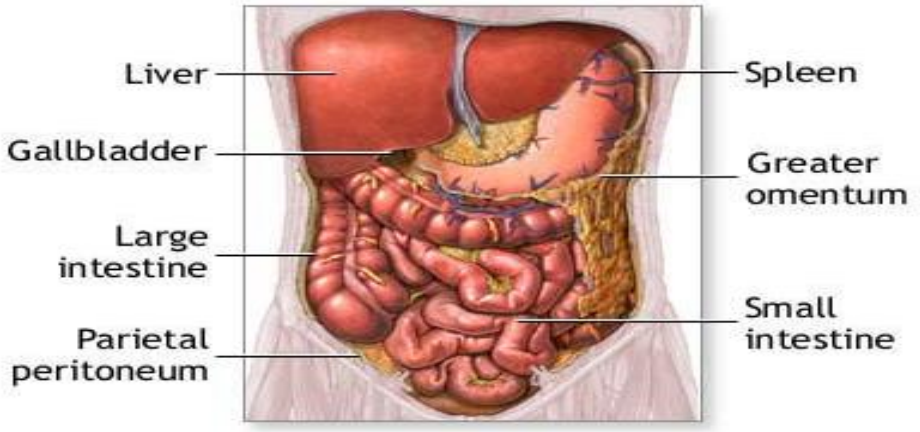
The Abdominal Exam

Dr. Gary Mumaugh – Western Physical Assessment

Clinical Skills

- Demonstrate the ability to properly position the patient
- Demonstrate techniques for inspection of the abdomen
- Demonstrate techniques for auscultation of the abdomen
- Demonstrate technique for percussion of the abdomen.
- Demonstrate techniques for both gentle and deep palpation of the abdomen.
- Demonstrate techniques to elicit signs of peritoneal irritation
- Demonstrate techniques for palpating hepatomegaly or splenomegaly.
- Demonstrate technique for palpation of the abdominal aortic pulsations.
- Demonstrate technique for testing for shifting dullness.
- Demonstrate technique for testing for the presence of a fluid wave.

