Tikrit University

College of Nursing

Basic Nursing Sciences

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Health assessment and physical examination

(Assessment of the Abdomen)

by:

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Subjective Data

- Appetite & Weight change
- Dysphagia
- Food Intolerance: food allergies, belching, heart burn (pyrosis), bloating, indigestion (example: lactase deficiency causing bloating after taking milk products).
- Abdominal pain
- Nausea/Vomiting/Hematemesis
- Bowel habits
- Past abdominal history
- Medications: NSAIDs, alcohol, smoking, and Helicobacter pylori infection.
- Nutritional assessment

Equipment

- Stethoscope
- Small centimeter ruler
- Skin-marking pen
- Alcohol swab

Preparation

- Use a strong overhead light and a secondary stand light.
- **To Enhance Abdominal Wall Relaxation:**
    - Have patient empty the bladder.
    - Position the patient supine, the knees are slightly bent or over a billow, arms at the sides or across the chest
    - Exposing the abdomen.
    - Room, stethoscope endpiece, and your fingers & hands should be warm.
    - Inquire about painful areas: these areas should be examined last.

- Use distraction: use low, soothing sound; ask patient to talk about abdominal history as you palpate, and through breathing exercise.

Examination of the Abdomen

❑ **Sequence:**

1. Inspection
2. Auscultation
3. Percussion
4. Palpation

Inspection

➢ Examiner stands on patient's right side

▪ **Contour;**

- Normal Findings: Flat, rounded.
- Abnormal Findings: Scaphoid, protuberant-distention

▪ **Symmetry;** should be symmetric bilaterally, note any bulging, visible mass, hernia, enlarged organs

- **Umbilicus;**
- Normal Findings: Midline & inverted, no sign of discoloration, inflammation or hernia.
- Abnormal Findings: Everted – (Pregnancy, Acites), sunken-(Obesity), bluish discoloration (Cullen's sign)- intraabdominal bleeding.

Distention

▪ **Distention**: Unusual stretching of abdominal wall

- Reasons for distention: fat (obesity), flatus (gas), feces, fluid, fetus (pregnancy), fibroid, or tumor.

Hernia

▪ **Hernia**: Protrusion of abdominal viscera through abnormal opening in muscle wall.

- **Skin;**
- **Normal Findings**: Smooth & even, with homogenous color, no lesion is present, veins not seen.
- Striae (silvery white, linear, jagged marks about 1 to 6 cm long), occurs in pregnancy or excessive weight gain.
- Good skin turgor reflects healthy nutrition.
- **Abnormal Findings**: Purple blue stria with cushing's syndrome (too much cortisol), lesions, scars, veins, Spider nevi occurs with liver disease.
- Prominent, dilated veins occur with Portal hypertension, Cirrhosis, & Ascites.
- **Pulsation and Movement;**
- Normal Findings: See pulsation from the Aorta beneath the skin in epigastric area, respiratory movement, & waves of peristalsis in very thin person.
- Abnormal Findings: Marked visible peristalsis with a distended abdomen indicates intestinal obstruction.
- **Hair Distribution**
- **Demeanor:** a comfortable person is relaxed on examination table and has a benign facial expression and slow respiration.

