King Saud University
College of Nursing
Medical Surgical Department

NUR 221 Health Assessment (practical)
Procedure guide and Performance checklist

Module Seven

Physical examination of Gastrointestinal and Urinary system

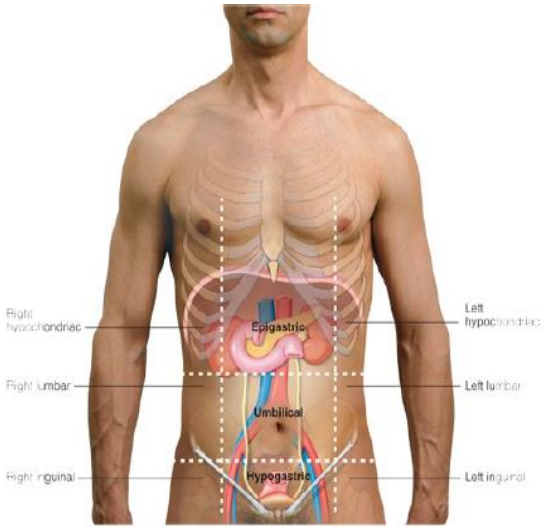
HELPFUL HINTS

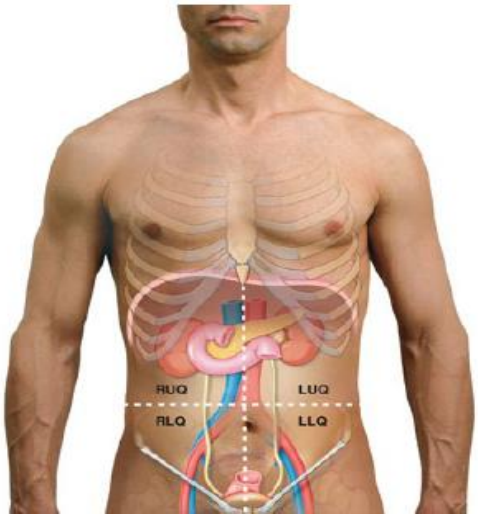
1. Provide an environment that is warm and comfortable.
2. Place a small pillow under the patient's knees to help relax the abdominal muscles.
3. Have the patient empty the bladder before the examination and collect a urine specimen at that time.
4. Provide instructions about what is expected of the patient; for example, taking several deep breaths to relax abdominal muscles.
5. Pay attention to nonverbal cues that may indicate discomfort. Facial gestures, legs flexed at the knees, and abdominal guarding with the hands are all indices of discomfort.
6. When a patient is experiencing abdominal pain, examine that area last.
7. Stand on the right side of the patient, unless otherwise indicated, because the liver and right kidney are in the right side of the abdomen.
8. Maintain the dignity of the patient through appropriate draping techniques.
9. Males and females respond in a variety of ways when exposed for examination of private areas.
10. Explain each step of the procedures and tell the patient to report any discomfort or difficulty.
11. Use Standard Precautions.

Landmarks:

Mapping: Is the process of dividing the abdomen into quadrants or regions for the purpose of examination.

- The quadrants are simply named right upper quadrant (RUQ), right lower quadrant (RLQ), left upper quadrant (LUQ), and left lower quadrant (LLQ).
- The names of the regions are right hypochondriac, epigastric, left hypochondriac, right lumbar, umbilical, left lumbar, right inguinal, hypogastric or pubic, and left inguinal.

