

Abdominal Percussion

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DEFINITION:

Percussion is a method of tapping on a surface to determine the underlying structure.

IMPORTANCE:

Percussion is a critical part of the abdominal examination; therefore, learning the correct technique is essential for any physician aiming to make accurate diagnosis of gastrointestinal pathologies.

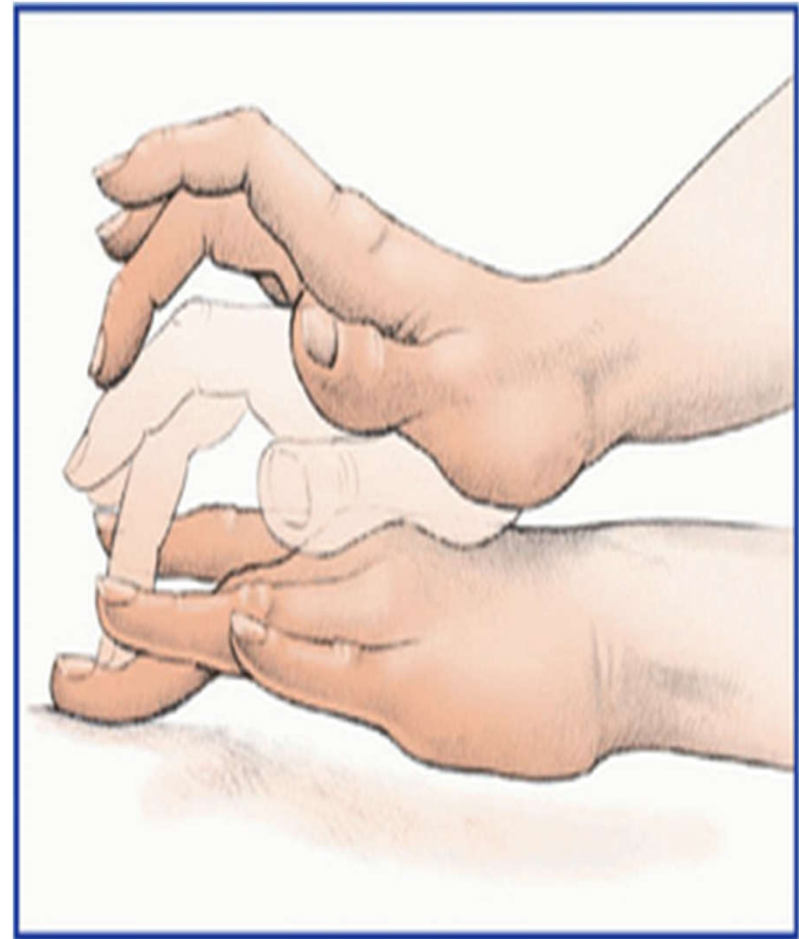


- Percussion is based on the difference in pitch between the sounds elicited by tapping on the body wall.
- The sounds produced during abdominal percussion can help detect pathologies like organomegaly, intra-abdominal masses, and fluid accumulation.



TECHNIQUE:

