Child abuse
January 2015
Board Review
Disclaimer…
The American Academy of Pediatrics recommends that parents be encouraged and assisted in the development of methods other than spanking for managing undesired behavior.

Reaffirmed April 2014
Question 1

A 2-month-old infant is brought to the office because of fussiness, increased sleeping, and poor feeding. According to her mother, she was doing well until 4 days ago, when her formula intake decreased from 6 oz every 4 hours to 2 oz every 6 hours, and she has had to be awakened for her feedings. She has had no vomiting, diarrhea, or fever. On physical examination, she is difficult to console, her temperature is 36.8°C, her heart rate is 160 beats/min, and her respiratory rate is 30 breaths/min. Her anterior fontanelle is full, pupils are 4 mm and equally reactive, and there is no evidence of corneal abrasions. The remainder of her physical examination findings are unremarkable. Results of a complete blood count with differential count, electrolytes, and urinalysis are normal. You obtain computed tomography (CT) scan of the brain.

Of the following, the MOST likely cause of the CT findings is

A. Arteriovenous malformation
B. Galactosemia
C. Meningoencephalitis
D. Nonaccidental trauma

Von willebrand disease
Recognize…
• Abuse as the most common cause of serious intracranial injuries during the first year after birth
• The need for a skeletal survey in a child with a subdural hematoma
• Shaking as a possible cause of coma in the absence of signs of cutaneous trauma
• The need for a retinal examination to identify retinal hemorrhage in suspected head trauma due to shaking
Question 3

A 15-month-old girl presents to the emergency department with a temperature of 103°F (39.5°C) during respiratory virus season. Physical examination reveals rhinorrhea and mild cough but no other focus of infection. However, she has diffuse bruises in various stages of healing on her abdomen, subscapular area, and both extensor and flexor surfaces on her extremities. Laboratory studies reveal a white blood cell count of $9.2 \times 10^3$/mcL (9.2 x 10^9/L) with a normal differential count, platelet count of $376.0 \times 10^3$/mcL (376 x 10^9/L), hemoglobin 13.0 g/dL (130 g/L), and hematocrit of 39%.

Of the following, the BEST next step in evaluation of this child is

A. Computed tomography scan of the brain
B. Measurement of factor VII
C. Measurement of von Willebrand factor
D. Prothrombin time and partial thromboplastin time
E. Radiographic skeletal survey

• Recognize...

• the role of a bone survey for fractures in suspected child abuse

• Know that a radionuclide bone scan can reveal subtle areas of skeletal trauma that may not be seen on a plain film x-ray studies of bones
Question 11

Which of the following conditions always should prompt the healthcare practitioner to strongly consider child maltreatment or abuse?

A. Bruises on the abdomen of a 5-month-old girl who has no reported history of trauma

B. Bruises on the anterior legs of a 2-year-old boy who has normal development

C. Failure to thrive in an infant who has large bulky stools and noisy respirations

D. Fracture of the tibia in an 18-month-old girl who just learned to walk

E. Linear skull fracture in a 10-month-old girl who was dropped from her parent’s arms in a fall
Board Content Specs

Bruises are the most common injury secondary to child abuse, fractures are 2\textsuperscript{nd}!

- Rarely accidental injuries:
  - Fractures of ribs
  - Fracture of scapulæ
  - Fractures of sternum

- Know the most common fracture locations and types in physically abused children....

<table>
<thead>
<tr>
<th>TABLE 1</th>
<th>Specificity of radiologic findings in infants and toddlers\textsuperscript{a}</th>
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<tbody>
<tr>
<td><strong>High specificity</strong>\textsuperscript{a}</td>
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<tr>
<td>CMLs</td>
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<td>Rib fractures, especially posteromedial</td>
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<td>Scapular fractures</td>
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<td>Spinous process fractures</td>
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<td>Sternal fractures</td>
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<td><strong>Moderate specificity</strong></td>
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<td>Multiple fractures, especially bilateral</td>
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<td>Fractures of different ages</td>
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<td>Epiphyseal separations</td>
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<td>Vertebral body fractures and subluxations</td>
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<td>Digital fractures</td>
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<td>Complex skull fractures</td>
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<td><strong>Common, but low specificity</strong></td>
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<tr>
<td>Subperiosteal new bone formation</td>
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<td>Clavicular fractures</td>
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<td>Long-bone shaft fractures</td>
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<tr>
<td>Linear skull fractures</td>
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</table>

\textsuperscript{a} Highest specificity applies in infants.
Bruising 101

• Normal bruising: over bony prominences

• Concerning bruising: over: chest, abdomen, buttocks, back, soft tissues (face, ears), “protected areas” (neck, genital area, inner thighs)
  • patterned
You are evaluating an 11-month-old boy for decreased right arm movement. His mother is extremely upset and reports that he fell from her bed after a nap that morning. Except for bruising and pain over his right upper arm, his physical examination findings are normal, and his development is consistent overall with that of a 7-month-old. He is just beginning to support his weight on his legs. A skeletal survey reveals an acute fracture of his right humerus and two healing fractures of the left ribs. His mother states that she is unaware of the rib fractures and denies previous trauma.

