**King Saud University**

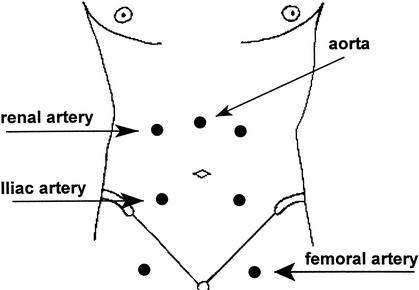
**Collage of Nursing**

**Medical-surgical Nursing**

|  |  |
| --- | --- |
| **GASTROINTESTINAL**   1. Obtain health history related to gastrointestinal disorders 2. **Prepare equipment Needed:** A Stethoscope  Small centimeter ruler  Marking pen Portable light 3. **Prepare patient :**  * The patient should have an empty bladder. * The patient should be lying on supine position, knees bent or on pillow and arms at the sides . * Expose the abdomen and drape the genitalia and female breast * The examination room must be quiet and warm to perform adequate auscultation and percussion. * Warm the stethoscope end piece and your hands to avoid abdominal tensing * Keep your fingernail short * Watch the patient's face for signs of discomfort during the examination * Examine painful areas last to avoid any muscle guarding   **NORMAL RANGE OF FINDINGS** | **ABNORMAL FINDINGS** |
| **I-Inspection the patient for:**  - Skin color  - The arms*:*  - The eyes:  -The mouth:  - Smell the breath*:*  no breath  *-Look at the tongue:*  **Inspect the abdomen for**  -Shape and contour of abdomen  - Symmetry  -Pulsation from aorta beneath the skin in epigastric area  -Peristalsis (wavelike motion)  -**Inspect skin of abdomen** for color , scar, striae,  Lesion & turgor | (jaundice, cachexia, pallor).  Ecchymoses (clotting abnormalities e.g. hepatocellular damage), petechiae (alcohol, splenomegaly), muscle wasting (malnutrition), proximal myopathy (alcohol), scratch marks (jaundice), spider naevi (cirrhosis).   jaundice, pallor, Kayser-Fleischer rings (Wilson's disease), iritis (inflammatory bowel disease), xanthelasma (lipid deposits).  Dentition, gum hypertrophy (scurvy, gingivitis, leukaemia, phenytoin), pigmentation (Addison's, haemochromatosis, drugs, melanoma), ulcers (aphthous, Crohn's, coeliac, AIDS), angular stomatitis (vitamin B6, B12, folate, iron deficiencies), candidiasis.  fetor hepaticus (hepatocellular disease), ketosis (diabetic ketoacidosis), alcohol, uraemia, cigarettes.  leucoplakia (premalignantwhite regions), glossitis(nutritional deficiencies - such as vitamin B12,carcinoid syndrome), macroglossia (Down syndrome, acromegaly, tumour infiltration,  Protruding caused by obesity , pregnancy or Ascities ( accumulation of fluid in peritoneal space)  Bulges , masses and asymmetric shape  Marked aortic pulsation  Marked visible peristalsis  Pink purple striae – Cushing’s syndrome  Dilated veins – inferior vena cava obstruction  Poor turgor |
| -**Inspect umbilicus** for shape, location,  signs of inflammation, Hernia ( protrusion of abdominal viscera through abnormal opening muscle wall | |
| **II-Auscultation**  **Bowel sounds**  Bowel sounds are heard as high pitched, gurgling, irregular sounds as fluid is moving away from one area to another  Normal bowel sounds are harsh and high pitched  -Note the character and frequency of bowel sound ( hyperactive, hypoactive, absent)  Hypoactive bowel sounds are normal during sleep, and also occur normally for a short time after the use of certain medications and after abdominal surgery.  Increased (hyperactive) bowel sounds can sometimes be heard even without a stethoscope. [Hyperactive](http://www.nlm.nih.gov/medlineplus/ency/article/003256.htm) bowel sounds mean there is an increase in intestinal activity.  Paralytic illus means absent of bowel sound due to  blood vessel blockage ,bowel blockage, [hypokalemia](http://www.nlm.nih.gov/medlineplus/ency/article/000479.htm), infection and trauma | Listen for bowel sounds in all four quadrants  Auscultate before palpation  Do not document absence of bowel sounds until you have listened 5 minutes per quadrant and Proceed RLQ RUQ, LUQ, LLQ  Decreased bowel sounds often indicate constipation.  This can sometimes occur with diarrhea and after eating. Very high-pitched bowel sounds may be a sign of early bowel obstruction |

