipidus (DI)

(B) syndrome of inappropriate anti-diuretic hormone (SIADH)

(C) psychogenic water intoxication

(D) surreptitious abuse of emetics

(E) Addison's disease

438. Because of their greater surface area-to-weight ratio, children are more prone to hypothermia than adults. The primary mechanism of heat loss in children is

(A) radiation

(B) convection

(C) conduction

(D) evaporation

(E) respiration

439. A 2-year-old boy presents to the emergency department with a 2-day history of increasing fever and refusal to eat. There has been no cough, but difficulty breathing has been noted by the parents. Past history is unremarkable. Immunizations are current. The physical exam is remarkable for stridor and drooling. The MOST likely diagnosis is

(A) viral croup

(B) retropharyngeal abscess

(C) epiglottitis

(D) peritonsillar abscess

(E) diphtheria

440. A 3-year-old girl is brought to the emergency department after ingesting gasoline which had been stored in a soft drink bottle. She coughed for several minutes afterward. On arrival, she is no longer coughing. Respiratory rate is 24/min. The next step in her management would be

(A) perform gastric lavage

(B) administer activated charcoal

(C) obtain arterial blood gas

(D) obtain chest radiograph

(E) admit overnight for observation

441. A 10-year-old boy presents to the emergency department with a complaint of mild intermittent abdominal pain and rash. There has been no fever. Physical examination reveals a well-appearing boy with a raised purpuric rash, most prominent on the legs. The abdominal exam is normal. Oral temperature is 99.8 oF. Other vital signs are normal. What is the MOST appropriate next step in the management of this patient?

(A) Obtain blood for culture and start antibiotics

(B) Obtain abdominal radiographs

(C) Obtain a urinalysis, BUN, and creatinine

(D) Perform a skin biopsy

(E) Order liver function tests

442. A 3-year-old boy is brought to the emergency department after choking on a watch battery. Radiographs reveal the battery in the stomach. Of the following, which is the MOST appropriate management?

(A) Observation at home

(B) Administer ipecac to induce expulsion of the battery

(C) Administer cathartics to speed transit through the gastrointestinal tract

(D) Admission to the hospital for observation

(E) Laparotomy if the battery is still in the small bowel at 48 hours

443. All of the following statements regarding Salter-Harris type fractures are true EXCEPT

(A) they are unique to pediatric patients

(B) Type I fractures carry a high risk for permanent growth plate injury

(C) Type II injuries are the most common

(D) Type III and IV fractures are intra-articular

(E) Type V fractures may not be seen on an initial radiograph

444. A five-year old girl is brought to the emergency department 20 minutes after falling from the top of a bunk bed. Examination reveals avulsion of both anterior central incisors. She is accompanied by her parents who have brought the teeth in a cup of milk. Appropriate management at this time would include

(A) immediate reimplantation

(B) immediate referral to a pediatric dentist for reimplantation

(C) suture closure of the open tooth sockets

(D) observation

(E) administer prophylactic antibiotics

445. Which of the following fractures is MOST suggestive of child abuse?

(A) 19-month-old with a supracondylar fracture from a fall off a chair

(B) 22-month-old with a spiral femur fracture from a fall while running

(C) 10-month-old with linear skull fracture from a fall down stairs in an infant walker

(D) 4-month-old with a transverse fracture of the humerus from a fall out of bed

(E) 3-year-old with a tuft fracture of the distal phalanx from the finger being closed in a door

446. A 2-month-old boy presents to the emergency department because of poor feeding and rapid breathing. An ECG reveals SVT with a ventricular rate of 250 bpm. All of the following therapeutic interventions would be appropriate EXCEPT

(A) ice bag to the face

(B) synchronized cardioversion

(C) adenosine

(D) verapamil

(E) rectal stimulation with a thermometer

447. A 4-year-old black girl is brought to the emergency department for evaluation of vaginal bleeding which was first noted earlier in the day. The child has had a mild cold and cough, but no fever. There is no history of trauma or child abuse. Past medical history is unremarkable. Examination reveals a 1 centimeter mass of dusky red tissue with a central dimple obscuring the vagina. The tissue is friable and oozing a small amount of blood. The next step in making the diagnosis would be

(A) urethral catheterization

(B) biopsy of the tissue

(C) pelvic ultrasound

(D) culture of the mass

(E) exam under anesthesia

448. A 10-year-old boy is brought to the emergency department by his parents for evaluation of a constant bitemporal headache. He has had only partial relief with acetaminophen. The patient has experienced similar headaches over the past 2 years, increasing in frequency to about one per month. They typically last about 2 hours, following which the patient is sleepy. There is associated nausea, but no vomiting and no preceding aura. Past history and physical examination are normal. The family history is remarkable for migraines in the mother and a grandparent with hemiplegia from a stroke. Of the following, the next step in management would be

(A) emergent CT scan of the head

(B) schedule outpatient MRI of the head

(C) schedule outpatient EEG

(D) therapeutic trial of analgesics

(E) arrange psychological evaluation

449. All of the following statements regarding cervical spine (C-spine) injury in children are true EXCEPT

(A) unlike adults and older children, C-spine fractures in young children commonly involve the upper vertebrae

(B) spinal cord injury without radiographic abnormality (SCIWORA) is seen more commonly in children less than 8 years of age

(C) the upper limits of normal for the predental measurement in children is larger than that for adults

(D) criteria for clinically “clearing” a patient’s C-spine (ie, removal of immobilization without a radiograph) are not applicable to young children (< 5 years of age)

(E) if available, MRI is preferable to CT for the evaluation of possible occult C-spine fractures in children

450. A 4-year-old girl is brought to the emergency department for evaluation of possible sexual abuse. The child has been living with her mother following the parent's recent separation. She disclosed to her mother that her father had molested her on several occasions. Her description includes fondling and vaginal penetration. A complete physical examination, including careful inspection of the genitalia, is normal. Of the following, the MOST appropriate next step is to

(A) admit for further evaluation

(B) discharge with reassurance that the normal physical exam makes sexual abuse unlikely

(C) administer antibiotic prophylaxis for sexually transmitted diseases following cultures

(D) obtain a skeletal survey

(E) make an immediate report to the local child protective agency

451. A 3-year-old boy presents to the emergency department after being found unconscious by his mother. An old soft drink bottle containing an unknown liquid was seen near the boy. Evaluation in the emergency department reveals rectal temperature 97.6 oF; HR 110 bpm; RR 16/min; BP 97/68 mm Hg. Physical exam is remarkable for a fruity odor to the breath and marked CNS depression with withdrawal response to pain, but no localizing neurologic abnormalities. Laboratory results are as follows:

ABG (room air) pH 7.36; PO2, PCO2, sat 99%;

Na 136; K 3.8; Cl 101; HCO3 24; BUN 8; Cr 0.8; glucose 51

Ingestion of which of the following substances would best explain the findings in this case?