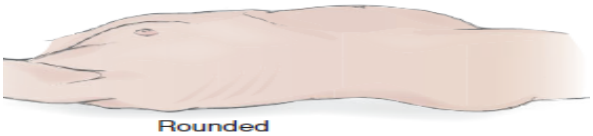




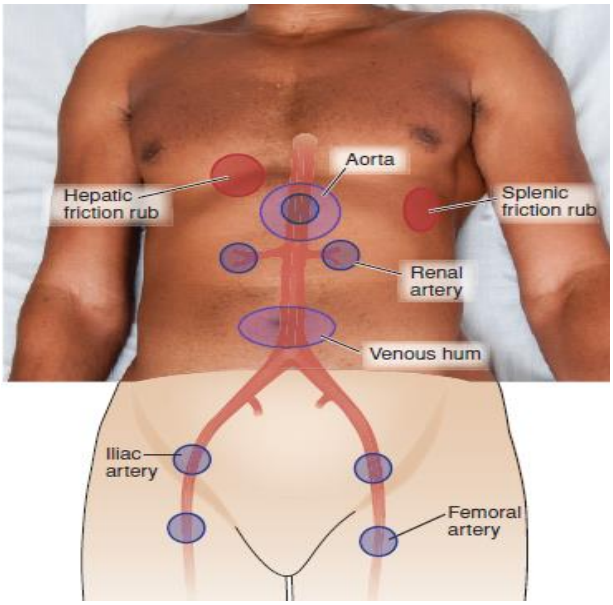
Equipment :

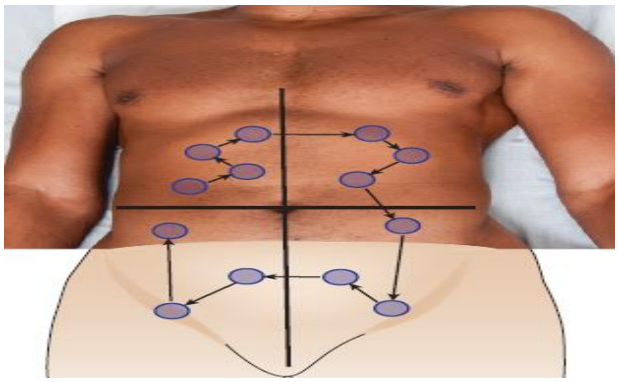
- Examination gown and drape.
- Clean, non-sterile examination gloves.
- Examination light.
- Stethoscope.
- Skin marker.
- Metric ruler.
- Tissues
- Tape measure.

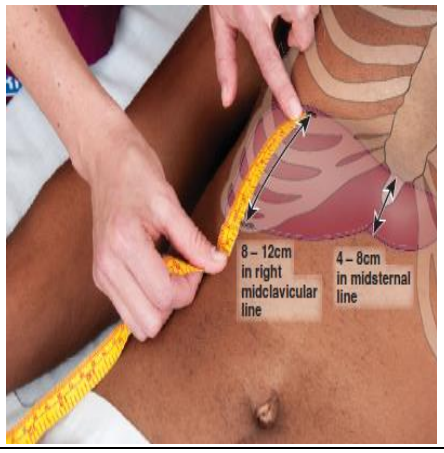
PROCEDURE GUIDE

Procedure and Rationale	Normal Findings
A. INSPECTION	
1. Position the patient. ➢ The patient should be in a supine position with a small pillow placed beneath the head and knees. ➢ Drape the examination gown over the chest, exposing the abdomen. Place the drape at the symphysis pubis, covering the patient's pubic area and legs. ➢ Stand at the right side of the patient. ➢ Lighting must be adequate to detect color differences, lesions, and movements of the abdomen.	These measures relax the abdominal musculature and prevent unnecessary exposure of the patient.
2. Instruct the patient. ➢ Explain that you will be looking at the patient's abdomen. ➢ Tell the patient to breathe normally.	
3. Map the abdomen.	
4. Determine the contour of the abdomen: ➢ Observe the profile of the abdomen between the costal margins and the symphysis pubis. ➢ The abdominal profile should be viewed at eye level. You may need to sit or kneel to observe the abdominal profile. 	Flat, rounded, or scaphoid contours  Flat  Rounded  Scaphoid (may be abnormal)
5. Observe the position of the umbilicus.	The umbilicus is normally in the center of the abdomen. It may be inverted or protruding. The