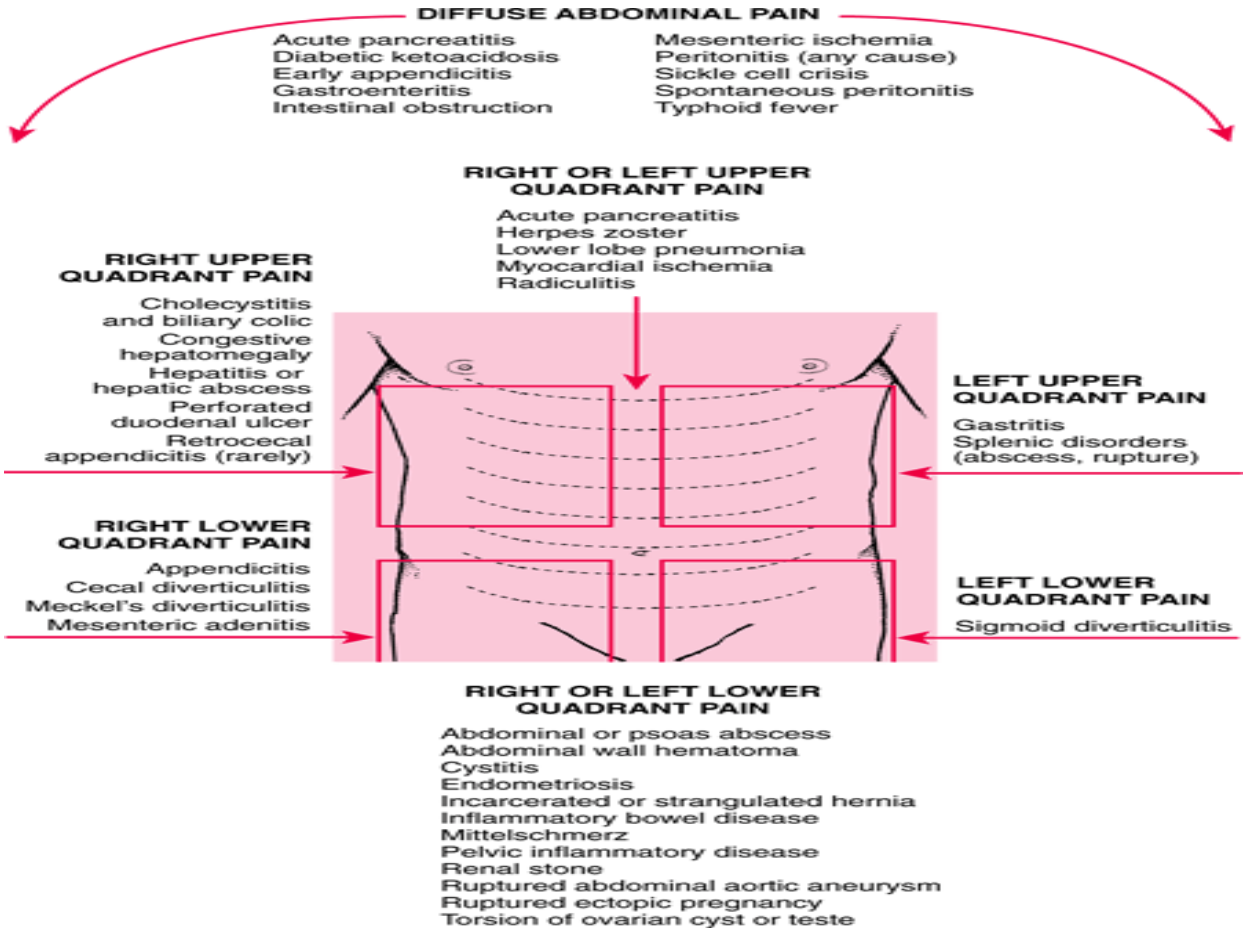


History Taking Problems of the Abdomen and GI Tract

- How is the patient's appetite?
- Any symptoms of the following?
    - Heartburn
        - burning sensation in the epigastric area radiating into the throat
        - Often associated with regurgitation
    - Excessive gas or flatus
        - Needing to belch or pass gas
        - Patient's state they often feel bloated
    - Abdominal fullness or early satiety
    - Anorexia – lack of appetite
- Regurgitation
    - The reflux of food and stomach acid back into the mouth
    - Brine-like taste

History Taking Problems of the Abdomen and GI Tract

- Vomiting or retching
  - Retching is the spasmodic movement of the chest and diaphragm like vomiting, but no stomach contents are passed
  - Ask about the amount of vomit
  - Ask about the type of vomit
    - Food, green or yellow colored bile, mucus, blood, coffee ground emesis
- Qualify the patient's pain
  - Visceral pain
    - When hollow organs (stomach, colon) forcefully contract or become distended
    - Solid organs (liver, spleen) can also generate this type of pain when they swell against their capsules
    - Visceral pain is usually gnawing, cramping, or aching and is often difficult to localize
  - Parietal pain
    - When there is inflammation from the hollow or solid organs that affects the parietal peritoneum
    - Parietal pain is more sever and is usually easily localized (appendicitis)
  - Referred pain
    - Originates at different sites but shares innervation from the same spinal level