Which piece of information is MOST likely to prompt an additional evaluation and report to CPS?

- A. Acute injury inconsistent with the history given by the mother
- B. Developmental delay of unclear cause
- C. Fracture of an extremity in an infant younger than one year of age
- D. High distress level in the mother
- E. Presence of old healing fractures
Question 16

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

Of the following, the skeletal survey finding that is MOST specific for nonaccidental trauma is

A. Linear nondisplaced skull fracture
B. Long bone nondisplaced shaft fracture
C. Metaphyseal chip fracture
D. Spiral tibial fracture
E. Subperiosteal new bone formation

Recognize that fractures are present in a minority of physically abused children
• Recognize injuries in children that are *infrequently* indicative of physical abuse
  • Dislocated elbow
  • Clavicular fracture
  • Toddler fracture of the tibia
Question 20
Which presentation at a well child visit is most indicative of possible abuse?

A. Toddler with bruise and laceration on forehead, plus older bruise over shin; mother says he ran into a chair

B. 3-month-old infant with bruise on right forearm and left buttock; parent states infant rolled off changing table

C. Mild scald burn with splash marks on trunk of 6-month-old infant; parent states she accidentally spilled coffee

D. Bite mark on shoulder of 9-month-old with distance between canines about 2 cm; father believes 2-year-old brother has been biting recently

E. Both B and D
A 2-month-old infant is brought to the emergency department by his parents with a history of rolling off the bed. The infant is awake and alert, and the only abnormal finding on physical examination is an area of soft-tissue swelling in the right parietal region. A radiograph reveals a right parietal skull fracture.

Of the following, the MOST appropriate next step in the evaluation of this infant is to obtain

A. Magnetic resonance imaging of the head
B. Serum level of 25-hydroxyvitamin D
C. Serum level of calcium and phosphorous
D. **Skeletal survey**
E. Skin biopsy for osteogenesis imperfecta evaluation

*Developmental level*
Question 22

A 2-month-old admitted with a fracture of the right femur. The mother states that the infant fell off a low couch onto a plush carpeted floor and did not cry. Thereafter, the infant appeared fine. Three days later, the grandmother noted that the infant cried when she changed the diaper and that the leg was swollen. In the emergency department, a bruise was noted over the sternum that was also said to have occurred during the fall 3 days ago. The mother states that she bleeds easily, but that the father of the infant is well. A radiograph reveals a spiral fracture of the femur.

Features of this case suggestive of abuse include all of the following EXCEPT:

A. Multiple sites of injury
B. Implausible explanation for injury
C. Grandmother’s deep concern
D. Injury incompatible with the nature of the fall
E. Delay in seeking medical attention
Question 5

You are evaluating a 2-year-old girl for a cough. She has been your patient since birth and has a history of asthma. She has a home nebulizer, but the family ran out of medication a month ago. Review of her records reveals that her immunizations are delayed and that she has missed multiple appointments. On physical examination, the girl appears disinterested, but cooperative. Her oxygen saturation is 98%, and she has occasional wheezes.

Of the following, the BEST course of action is to

A. Arrange for an appointment at the public health department for immunizations
B. Arrange for teaching regarding asthma management for the family
C. Begin a short course of oral steroids
D. Initiate evaluation for possible child neglect
E. Provide several days of nebulized medications with instructions to see you in 1 week
Board Content Specs

• RECOGNIZE...
  • The possibility of abuse/neglect in a case of failure to thrive
  • Understand that neglect is the most common form of child abuse
    • ~ 80%!!!!!!
A 7-year-old boy who has cerebral palsy and mild mental retardation is brought to you for evaluation of his behavior. He has a recent history of school avoidance and becomes agitated most mornings when he is waiting for the school bus. He is in a mainstreamed regular classroom for most of the day and is in a resource classroom for math and language instruction. His regular classroom teacher has complained about his oppositional behavior. His mother notes that he has been more withdrawn at home in the past several months. On physical examination, his growth parameters are at the 25th percentile. He has mildly dysmorphic features, and you note several areas of bruising on his neck and upper arms.

Of the following, the MOST appropriate next step is to

A. Discuss his behavior with his teacher
B. Initiate a hematologic evaluation
C. Question the mother about his bruises
D. Refer him for a genetics evaluation
E. Refer him for behavioral counseling
Questions 15

A previously healthy 10-month-old male infant arrives in the emergency department unresponsive. He is afebrile and hypotonic.