	umbilicus should be clean and free of inflammation or drainage.
6. Observe skin color	The abdominal skin should be consistent in color and luster with the skin of the rest of the body. The skin is smooth, moist, and free of lesions.
7. Observe the location and characteristics of lesions, scars, and abdominal markings.	Lesions such as macules, moles, and freckles are considered normal findings.
8. Observe the abdomen for symmetry, bulging, or masses: ➢ First, observe the abdomen while standing at the patient's side. ➢ Second, observe the abdomen while standing at the foot of the examination table. ➢ Compare the right and left sides.	The sides should appear symmetric in shape, size, and contour. No masses or bulging.
9. Observe the abdominal wall for movement. ➢ Movements can include pulsations or peristaltic waves.	In thin patients it is normal to observe a pulsation of the abdominal aorta below the xiphoid process. The observation of peristaltic waves in thin patients is normal.
B. AUSCULTATION	
Auscultation of the Abdomen ➢ Auscultation of the abdomen refers to listening to bowel sounds, vascular sounds through the stethoscope. **Alert:** It is important to auscultate before percussing and palpating, because the latter techniques could alter peristaltic action. ➢ The pattern for auscultation of bowel sounds is to begin in the RLQ and then proceed through each of the remaining quadrants. ➢ The diaphragm of the stethoscope is used to auscultate bowel sounds.	

1. Instruct the patient: ➢ Explain that you will be listening to the patient's abdomen with the stethoscope. ➢ The patient will be in the supine position. ➢ Tell the patient to breathe normally. ➢ Inform the patient that this will cause no discomfort.	
2. Auscultate for bowel sounds: ➢ Use the diaphragm of the stethoscope. ➢ Start in the RLQ and move through the other quadrants. ➢ Note the character and frequency of the sounds. ➢ Count the sounds for at least 60 seconds. **Alert :**All four quadrants are auscultated for a total of at least 5 minutes before documenting absent bowel sounds .	Normal bowel sounds are irregular, gurgling, and high-pitched. They occur from 5 to 30 times per minute.
3.Auscultate for vascular sounds: ➢ Use the bell of the stethoscope ➢ Listen at the midline below the xiphoid process for aortic sounds. Move the stethoscope from side to side as you listen over the renal, iliac, and femoral arteries.	Bruits are not normally heard over abdominal aorta or renal, iliac, or femoral arteries. 

C PERCUSSION	
1-.Percuss the abdomen C. Place your pleximeter finger on the abdomen during the examination. D. Start in the RLQ and percuss through all of the remaining quadrants 	Percussion over the abdomen produces tympany. Tympany is more pronounced over the gastric bubble. Dullness is heard over the liver and spleen.
2. Percuss of the liver: ➢ Begin percussion at the level of the umbilicus and move toward the rib cage along the extended right MCL ➢ The first sound you should hear is tympany. ➢ When the sound changes to dullness, you have identified the lower border of the liver. ➢ Mark the point with a skin-marking pen. ➢ The lower border is normally at the costal margin  ➢ Percuss downward from the fourth intercostal space along the right MCL. ➢ The first sound you should hear is resonance because you are over the lung. Percuss downward until the sound changes to dullness. This is the upper border of the	

liver. ➢ Mark the point with a pen. ➢ The upper border should be at the level of the sixth intercostal space. ➢ Measure the distance between the two points.  	The distance should be approximately 5 to 10 cm (2 to 4 in.). This distance is called the liver span
3. Percuss the spleen: ➢ Percuss the abdomen on the left side posterior to the midaxillary line 	A small area of splenic dullness will usually be heard from the 6th to 10th intercostal space
4. Perform blunt percussion on the kidneys: **Step to be done:** i. Position the patient. Place the patient in a sitting position facing away from you with the patient's back exposed. ii. Inspect the left and right costovertebral angles for color and symmetry. iii. Inspect the flanks (the side areas between the hips and the ribs) for color and symmetry.	The color should be consistent with the rest of the back. The costovertebral angles and flanks should be symmetric and even in color.

