

20 Questions – June, 2017 - Physical Exam

1. You are called for a 70 year old male with back pain. In the course of his assessment you palpate for a AAA. How accurate is your exam at detecting this condition?
2. Called for a vomiting child, you find a 2 week old crying, and producing no tears. What does this tell you about the child's hydration status?
3. The child has had a fever, and you check to make sure the anterior fontanelle is soft (it is). How sensitive is this as a detector of meningitis?
4. Responding on a 'heart' you have a 55yo male complaining of chest pain. He demonstrates how it feels by placing a clenched fist over his sternum. What is this sign called and how sensitive is it for cardiac pain?
5. You notice that the patient is very hypertensive and include aortic dissection in your differential diagnosis. The pulses seem equal in the upper extremities. How often are they unequal and what does this signify if present?
6. Responding on a PI you begin to extricate a 22yo female who is somewhat confused. You note some discoloration around both eyes. What is/are potential causes?
7. She complains of no pain when you palpate her neck. Can you clinically clear this patient?
8. She has several heavy sweaters and jackets on. Why do you need to expose the chest enough to palpate directly on the skin of the chest wall?
9. She is complaining of severe abdominal and pelvic pain. How much information is gained by rocking (compressing vertically and horizontally) the pelvis to detect fracture?
10. By definition, this patient cannot demonstrate one of the possible exam findings in spinal cord injury – priapism. What does this mean when it is present?
11. Responding to a nursing home you pick up a patient who has 'pneumonia' on a chest xray taken three days ago. You listen to the chest (with a good stethoscope!) and don't hear any rales or rhonchi. Has the pneumonia cleared up?
12. Just to make sure your stethoscope works, you listen to the patient's roommate, who looks terrible and exhibits loud wheezing on auscultation. He has no history of asthma or COPD. What does he probably have?
13. Called to a private residence on a stroke, you find a 66yo female patient. What is a quick three-step screen you can do that will identify up to 85% of acute strokes?
14. How does doing the arm drift with the palms up and thumbs rotated maximally outward (and eyes closed) help in the assessment?
15. You respond to a 45yo Caucasian female with abdominal pain. She is complaining of RUQ pain. She says it radiates to her R shoulder blade. What is a likely diagnosis?
16. What is a helpful way to remember those at highest risk for gallstones?
17. During transport, your patient with abdominal pain complains bitterly about the bumps. Considering you are in an E350 and the ride is fairly smooth what does this indicate?
18. A hockey player takes a hard check and hits his left side against the boards. He is complaining of shoulder pain, though is able to move the shoulder well. What other area do you need to examine?
19. A patient who admits heavy drinking complains of several days of severe epigastric pain and vomiting. On exam, you note bruising of the L flank. Is this the result of a traumatic injury?
20. You are called to evaluate Shane Stokes, a two-year old that mom observed during sleep to stop breathing briefly, then take some breaths that become bigger, smaller, and then stop again. What do you do?

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1. Abdominal aortic aneurysms are detectable on palpation about 68% of the time overall, this is reduced for obese patients. To accurately determine size you need to get fingers on both sides of the aortic impulse (around the level of the navel). Normal is 3cm or less, Greater than 3cm is considered aneurism and anything greater than 5cm are at high risk of rupture. Palpate gently...
2. Unfortunately, newborns don't make tears, so this is not a good guide to hydration. Even as the children get older the presence of tears and the 'moistness' of the mucous membranes are poor guides to the patient's hydration status, much as blood pressure is a poor indicator for

shock. By the time the mucous membranes look drier and the diapers dry up the child is in an advanced state of dehydration (likely down more than 5% of their body weight). Also, as an aside, newborns and infants under 2 months or so of age can't concentrate their urine so they will continue to produce urine even when very dehydrated.