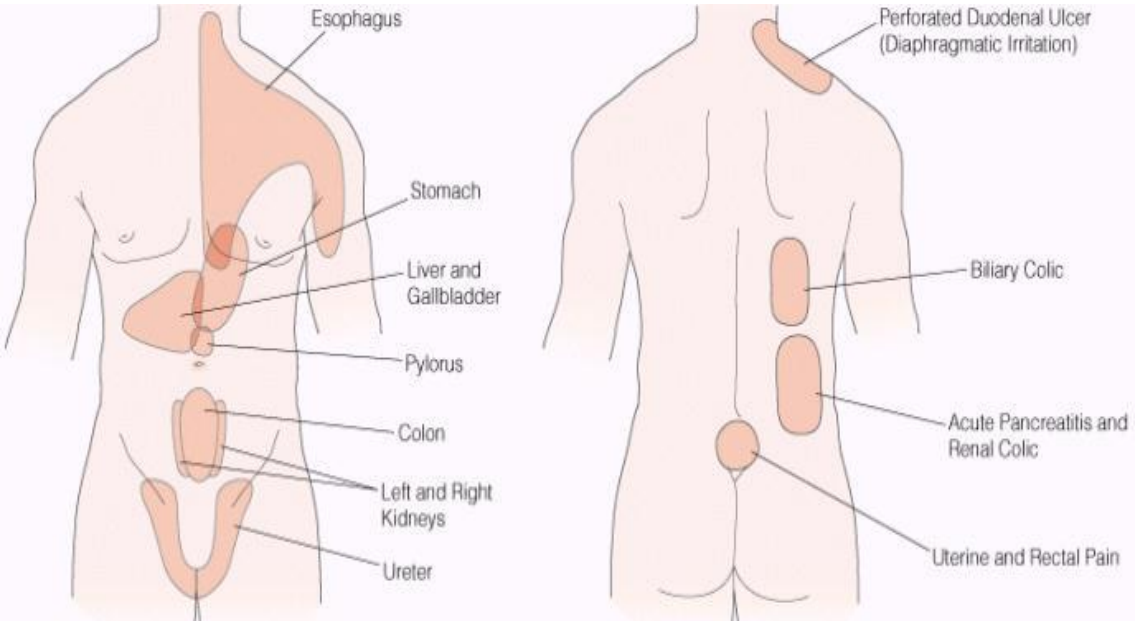


Differential Diagnosis of Abdominal Pain

History Taking Problems of the Abdomen and GI Tract

- Ask patients to describe the pain in their own words
- Ask patient's to point to their area of pain
- Ask about the severity of pain (Borg Scale)
- Ask what brings on the pain (timing)
- Ask patients how often they have the pain (frequency)
- Ask how long the pain lasts (duration)
- Ask if the pain goes anywhere else (radiation)
- Ask if anything aggravates or relieves the pain
- Ask about any symptoms associated with the pain
- Ask the patient about bowel movements
    - Frequency of bowel movements
    - Consistency of bowel movements (diarrhea vs. constipation)
    - Any pain with bowel movements
    - Any blood (hematochezia) or black, tarry stools (melana) with the bowel movement
    - Ask about stool color (white or gray can indicate liver or gallbladder)
    - Look for associated signs such as jaundice or icteric sclerae

Referred Pain



History Taking Problems of the Abdomen and GI Tract

- Ask about prior medical problems related to the abdomen
    - Hepatitis, cirrhosis, pancreatitis, gall bladder
- Ask about prior abdominal surgery
- Ask about foreign travel and occupational hazards
- Ask about use of tobacco, alcohol, illegal drugs and medication history
- Ask about hereditary disorders affecting the abdomen in the family history
- History Taking Problems of the Abdomen and Urinary Tract
- Ask about frequency of urination and urgency
    - Feeling like one needs to urinate but very little is passed
- Ask about urinary pain
    - Urethral burning or aching in the suprapubic area
- Ask about the color and smell of urine
    - Odors, hematuria
- Ask about difficulty starting to urinate
    - Common in men
- Ask about leakage of urine and SUI
    - Common in women
- Ask about back pain at the costovertebral angle (kidney) and the lower back pain in med (referred from prostate)
- In men, ask about symptoms in the penis and scrotum

General Considerations

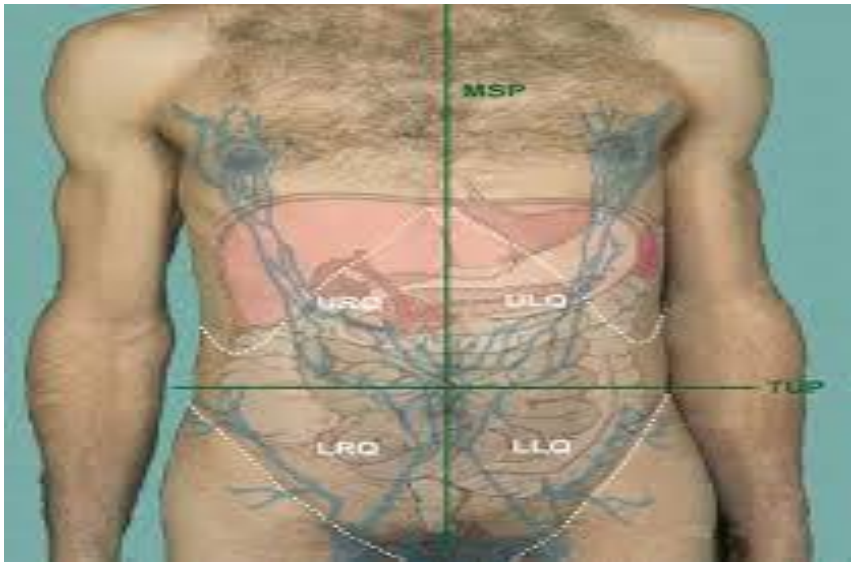
- It may be helpful to have the patient empty their bladder before examining their abdomen
- The patient should be draped in a manner that allows visualization from above the xiphoid process to the pubic symphysis
- A quiet room is beneficial for optimal auscultation and percussion
- Watch the patient's face for signs of discomfort
- Proper lighting is necessary for inspection
- Be kind and warm your hands and stethoscope before touching the patient
- Approach the patient from their right side
- Ask the patient to point to areas of pain or discomfort… palpate those areas last
- Quick movements may startle the patient
- Conversation may distract an anxious patient
- It may be beneficial to place the patient's hand under yours to palpate until they are comfortable with your touch
- Use proper terminology to describe findings in specific locations
    - LUQ, LLQ, RUQ, RLQ, epigastric, periumbilical, suprapubic (hypogastric)
- Keep in mind: chest, pelvic, genital and rectal problems can manifest with abdominal symptoms