(A) ethanol

(B) methanol

(C) ethylene glycol

(D) isopropanol

(E) polyethylene glycol

452. An 11-month-old girl with Tetralogy of Fallot is brought to the emergency department because of a prolonged episode of intense cyanosis associated with irritability. On arrival she is unconscious. Examination is remarkable for pronounced central cyanosis, hyperpnea, and absence of a heart murmur. All of the following medications have been found to be useful in this situation EXCEPT

(A) morphine

(B) phenylephrine

(C) methoxamine

(D) propranolol

(E) nitroprusside

453. A 13-year-old boy presents to the emergency department with a 1-week history of right hip pain. There is no history of trauma and no fever or other systemic symptoms of illness. Past history is unremarkable. Examination reveals an obese boy in no distress with normal vital signs. Abnormalities are limited to the hip exam, which shows limited range of motion of the right hip secondary to pain. The MOST likely diagnosis is

(A) transient (toxic) synovitis

(B) septic arthritis

(C) slipped capital femoral epiphysis

(D) Legg-Calvé-Perthes disease (aseptic necrosis of the femoral head)

(E) discitis

454. Animal bite injuries are extremely common in children. All of the following statements regarding cat and dog bites are true EXCEPT

(A) dog bites are more common in boys than girls

(B) the extremities are the most common site of the bite

(C) dog bites have a lower infection rate than cat bites

(D) Pasteurella multocida infections often have a rapid onset (< 24 hours)

(E) the offending animal is usually known to the child

455. A 3-year-old boy is brought in because of respiratory distress that developed during a visit to a relative's farm. Although no ingestion of foreign substances is known, he played extensively in a barn where numerous chemicals are stored. In addition, multiple medications are kept in the house. On arrival to the emergency department, he is obtunded, cyanotic, and tachypneic with marked respiratory distress. Despite 100% oxygen administered by face mask, he remains cyanotic. An arterial blood gas reveals: pH 7.09; PCO2 27; PO2 329; and O2 saturation 99%. The MOST likely explanation for this patients problem is

(A) methemoglobinemia

(B) iron ingestion

(C) foreign body ingestion

(D) ethylene glycol (antifreeze) ingestion

(E) aspirin ingestion

415	C	416	B	417	A	418	C
419	C	420	D	421	B	422	E
423	D	424	C	425	B	426	C
427	C	428	B	429	A	430	D
431	E	432	E	433	A	434	B
435	E	436	E	437	E	438	A
439	B	440	D	441	C	442	A
443	B	444	D	445	D	446	D
447	A	448	D	449	E	450	E
451	D	452	E	453	C	454	B
455	A						

Pediatric Emergencies

Each question below contains five suggested responses. Choose the ONE BEST response to each question.

16-416 All of the following suggest that a child with asthma needs to be admitted EXCEPT

- ◯ (A) persistent respiratory distress after albuterol and glucocorticoid treatments
- ◯ (B) a peak flow of < 60 percent predicted in a cooperative child
- ◯ (C) persistent vomiting of medications
- ◯ (D) underlying bronchopulmonary dysplasia, congenital heart disease, or cystic fibrosis
- ◯ (E) Sao_2 < 95 percent on room air upon arrival

Show Answer

16-417 A 4-month-old infant presents with a rectal temperature of 38.7°C, a respiration rate (RR) of 60, a heart rate (HR) of 160, and an Spo_2 on room air of 92 percent. He is smiling, drooling, and taking his bottle well, despite prominent intercostal retractions. On auscultation, he has diffuse coarse breath sounds with sibilant wheezes at both bases. All other household members have colds. There is no family history of atopy or asthma; no one smokes. ED therapy for this child could include all the following EXCEPT

- ◯ (A) supplemental O_2 (by blow-by or nasal cannula as tolerated by the child)
- ◯ (B) a trial of nebulized albuterol
- ◯ (C) a trial of nebulized racemic epinephrine
- ◯ (D) a dose of glucocorticoids
- ◯ (E) admission

Show Answer

16-418 An 18-month-old male is brought to the ED for evaluation of a brief episode of tonic-clonic extremity movements immediately after a spanking in the grocery store. The child reportedly screamed, became limp and pale, fell to the ground, and exhibited the unusual movements. The episode lasted about 1 min and occurred about 30 min before. The toddler is now interactive, appears healthy, and has normal vital signs. What is the MOST likely diagnosis?

- ◯ (A) Breath-holding spell
- ◯ (B) Head trauma
- ◯ (C) Toxic ingestion
- ◯ (D) Prolonged QT syndrome
- ◯ (E) Idiopathic (afebrile) seizure of childhood

Show Answer

16-419 One day after discharge from the normal newborn nursery, a jaundiced infant exhibits fleeting bicycling movements of the limbs, sucking of the lips, and occasional apneic episodes with color change. You interpret these as possible neonatal seizures. Work-up and treatment should include all of the following EXCEPT

- ◯ (A) evaluation for inborn errors of metabolism (including urine for reducing substances, organic amino acids, serum for lactate, pyruvate, and ammonia)
- ◯ (B) correction of electrolyte, calcium, magnesium, glucose, and acid-base imbalances
- ◯ (C) sepsis work-up
- ◯ (D) administration of diazepam as a first-line drug to control seizures
- ◯ (E) loading with phenobarbital

Show Answer

16-420 Which one of the following is the LEAST consistent with a diagnosis of intussusception?

- ◯ (A) Intermittent colicky abdominal pain, interspersed with symptom-free periods
- ◯ (B) Grossly normal appearing stool
- ◯ (C) Normal plain films of the abdomen
- ◯ (D) Previously healthy 9-year-old child
- ◯ (E) Altered, lethargic appearance

Show Answer

16-421 A previously healthy 9-month-old child presents with a soft, nontender abdomen and a history of vomiting at home. Which of the following strongly suggests a nonsurgical etiology for the emesis?

- ◯ (A) No bile present in the emesis
- ◯ (B) Negative blood in stool by guaiac
- ◯ (C) Normal KUB and left lateral decubitus film
- ◯ (D) Soft, nontender belly without masses
- ◯ (E) None of the above

Show Answer

16-422 Which of the following is the LEAST consistent with a clinical diagnosis of acute appendicitis?

- ◯ (A) Normal temperature
- ◯ (B) Normal white blood cell (WBC) count
- ◯ (C) Presence of hunger
- ◯ (D) Vomiting preceding the onset of abdominal pain
- ◯ (E) Recent gastroenteritis

Show Answer

16-423 Which of the following groups of pediatric patients are at increased risk for hypoglycemia?

- ◯ (A) Patients with glycogen storage disease type I
- ◯ (B) Children younger than 18 months, after a period of fasting
- ◯ (C) Children who have ingested alcohol but have no clinical signs of intoxication
- ◯ (D) Children with an abdominal mass
- ◯ (E) All of the above

Show Answer

16-424 All of the following are typical of a failure-to-thrive (FTT) baby EXCEPT

- ◯ (A) alopecia over a flattened occiput
- ◯ (B) inappropriate wide-eyed, affectionate reaction to strangers
- ◯ (C) increased muscle tone and scissoring
- ◯ (D) a relatively larger deviation from the weight curve than predicted by length or head circumference
- ◯ (E) poor hygiene

Show Answer

16-425 An 8-year-old female is brought to the ED because of longstanding vague abdominal complaints, with new onset of dysuria. An extensive medical and social history and physical examination (including inspection of the genitourinary area) are unremarkable. The maternal grandmother, who is the patient's guardian, suspects that the child may have been a victim of sexual abuse. Which of the following statements is TRUE?

- ◯ (A) Because the genitourinary examination is normal, sexual abuse is unlikely
- ◯ (B) A pelvic examination is necessary to rule out abuse and sexually transmitted diseases (STDs)
- ◯ (C) Vaginal secretions should be sent for rapid antigens to detect STDs
- ◯ (D) Syphilis and HIV serologies should be sent
- ◯ (E) Social service should be called and child protective services (CPS) involved even if the general physical and genitourinary examinations are normal

Show Answer

16-426 A 3-year-old preschool male presents with a 3-day history of high fever accompanied by sore throat, mild abdominal pain, headache, and vague pain "all over." Examination shows a diffuse erythematous rash, especially in the perianal area. He complains of itching in areas where the rash is peeling. You also note red oral mucosa, prominent papillae consistent with strawberry tongue, and cervical adenopathy. Appropriate actions at this point could include all the following EXCEPT

- ◯ (A) performing a culture of the throat to rule out group A ß-hemolytic strep (GABHS)
- ◯ (B) treating for presumptive GABHS with oral or intramuscular penicillin
- ◯ (C) giving intravenous gamma globulin

- (D) delaying treatment until you have the results of a complete blood count (CBC) with differential, ESR, and LFTs
- (E) administering oral diphenhydramine

Show Answer

16-427 A 16-month-old child presents with seven watery, nonmucoid, nonbloody stools beginning that day. The mother is not sure when he had his last void because the diaper is always wet with stool. The mother inserted a trimethobenzamide (Tigan) rectal suppository 1 h before. The child seems thirsty but has occasional clear emesis when he takes fluids. Vital signs are remarkable for a rectal temperature of 38.0°C, RR of 30, and pulse of 160, all taken while the child is screaming in triage. He appears vigorous but has a dry mouth and no tears. Appropriate ED management for this child would include all of the following EXCEPT

- (A) oral rehydration solution, 5 cc by mouth at a time, every 5 min
- (B) intravenous rehydration with 20 to 40 cc/kg LR or NS
- (C) oral rehydration at home with clear liquids, followed by the BRATT diet in 24 h
- (D) regular milk within the first 24 h
- (E) discontinue and discourage use of antiemetic/antimotility agents

Show Answer

16-428 Which one of the following children with diarrhea requires antibiotics?