Alert :

Do not percuss or palpate the patient who report pain or discomfort in the pelvic region. Do not percuss or palpate the kidney if a tumor of the kidney is suspected.

iv. Gently palpate the area over the left costovertebral angle. Watch the reaction and ask the patient to describe any sensation the palpation causes.

Normally, the patient expresses no discomfort.

v. Use blunt or indirect percussion to further assess the kidneys.

- Place your left palm flat over the left costovertebral angle.
- Thump the back of your left hand with the ulnar surface of your right fist, causing a gentle thud over the costovertebral angle
- Repeat the procedure on the right side.

The patient should feel no pain or tenderness with pressure or percussion.

5- Bladder Percussion: ➢ Begin with indirect percussion in the midline of the abdomen at the level of the umbilicus. ➢ Move your fingers downward as you continue to percuss toward the suprapubic area. Continue percussing downward until tympanic tones change to dull tones. ➢ A full bladder produces a dull sound. ➢ The point at which tympanic tones cease is the upper margin of the bladder.	
D. PALPATION	
➢ Palpation of the abdomen is conducted to determine organ size and placement, muscle tightness or guarding, masses, tenderness, and the presence of fluid. ➢ This is performed after auscultation to avoid changing the natural sounds and movements of the abdomen.	
1. Instruct the patient: ➢ Explain that you will be touching the patient's abdomen with your hands. ➢ Explain that you are going to use light touch and then slight pressure to explore the abdomen. ➢ Instruct the patient to inform you of any discomfort. Observe the patient's facial expression for signs of pain. ➢ Instruct the patient to take several deep breaths to relax the muscles of the abdomen.	
2. Lightly palpate the abdomen: ➢ Place the palmar surface of your hand on the abdomen and extend your fingers. ➢ Lightly press into the abdomen with your fingers. ➢ Move your hand over the four quadrants by lifting your hand and then placing it in another area.	The abdomen should be soft, smooth, Non tender, and pain free.
3. Deeply palpate the abdomen: ➢ Exert pressure with your hand to depress the abdomen about 5cm (2 in.). ➢ Palpate all four quadrants in an organized sequence.	

➢ In an obese patient or a patient with an enlarged abdomen, use a bimanual technique. ➢ Place the fingers of your non-dominant hand over your dominant hand.  ➢ Identify the size of the underlying organs and any masses for tenderness. The pancreas is non palpable because of its size and location.	
4. Palpation of the Liver: ➢ Stand on the right side of the patient. Place your left hand under the lower portion of the ribs (ribs 11 and 12). Tell the patient to relax into your left hand. Lift the rib cage with your left hand. ➢ Place your right hand into the abdomen using an inward and upward thrust at the costal margin Ask the patient to take a deep breath. The descent of the diaphragm will cause the liver to descend, and the lower border will meet your right hand. 	Normally, the liver is non palpable, except in thin patients. If you feel the lower border of the liver it will be smooth, firm, and non-tender.

5. Palpation of the Spleen:

- Stand on the patient's right side. Place your left hand under the lower border of the rib cage on the left side and elevate the rib cage. This moves the spleen anteriorly. Press the fingers of your right hand into the left costal margin area of the patient.

- Ask the patient to take a slow deep breath. As the diaphragm descends, the spleen moves forward to the fingertips of your right hand.

6. Palpate the right kidneys:

1. Attempt to palpate the lower pole of the right kidney:

- Standing on the patient's right side, place your left hand under the back parallel to the right 12th rib (about halfway between the costal margin and iliac crest) with your fingertips reaching for the costovertebral angle.
- Place your right hand on the right upper quadrant of the abdomen lateral to the right rectus muscle and just below the right costal margin.
- Instruct the patient to take a deep breath. As the patient inhales, lift the flank with your left hand and use deep palpation to feel for the lower pole of the kidney.

2. Attempt to capture the right kidney:

- Place your left hand under the patient's right flank.