Proper Positioning

- Patient should be supine
- Having the patient flex the knees and hips may allow the abdominal muscles to relax
- Give them a pillow or blanket to rest their head upon, and possibly one for under their knees
- When the abdominal muscles are relaxed, the small of the back is flat against the table (you cannot pass your hand under the patient
- The patient's arms should be at their side or crossed on their chest – Let them choose

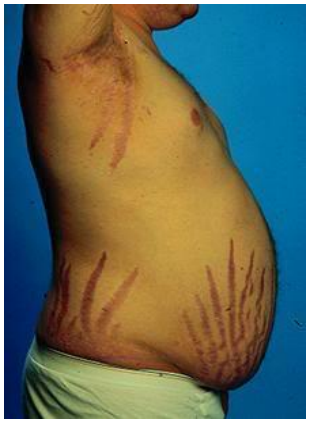
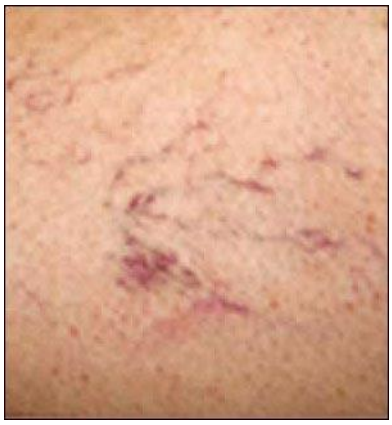
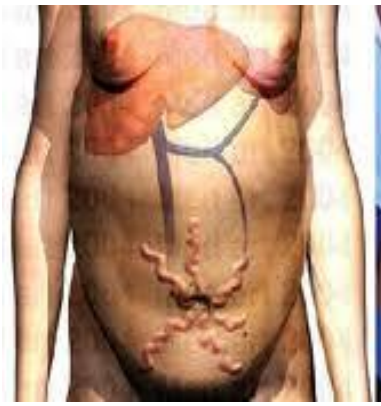
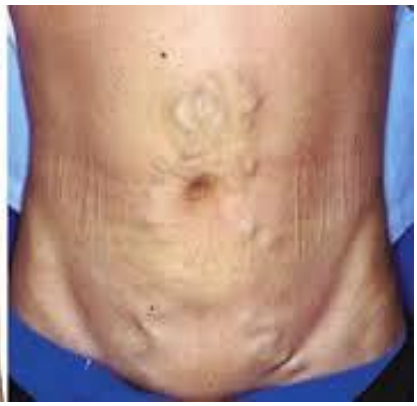
Sequence of Exams

- LOOK - INSPECTION
- LISTEN - AUSCULTATION
- PERCUSS
- PALPATE



Inspection

- Look For:
    - Scars
    - Striae
    - Dilated Veins
    - Contour
    - Symmetry
    - Peristalsis/Pulsations
    - Rashes

Striae **Veins** **Caput Medusa**

Inspection

- Contour:
  - Flat
  - Scaphoid
  - Rounded
  - Protuberant
- Asymmetry due to an umbilical hernia
- Caput Medusa
  - distended and engorged paraumbilical veins
  - usually due to portal hypertension
- Peristalsis
  - Movement of the bowels seen through the skin overlying the abdomen (tangential viewing)
  - Could be normal in a thin walled abdomen
  - Usually signifies bowel dilatation upstream from an obstruction
- Pulsations
  - Visible movement of the skin in the epigastric area as blood passes through the vessel (aorta)
  - Normal in thinner patients especially children
  - Concerning for AAA in older patients.