- (A) A 3-month-old infant whose rectal swab from three nights before grew *Salmonella*
- (B) A 10-year-old patient with stool culture positive for *Salmonella* whose bowel movements have decreased in frequency and volume
- (C) A 4-year-old patient with sickle cell trait whose stool grew *Salmonella*
- (D) A 12-month-old with mild dehydration whose rectal swab from a previous ED evaluation grew *Salmonella*
- (E) A 5-year-old patient with moderate bloody diarrhea that began after completing a course of amoxicillin for otitis media

Show Answer

16-429 An 8-month-old nontoxic infant is brought to the ED with a new rash. Physical examination shows numerous 0.5- to 1.0-cm bullae and red, round, denuded lesions of similar size scattered all over but primarily in the diaper area. Because the child has spent the weekend at the father's house, where many people smoke, the mother is concerned that these may represent cigarette burns. What is the MOST appropriate action?

- (A) Apply neomycin ointment to the lesions and call social services
- (B) Administer topical mupirocin and local wound care
- (C) Give oral cephalexin and local wound cleaning
- (D) Admit for intravenous cephalosporin therapy
- (E) Perform a Tzanck smear, invoke isolation precautions, and begin acyclovir

Show Answer

16-430 A 14-month-old irritable but nontoxic toddler presents with several days of upper respiratory infection (URI) symptoms and a rectal temperature of 40.0°C. On examination you do not find a specific source for the fever but note a few urticarial and nonblanching tiny petechiae on the baby's lower abdomen. Which of the following is the MOST appropriate action?

- ◯ (A) CBC, blood and urine cultures, oral antibiotics, and close outpatient follow-up
- ◯ (B) CBC, blood and urine cultures, home *without* medications, and follow-up every 24 h pending culture results
- ◯ (C) Immediate respiratory isolation; CBC; blood, urine, and cerebrospinal fluid (CSF) cultures; intravenous antibiotics; admission
- ◯ (D) Diphenhydramine for the urticaria, home with follow-up in 24 h or sooner if worse
- ◯ (E) immediate respiratory isolation; CBC, blood and urine cultures; intravenous antibiotics; admission

Show Answer

16-431 An 11-month-old patient with no primary care physician is called back to the ED for reevaluation because blood that was drawn the day before as part of a work-up of fever is positive for *N. meningitidis*. The clinical impression at discharge was otitis media, and the patient was treated with amoxicillin and acetaminophen. The patient is now afebrile and playful. What is the MOST appropriate action?

- ◯ (A) Repeat blood culture, intravenous ceftriaxone, admit
- ◯ (B) Repeat blood culture, perform lumbar puncture and CSF culture, start intravenous ceftriaxone, admit
- ◯ (C) Repeat blood culture, intramuscular ceftriaxone, home with follow-up in 24 h
- ◯ (D) Repeat blood culture, continue oral amoxicillin, follow up in 24 h or sooner if worse
- ◯ (E) Home after thorough history and physical examination, with reassurance to the parents

Show Answer

16-432 A 2-week-old vaginally delivered infant with an unremarkable perinatal course presents with a rectal temperature of 38.0°C and reluctance to feed for 1 day. There is no history of URI symptoms, vomiting, diarrhea, or rash. The baby's siblings (aged 13 months and 3 years) have colds, but no one else at home is ill. The infant's only medication is acetaminophen, administered by the mother 3 h before arrival at the ED. What is the MOST appropriate course of action?

- ◯ (A) Home after blood culture
- ◯ (B) Home after blood culture, CBC with differential, catheterized urine and urine culture
- ◯ (C) Admit after blood, catheterized urine, CSF cultures, CBC, urinalysis, and intravenous ampicillin and gentamicin
- ◯ (D) Admit after blood, urine, and CSF cultures for intravenous ampicillin and ceftriaxone
- ◯ (E) Home with close follow-up on no medications

Show Answer

16-433 A 3-week-old infant with a 2-day duration of whitish eye drainage presents to the ED. The child had a normal spontaneous vaginal delivery. The mother reports mild URI symptoms for the past 3 days, but the older siblings (13 months and 3 years) also have colds. The child is eating and acting normally. Which of the following is MOST appropriate?

- (A) Fluorescein staining of the cornea; if no dendritic changes, Gram stain and culture of the eye drainage for gonorrhea; if the Gram stain is negative for gram-negative diplococci, obtain a culture of nasopharyngeal aspirate for chlamydia; prescribe oral antibiotics
- (B) Fluorescein staining of the cornea; if no dendritic changes, Gram stain for gonorrhea, culture eye drainage for chlamydia and gonorrhea; prescribe topical eye drops
- (C) Topical antibiotic eye drops
- (D) Treat with hot packs and lacrimal duct massage for presumptive lacrimal duct stenosis
- (E) Fluorescein staining of the cornea; if no dendritic changes, topical antibiotic eye drops

Show Answer

16-434 An unimmunized 5-month-old infant presents with an indurated, red-violet quarter-sized area on the cheek and a fever of 39.5°C of 1 day's duration. He is irritable but consolable and has a supple neck. What is the MOST appropriate action?

- (A) Admit after blood cultures, catheterized urine, wound aspirate, lumbar puncture, CBC, and intravenous ceftriaxone
- (B) Admit after blood cultures, catheterized urine, wound aspirate, and intravenous ceftriaxone
- (C) Home with close follow-up after wound-edge aspirate cultures, intramuscular ceftriaxone
- (D) Home with close follow-up after blood cultures and oral amoxicillin
- (E) Home with close follow-up after blood cultures and oral amoxicillin-clavulanic acid

Show Answer

16-435 Risk factors for SIDS include all of the following EXCEPT

- (A) sleeping in the supine position
- (B) being born to a mother with a substance-abuse problem during pregnancy
- (C) prematurity or low birth weight
- (D) having a sibling with SIDS
- (E) history of a previous apneic episode of life-threatening proportions (ALTE)

Show Answer

16-436 A 2-week-old infant presents with congestion, mild wheezing, and a history of a "feeling warm." Except for wheezing and mildly increased respiratory effort, the baby has normal vital signs and a normal examination. All the following historical elements would place this child at increased risk for apnea EXCEPT

- (A) sluggish feeding and progressive increase in constipation
- (B) frequent paroxysms of cough, often followed by emesis, but no color change
- (C) 1-week duration of symptoms
- (D) 2-day duration of symptoms
- (E) premature birth

Show Answer

16-437 Which of the following is TRUE regarding treatment of a child with diabetic ketoacidosis (DKA)?

- ◯ (A) Volume replacement is the mainstay of therapy and should be generous and rapid
- ◯ (B) An initial bolus of 0.1 U/kg insulin must be given before beginning an insulin infusion
- ◯ (C) The insulin infusion should be discontinued once the patient's glucose has fallen below 200 to 250 mg/dL
- ◯ (D) Cerebral edema may occur 6 to 8 h into therapy, after apparent clinical improvement
- ◯ (E) Potassium supplementation is not needed in the child with DKA who is still acidotic, provided the serum potassium is normal

Show Answer

16-438 A 3-year-old female with hemoglobin sickle cell (HbSS) disease presents with a fever of 38.5°C after several days of URI symptoms, lower leg pain, and abdominal pain in the usual locations of her pain crises. She has scleral icterus and a spleen tip palpable on abdominal examination. The mother is concerned that the patient looks pale. RR is 18, HR is 110, blood pressure is 100/62, and O_2 saturation is at 90 percent. She takes penicillin and folic acid daily.