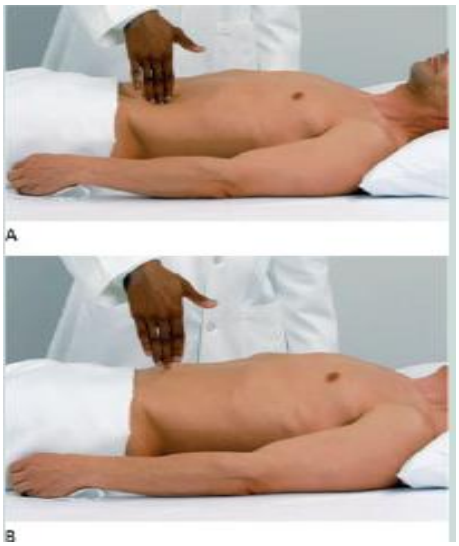
The kidney surface should be rounded, smooth, firm, and nontender.

- The lower pole of the right kidney is palpable in some individuals, especially in thin, relaxed females. If palpable, the

lower pole of the kidney has a smooth, firm,

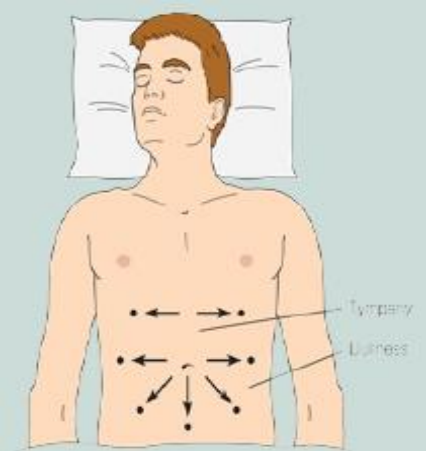
uninterrupted surface

➢ Place your right hand on the right upper quadrant of the abdomen with the fingertips lateral and parallel to the right rectus muscle just below the right costal margin. ➢ Instruct the patient to take a deep breath and hold it. As the patient inhales, attempt to capture the kidney between your two hands. ➢ Ask the patient to exhale slowly and then to briefly hold the breath. At the same time, slowly release the pressure of your fingers. ➢ As the patient exhales you will feel the captured kidney move back into its previous position. ➢ To palpate the left kidney, reverse the procedure.	
7. The Urinary Bladder: **1. Palpate the bladder to determine symmetry, location, size, and sensation:** ➢ Use light palpation over the lower portion of the abdomen. The abdomen should be soft. ➢ Use deep palpation to locate the fundus (base) of the bladder, approximately 5 to 7 cm (2 to 2.5 in.) below the umbilicus in the lower abdomen. Once you have located the fundus of the bladder, continue to palpate, outlining the shape and contour. Bimanual palpation may be required in the obese patient. ➢ Slide your fingers over the surface of the bladder and continue palpating to determine smoothness and continuity. 	The surface of the bladder should feel smooth and uninterrupted. An empty bladder is usually not palpable. When the bladder is moderately full, it should be firm, smooth, symmetric, and nontender. As the bladder fills, the fundus can reach the level of the umbilicus. A full bladder is firm and buoyant.

Additional procedures	
1. Palpate the aorta for pulsations: ➢ Using your fingertips, press deeply and firmly in the upper abdomen to the left of midline below the xiphoid process. 	The average adult aorta is 3 cm (1.17 in.) wide.
2. Palpate for rebound tenderness: ➢ With the patient in a supine position, hold your hand at a 90- degree angle to the abdominal wall in an area of no pain or discomfort. Press deeply into the abdomen, using a slow steady movement. ➢ Rapidly remove your fingers from the patient's abdomen**.** ➢ Ask if the patient feels any pain  	Normally, the patient feels the pressure but no pain.

3. Percuss the abdomen for ascites:

- Ascites is an abnormal collection of fluid in the peritoneal cavity.
- With the patient in a supine position, percuss at the midline to elicit tympany. Continue to percuss in lateral directions away from the midline and listen for dullness.