Auscultation

- Always auscultate before palpating or percussing the abdomen
  - Place the diaphragm over the abdomen to hear bowel sounds (borborygmi) which are long gurgles
  - These sounds are transmitted across the abdomen so it is not necessary to listen at several places
  - The normal frequency of sound is 5-34 sounds per minute
- Place the diaphragm over the aorta, iliac and femoral arteries to assess for bruits
  - Vascular sounds resembling murmurs
- Place the diaphragm over the liver or spleen to listen for friction rub

Auscultation

- Listen in all Four quadrants with the DIAPHRAGM
- Describe sounds:
    - Frequency
        - Normal
        - Hyperactive
        - Hypoactive
        - Absent
    - Character
        - Rushes
        - Tinkles

Auscultation

- Performed before percussion and palpation to avoid altering frequency and character of the sounds
- Absence of bowel sounds can only be determined after listening for at least 2 minutes or more
- Borborygmi
    - From the Greek *to rumble*
- Tinkles
    - High pitched ‘drips’ heard in dilated bowels with air-fluid levels
- Rushes
    - High pitched sounds of fluid flowing through bowels with an obstruction
- Bruits
    - Best heard with BELL
    - There are seven areas to listen at

Percussion

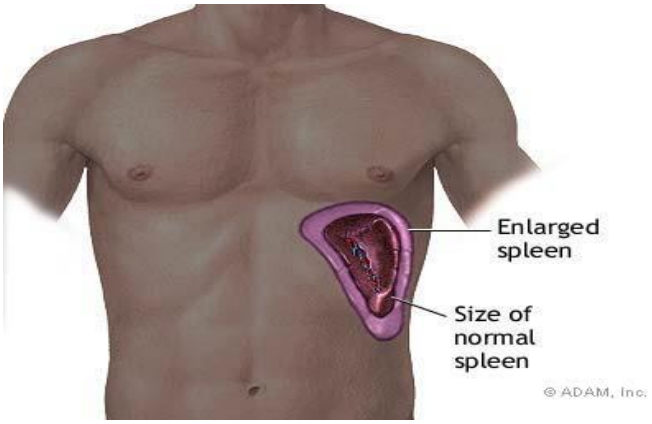
- Percuss in all four quadrants
- Categorize your findings as tympanic or dull
- Normally all quadrants should be predominantly tympanic with scattered areas of mild dullness from fluid and feces
- Dullness signifies an abdominal mass
    - Tumor, uterus (pregnant), hepatomegaly, splenomegaly, FOS
- Plexor (hammer)
- Utilized for approximating liver span, fluid levels, intestinal obstruction, masses and organomegaly

Liver Span

- Percuss downward from the chest in the mid-clavicular line until you detect the top edge of the liver dullness
- Then percuss upward from the abdomen in the same line until you detect the bottom edge of liver dullness
- Measure the distance between these two points (normal is 6-12 centimeters)

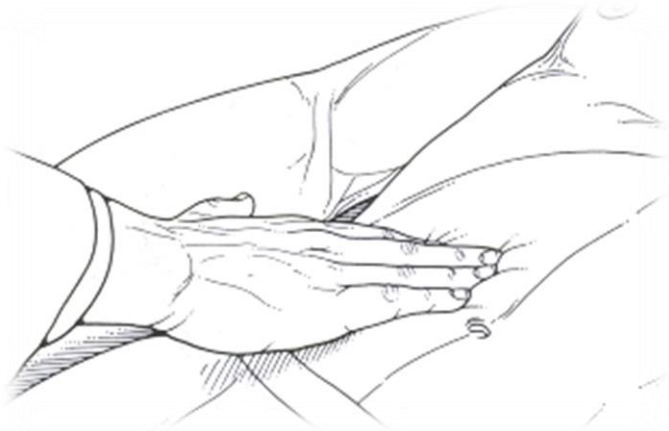
Splenic Dullness

- Percuss the lower costal inter-space in the left anterior axillary line
- Ask the patient to take a deep breath and hold it while you percuss again
- This area is normally tympanic
- Dullness suggests splenic enlargement



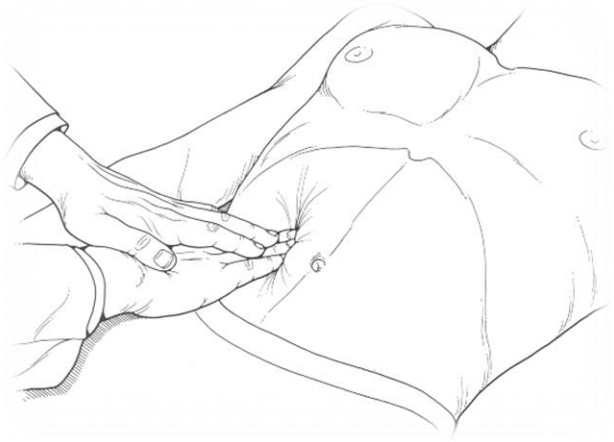
Palpation

- Palpation is described as gentle (light) and deep
- Listen to the patient's verbal responses
- But also look at their face for visible signs of distress
- Feel for abnormalities as you press on the abdomen
- Keep your fingers together when you palpate
- Lift your hand completely off the skin before moving it to another location to palpate
- Used to assess for superficial masses, areas of tenderness and guarding
- Using one hand, lightly press with your fingers in all quadrants of the abdomen
- Again, ticklish or anxious patients may do better when you use their hand to palpate these areas first