**Vascular sound**

using the bell of stethoscope

with firmly pressure listen over

aorta, renal, iliac

and femoral artery Bruit sound indicates stenosis

**III- Percussion on abdomen**

* **To detect:** size , location of abdominal organ , air or fluid in abdomen – stomach – bowel:
* **Use:** Direct percussion, indirect percussion, clockwise direction start in RUQ to 

remaining of 4 quadrant

* **Hear:**

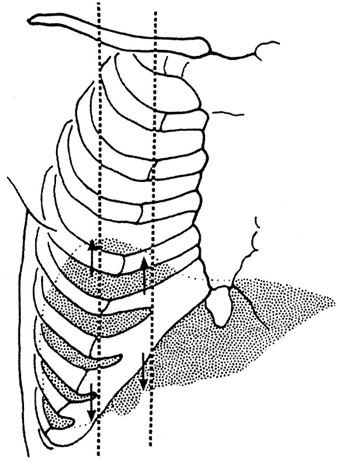
-Tympany → empty stomach and bowel

-Dullness →solid organs

Liver → 5th to 10th ICS → Rt midaxillary to Lt midclavicular line

Spleen →9th to 11th ICS Lt midaxillary

**Determine liver span:**

Percuss **downward** from the chest 

in the **right midclavicular line**

until you detect the top

edge of liver dullness. More than 12 cm indicate hepatomegaly

* Percuss **upward** from the abdomen

in the same line until you

detect the bottom edge

of liver dullness.

* Measure the liver span between

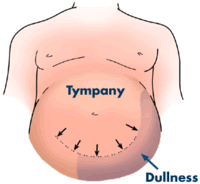
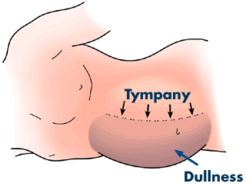
these two points.

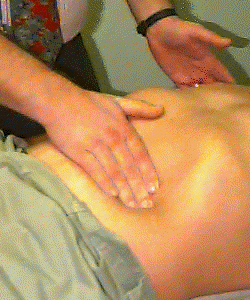
This measurement should be 6-12 cm

in a normal adult.

**Percussion on abdomen with Ascities**

* **Shifting fluid Dullness**
* This maneuver is performed with the patient supine.
* Percuss over the umbilica and directed to flanks, point the area transition from tympany to dullness noted.
* The patient then is rolled on his/her side away from the examiner, and percussion from the umbilicus to flank area is repeated.
* **Positive test**: When ascities is present, the area of dullness will shift to the dependent site. The area of tympany will shift toward the top.

**IV- Palpation of abdomen: ** ****

* **Light palpation**

-Gentle horizontal dipping

motion with finger tips.

-Have the patient supine with

knees slightly flexed.

-Identify muscular resistance and

abdominal wall tenderness.

* **Deep palpation**

-Place one hand on top of the other

Press with outer hand and feel with inner hand.

-Palpate tender areas last.

-Palpate for: location, shape, size,

consistency, mass, tenderness, mobility

and vibration

**Palpation of liver:** **** 

-Place your fingers just below the right costal margin and press firmly.

-Ask the patient to take a deep breath.

You may feel the edge of the liver press

Against your fingers or it may slide under

your hand as the patient exhales.

* A normal liver is **not** tender.
* ***Using bimanual technique*** : 

by place Lt hand under the client back

parallel to the 11th and 12th ribs and place

Rt hand on the RUQ with finger

parallel to the midline

* Ask patient to take a deep breath and

press deeply downward between right

costal margin and liver edge

* Note : edge firmness, consistency, tenderness

and distance between costal margin

**Palpation of aorta**

* Press down deeply in the midline above the umbilicus.
* The aortic pulsation is easily felt on most individuals.
* A well defined, pulsate mass, greater than 3 cm across, suggests an aortic aneurysm.

**Palpation of spleen:**

* Use your left hand to lift the lower rib cage and flank.
* Press down just below the left 

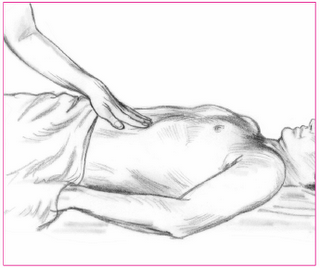
costal margin with your right hand.

* Ask the patient to take a deep breath.
* The spleen is **not** normally palpable on most individuals.