- Mark the skin, identifying possible levels of fluid.
- An alternative method, called **shifting dullness**, is to position the patient on the right or left side. Percuss the abdomen.
- If ascites is suspected, measure the abdominal girth with a tape measure.

Because fluid settles, anticipate tympany at a superior level and dullness at lower levels.

4. Test for psoas sign: **Perform this test:** when lower abdominal pain is present and you suspect appendicitis. ➢ With the patient in a supine position, place your left hand just above the level of the patient's right knee. Ask the patient to raise the leg to meet your hand. Flexion of the hip causes contraction of the psoas muscle. 	Normally there is no abdominal pain associated with this maneuver.
5. Test for Murphy's sign: ➢ While palpating the liver, ask the patient to take a deep breath. The diaphragm descends, pushing the liver and gallbladder toward your hand. 	In a healthy patient, liver palpation is painless.

Box 1 – Anatomic Correlates of the Quadrants of the Abdomen

Right Upper Quadrant (RUQ):	**Left Upper Quadrant(LUQ):**
Ascending and transverse colon Duodenum Gallbladder Hepatic flexure of colon Liver Pancreas (head) Right adrenal gland Right kidney (upper pole) Right urete	Left adrenal gland Left kidney (upper pole) Left ureter Pancreas (body and tail) Spleen Splenic flexure of colon Stomach Transverse descending colon
Right Lower Quadrant (RLQ):	**Left Lower Quadrant (LLQ):**
Ascending colon Cecum Right kidney (lower pole) Right ovary and tube Right ureter Right spermatic cord	Left kidney (lower pole) Left ovary and tube Left ureter Left spermatic cord Descending and sigmoid colon

King Saud University
College of Nursing
Medical Surgical Department

NURS 221 HEALTH ASSESSMENT (Practical)
Performance Checklist

Gastrointestinal and urinary assessment

Name: _____ Student's Number_____

The student nurse should be able to:

Performance Criteria	Competency Level			
	Done Correctly	Done with Assistance	Not Done	Comments
Preparation				
Prepare the necessary equipment.				
Explain the procedure to the patient.				
Prepare the patient :				
1. Provide an environment that is warm and comfortable.				
2. Place a small pillow under the patient's knees to help relax the abdominal muscles.				
3. Have the patient empty the bladder before the examination and collect a urine specimen at that time.				
4. Provide instructions about what is expected of the patient; for example, taking several deep breaths to relax abdominal muscles.				
5. Pay attention to nonverbal cues that may indicate discomfort. Facial gestures, legs flexed at the knees, and abdominal guarding with the hands are all indices of discomfort.				
6. When a patient is experiencing abdominal pain, examine that area last.				
7. Stand on the right side of the patient, unless				

otherwise indicated, because the liver and right kidney are in the right side of the abdomen.				
8. Maintain the dignity of the patient through appropriate draping techniques.				
9. Males and females respond in a variety of ways when exposed for examination of private areas.				
10. Explain each step of the procedures and tell the patient to report any discomfort or difficulty.				
11. Use Standard Precautions.				
ABDOMINAL EXAMINATION				
A. INSPECTION				
1. Position the patient.				
➢ The patient should be in a supine position with a small pillow placed beneath the head and knees.				
➢ Drape the examination gown over the chest, exposing the abdomen. Place the drape at the symphysis pubis, covering the patient's pubic area and legs.				
➢ Stand at the right side of the patient.				
➢ Lighting must be adequate to detect color differences, lesions, and movements of the abdomen.				
2. Instruct the patient. ➢ Explain that you will be looking at the patient's abdomen.				
➢ Tell the patient to breathe normally.				
3. Map the abdomen.				
4. Determine the contour of the abdomen: ➢ Observe the profile of the abdomen between the costal margins and the symphysis pubis.				
➢ The abdominal profile should be viewed at eye level. You may need to sit or kneel to observe the abdominal profile.				
5. Observe the position of the umbilicus.				
6. Observe skin color				
7. Observe the location and characteristics of lesions, scars, and abdominal markings.				
8. Observe the abdomen for symmetry, bulging, or masses:				