Palpation

- Guarding
    - Voluntary: Patient tenses up their abdominal muscle in anticipation of pain
    - Involuntary: Patient's abdominal muscles are already tensed as a reflex to peritoneal irritation
- To help differentiate the form of guarding, utilize techniques to relax the patient
    - Proper positioning
    - Jaw open and mouth breathe
    - Palpate during the patient's exhalation

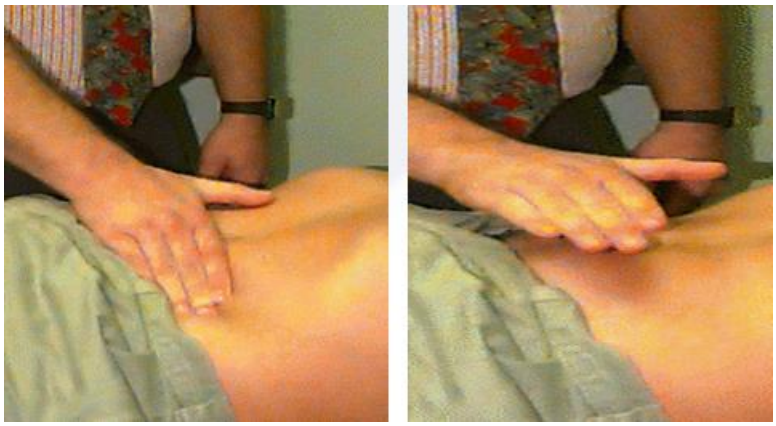


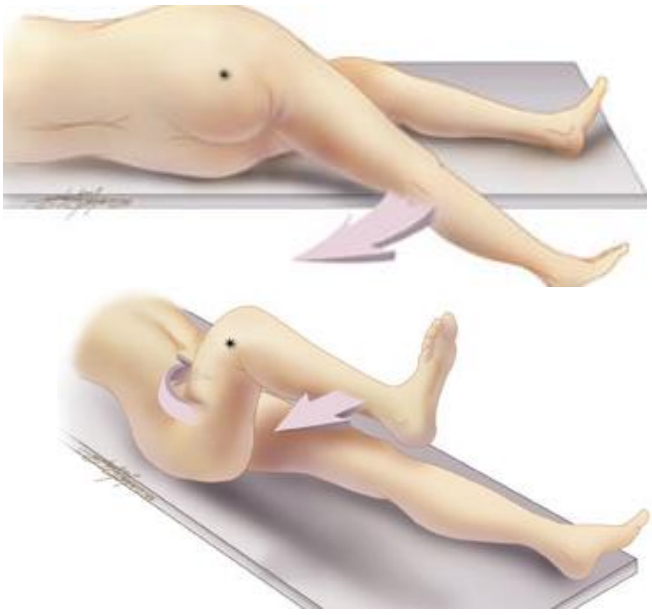
Deep Palpation

- Used to assess for masses and also for areas of deeper tenderness
- Also utilized for the rebound tenderness test
- Place one hand on the abdomen and using the other hand, press it slowly, but firmly, deeper
    - Apply the pressure with the top hand
    - Feel for masses with the bottom hand.
- Deep: Two-handed