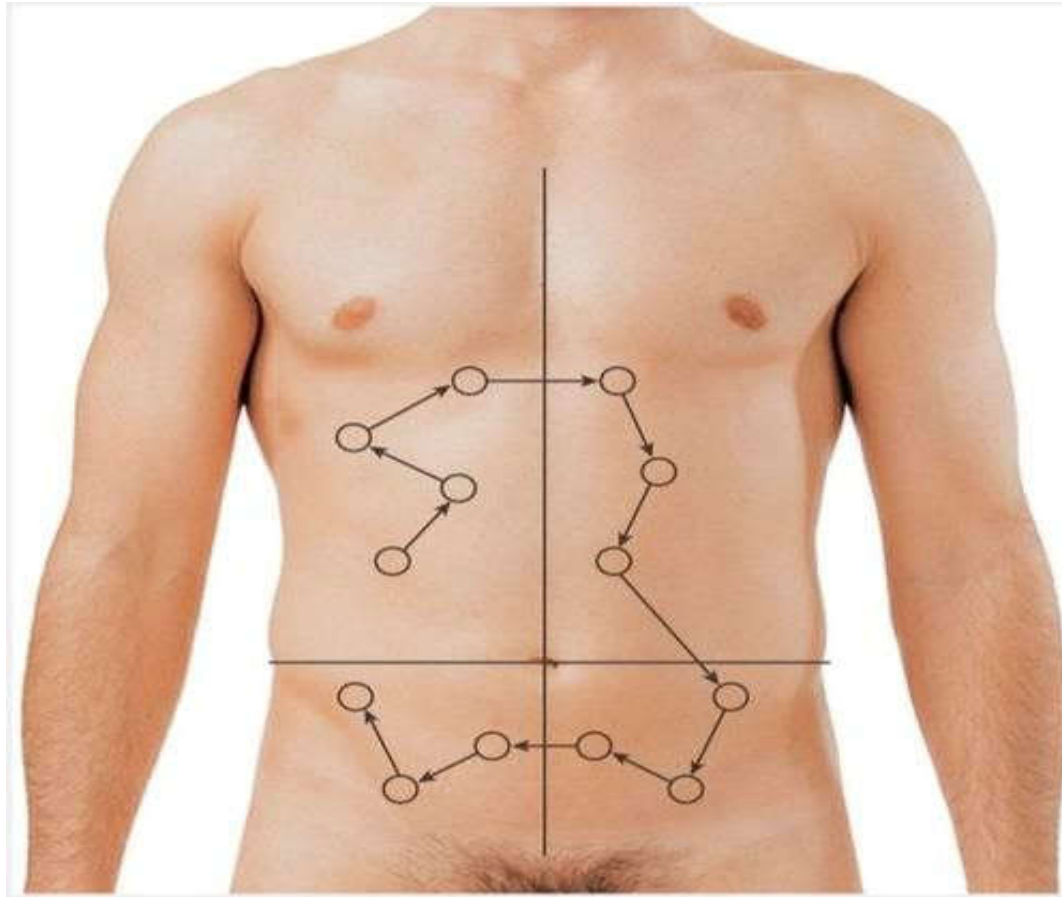
- 1- Strike the middle pharynx by the the tip of middle finger 2-3 times only.
- 2- Remove striking finger immediately.
- 3- The blow is delivered by a sharp rest movement (not the elbow).
- 4- Move from resonance to dullness.



Percussion sounds :

- Resonant sounds indicates hollow, air-filled structures. The abdomen gives resonant note which varies according to the amount of gas present in the intestine.
- Dull sounds indicates the presence of a solid structure (e.g. liver) or fluid (e.g. ascites).





Percussion of the liver:

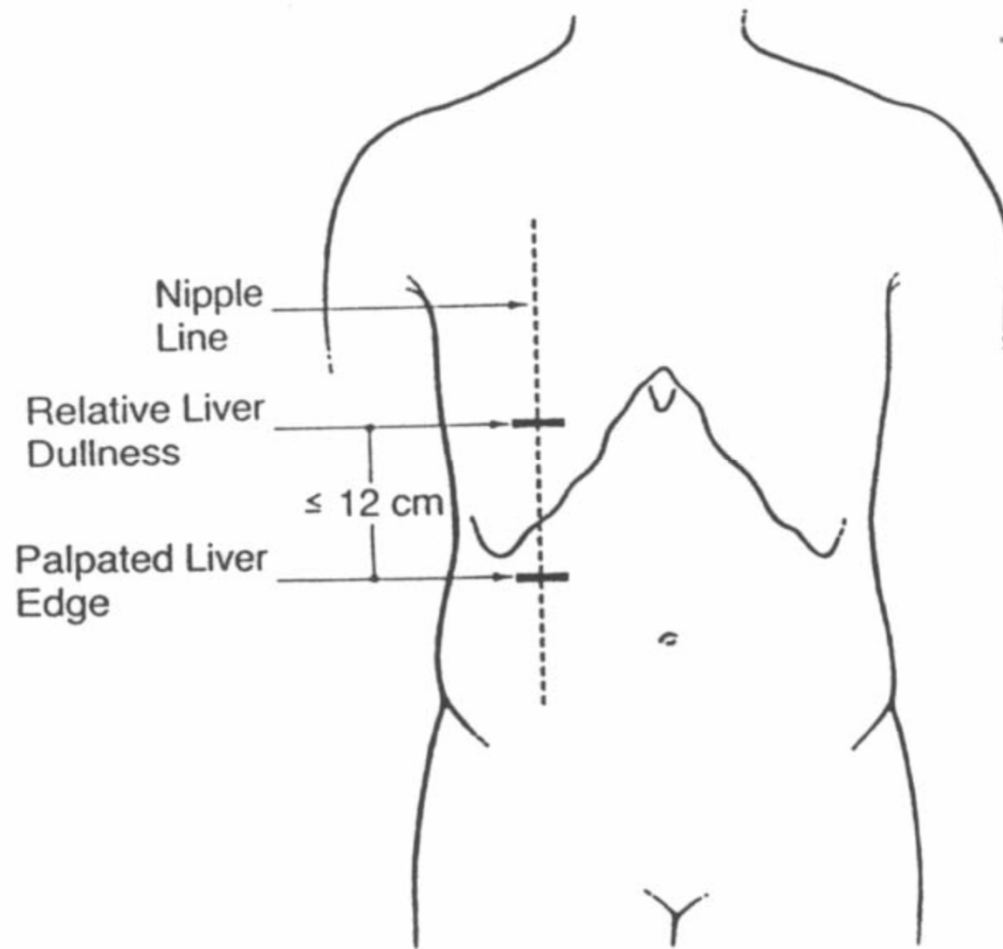
1- Upper border (deep percussion):