Work-up and treatment should include all of the following EXCEPT

- ◯ (A) normal saline infusion at twice maintenance levels
- ◯ (B) CBC with differential, reticulocyte count, blood and urine cultures, CXR, blood for type and screen
- ◯ (C) presumptive treatment with parenteral antibiotics, active against encapsulated organisms
- ◯ (D) opioids in adequate doses, at frequent intervals to control the pain
- ◯ (E) O_2 for hypoxia

Show Answer

16-439 When evaluating for possible otitis media, which of the following is of the LEAST diagnostic value?

- ◯ (A) History of a new onset of ear pulling starting several days after URI
- ◯ (B) Presence of the light reflex
- ◯ (C) Translucency of the tympanic membrane (TM)
- ◯ (D) Mobility in response to pneumatoscopy
- ◯ (E) Fluid level behind the TM

Show Answer

16-440 During initial evaluation of a 1-month-old distressed infant with URI symptoms, a heart murmur is detected. Which of the following would be LEAST helpful in providing evidence for congenital heart disease?

- ◯ (A) CXR
- ◯ (B) Baseline CBC, blood gas, and blood chemistries
- ◯ (C) Finding of a rounded liver edge 2 cm below the right costal margin

- ◯ (D) Detecting a holosystolic murmur with radiation to the back
- ◯ (E) EKG

Show Answer

16-441 A 1-week-old cyanotic infant presents in shock. History is significant for feeding difficulties and worsening URI symptoms over the past 2 days. The baby is limp, minimally responsive to noxious stimuli, and has an O_2 saturation of 72 percent on room air (with little change after oxygen administration). RR is 60, HR is 200, blood pressure is undetectable, and rectal temperature is 38.0°C. Chest auscultation shows rales but no murmur. What is the BEST course of action?

- ◯ (A) Oxygen, prostaglandin E_1 titrated to effect, and consultation with a tertiary pediatric institution for possible transfer
- ◯ (B) Morphine, oxygen, and phenylephrine; place the infant in the knee-to-chest position
- ◯ (C) A septic work-up and antibiotics; defer lumbar puncture until the baby is stabilized
- ◯ (D) A and C
- ◯ (E) B and C

Show Answer

16-442 What is the MOST common cause of preload disorders in children?

- ◯ (A) Distributive shock
- ◯ (B) Hypovolemic shock from vomiting and diarrhea
- ◯ (C) Congestive heart failure
- ◯ (D) Severe anemia
- ◯ (E) Hypoxemia

Show Answer

16-443 An otherwise healthy 7-week-old baby presents with a rectal temperature of 40.0°C. Thorough physical examination does not show a source for the fever. Which of the following tests is MOST likely to show a source of infection?

- ◯ (A) Culture of a catheterized urine specimen
- ◯ (B) Peripheral blood culture
- ◯ (C) CBC and differential
- ◯ (D) Culture of the CSF
- ◯ (E) CXR

Show Answer

16-444 A nontoxic, playful, 18-month-old toddler is febrile to 40.5°C but has no focus for fever on examination. A 24-h follow-up visit is arranged. Which of the following would be INAPPROPRIATE management?

- ◯ (A) Blood and urine cultures; intramuscular ceftriaxone

- (B) Blood and urine cultures, intramuscular ceftriaxone only if WBC > 15,000
- (C) Intramuscular ceftriaxone, no cultures
- (D) Blood and urine cultures, no antibiotics
- (E) B, C, and D are all inappropriate

Show Answer

16-445 Which of the following represents INAPPROPRIATE management of fever in children?

- (A) Unwrapping the bundled child and retaking the temperature after 15 min
- (B) Documenting the temperature accurately by using a tympanic thermometer, especially in infants
- (C) Ibuprofen orally in a maximum dose of 40 mg/kg/day divided between 6 and 8 h
- (D) Slow cooling by sponging with tepid water
- (E) Administration of ibuprofen and acetaminophen simultaneously

Show Answer

16-446 A 3-month-old male presents with a fever of 39.5°C for several days, occasional vomiting with a few loose watery stools, mild URI symptoms, and a decreased appetite. He is irritable but consolable and appears nontoxic. Which of the following tests would be MOST likely to show the source of this child's fever?

- (A) CBC with differential
- (B) Blood culture
- (C) Urine culture
- (D) CSF culture
- (E) Chest x-ray

Show Answer

16-447 Which of the following methods is MOST appropriate for collecting a urine specimen for culture?

- (A) Bag specimen in a circumcised infant boy
- (B) Suprapubic tap in an infant girl with labial fusion
- (C) Catheterization in a circumcised, toilet-trained 3-year-old boy
- (D) Catheterization in an uncircumcised, toilet-trained 5-year-old boy
- (E) Clean catch in an uncircumcised, toilet-trained 5-year-old boy

Show Answer

16-448 All of the following statements regarding hyponatremic dehydration in children are TRUE EXCEPT

- (A) serum sodium is less than 130 mEq/L
- (B) sodium deficit exceeds water deficit

- (C) osmolar load is less in the intracellular fluid (ICF) than in the extracellular fluid (ECF) compartment
- (D) water shifts from the ECF compartment into the ICF compartment during equilibration
- (E) possible sequelae include decreased circulatory volume, cerebral edema, seizures, and coma

Show Answer

16-449 All of the following statements regarding a child with hypernatremic dehydration are TRUE EXCEPT

- (A) there is at least a 10 percent fluid deficit
- (B) the skin may appear dry or doughy
- (C) muscle tone is increased
- (D) the sensorium fluctuates between lethargy and hyperirritability
- (E) rapid rehydration is indicated

Show Answer

16-450 All of the following statements regarding isotonic dehydration in children are TRUE EXCEPT

- (A) it is the most common type of dehydration
- (B) serum sodium remains within the normal range of 130 to 150 mEq/L
- (C) sodium and water deficits are proportionate
- (D) calculated fluid deficit should be replaced at a uniform rate over 24 h
- (E) initial fluid boluses should be subtracted from the calculated fluid deficit

Show Answer

16-451 A 1-year-old baby presents with signs of severe dehydration and shock during a severe bout of gastroenteritis. Which of the following is the MOST appropriate fluid therapy?

- (A) Isotonic crystalloid bolus of 20 mL/kg
- (B) Isotonic crystalloid infusion at 20 mL/kg/h
- (C) D_5W 0.45 NS bolus of 20 mL/kg
- (D) D_5W 0.45 NS infusion at 20 mL/kg/h
- (E) D_5W 0.25 NS infusion at 20 mL/kg/h

Show Answer

16-452 You are writing admitting orders for a 25-kg toddler who requires observation after a motor vehicle accident. The trauma team requests that you keep her NPO for the first day. What are the 24-h intravenous maintenance fluid requirements for this child?

- (A) 1200 mL
- (B) 1300 mL
- (C) 1400 mL
- (D) 1500 mL

- (E) 1600 mL

Show Answer

16-453 A 1-year-old boy presents to the ED with gastroenteritis that is unresponsive to oral rehydration attempts. After physical examination, your assessment is that this 10-kg child has 5 percent dehydration. Which of the following represents the total 24-h fluid requirement?