Peritoneal Signs

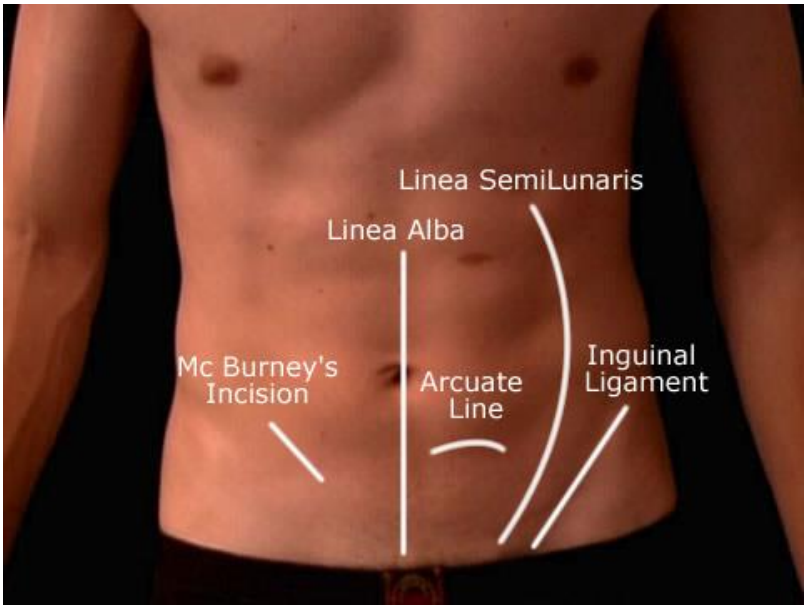
- Peritoneal Irritation
- Increased pain suggests peritoneal irritation:
    - Rebound Tenderness
        - Warn the patient what you are doing
        - Press slowly and deeply into the abdomen
        - Quickly remove the hand
        - Increased pain (rebound pain) signifies peritoneal irritation
    - Cough Reflex
        - Ask the patient to cough
        - Identify the area of maximal pain felt while coughing





Peritoneal Irritation

- Increased pain suggests appendicitis
    - Psoas Sign
        - Place your hand above the patient's right knee
        - Ask them to flex the hip against your resistance
    - Obturator Sign
        - Raise the patient's right leg with the knee flexed
        - Rotate the leg internally at the hip
    - Tenderness at McBurney's Point
        - Approximately two thirds of the distance from the umbilicus to the right anterior superior iliac spine

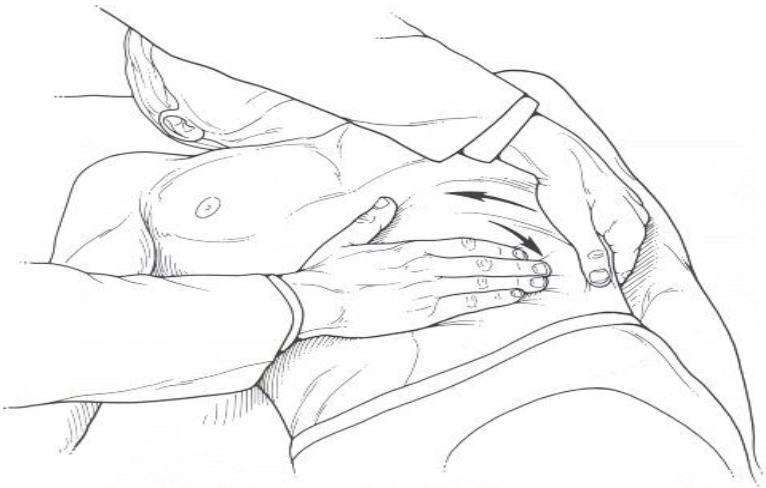


Palpation of the Liver

- Standard Method:
  - Place your left hand on the patient's posterior lower ribs and push ventrally
  - Place your extended fingers below the right costal margin and press superiorly
  - Ask the patient to take a deep breath
    - You may need to ask them to consciously use their abdominal muscles when they inhale
  - You may feel the liver edge press against your fingers or slide underneath them
- Alternate method
  - Stand by the patient's chest
  - "Hook" your fingers underneath the right costal margin and press superiorly
  - Ask the patient to inhale deeply
  - You may feel the liver edge against the tips of your fingers
- A normal liver may be slightly tender, but not painful

