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Gastrointestinal Assessment

Introduction

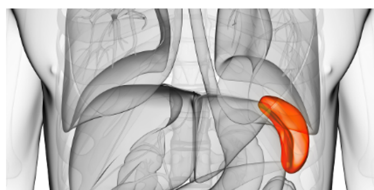
The focused gastrointestinal system assessment begins with taking a detailed health history. While doing so, observe carefully for non-verbal signs of pain or discomfort. The order of examination is performed as inspection, auscultation, percussion, and light and deep palpation. Prior to examination, ask the patient if pain is present and to indicate where; use a facility-approved pain scale to assess level of pain. This location should be the last area examined. Cleanse and warm your hands for patient comfort and position yourself on the patient's right side, then proceed systematically.

Optimal Patient Draping/Positioning

- Examine the patient while in the supine position with arms at the sides, preferably with a pillow under their head for comfort.
- Expose the abdomen from the symphysis pubis to the level of the nipple, with appropriate draping to provide patient privacy and comfort.

Exam methods

- Inspection
  - Observe for nonverbal cues of discomfort, such as grimacing.
  - Inspect the contour of the abdomen, noting any bulges, masses, pulsations, asymmetry, protuberance or scaphoid appearance.
  - Inspect the surface of the abdomen for striae, ecchymosis, scars, rash or dilated veins.
  - Observe the umbilicus for bulges or inflammation.
- Auscultation
  - Utilizing the diaphragm of the stethoscope, listen for no more than 5 minutes for bowel sounds (gurgling of varying pitches) of the right lower quadrant.
  - A frequency of 5 to 34 sounds per minute is considered normal, whereas less than 5 sounds per minute is considered hypoactive and more than 34 considered hyperactive.
  - Note the character of the bowel sounds, such as tinkling, rumbling, etc.
  - Auscultate over the abdominal aorta, renal arteries, iliac arteries, and femoral arteries and note the character of the sound, particularly if a bruit is heard.
- Percussion
  - Percuss all four quadrants to assess for tympany or dullness.
  - Tympany will be heard over air-containing organs such as the stomach or intestines, whereas dullness is heard over solid organs or organs containing solid matter.
  - Measure the liver size at the right midclavicular line by percussing from the RLQ and moving cephalad while listening for dullness to indicate the inferior border.
  - Percuss along Traube's space to determine splenic size by listening for dullness.
    - Traube's space is a crescent-shaped region that is bordered by the left 6th rib, the left costal margin, and the left midaxillary line.



  - Percuss over the bladder to evaluate for distention or tenderness.
  - Note any unexpected dull areas that may suggest organomegaly or mass.
- Light palpation
  - Utilizing the forearm and hand with fingers together on a horizontal plane, palpate using a gentle downward motion in all four quadrants.
  - Assess for superficial masses, tenderness, guarding, or rigidity.
- Deep palpation
  - Deep palpation is performed with one hand over the other, using the pads of the fingers to press more deeply into each quadrant.
  - Assess for the liver edge, masses, tenderness, pulsatile masses, or rebound tenderness.
  - Palpate the liver edge below the right costal margin for consistency (smooth or nodular) or tenderness.
    - Murphy's sign: during deep palpation of the right upper quadrant, the patient has difficulty with inspiration; releasing palpation relieves this sensation.
  - The liver margin can also be identified by placing the fingertips at the lower border of the liver well below the costal margin and palpating toward the chest, asking the patient to take a deep breath to better identify the liver edge. Alternatively, in obese patients "hooking" may be employed by standing on the patient's right side, placing fingertips below the percussed level of dullness and palpating deeply while directing fingers toward the chest. Ask the patient to take a deep breath to feel the liver edge.
  - Palpate the splenic edge for consistency or tenderness (best performed with patient supine, and right decubitus position).
- Percussion of flanks
  - Place the patient in a seated position.
  - Place palm of one hand over the costovertebral angle (CVA) of one side.
  - Use fist of other hand to strike the back of the flat hand with the ulnar aspect of the fist.
  - Repeat with the patient's other side.
  - Pain upon this maneuver is considered positive for CVA tenderness.

PEARLS

- Auscultation of the abdomen should occur prior to any percussion or palpation, as these may alter the bowel sounds.
- Bowel sounds are transmitted throughout the abdomen, allowing for auscultation at the right lower quadrant, although you may elect to listen to all four quadrants if necessary.
- Pulsatile masses identified on inspection should be further evaluated by auscultation to determine the presence of a bruit.
- Guarding may be voluntary or involuntary, with the latter indicating rigidity.
- Rebound tenderness is defined as an increase in pain when deep palpation is suddenly released. Rebound tenderness and rigidity together are highly suspicious for peritonitis/acute abdomen and is a clinical emergency.
- Positive CVA tenderness may indicate renal pathology versus a musculoskeletal source.

Reference:
Bickley, L. S., Szilagyi, P. G., Hoffman, R. M., & Soriano, R. P. (2021). Bate's Guide to Physical Examination and History Taking (13th ed.). Wolters Kluwer Health: Philadelphia.