- Define the sternal angle “angle of Louis” (2nd rib),
- start percussing the 2nd intercostal space in the Rt. MCL. That should be resonant.
- Move downward percussing the intercostal spaces
- Detect change from resonance to dullness. This will be the normal hepatic dullness at the 5th intercostal space in the RT. MCL

2- Lower border (light percussion):

- Begin percussion below the umbilicus, in the Rt. MCL.
- Proceed upward until dullness is detected.





Percussion of the spleen:

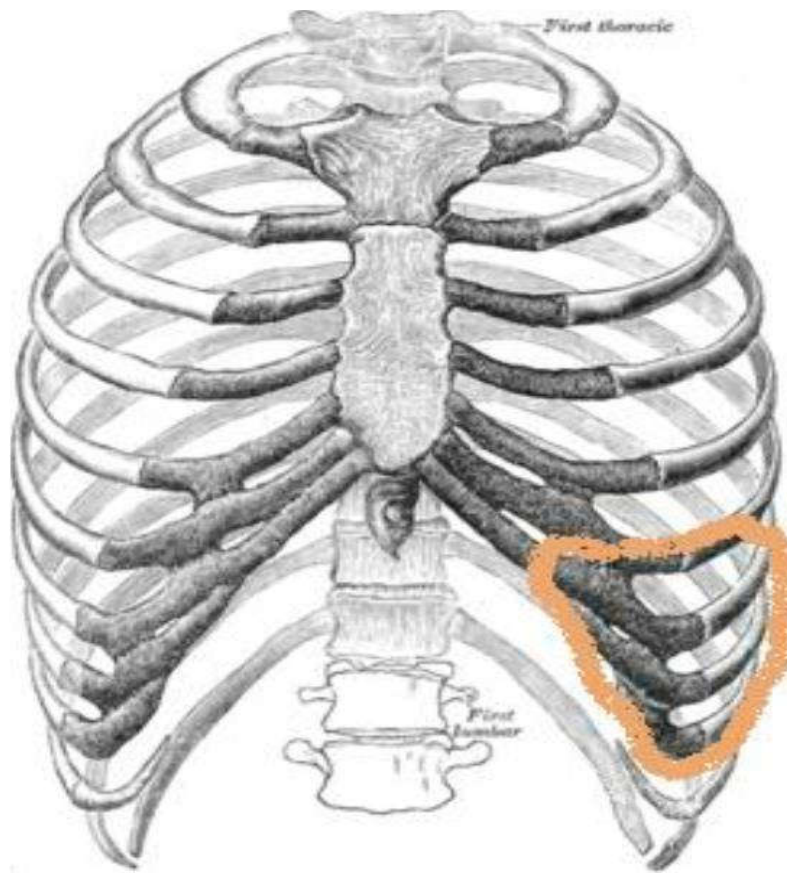
- When the spleen enlarges, it expands downward and medially, replacing the tympany of the stomach with the dullness of a solid organ
- Percussion cannot confirm splenic enlargement, but it can raise your suspicion
- There are **3 techniques** to percuss splenic enlargement:

1- Percussion of Traube's area.

2- Splenic percussion sign "Castell's method"