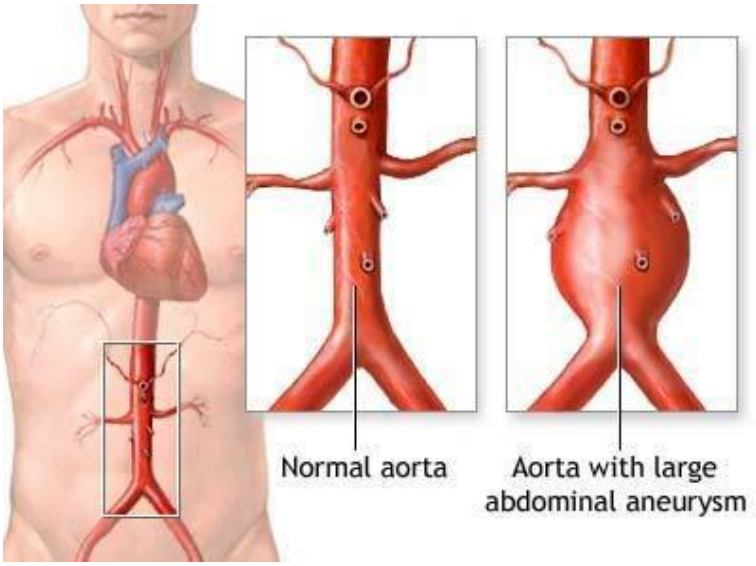
Palpation of the Spleen

- Stand at the patient's right
- Reach across the patient and use your left hand to lift the lower rib cage and flank
- Press down just below the left costal margin with your right hand
- Ask the patient to inhale deeply (with their abdominal muscles)
- Repeat this process with the patient laying on their right side with knees and hips flexed a bit
- The spleen is NOT normally palpable in most individuals



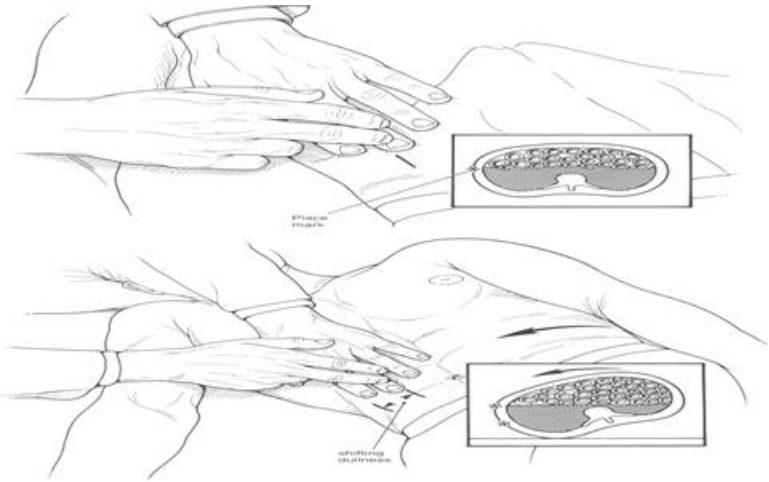
Palpation of the Aorta

- Press down deeply in the area above the umbilicus with your two hands straddling the midline
- The aortic pulsation is palpated in most individuals
- Approximate the width of the pulsating vessel with your two hands (older adults)
- Greater than 3cm width is suspicious for AAA



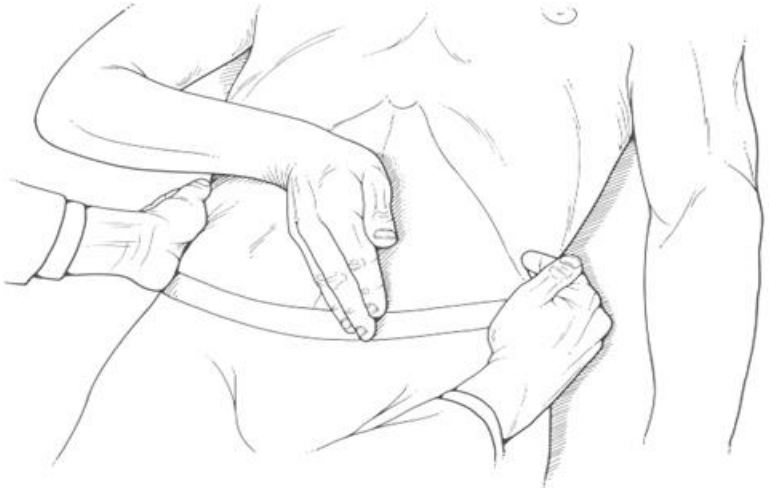
Shifting Dullness

- Tests for peritoneal fluid (ascites)
- In the supine position, percuss the patient's abdomen
- Outline the areas of tympany and dullness
- Have the patient roll onto their side
- Percuss the abdomen again
- Dullness in areas of previous tympany suggests excess peritoneal fluid



Fluid Wave

- Ask an assistant or have the patient press the edges of both hands down on the midline of the abdomen (This helps stop the wave transmission through fat)
- Tap sharply on one flank with the fingertips of one hand
- With the palm of your other hand, feel for the transmission of the fluid wave on the other flank
- Wave transmission suggests ascites



CVA Tenderness

- Tenderness in the costoverebral angle area may indicate inflammation or infection of a kidney
- Simple palpation in this area may elicit the tenderness
- Alternately, place one hand flat on the CVA area with the palm on the patient's skin, and strike it with the ulnar surface of your fist to make a dull thump
- Sharp pain suggests kidney inflammation