➢ First, observe the abdomen while standing at the patient's side.				
➢ Second, observe the abdomen while standing at the foot of the examination table.				
➢ Compare the right and left sides.				
9. Observe the abdominal wall for movement. ➢ Movements can include pulsations or peristaltic waves.				
B. AUSCULTATION				
1. Auscultate for bowel sounds: ➢ Use the diaphragm of the stethoscope. ➢ Start in the RLQ and move through the other quadrants. ➢ Note the character and frequency of the sounds. ➢ Count the sounds for at least 60 seconds. ➢ All four quadrants are auscultated for a total of at least 5 minutes before documenting absent bowel sounds. ➢ Normal bowel sounds are irregular, gurgling, and high-pitched. ➢ They occur from 5 to 30 times per minute.				
2. Auscultate for vascular sounds: ➢ Use the bell of the stethoscope ➢ Listen at the midline below the xiphoid process for aortic sounds. Move the stethoscope from side to side as you listen over the renal, iliac, and femoral arteries.				
C. PERCUSSION				
1- Percuss the abdomen. ➢ Place your pleximeter finger on the abdomen during the examination. ➢ Start in the RLQ and percuss through all of the remaining quadrants.				
2. **Percuss of the liver:** ➢ Begin percussion at the level of the umbilicus and move toward the rib cage along the extended right MCL ➢ The first sound you should hear is tympany. ➢ When the sound changes to dullness, you have identified the lower border of the liver. ➢ Mark the point with a skin-marking pen. ➢ The lower border is normally at the costal margin. ➢ Percuss downward from the fourth intercostal space along the right MCL. ➢ The first sound you should hear is resonance because you are over the lung. Percuss downward				

until the sound changes to dullness. This is the upper border of the liver. ➢ Mark the point with a pen. ➢ The upper border should be at the level of the sixth intercostal space. ➢ Measure the distance between the two points.				
3. Percuss the spleen: ➢ Percuss the abdomen on the left side posterior to the midaxillary line.				
4. Perform blunt percussion on the kidneys: Step should be do it before percuss the kidneys : i. Position the patient. Place the patient in a sitting position facing away from you with the patient's back exposed. ii. Inspect the left and right costovertebral angles for color and symmetry. iii. Inspect the flanks (the side areas between the hips and the ribs) for color and symmetry. iv. Gently palpate the area over the left costovertebral angle v. Use blunt or indirect percussion to further assess the kidneys. - Place your left palm flat over the left costovertebral angle. - Thump the back of your left hand with the ulnar surface of your right fist, causing a gentle thud over the costovertebral angle - Repeat the procedure on the right side.				
5- Bladder Percussion: ➢ Begin with indirect percussion in the midline of the abdomen at the level of the umbilicus. ➢ Move your fingers downward as you continue to percuss toward the suprapubic area. Continue percussing downward until tympanic tones change to dull tones. ➢ A full bladder produces a dull sound. ➢ The point at which tympanic tones cease is the upper margin of the bladder.				
D. PALPATION				
1. Lightly palpate the abdomen: ➢ Place the palmar surface of your hand on the				

abdomen and extend your fingers. ➢ Lightly press into the abdomen with your fingers. ➢ Move your hand over the four quadrants by lifting your hand and then placing it in another area.				
2. Deeply palpate the abdomen: ➢ Exert pressure with your hand to depress the abdomen about 5cm (2 in.). ➢ Palpate all four quadrants in an organized sequence. ➢ In an obese patient or a patient with an enlarged abdomen, use a bimanual technique. ➢ Place the fingers of your nondominant hand over your dominant hand. ➢ Identify the size of the underlying organs and any masses for tenderness. The pancreas is non palpable because of its size and location.				
3. Palpation of the Liver: ➢ Stand on the right side of the patient. ➢ Place your left hand under the lower portion of the ribs (ribs 11 and 12). Tell the patient to relax into your left hand. Lift the rib cage with your left hand. ➢ Place your right hand into the abdomen using an inward and upward thrust at the costal margin Ask the patient to take a deep breath. The descent of the diaphragm will cause the liver to descend, and the lower border will meet your right hand.				
4. Palpation of the Spleen: ➢ Stand on the patient's right side. Place your left hand under the lower border of the rib cage on the left side and elevate the rib cage. This moves the spleen anteriorly. Press the fingers of your right hand into the left costal margin area of the patient. ➢ Ask the patient to take a slow deep breath. As the diaphragm descends, the spleen moves forward to the fingertips of your right hand.				
5. Palpate the right kidneys:				
I. Attempt to palpate the lower pole of the right kidney:				