3- Nixon's method





surface markings

- left sixth rib
- left midaxillary line
- left costal margin

← Traube's space



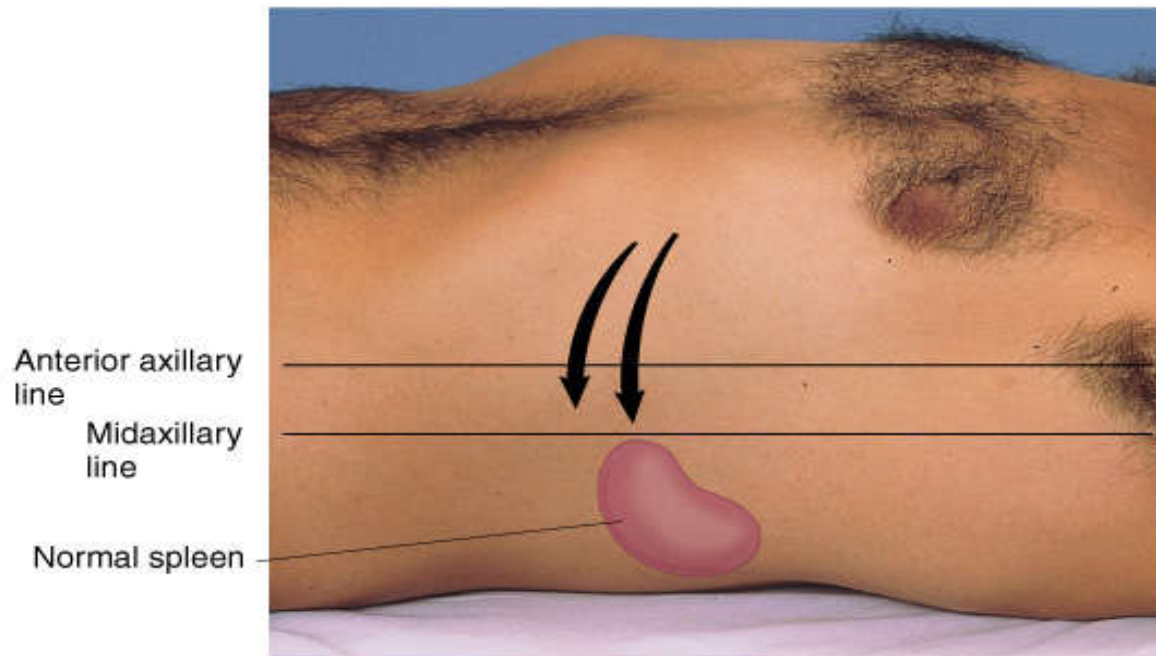
Traube's area:

- It is an area of tympanic resonance overlying the fundus of stomach.
- Boundaries: left 6th rib, left mid-axillary line and left costal margin.

Causes of dullness of Traube's area:

- Full stomach/ gastric tumours.
- Left sided Pleural effusion / pericardial effusion “from above”.
- Ascites/abdominal tumour “from below”
- Splenomegaly “from left side”.
- Enlargement of left lobe of liver “from the right side”.

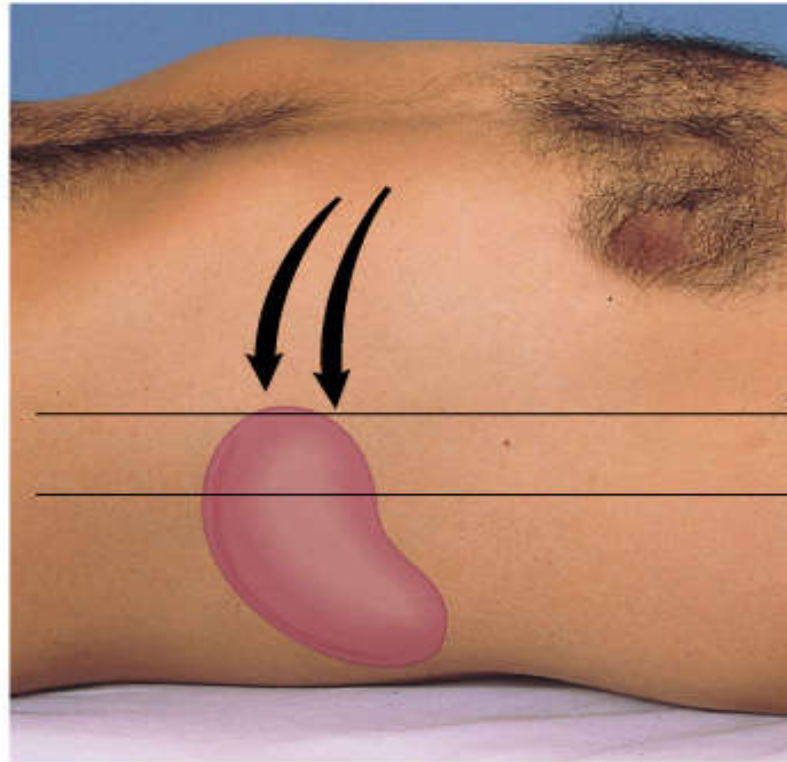




Percussing the spleen - routes - normal spleen

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Percussing the spleen - routes - enlarged spleen

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Detection of ascites:

- Ascites is free collection of fluid within the peritoneal cavity.
- Signs of ascites: abdominal distension with full flanks, shifting dullness, fluid thrill.
- Minimal ascites is detected in the knee elbow position.
- Moderate ascites is detected by bilateral shifting dullness.
- Tense ascites is detected by transmitted fluid thrill “fluid wave”.