- (A) 1100 mL
- (B) 1200 mL
- (C) 1300 mL
- (D) 1400 mL
- (E) 1500 mL

Show Answer

16-454 All of the following statements are TRUE about moderate dehydration in an infant EXCEPT

- (A) the skin has decreased turgor
- (B) mucous membranes are dry
- (C) tears are diminished
- (D) the child is irritable
- (E) oliguria, tachycardia, and profound shock are present

Show Answer

16-455 All of the following statements about hemorrhagic shock and encephalopathy syndrome are TRUE EXCEPT

- (A) the etiology is unknown
- (B) the prodrome is usually a mild, nonspecific illness
- (C) profuse, watery diarrhea progresses to bloody diarrhea
- (D) hypoperfusion, seizures, metabolic acidosis, and DIC occur
- (E) laboratory abnormalities are limited to acid-base and hematologic dysfunction

Show Answer

16-456 A 10-year-old female presents to the ED with left upper extremity pain and swelling after a fall onto an outstretched arm 2 h before. She has a tense forearm, moderate swelling at the elbow, and tenderness to palpation of the distal humerus. Passive extension of the fingers elicits pain, and she complains of tingling in the hand. Radial and ulnar pulses are present. What are the MOST appropriate immediate actions?

- (A) Splint the arm in flexion and send the patient to x-ray
- (B) Splint the arm in flexion, consult orthopedics, and send the patient for x-ray
- (C) Splint the arm in flexion, start an intravenous line, obtain immediate x-ray, consult orthopedics, and prepare to reduce the fracture
- (D) Splint the arm in extension and send the patient for x-ray

- (E) Splint the arm in extension, start an intravenous line, obtain immediate x-ray, consult orthopedics, and prepare to reduce the fracture

Show Answer

16-457 Regarding supracondylar fractures, which of the following radiographic finding is LEAST likely?

- (A) Subtle or nonvisible fracture line
- (B) Posterior fat pad sign
- (C) Loss of angulation of the anterior capitellum
- (D) Imaginary anterior humeral line bisects the anterior capitellum
- (E) Imaginary anterior humeral line bisects the posterior two-thirds of the capitellum

Show Answer

16-458 A 14-year-old male presents with acute onset of inability to walk and severe pain in the left groin, thigh, and knee. He is afebrile and appears nontoxic but is obviously distressed. Examination shows an externally rotated thigh and apparent limb shortening. What is the MOST likely diagnosis?

- (A) Legg-Calvé-Perthes disease (coxa plana)
- (B) Slipped capital femoral epiphysis (SCFE)
- (C) Septic arthritis of the hip
- (D) Toxic tenosynovitis of the hip
- (E) Osgood-Schlatter's disease

Show Answer

16-459 Aspirin therapy is used in all of the following conditions EXCEPT

- (A) Kawasaki syndrome
- (B) polyarticular juvenile rheumatoid arthritis
- (C) acute rheumatic fever
- (D) Henoch-Schönlein purpura
- (E) Kohler disease

Show Answer

16-460 A 2-year-old male presents to the ED with a 5-day history of a high fever, malaise, and irritability. Vital signs are a HR of 130, blood pressure of 84/44, RR of 24, and temperature of 40°C. Examination shows an alert, uncomfortable-appearing boy, with bilateral nonpurulent conjunctivitis, no nuchal rigidity, a strawberry tongue, bilateral enlarged cervical nodes, palmar and plantar erythema, and a polymorphous rash over the trunk. Chest x-ray is normal, as are a lumbar puncture and urinalysis. Blood cultures are sent, and empiric antibiotics are started. Which of the following is the MOST appropriate treatment?

- (A) Admit and start aspirin
- (B) Admit and start glucocorticoids

- ◯ (C) Admit and start IVIG
- ◯ (D) Start aspirin and discharge with next-day follow-up
- ◯ (E) Start glucocorticoids and aspirin and discharge with next-day follow-up

Show Answer

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Show All Answers

(416) The answer is E

Misdiagnosis and undertreatment of pediatric asthma occur frequently. The prevalence, severity of disease, and death rate from asthma in pediatric patients has increased significantly during the past 20 years. History of intubation, two or more hospitalizations or three or more ED visits for asthma in the past year, and glucocorticoid dependence or increased use of ß agonists are all associated with a higher risk of death. A peak flow of < 60 percent predicted in a patient old enough to cooperate and demonstrate good effort is an objective measure that indicates the child will probably relapse at home if not admitted. Underlying chronic pulmonary or cardiac conditions portend a more complicated course for asthma exacerbations, particularly when associated with some viruses (e.g., respiratory syncytial virus, or RSV). Initial room air oxygen saturation by itself is not a reliable indicator of need for admission.

(Chapter 120)

(417) The answer is D

Despite extensive study, glucocorticoids have not been shown to improve the course of illness in bronchiolitis. However, both nebulized racemic epinephrine and nebulized $ß_2$ agonists are beneficial treatments. Oxygen supplementation is often helpful in decreasing respiratory rate, accessory muscle use, and the general degree of respiratory distress, even when the Spo_2 is within acceptable range on presentation. Fever in bronchiolitic children is a common finding and is frequently associated with otitis media.

(Chapter 120)

(418) The answer is A

A "breath-holding spell" typically occurs after an abrupt trauma (fall, spanking) or a verbal reprimand. It is typified by a sudden cry, followed by prolonged inhalation or exhalation (resulting in no air exchange), and a Valsalva maneuver with vagotonic effects (bradycardia). A brief tonic seizure, not considered to be epileptic, occurs. Head trauma in this child would be an unlikely cause of seizure because the child is neurologically normal. Toxic ingestion is always a consideration in this age of greater mobility, curiosity, and dexterity. However, some aberration in mental status or vital signs would be expected with ingestion severe enough to cause a seizure. Congenital heart disease can produce paroxysmal events at all ages. Pulmonary hypertension, tetralogy of Fallot, acquired cardiomyopathies, and prolonged QT syndrome should be considered. Idiopathic seizures account for up to 47 percent of afebrile seizures in children.

(Chapter 121)

(419) The answer is D

Multifocal, fragmentary seizures are common in newborns. Autonomic seizures can also occur and manifest as variable changes in respiration, temperature, and color. Hypoxia, sepsis, hypoglycemia, and hereditary or

acquired metabolic disorders are the most common causes. In the absence of an obvious etiology, newborns should be treated with vitamin B_6, glucose, calcium, and magnesium as indicated. In infants younger than 7 days, phenobarbital is the antiseizure drug of first choice. Phenytoin (or fosphenytoin) is the drug of second choice. Diazepam should be used with caution because of its propensity for respiratory depression and potential to worsen hyperbilirubinemia.
(Chapter 121)

(420) The answer is D
Intermittent colicky pain, occurring about every 20 min, is the typical history for intussusception. Because the child looks and acts completely normal between pain episodes, the diagnosis is often overlooked. The stool commonly appears grossly normal until ischemia progresses and "currant jelly" stools develop. Although a mass effect in the right upper quadrant on x-ray or palpation is suggestive of the diagnosis, up to one-third of plain films are normal. The usual age range for presentation is between 3 months and 6 years. Intussuception should be considered in the differential diagnosis of any child with unexplained altered level of consciousness because up to 10 percent of children present with apathy and lethargy alone.
(Chapter 123)

(421) The answer is E
Vomiting is a common problem in childhood, with variable etiology. It can occur with both obstructive and nonobstructive conditions. Although a surgical condition may eventually lead to bilious emesis, at onset vomitus may be simple regurgitation of frothy, nonbilious stomach contents. Bleeding from the gastrointestinal tract may be caused by minor (fissure, milk allergy) or major (intestinal obstruction, gangrenous bowel) problems. Plain films have a low sensitivity for intussusception (normal in up to 30 percent of cases). Masses are infrequently detected during the abdominal examination in children who are later found to have intussusception, malrotation, or even pyloric stenosis. Thus, physical examination alone is not reliable to rule out a surgical condition. Observation may be the best course of action for stable children with an unclear etiology for emesis.
(Chapter 123)

(422) The answer is D
The classic progression of symptoms of appendicitis occurs more commonly in older children and adults. Children younger than 2 years often present when the appendix is already perforated because the preceding symptoms are too nonspecific to call attention to the pathology. Lack of anorexia or fever and normal WBC counts are common findings in pediatric patients. Gastroenteritis is often associated with appendicitis, possibly on the basis of an acutely, but secondarily, inflamed appendix. Vomiting more commonly presents *after* the onset of abdominal pain.