➢ Standing on the patient's right side, place your left hand under the back parallel to the right 12th rib (about halfway between the costal margin and iliac crest) with your fingertips reaching for the costovertebral angle. ➢ Place your right hand on the right upper quadrant of the abdomen lateral to the right rectus muscle and just below the right costal margin. ➢ Instruct the patient to take a deep breath. As the patient inhales, lift the flank with your left hand and use deep palpation to feel for the lower pole of the kidney.				
II. Attempt to capture the right kidney: ➢ Place your left hand under the patient's right flank. ➢ Place your right hand on the right upper quadrant of the abdomen with the fingertips lateral and parallel to the right rectus muscle just below the right costal margin. ➢ Instruct the patient to take a deep breath and hold it. As the patient inhales, attempt to capture the kidney between your two hands. ➢ Ask the patient to exhale slowly and then to briefly hold the breath. At the same time, slowly release the pressure of your fingers. ➢ As the patient exhales you will feel the captured kidney move back into its previous position. ➢ To palpate the left kidney, reverse the procedure.				
6. The Urinary Bladder: I. Palpate the bladder to determine symmetry, location, size, and sensation: ➢ Use light palpation over the lower portion of the abdomen. The abdomen should be soft. ➢ Use deep palpation to locate the fundus (base) of the bladder, approximately 5				

to 7 cm (2 to 2.5 in.) below the umbilicus in the lower abdomen. Once you have located the fundus of the bladder, continue to palpate, outlining the shape and contourBimanual palpation may be required in the obese patient. ➢ Slide your fingers over the surface of the bladder and continue palpating to determine smoothness and continuity.				
Additional procedures				
1. Palpate the aorta for pulsations: ➢ Using your fingertips, press deeply and firmly in the upper abdomen to the left of midline below the xiphoid process.				
2. Palpate for rebound tenderness: ➢ With the patient in a supine position, hold your hand at a 90- degree angle to the abdominal wall in an area of no pain or discomfort. Press deeply into the abdomen, using a slow steady movement. ➢ Rapidly remove your fingers from the patient's abdomen. ➢ Ask if the patient feels any pain.				
3. Percuss the abdomen for ascites: ➢ Ascites is an abnormal collection of fluid in the peritoneal cavity. ➢ With the patient in a supine position, percuss at the midline to elicit tympany. Continue to percuss in lateral directions away from the midline and listen for dullness. ➢ Mark the skin, identifying possible levels of fluid. ➢ An alternative method, called shifting dullness, is to position the patient on the right or left side. Percuss the abdomen. ➢ If ascites is suspected, measure the abdominal girth with a tape measure				
4. Test for psoas sign: Perform this test: when lower abdominal pain is present and you suspect appendicitis. ➢ With the patient in a supine position, place your left hand just above the level of the patient's right				

knee. Ask the patient to raise the leg to meet your hand. Flexion of the hip causes contraction of the psoas muscle.				
5. Test for Murphy's sign: ➢ While palpating the liver, ask the patient to take a deep breath. The diaphragm descends, pushing the liver and gallbladder toward your hand.				

Dated evaluated_____ Evaluated by _____

References Ed. (2016). rd D' Amico, D. Health & Physical Assessment in Nursing, 3 Pearson, Cloth. ISBN-10: 0133876403 • ISBN-13: 9780133876406