

Answers

1. E: Case scenario is classic for duodenal hematoma following handlebar-type bicycle injuries.
2. D: Although highly suggestive of non-accidental trauma, retinal hemorrhages are not pathognomonic of abuse. Retinal hemorrhages are seen in up to 40% of vaginally-delivered newborns; these usually resolve in the first month of life. Rarer causes include sepsis/coagulopathy and resuscitation/CPR efforts.
3. A: Intraosseous line now recommended as emergency line of choice in any age (per AHA). Previous recommendations had been less than 6 years of age only.
4. E: Approximately 20 states have passed statewide helmet laws for children riding bicycles. A handful of states, including California, New York, and New Jersey also have helmet laws which apply to children riding skateboards, scooters, and in-line skates.
5. C: Unlike a small physiological anterior fat pad which is normal, a posterior fat pad of any size is abnormal and indicates hemarthrosis and an intra-articular elbow fracture. In adults, a posterior fat pad without obvious cortical break implies an occult radial head fracture; in children, the most common etiology is a supracondylar fracture.
6. B: The spleen is the most commonly injured organ in blunt trauma, followed by the liver, kidney, GI tract and pancreas in descending order (per the National Pediatric Trauma Registry).
7. D: Ketamine can increase ICP and blood pressure and so should be avoided in patients with suspected intracranial injury.
8. C: GCS for non-speaking infants has a modified verbal score as follows: 5 – coos or babbles, 4 – irritable crying or screaming, 3 – crying to pain only, 2 – grunting or moaning only, 1 – none. In this patient, eye opening is 2, motor is 6, and verbal is 4 for a total of 12.
9. A: Unintentional injuries in this age group cause more deaths than all other non-traumatic causes combined.
10. A: In adults, there is a relatively higher threshold of hematuria combined with clinical status in determining the need for radiographic evaluation of suspected renal injury. In children, however, the threshold is much lower, generally recommended at 20 RBC/hpf. There are some experts/studies that recommend imaging with any degree of microscopic hematuria.
11. C: The classic thoracic injury in children is a pulmonary contusion in the absence of an overlying rib fracture, due to the incompletely calcified pediatric bone and the increased pliability of the chest wall. A rib fracture in children is less common than

adults and implies significant force. More than 2/3 of thoracic injuries in children are associated with other organ system injuries. Laparoscopy is needed to definitively exclude suspected diaphragmatic injury.

12. B: Per PALS/APLS and ATLS guidelines, fluid resuscitation should start with 40-60 cc/kg of a crystalloid solution such as NS or LR before giving blood products.

13. D: Because of the increased flexibility of the upper cervical spine and the relatively larger head, most fractures in children occur in the C1-C2 region.

14. C: Electrolyte abnormalities are rarely ever seen in submersions, whether fresh or salt-water (exceptions may be the Dead Sea or the Great Salt Lake). 90% of submersion events in America occur in swimming pools. Heimlich maneuver not recommended as it will delay CPR. Prophylactic antibiotics not recommended unless submerged in grossly contaminated water.

15. C: This is the classic Monteggia fracture, which is proximal ulnar fracture with anterior radial head dislocation. Note the misaligned radial-capitellar line. Galeazzi fracture is a radial fracture with radio-ulnar dislocation. Whenever we get pediatric forearm fractures in our ED, I always ask my residents "Does it involve one of the two Italians?". Ghazala fracture is yet to be described (but she's working on it ☺).