(Chapter 123)

(423) The answer is E

Nonketotic hypoglycemia is more of a physiologic alteration than true pathology; it usually presents in children younger than 18 months who have had a long fast and do not have adequate gluconeogenic precursors available to keep the blood sugar elevated and the stress hormones in check. It is most often seen on holidays and weekends, when parents sleep late and unintentionally extend the time the child has gone without eating. A child with an abdominal mass may have an enlarged liver, the result of the accumulation of abnormal products of metabolism, such as those seen in glycogen storage disease, fatty acid oxidation, or other metabolic abnormalities. Ethanol ingestion is far more likely to cause hypoglycemia in children than in adults, not only because of the higher glucose utilization in children but also because of the relatively greater effect of ethanol on gluconeogenesis. This is true even when the ethanol levels are too low to cause clinical intoxication.

(Chapter 125)

(424) The answer is B

Although FTT babies are usually brought to the ED for evaluation of other conditions, there are many clues that these babies are victims of nonnurturing environments. Poor physical hygiene may be obvious, but other signs may be subtle. These may include occipital flattening and alopecia, a result of the baby remaining unattended in a supine position all day. However, because the American Academy of Pediatrics officially recommends supine positioning in infancy to prevent sudden infant death syndrome (SIDS), more normally nurtured babies have been manifesting this sign. Although these infants may appear to act as if starved for affection, more commonly such babies are apathetic to, and withdrawn from, their environment, appearing to prefer self-stimulatory activities (sucking, self-regurgitation). The lower extremities of FTT infants often exhibit markedly increased tone and scissoring. The weight curve of the neglected but physically normal baby markedly deviates from the curve of the normal baby.

(Chapter 289)

(425) The answer is E

The absence of physical signs does not rule out sexual abuse. A speculum pelvic examination is not generally indicated in prepubertal children, except under anesthesia in the case of severe unexplained vaginal bleeding or for vaginal foreign-body removal. Inspection of the introital area and cultures obtained from the vagina are usually sufficient. Syphilis and HIV serologies are more indicative of baseline status and should only be collected if there is an associated STD, a suspicion of these in the assailant, *and* counseling for the patient to explain the ramifications of positive results of such tests. Currently rapid antigen tests for STDs are not considered reliable in children. All suspected abuse must be reported to CPS.

(Chapter 289)

(426) The answer is C
This child's picture suggests a streptococcal scarlet fever variant. Perianal rash is a prominent feature. If the family is reliable, treatment can be based on results of culture and laboratory tests. If follow-up is a concern, presumptive treatment for GABHS without culture is the more prudent course of action. Treatment is thought to prevent the rare, nonsuppurative sequelae of rheumatic fever and possibly glomerulonephritis. If the patient's presentation were more consistent with Kawasaki's disease (e.g., a more prolonged course of fever), intravenous gamma globulin would be indicated to prevent future development of coronary artery aneurysms. Diphenhydramine provides symptomatic relief from the itchy rashes of both strep and Kawasaki's disease, especially in the peeling phase.
(Chapter 131)

(427) The answer is C
The presence of two of the four physical signs predictive of dehydration (ill appearance, capillary refill > 3 s, dry mucous membranes, and absent tears) suggest this baby to be moderately (= 5 percent) dry. Mild dehydration is also shown by tachycardia and relative tachypnea. A trial of oral rehydration solutions consisting of the appropriate osmolality (= 300 mOsm/L) and a 2:1 ratio of glucose to Na^+(millimoles), given in small volumes as frequently as every 5 min is appropriate but very labor intensive. This would be impractical in most ED settings. Intravenous rehydration with normal saline (NS) or LR in volumes of 20 to 40 cc/kg in the ED can be followed by discharge to home with a combination of oral rehydration solution (maximum of 150 cc/kg/day) and regular diet. Commonly recommended soft drinks and the BRATT diet are high in carbohydrates and osmolality and low in nutritive value and should not be used. Antiemetics and antimotility agents should be avoided in children.
(Chapter 122)

(428) The answer is A
Because infants younger than 6 months are at risk for bacteremia, they need antibiotic therapy when stool cultures are positive for *Salmonella*. Lumbar puncture and parenteral antibiotics are advocated by some sources. Patients with hemoglobinopathies are also at risk for the suppurative complications of *Salmonella* infections. Sickle cell trait, however, does not portend increased vulnerability. Neither the 10-year-old nor the 12-month-old child with culture-proven *Salmonella* gastroenteritis needs antibiotic treatment if the symptoms are mild and the child appears nontoxic. The child who develops bloody diarrhea while on antibiotics likely has colitis caused by *Clostridium difficile*; this usually resolves with discontinuation of the antibiotics and possibly the addition of cholestyramine anion-exchange resin to absorb the *C. difficile* toxin.
(Chapter 122)

(429) The answer is C
This child most likely has staphylococcal impetigo. The pathogen produces an epidermolytic toxin that gives rise to different-sized bullous lesions. These are flaccid and thin walled and rupture easily, leaving a moist denuded base that can be mistaken for a cigarette burn. The lesions of bullous impetigo are most often found on the extremities but can be found anywhere. Except in extreme cases, routine hygiene, wound cleaning, and oral antistaphylococcal antibiotics are all that is necessary for treatment. Neomycin ointment is not effective topically. Although mupirocin is effective topically, it is expensive and its use should be restricted to infections covering a limited area.
(Chapter 131)

(430) The answer is C
The presence of petechiae in a febrile child, particularly if the petechiae cannot be attributed as secondary to pressure (e.g., in an extremity, distal to where a tourniquet has been placed), suggests *Neisseria meningitidis* or *Haemophilus influenzae* bacteremia and meningitis. In *N. meningitidis*, the rash may start out urticarial and maculopapular but usually progresses to petechiae or purpura. Children should be placed in respiratory isolation. They need a complete sepsis work-up (to include blood and CSF cultures) followed by prompt administration of broad-spectrum antibiotics and admission. Because of the potential for rapid deterioration in patients with *N. meningitidis* or *H. influenzae* bacteremia, all the other less aggressive choices are inappropriate. Cultures eventually positive for either of these organisms usually require prophylaxis for family members and health-care workers who have had close contact with the child.
(Chapter 110)

(431) The answer is B
Even well-appearing children require admission if their blood cultures grow either *H. influenzae* or *N. meningitidis*. Such children are at risk for bacterial sepsis and should receive a complete work-up to include CBC, repeat blood culture, catheterized urinalysis, CSF cultures, and broad-spectrum intravenous antibiotics.
(Chapter 118)

(432) The answer is C
Most authorities agree that a rectal temperature of 38.0°C (100.4°F) constitutes a fever during the first few months of life. Such infants may exhibit nonspecific signs and symptoms of sepsis and thus require extensive

work-up (CBC with differential, blood cultures, catheterized urine, and CSF) when they present with fever. Otherwise healthy babies older than 4 weeks who present with fever and have a reliable social situation may be discharged home with close follow-up after a negative sepsis work-up. Ceftriaxone should be reserved for infants older than 1 month because it may displace bilirubin from protein-binding sites.
(Chapter 118)

(433) The answer is A
In the first month of life, conjunctival infection with *Herpes simplex* and *Neisseria gonorrhoeae* can cause permanent eye damage. A neonate with eye drainage must undergo fluorescein staining of the cornea to assess for dendritic changes and ulcerations, and Gram stain to rule out gram-negative diplococci. The patient in the scenario is exhibiting respiratory symptoms of onset at approximately the same time as the eye drainage. He is in the appropriate age and risk category (vaginal delivery) for chlamydial infection. Nasopharyngeal cultures or scrapings of the palpebral conjunctivae are much more sensitive than culture of the eye drainage itself for chlamydia. Oral (erythromycin), but not topical, antibiotics for 2 to 3 weeks are the most important therapy. Close follow-up is essential.
(Chapter 117)