Auscultation

A. **Bowel Sounds**

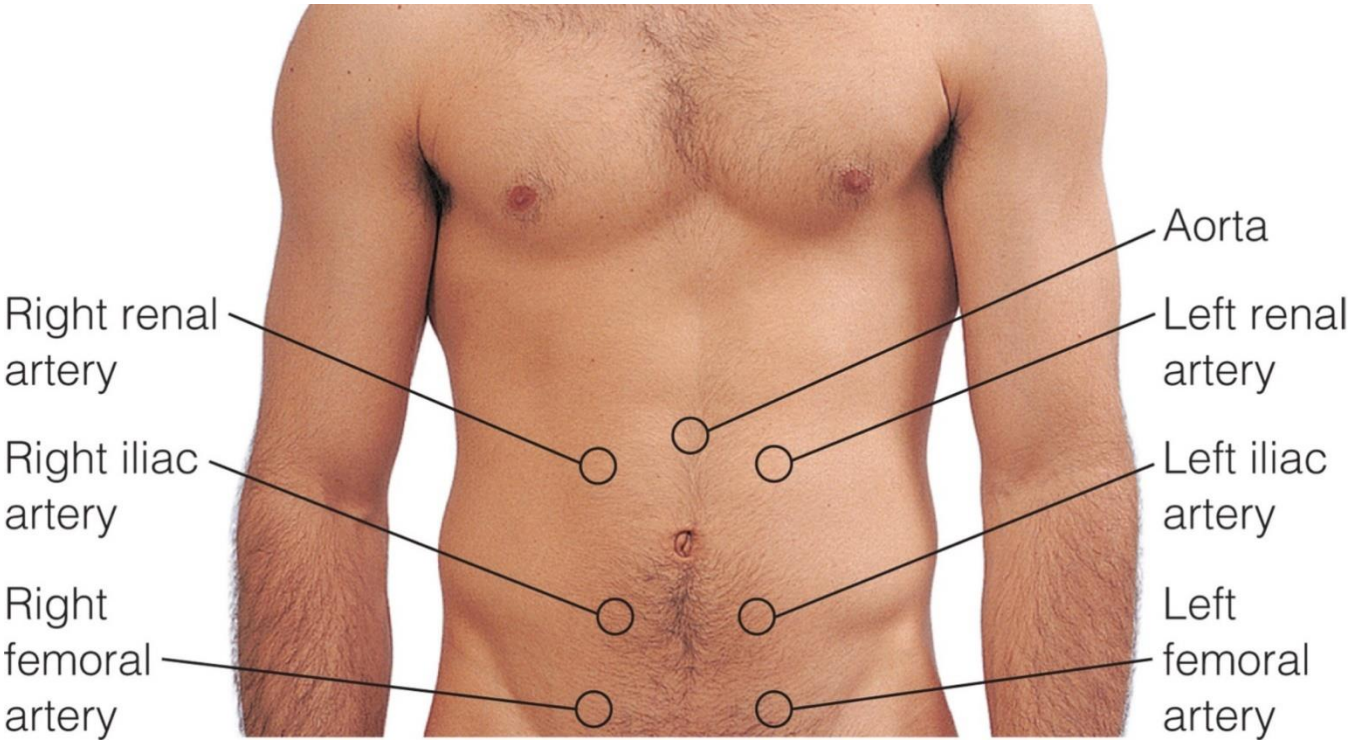
  - Auscultation performed before Palpation and percussion, which can increase peristalsis.
  - Use diaphragm of stethoscope, lightly against skin.
  - Begin in the RLQ: ileocecal valve area because bowel sounds normally are always present here
  - Listen to bowel sounds
  - Normal Sounds: High pitched, gurgles, irregular, **5-30** times/m
  - Influenced by digestion.

- **Abnormal Findings:**
- **Hyperactive Sounds**: loud, high pitched, rushing, tinkling sounds that signal increased motility, seen in gastroenteritis, diarrhea, laxative use.
- **Hypoactive or Absent Sounds**: follow abdominal surgery or with inflammation of the peritoneum (Peritonitis), & due to paralytic ileus.
- Intestinal obstruction can present with increased or decreased sounds.

B. **Vascular Sounds**

- Listen over Aorta, Renal arteries, iliac, & Femoral arteries.
- Always listen in hypertensive patient
- **Bruits** are low pitched, vascular sounds, resembling murmur.
- Caused by partially obstructed artery– turbulence.
- Normally: no sound is present.

Location of Placement of the Stethoscope for Auscultation of Arteries of the Abdomen:



Percussion

- Assessment technique used to assess size, density, and location of organs in the abdomen.
- Used to identify masses, air in stomach or in bowel.

❑ **General Tympany**

- Orient yourself to the abdomen by lightly percussing all 4 quadrants for tympany or dullness, move clockwise.
- **Tympany** usually predominates due to raises of gases in supine position.
- **Dullness** may be present due to feces or fluid or over organs, solid mass, distended bladder.
- **Hyperresonance** may be present due to marked gaseous distention.

❑ **Liver Span (Not recommended anymore)**

- To map out the liver borders (r/o Hepatomegaly)
- In the right midclavicular line (MCL), start below the umbilicus with tympany and percuss upward toward liver dullness (Normally lower border of the liver is at the right costal margin).
- In the right midclavicular line, percuss down from lung resonance to liver dullness. (Normally the upper border of the liver is at the 5 ICS).
- Mark this and measure between the two lines.
- Normal liver span ranges from **6 to 12 cm**.

❑ **Scratch Test ??**

- Used to define liver borders when the abdomen is distended or abdominal muscles are tensed.
- Put your stethoscope over the liver.
- Start in the RLQ and move upward to the liver, with one fingernail, scratch short strokes over the abdomen and listen with your stethoscope for magnified sound.
- The sound once **magnified** indicates crossing from a hollow organ to a solid one.