3. A bulging fontanelle is seen in only about 10% of cases of bacterial meningitis and is a very ominous sign, usually the child will have an abnormal neuro exam by this point. This typically closes by 18 months.
4. This is called Levine's sign, and about 70% of those demonstrating it will have a cardiac cause for their chest pain.
5. Pulse deficits are noted in only 19% of dissections that involve the aortic arch but if present signify a significant ascending arch dissection which presents a very high risk of stroke, MI, and sudden death (especially if the dissection works backwards into the pericardium causing tamponade). You can have dissections in other areas of the aorta (not between the subclavian arteries) that would also be dangerous but not have this finding.
6. Classic raccoon eyes (bilateral 'black eyes') are associated with a basilar skull fracture. This usually develops hours to days later but may be seen acutely, though it usually won't be as dark as it will get later. Also consider direct trauma and nasal fracture, especially in the setting of an airbag without seatbelts used. Battle's sign – ecchymosis behind the ear – is another sign of basilar skull fracture and also usually develops hours to days later.
7. NO. In order to clinically clear a patient you must have no complaint of neck pain, no pain to palpation, no distracting injuries, and demonstrate a normal neuro exam and normal mental status (no intoxicating beverages, post-ictal state, etc.) They then must have no neck pain with flexion, extension, and lateral bending to be completely cleared. Possible skull fracture could be distracting.
8. Subcutaneous emphysema on the lateral chest wall is a guarantee of pneumothorax and may change your management if the patient deteriorates. It is not present in all cases, so you still need to listen to the chest but less than 50% of small/moderate pneumothoraces are detected on auscultation (and probably less in the pre-hospital arena). Also, look for a seat belt sign on the neck, chest, and abdomen as it can a sign of serious internal injuries.
9. Rocking the pelvis may demonstrate instability in certain severe fractures and create pain in others. Unfortunately, unstable fractures are often the ones that tend to bleed heavily (and are difficult to stop, often requiring angiography and embolization of the bleeding arteries) so if your patient either complains of pelvic pain or is too unresponsive to tell you if it hurts when you palpate, don't mess with the pelvis! If wrapping the pelvis is indicated, remember to wrap the pelvis at the level of the greater trochanters.
10. Priapism is a spontaneous erection of the penis that occurs when the spinal cord is injured. It almost always implies a complete cord injury and risk for spinal shock. Priapism is always associated with other neurologic deficits so if the exam is normal, the erection isn't priapism.
11. Unfortunately, you can do just about as well flipping a coin to determine who has pneumonia and who doesn't based on auscultation. Auscultation is helpful when you clearly hear something, but if you're worried about a patient don't let their "clear lungs" completely change your course. Pediatric studies have found that pneumonias are often silent to auscultation as well...
12. Acute onset wheezing in an older person without a COPD/asthma history = acute pulmonary edema until proven otherwise. This patient needs nitro, nitro, nitro (as long as his SBP is > 140mmHg) and diuresis. This is sometimes termed, "Cardiac asthma." Nebulizers may be used as second-line therapy and may be helpful, though albuterol does increase the demand on the heart.
13. The Cincinnati Stroke Screen looks for evidence of facial droop, arm drift (when the hands are held out palms down in front of the patient), and difficulty saying a sentence like 'It's hard to teach an old dog new tricks.' If any of the three are abnormal the probability of stroke is 72%; if all three are abnormal the probability of stroke is over 85%
14. Pronator drift is a much more sensitive indicator than arm drift of weakness. Rotation of one hand inward (and often downward) is a BETTER test of weakness by far than hand grip strength as it is sensitive to about a 5% difference between the two sides.
15. Cholecystitis (gallbladder inflammation) is likely. Often internal processes that irritate the diaphragm are referred to (pain felt in the location of) the shoulder of that side. A specific sign is Murphy's sign. When you palpate the RUQ, hold pressure over the liver and ask the

patient to breathe in. If they suddenly stop breathing in due to a sudden increase in pain, this is a positive Murphy's and indicates probable gallbladder disease.

16. Fertile (pregnant), fat (obese), female, forties.
17. Pain with bumps in the road, heel strike (especially having the patient stand, rise up on their toes and then drop onto their heels), pain with cough, or pain with percussion of the abdomen without palpation (tapping on a finger laid on the abdominal wall) or with sudden release of gentle palpation (rebound tenderness) all are **considered peritoneal signs** and generally indicate a surgical problem (appendicitis, gallbladder, ruptured spleen, bleeding, etc.)
18. Kehr's sign is pain to the left shoulder from a ruptured spleen. Left shoulder pain can also occur from cardiac disease, diaphragm irritation from a pneumothorax, pneumonia or other cause. The shoulder muscles may be tender and it may even hurt more with moving the shoulder so without a clear direct trauma or reason for shoulder pain listen to the chest and palpate the belly!
19. Maybe, because the history may not be perfectly clear here. However, in severe pancreatitis hemorrhage can result in bruising around the umbilicus (Cullen's sign) and of the flank, often the left but sometimes the right or both. This is known as Turner's sign and generally implies severe bleeding.
20. First, wake the child up and see if he's otherwise normal. This is not a diagnosis that you want to make at the scene but Cheyne-Stokes or periodic breathing can be normal in the pediatric and elderly ages. Patients may even become slightly pale during the brief episodes of apnea. CHF, increased intracranial pressure from all causes, narcotic use, and high altitude are frequent pathologic causes. It comes from a delay between the brain sensing the acid/base and CO₂ differences in the blood.