Minimal ascites is detected in the knee elbow position.



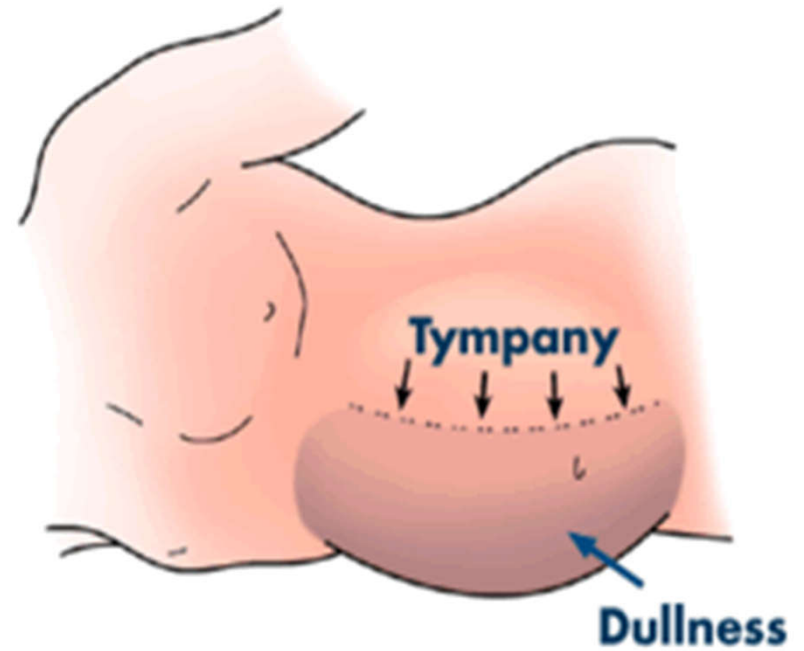
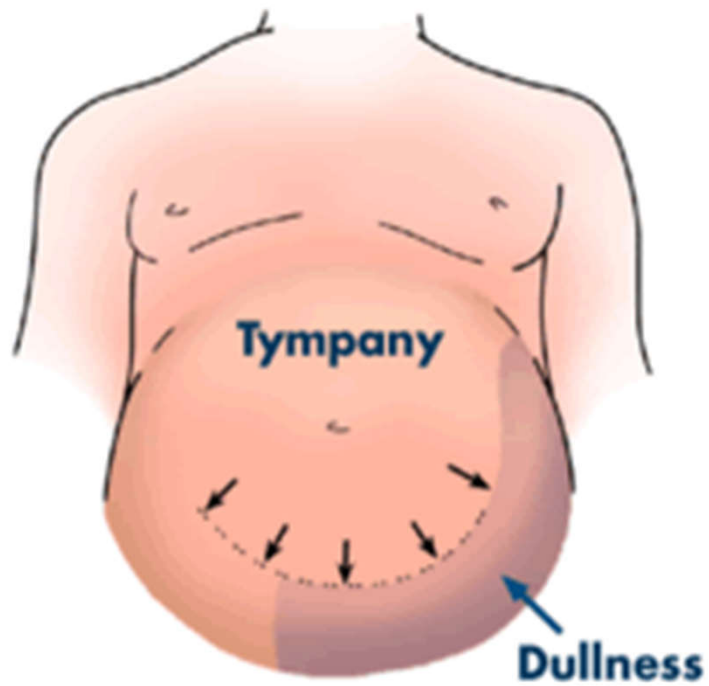
Bilateral shifting dullness:

- The patient is examined in the supine position.
- Percussion is done over the abdomen, from the umbilicus to one flank.
- The spot of the transition from tympany to dullness is detected.
- The patient is then turned to the opposite side, while the examiner keeps his hand unmoved.
- Percussion of the same spot (which is top now) gives a tympanic note.

Note: The tympany over the umbilicus occurs in ascites because bowel floats to the top of the abdominal fluid.



Shifting dullness



Transmitted fluid thrill:

- Used when there is no central resonance (all abdomen is dull).
- The patient is examined in the supine position.
- The patient or an assistant places one hand in the midline and presses firmly with the ulnar border of the hand , so cut off any vibrations transmitted by the abdominal wall.
- The examiner places one palm on one flank, while giving a sharp tap with the finger tips on the opposite flank.
- Positive test: a definite wave “impulse” will be distinctly felt by the receiving hand.





OSCE EXAMS