(434) The answer is A
Staphylococcus aureus, *Streptococcus pyogenes*, and *H. influenzae*, in decreasing order of importance, are the pathogens most often associated with cellulitis in children. Fever is unusual unless *H. influenzae* is the causative organism. *Haemophilus influenzae* is an important cause for buccal cellulitis in unimmunized children. Because of the organism's invasiveness and the frequent association of unexpected meningitis, these patients need a full sepsis work-up (to include blood, urine, wound, and CSF cultures) and admission for parenteral antibiotics. Afebrile, fully immunized children can usually be treated with antibiotics and followed on an outpatient basis because they are not likely to have *H. influenzae*.
(Chapter 117)

(435) The answer is A
The American Academy of Pediatrics recommends that babies sleep in the supine position as protection against an apneic episode. Prematurity, previous ALTE, low birth weight, and a family history of SIDS are all risk factors.
(Chapter 114)

(436) The answer is C
Neonates with RSV infection are at risk for central apnea during the first 3 or 4 days of illness. When RSV testing is available in the ED, it can help identify patients who may require admission. Children who have been symptomatic for longer than 4 days tend to do well (unless the work of breathing is such that they tire to the point of apnea). Pertussis in this as yet unimmunized child is a real risk. Although paroxysmal hacking cough is characteristic, infants may have apnea and no "whoop." Botulism may first manifest as constipation and then diminished gag, feeding problems, weak cry, and decreased muscle tone before ultimately resulting in respiratory arrest. Premature infants are at higher risk for complications from RSV infection.
(Chapters 112, 114)

(437) The answer is D
Although volume replacement is crucial in treatment of pediatric DKA, deficit correction must proceed cautiously. Cerebral edema is unpredictable and appears late, after the patient is seemingly improved. Rapid fluid replacement and possibly speedy normalization of blood glucose may predispose to cerebral edema. The initial 0.1 U/kg bolus of insulin is no longer recommended before the insulin drip because it may exacerbate preexisting hypokalemia. Insulin infusion may be gradually decreased but should be continued until acidosis has resolved. Glucose should be added to intravenous fluids once levels have fallen to between 200 and 250 mg/dL. Correction of acidosis results in intracellular potassium shifts; osmotic diuresis further promotes potassium loss. Hence, potassium replacement is usually required early in therapy.
(Chapter 124)

(438) The answer is A
In children with HbSS disease, infection is the most common cause of death; acute splenic sequestration is the second most common cause. Despite penicillin prophylaxis, this febrile child is at risk for infectious complications from encapsulated organisms. Furthermore, a palpable spleen tip is suggestive of sequestration crisis, extremity pain suggests vasoocclusive crisis, and a viral cause of the URI symptoms may have precipitated an aplastic crisis. Prompt administration of antibiotics and a moderate fluid bolus of one-half NS at 1.5 times maintenance are indicated. A chest x-ray to look for pneumonia or early acute chest syndrome should be obtained. The child requires supplemental oxygen to correct hypoxia (up to an O_2 saturation of 95 percent). Oximetry probes should be placed on the ear lobes or nasal bridge because the extremities in vasoocclusive crisis may not provide accurate readings.
(Chapter 133)

(439) The answer is B
The light reflex can often be visualized in an abnormal ear. Gauging decreased translucency of the TM and

evaluating for the presence of a fluid level behind the TM requires experience, but these are good indicators of infection when detected. Mobility in response to pneumatoscopy is also quite sensitive in practiced hands. New-onset ear pulling after URI is frequently associated with otitis media.
(Chapter 116)

(440) The answer is B
Although blood work is rarely helpful in the acute management of such an infant, improved saturation in response to oxygen may suggest a pulmonary rather than a cardiac problem. Chest x-ray is helpful to assess the size and shape of the heart. Hepatomegaly usually develops late and may be manifested solely by the subtle rounding of the previously sharp liver edge. Although murmurs may occur in up to 30 percent of normal children, these are generally brief, systolic, and without radiation. "Physiologic" murmurs can be loud, but they are not holosystolic. An electrocardiogram (EKG) is useful for the evaluation of cardiac conduction and, indirectly, the heart's chamber size and electrical axis.
(Chapter 115)

(441) The answer is D
The diagnosis of decompensated congenital heart disease is often difficult in very young infants. Borderline cardiac reserves are suggested by exercise intolerance, which, in this age group, most reproducibly manifest as difficulty in feeding, diaphoresis, increased time to take a bottle, and staccato cough-interrupted feeds. Babies often have been evaluated several times for "URI" symptoms before decompensation occurs. Shunt-dependent lesions start to decompensate when the ductus arteriosus begins to close, at around the second week of life. Prostaglandin E_1 infusions are successful in reopening the ductus arteriosus in a majority of such hemodynamically unstable patients. Although oxygen should always be administered, phenylephrine and the knee-to-chest position (for a presumptive "tet spell") would not be appropriate. Sepsis should always be considered in a baby with unexplained shock, but lumbar puncture should be deferred until the child is stabilized.
(Chapter 115)

(442) The answer is B
Preload is the amount of blood that the heart receives to distribute to the body. In addition to heart rate, afterload, and cardiac contractility, preload determines cardiac output. In children, the most common cause of decreased preload is hypovolemia, usually from vomiting and diarrhea. Distributive shock secondary to sepsis, neurogenic spinal shock, or anaphylaxis is a less common cause of preload reduction. Acute anemia may also be associated with decreased preload. Congestive heart failure is a frequent complication in children with congenital heart disease. Increased preload results in elevation of left atrial pressure leading to pulmonary edema and decreased oxygenation. Hypoxemia is a *result* of preload disturbance rather than a primary cause.

(Chapter 115)

(443) The answer is A

Urinary tract infections (UTIs) are the most common bacterial infection in this age group. UTIs may not produce any symptoms other than fever, and the urinalysis may be misleadingly normal. A culture of an appropriately collected urine sample (catheterized specimen or suprapubic tap) should be sent. Serious bacterial infections, including bacteremia and meningitis, have an incidence of up to 4 percent in these young infants. Aseptic meningitis may have a slightly higher incidence. Although a CBC may be suggestive of bacteremia (WBC count outside the range of 5000 to 15,000, with more than 7500 bands), it is neither sensitive nor specific. If respiratory signs or symptoms were present, a chest x-ray would be of higher yield.

(Chapter 110)

(444) The answer is E

Expectant antibiotic use in febrile children is controversial. Early antibiotic administration diminishes the incidence of bacteremia, and parenteral antibiotics may reduce the incidence of meningitis in bacteremic children. Current recommendations suggest that well-appearing children between 3 and 36 months of age, with no focus of infection and fever higher than 40.0°C, should probably receive antibiotics after cultures are drawn, irrespective of WBC count. A broad-spectrum, third-generation, long-acting cephalosporin is administered parenterally once daily for 48 h until the cultures are negative. In this age group, blood and urine cultures should always be performed, but clinical appearance can guide the need for laryngopharyngeal (LP) and CSF cultures. Children who appear ill on presentation or for whom close follow-up cannot be definitively arranged should be admitted to the hospital for parenteral antibiotics.

(Chapter 110)

(445) The answer is B

The aim of reducing fever is to make the child more comfortable and reduce the risk of febrile seizures. Simple unbundling of a warmly dressed baby often results in a decrease in temperature of several degrees after a short period of equilibration. The child should be dressed with similar level of warmth-giving apparel as others in the same ambient temperature. TM thermometers are notoriously unreliable, often underestimating the true degree of fever. Because the extent of a work-up is sometimes determined solely by the degree of fever in a young, otherwise well-appearing infant, the temperature must be accurately documented, preferably with a rectal thermometer. Ibuprofen is given in the lower dose range of 5 mg/kg for fever temperatures below 39°C (102.2°F) and in the higher dose range of 10 mg/kg for temperatures above 39°C. The combination of antiinflammatory medications (aspirin or ibuprofen) with acetaminophen results in a more sustained antipyretic effect than either is capable of producing alone.