❑ **Costovertebral Angle Tenderness (CVA)**

- Percuss the CVA (Rt and Lt) by indirect fist.
- Place one hand over the **12th** rib at the CVA on the back
- Normally: No pain is produced.
- Abnormal Findings: Sharp pain occurs with inflammation of the kidney or paranephric area.

❑ **Special Procedures**

- Fluid wave and shifting dullness are two tests used to differentiate Ascites from gaseous distention.
- Positive fluid wave test occurs with large amounts of Ascitic fluid.

Palpation

➢ To judge the size, location, and consistency of certain organs & to screen for an abdominal mass or tenderness

➢ Use methods to help the patient relax.

A. Light Palpation:

– Purpose is have an overall impression of the skin surface and superficial musculature.

– With four fingers depress 1 cm & make a clockwise gentle rotary motion.

– Left your fingers and move clockwise to the next location around the abdomen.

– Examine the tender area last.

Light to Moderate Palpation of the Abdomen.

In Light Palpation, the examiner, keeping the fingers approximated, gently depresses the abdominal wall about 1 cm to assess for large masses, slight tenderness, and muscle guarding.

The examiner performs **moderate palpation** by using the palm or the side of the hand to depress the abdominal wall to a slightly greater depth than in light palpation.

- This technique is useful for assessing abdominal organs that move with respiration (such as the liver and the spleen).

B. Deep Palpation

- With four fingers, depress **5 to 8 cm**, move clockwise over the entire abdomen.
- For very obese patients, use the bimanual technique for deep palpation.
- Any tenderness except over the sigmoid colon needs investigation.
- Note the location, size, shape, consistency, mobility of any palpable organs and the presence of abnormal enlargement, tenderness or masses.
- Tenderness occurs with local inflammation & enlarged organ.

Liver Palpation

- Place your left hand under the person's back (**11-12 ICS**) and lift up to support abdominal organs.
- Place your right hand in the RUQ, with fingers parallel to the midline
- Push deeply down under the right costal margin.
- Ask person to take deep breath.
- It is normal to feel the edge of the liver (firm & regular) however, the liver is often not palpable.
- **Hooking Technique:**
- An alternative method of palpating the liver.
- Stand up at the person shoulder
- Hook your fingers over the costal margin from above.
- Ask the person to take a deep breath.
- Try to fell liver edge bump your fingertips.
- **** murphy's sign??**

Spleen Palpation

- Place your left hand behind the person's left side (**11- 12 rib**) and lift up for support.

- Place your right hand obliquely on the LUQ with finger pointing toward the left axilla, just inferior to the rib margin
- Push your hand deeply down under the left costal margin and ask the person to take a deep breath.
- Normally: the spleen is not palpable and must be enlarged three times to be palpable.
- Spleen enlarged with trauma.

Kidneys Palpation

- Place your hands in "duck-bill" position to palpate the right flank (kidney)
- Press your two hands together firmly
- Ask person to take deep breath
  - You may feel nothing
  - You may feel the lower pole of the RT kidney (smooth, round); NORMAL
- Place your hand below the LF flank, and the other hand across abdomen (pushing)
- Ask the person to take deep breath

➢ Normally: you feel nothing, why?

Aorta Palpation

- Using your opposing thumb and fingers, palpate the Aortic pulsation in the upper abdomen.

➢ Normally: it is **2.5 -4 cm** in wide & pulsate in an anterior direction.

- Widened with Aneurysm
- Lateral pulsation with

  Aortic Aneurysm.

Special Procedures

❑ **Rebound Tenderness** (Blumberg's Sign)

- To test for peritoneal inflammation accompanying Appendicitis.

- Choose a site away from painful area.
- Hold your hand 90 degree and push down slowly and deeply; then lift up quickly.

➢ Normal response is negative (No pain on release of pressure).

- Pain on release of pressure confirms rebound tenderness.

❑ **Iliopsoas Muscle Test**

- Performed when Appendicitis is suspected.
- When the person supine, lift the right leg straight up, flexing at the hip; then push down over the lower part of the right thigh as person tries to hold the leg up.

➢ Negative response is normal; no pain

➢ Positive response: pain in the RLQ.

❑ **Inspiratory Arrest (Murphy's Sign)**

- To test inflammation of the gallbladder
- Hold your fingers under the liver border and asking the patient to breathe deeply.
- If the gallbladder is inflamed (Cholecystitis), the patient will experience pain and catch his/her breath (Positive).