Of the following, the finding on history that is MOST likely to be associated with child abuse as the cause of altered consciousness is

A. A family income above the poverty level
B. A maternal history of schizophrenia
C. Attendance at a child care center
D. The father recently becoming unemployed
E. The presence of spouse abuse
Question 23

A 6-month-old child is brought to your office with the chief complaint of leg swelling and decreased leg movement of 3 days’ duration. The mother, a single parent, said that the child awoke 3 days ago with the swelling and guarding. She was unaware of any trauma to the child but said that her 2-year-old “plays rough” with the 6-month-old. She said that she delayed coming to see you because she has no transportation. A radiograph reveals a new (<7 days old) spiral fracture of the femur.

Which of the following should be your next action?

A. Refer the child to an orthopedist for casting and schedule a follow-up visit

B. Perform a skeletal series, refer the child to an orthopedist for casting, and examine and do a skeletal survey of the sibling.

C. Perform a skeletal series, refer the child to an orthopedist for casting, examine and do a skeletal survey of the sibling, and report the spiral fracture to appropriate authorities as suspected physical abuse after screening the mother for risk factors and informing the mother of your plan.

D. Tell the mother you suspect physical abuse and interrogate her further. When the mother admits that the child fell from the crib to a carpeted floor and sustained the injury, conclude that the finding is in keeping with the fracture, with no need to report suspected child abuse.

E. Refer the child to an orthopedist for casting and perform a babygram to look for additional fractures. If negative, repeat the babygram again in 2 weeks. If positive, report the case to the appropriate authority.
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- Understand the origins of child abuse: child stresses (handicap, hyperactivity), social/situational stressed (poverty, isolation, family discord, multiple births, parent-child conflicts), and parent stress (abused as a child, depression, substance abuse).
  - A related caregiver is the abuser of a child in 90% of child abuse cases
    - Most abuse occurs at home!
  - Siblings of abused children are at increased risk of abuse
  - Other forms of intimate-partner violence frequently accompany child abuse
  - Ingestions may be manifestations of child abuse
  - Know that abusive and neglectful parents often have severely unrealistic expectations for their children’s behavior
Question 18

You suspect neglect in one of your clinic patients who has severe failure to thrive and some unexplained bruises, and you file a report with CPS.

Which of the following techniques for disclosing this report to the family should be employed?

A. Admit the child to the hospital and ask the social worker to tell the family
B. Advice the family that you are unable to participate further in the child’s care
C. Refer the child to a child abuse specialists so that he or she can explain the process to the family
D. Tell the family that you are obligated by law to report the case but that you will fully investigate other causes for the child’s symptoms
E. Wait to tell the family about the report until all organic causes have been ruled out.
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• **Recognize**…
  • An investigation of unsubstantiated cases of child abuse produces stress in a family
  • An unsubstantiated report/finding by a child protection agency does not necessarily mean that abuse or neglect did not occur
  • The standard of proof in a civil court is the preponderance of evidence (lesser standard than in criminal proceedings re: child abuse)
  • The problems associated with foster home placement (including the continued risk of child abuse)
  • The need for a team approach in the management of child abuse
Professionals Required to Report Citation: Children's Code art. 603(13)
Mandatory reporters include any of the following individuals performing their occupational duties:
Health practitioners, including physicians, surgeons, physical therapists, dentists, residents, interns, hospital staff members, podiatrists, chiropractors, licensed nurses, nursing aides, dental hygienists, emergency medical technicians, paramedics, optometrists, medical examiners, or coroners
Board Content Specs

• Distinguish between
  • Cutaneous signs of physical abuse and accidental injury
  • Physical findings of inflicted and accidental burns
  • Cutaneous signs of physical abuse and of nonabusive skin conditions
    • (Mongolian spots, coining, cupping, urticaria pigmentosa)
  • An inflicted burn and skin conditions that mimic burns
    • (staphylococcal impetigo, herpes, contact dermatitis, toxic epidermal necrolysis)
  • Inflicted fractures and conditions that may cause fractures
    • (osteogenesis imperfecta, hypophosphatasia, infantile cortical hyperostosis, osteoid osteoma)
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• **Know**
  - Under state laws physicians are legally obligated to report suspected abuse
  - The circumstances that can lead to failure to substantiate child abuse
    (failure to locate child, failure to locate parents, parents’ refusal to speak to investigators, duplicate reports, child’s refusal to repeat history, non-English speaking families)

• **Be aware of**
  - Intervention options for families involved in child abuse
  - The role of a child advocate (guardian ad litem) in legal proceedings
  - Many abused and neglected children are not removed from their parents or placed in foster care.