(Chapter 110)

(446) The answer is C

In young febrile infants, the rate of UTI is between 7 and 17 percent. Uncircumcised boys have an approximately three times greater incidence of UTI than girls. The rate of positive blood cultures in febrile infants is about 3 to 5 percent; CSF cultures and chest x-ray are positive much less frequently. The CBC with differential is only a qualitative screening test and is not helpful in determining the cause of fever.
(Chapter 136)

(447) The answer is E

In general, any child who is toilet trained and has the appropriate supervision can provide a suitable clean catch urine sample for culture. By 4 years of age, the foreskin can be completely retracted in more than 90 percent of uncircumcised boys. Labial fusion is common in infant girls, especially after a bout of diaper dermatitis. The labia can usually be easily separated by water-soluble surgical lubricant, at which point catheterization can be performed without difficulty. Suprapubic aspiration would only be necessary if labial separation were unsuccessful. Bagged specimens are never appropriate, even in circumcised boys.
(Chapter 136)

(448) The answer is C

Hyponatremic dehydration creates a state in which the osmolar load in the ECF compartment is lower than that in the ICF compartment. This occurs when fluid losses have been replaced with hypotonic, low-sodium solutions. The subsequent movement of water from the ECF into the ICF decreases the circulatory volume and causes cerebral edema and central nervous system dysfunction. Seizures and coma can occur when the serum sodium is less than 120 mEq/L or when the sodium level falls rapidly.
(Chapter 128)

(449) The answer is E

Signs of hypernatremic dehydration include dry rubbery skin, increased muscle tone, and altered level of consciousness. A hypernatremic child should be rehydrated slowly to avoid a rapid reexpansion of intracellular volume that could lead to cerebral edema. A good guide is to replace the fluid deficit over 48 to 72 h. Serum sodium should not be lowered more than 10 to 15 mEq/L over 24 h.

(Chapter 128)

(450) The answer is D

Calculated fluid deficit is replaced over 24 h, but half of the fluid should be administered over the first 8 h and the other half over the next 16 h. A child with mild (5 percent) dehydration has lost 5 percent of body weight in kilograms. This converts to a fluid deficit of 50 mL/kg. With moderate dehydration, the deficit increases to 100 mL/kg. Initial boluses are subtracted from the calculated fluid deficit. After calculating the proportionate rates to replace the deficit, the patient's maintenance fluid schedule must be added. Appropriate rehydration fluids include D_5 0.2 NS or D_5 0.45 NS. Once urine output is established, 40 mEq/L of potassium should be added to the intravenous solution to correct the deficit.

(Chapter 128)

(451) The answer is A

Regardless of the type of dehydration, if shock is present, immediate volume replacement is needed. Initially, a 20 mL/kg bolus of isotonic crystalloid (0.9 percent normal saline or lactated Ringer's solution) over 5 to 20 min is indicated. If shock persists on reassessment of the patient's heart rate, skin color, pulses, mental status, and urine output, another 20 mL/kg bolus should be administered. Any baby with change in mental status needs a bedside glucose check.

(Chapter 128)

(452) The answer is E

Maintenance fluid requirements are 100 mL/kg for ≤ 10 kg, 1000 mL + 50 mL/kg for 11 to 20 kg, and 1500 + 20 mL/kg for each kilogram over 20. This 25-kg patient requires 1500 mL + 20 mL/kg * 5 kg, or 1600 mL.

(Chapter 128)

(453) The answer is E

Maintenance requirements can be calculated by using the formula in answer 452, for a total of 1000 mL for 24 h. A state of 5 percent dehydration represents a fluid deficit of 50 mL/kg or 500 mL in this 10-kg child. Therefore, the total requirement is 1000 mL + 500 mL, or 1500 mL.

(Chapter 128)

(454) The answer is E
Children with moderate dehydration manifest compensated shock. Oliguria is present, but the blood pressure is normal. The sensorium ranges from restlessness to irritability. Children with severe dehydration may be hyperirritable or lethargic.
(Chapter 128)

(455) The answer is E
Hemorrhagic shock and encephalopathy syndrome occurs from unknown etiology in previously healthy infants after a prodrome of nonspecific illness. Profuse, watery diarrhea becomes bloody and then seizures occur. Laboratory examinations show evidence of multiorgan dysfunction. Renal, hepatic, pancreatic, and myocardial abnormalities are present.
(Chapter 126)

(456) The answer is E
This child has clinical evidence of a supracondylar fracture with neurovascular compromise. While preparations are made for immediate reduction, the arm should be splinted in extension to help decrease further movement and soft tissue injury. Intravenous access is needed for titration of analgesic and sedative agents. Radiographs and orthopedic consultation should be obtained expeditiously. The emergency physician should proceed with the reduction if the consultant is not immediately available. If neurovascular integrity is not restored by the reduction or if compartment syndrome is suspected, emergent forearm decompression may be necessary to prevent permanent disability.
(Chapter 132)

(457) The answer is E
Supracondylar fractures are the most common type of pediatric elbow fractures. In an intact upper arm, the capitellum angulates anteriorly, and an imaginary anterior humeral line would bisect the posterior two-thirds. If a supracondylar fracture were present, an anterior humeral line would bisect the anterior part of the capitellum. A posterior fat pad, if present, is always abnormal and indicates an elbow effusion. Although the fracture line itself may be subtle, the combination of bisection of the anterior capitellum and a posterior fat pad is highly suggestive of supracondylar fracture.

(Chapter 132)

(458) The answer is B

With SCFE, the femoral head subluxes on the femoral neck, with different degrees of displacement. If untreated, avascular necrosis ensues. SCFE risks are multifactorial and include puberty, obesity, trauma, a male-to-female predominance of 8:3, a genetic predisposition, and endocrinologic conditions. The peak incidence is between 12 and 15 years in males and between 10 and 13 years in females. SCFE is more common in blacks than in whites. Patients with SCFE are generally admitted and made non-weight bearing. Definitive orthopedic treatment consists of open reduction and fixation. Legg-Calvé-Perthes disease is characterized by avascular necrosis of the femoral head and a subsequent subchondral stress fracture. A patient with tenosynovitis of the hip may not appear toxic, but a patient with septic arthritis often will. A widened joint space is seen in radiographs of patients with Legg-Calvé-Perthes disease, tenosynovitis, and septic arthritis of the hip. Osgood-Schlatter disease is an inflammatory reaction to trauma to the tibial tuberosity.

(Chapter 132)

(459) The answer is E

Kohler disease, an avascular necrosis of the tarsal navicular bone that affects boys four times more frequently than girls, is not treated with aspirin. The etiology is repetitive compressive stress of the tarsal navicular, the last bone to ossify in childhood. Treatment consists of crutches for the first 3 weeks with a short-leg walking cast. Kawasaki syndrome is a systemic vasculitis affecting small and medium-sized arteries. Primary therapy consists of intravenous immunoglobulin (IVIG), with aspirin as an important adjunctive treatment. Polyarticular juvenile rheumatoid arthritis results from an inflammatory response to unknown antigens. Acute rheumatic fever is a systemic, multiorgan inflammatory disease triggered by an antecedent ß-hemolytic streptococcal infection. Henoch-Schönlein purpura is a common, small-vessel vasculitis mediated by immune complexes and alternate complement pathways. A polymigratory periarticulitis occurs in most affected children and is treated with aspirin.

(Chapter 132)

(460) The answer is C

This patient meets all the major and minor criteria for Kawasaki syndrome. The most ominous complication is coronary aneurysm. In the United States, Kawasaki syndrome affects 3000 to 5000 children per year and is 15 times more common in boys. Treatment with IVIG is key. Adjunctive aspirin therapy is used in antiinflammatory doses for the first 14 days and then at lower doses for its antiplatelet adhesion effect during the time that children are at risk of coronary thrombosis.

(Chapter 132)