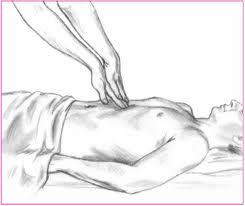
**Rebound Tenderness ( light ballottement)**

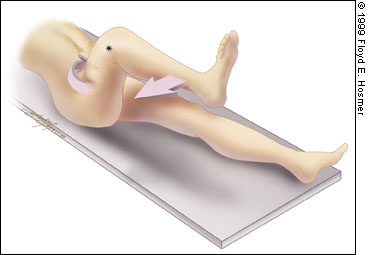
* To check movable organ its position

-Apply light, rapid pressure to the abdomen, moving from one quadrant to another. Keep your hand on the skin surface to detect tissue rebound



**Deep ballottement**

* It is performed if the client reports abdominal pain or if tenderness was detected during palpation
* This is a test for peritoneal irritation.
* Choose a site away from the painful area , Press deeply with fingertips vertically on the abdomen and release pressure completely while keeping fingertips in contact with skin.
* Ask client about pain induced any area in the abdomen. 
* **Obturator Sign**
* This is a test for appendicitis. Increased abdominal pain indicates a positive obturator sign
* Raise the patient's right leg with the knee flexed.
* Rotate the leg internally at the hip.



**Quick Quiz**

**Test Your Knowledge!**

1. Bowel sounds can be irregular

a. True

b. False

2. The nurse must listen for 5 minutes before deciding bowel sounds are completely absent:

a. True

b. False

3. The sigmoid colon is located in the right lower quadrant

a. True

b. False

4- Bowel sounds should be heard in all four quadrants

a. True

b. False

5-Negative obturator sign is indicated of appendicitis:

a.True

b.False

6- To test deep ballottement the finger tips of nurse must keep in vertical position:

a.True

b.False

Performance check list for gastrointestinal system

Abdomen

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| History Taking |  | Done perfect | poor | Not done |
|  | Appetite- Anorexia |  |  |  |
|  | Weight Loss |  |  |  |
|  | Heartburn |  |  |  |
|  | Excessive gas or flatus |  |  |  |
|  | Regurgitation |  |  |  |
|  | Vomiting- amount, type of vomit, color |  |  |  |
|  | Abdominal pain and its characteristic |  |  |  |
|  | Medical problems related to the abdomen- ex: Hepatitis, gallbladder problems, or pancreatitis. |  |  |  |
|  | Surgeries of the abdomen |  |  |  |
|  | Use of tobacco, alcohol and illegal drugs |  |  |  |
|  | Hereditary disorders affecting the abdomen |  |  |  |
|  | Bowel movements, and urination |  |  |  |

Abdomen

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| History Taking about bowel movements, and urination |  | Done perfect | poor | Not done |
|  | Frequency |  |  |  |
|  | Consistency |  |  |  |
|  | Pain |  |  |  |
|  | Color |  |  |  |
|  | Difficulty |  |  |  |

Abdomen

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| inspection |  | Done perfect | poor | Not done |
|  | Scars, striae, stretch marks |  |  |  |
|  | Rashes, or lesions |  |  |  |
|  | Umbilicus hernia |  |  |  |
|  | Abdomen contour, Symmetry |  |  |  |
|  | Peristalsis |  |  |  |
|  | Pulsations |  |  |  |

Abdomen

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| auscultation |  | Done perfect | poor | Not done |
|  | 1. Bowel sound- by using diaphragm of stethoscope |  |  |  |
|  | 1. Bruits over the renal arteries, iliac arteries, and aorta- by using diaphragm of stethoscope |  |  |  |

Abdomen

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| percussion |  | perfect | poor | Not done |
|  | Percuss 4 quadrants  -tympany (gastric bubble)  -Dullness (over the liver and spleen or a mass) |  |  |  |
|  | Measure liver size in both the:  -Right midclavicular line (5–10 cm)  -Right midsternal line (4–9 cm) |  |  |  |

Abdomen

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| palpation |  | perfect | poor | Not done |
|  | Light palpation-to assess any superficial organs or masses or tenderness |  |  |  |
|  | Deep palpation-to assess any superficial organs or masses or tenderness |  |  |  |
|  | Liver palpation  (Standard technique) |  |  |  |
|  | Liver palpation |  |  |  |
|  | Spleen Palpation |  |  |  |

Abdomen-Special Tests

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Shifting Dullness |  | perfect | poor | Not done |
|  | Percuss the patient's abdomen to outline areas of dullness and tympany. |  |  |  |
|  | Position the patient on the right or left side. |  |  |  |
|  | Percuss and again outline areas of dullness and tympany |  |  |  |
|  | Discuss findings |  |  |  |

Abdomen-Special Tests

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Rebound Tenderness |  | perfect | poor | Not done |
|  | Press deeply on the RLQ with your hand (at a 90-degree angle). |  |  |  |
|  | Quickly release pressure. |  |  |  |
|  | Discuss findings |  |  |  |

Abdomen-Special Tests

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Obturator sign |  | perfect | poor | Not done |
|  | Raise the patient's right leg with the knee flexed |  |  |  |
|  | Rotate the leg internally at the hip |  |  |  |
|  | Discuss findings |  |  |  |