Abdominal and Genitourinary

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Internal Anatomy

Deep Internal Anatomy

Abdominal Anatomy & Physiology

- Organs of the Abdomen:
  - Liver
  - Gallbladder
  - Spleen
  - Stomach
  - Small and large intestines
  - Kidneys and adrenals
  - Urinary bladder
Abdominal Anatomy & Physiology

Right Upper Quadrant (RUQ):
- Liver, Gallbladder
- Duodenum
- Head of the Pancreas
- Right kidney and Adrenal
- Hepatic flexure of colon
- Part of ascending and transverse colon

Left Upper Quadrant (LUQ):
- Stomach
- Spleen
- Left lobe of liver
- Body of Pancreas
- Left kidney and adrenal
- Splenic flexure of colon
- Part of transverse and descending colon

Right Lower Quadrant (RLQ):
- Cecum
- Appendix
- Right ovary and tube
- Right ureter
- Right spermatic cord

Left Lower Quadrant (LLQ):
- Part of descending colon
- Sigmoid colon
- Left ovary and tube
- Left ureter
- Left spermatic cord

Midline:
- Aorta
- Uterus
- Bladder

Internal Abdominal Structures
Regions of the Abdomen

- **Epigastric**: area between costal margins
- **Umbilical**: area around umbilicus
- **Suprapubic or hypogastric**: area above pubic bone.

Abdominal Four Quadrants

- RUQ
- LUQ
- RLQ
- LLQ

Abdominal Nine Divisions

- Epigastric
- Umbilical
- Hypogastric or Suprapubic

Abdominal Assessment

- **Subjective Data**: (Health history questions)
  - Change in appetite
  - Usual weight
  - Difficulty swallowing
  - Are there any foods you have difficulty tolerating?
  - Have you felt nauseated? Have you vomited (emesis)?

Abdominal Assessment

- Experience indigestion?
- Heart burn (pyrosis) or Belching (eructation)
- Use antacids, if so, how often
- Abdomen feel bloated after eating (distension)
- Abdominal pain? Associated with eating? SLIDA
- Hx of abdominal surgery
### Abdominal Assessment

- **Bowel habits:**
  - Frequency
  - Usual color and consistency
  - Any diarrhea/constipation
  - Any recent change
  - Use of laxatives... Frequency
  - If over 50, recommend colonoscopy

### Abdominal Assessment

- **Past abdominal history:**
  - GI problems: ulcer, GB, hepatitis, jaundice, appendicitis, colitis, hernia
  - Surgical history of abdomen
  - Surgical problems in the past
  - Abdominal x-rays, sonograms, CT results, colonoscopy results, etc..

### Abdominal Assessment

- **Additional Hx. Infants and children:**
  - Breast or bottle fed... How is formula tolerated?
  - Table foods introduced... How tolerated?
  - Eating patterns/intervals
  - Eating non-foods, i.e., grass, dirt, etc.
  - 24 hr. diet recall, amount of fluids
  - For overweight child: onset, Family Hx, Diet

### Abdominal Assessment

- **Additional history for adolescents:**
  - Regular meals...Snacks...Breakfast
  - Exercise
  - If weight less than body requirements: How much lost? How- diet, exercise? Feel tired? Hungry? How do you think your body looks? Is loss of weight associated with other changes, such as menstrual irregularities? What do parents say about eating, friends?

### Abdominal Assessment

- **Additional history for aging adult:**
  - How do you get groceries...Prepare meals
  - Eat alone, or share meals with others? 24 hr. diet recall?
  - Difficulty swallowing, chewing, dentures
  - Bowel frequency...Constipation...Fiber... Fluids...Laxatives...Other drugs that have GI effects?

### Physical Exam

- **Preparation for physical exam:**
  - Good lighting, warm room, empty bladder
  - Supine, head on pillow or raised, knees flexed or on pillow, arms at side
  - Expose abdomen so it is fully visible
  - Enhance relaxation through breathing exercises, imagery, use of a low/soothing voice and ask pt. to tell about abd. Hx.
Physical Exam: **Inspection**

- **Contour:** Normal ranges from flat to round.
- **Symmetry:** should be symmetric, note bulging, masses or asymmetry.
- **Umbilicus:** normal is midline, inverted and no discoloration.
- **Skin:** surface normally smooth and even color.

**Contour**

- Flat
- Scaphoid

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**Physical Exam: Inspection**

- Pulsations or movements- pulsation of aorta may be seen in epigastric area of thin patients.
- Demeanor
- Restlessness
- Absolute stillness
- Knees flexed

**Physical Exam: Auscultation**

- Performed after inspection and before percussion and palpation
- Use diaphragm and hold stethoscope lightly against skin
- Listen for bowel sounds in each quadrant
- Hyperactive or hypoactive
Physical Exam: **Auscultation**

- A perfectly silent abdomen (absent bowel sounds) is uncommon
- Vascular sounds- listen for bruits over aorta, renal arteries, iliac arteries and femoral arteries
- Peritoneal friction rub is rare- may indicate tumor or abscess of liver or spleen if heard overlying these organs.

**Abdominal Sites**

- Aorta
- Right Renal Artery
- Left Renal Artery
- Femoral Artery

**Figure 9-32. Abdominal Auscultation Sites**

**Physical Exam: Percussion**

- Percussion- locates organs, assesses density, screen for fluids/masses
- Percuss lightly in all 4 quadrants
- Normal: tympany because air in intestines rises to surface when pt. is supine
- Percuss liver span – normal adult liver span is 6-12 cm.
- Spleen and kidney

**Normally Palpable Structures**

- Xiphoid process
- Normal liver edge
- Right kidney
- Liver pulsation
- Pulmonic area
- Renal sinuses
- Splenic flexure
- Sigmoid colon
- Mesentery (sparing)
- Full bladder

**Figure 9-36. Percussion of the Spleen**
Physical Exam: **Palpation**

- Palpation: to judge size, location, consistency of certain organs and to screen for abnormal mass or tenderness.
- Light palpation: first four fingers close together, depress skin about 1 cm. Make gentle, rotary motion sliding fingers and skin together.
- Deep palpation: 5-8 cm (2-3 inches).
Physical Exam: **Palpation**

- If a mass is located, note:
- Location, size, shape
- Consistency- soft, firm, or hard.
- Mobility- including movement with respirations.
- Pulsations
- Tenderness
Physical Exam: Abdomen

- Blumberg’s sign: assess rebound tenderness
- Iliopsoas muscle test: positive for inflammation of iliopsoas muscle
- Obturator test: positive for pain indicates possible perforated appendix

Summary: Abdominal Assessment

- Abdomen is divided into regions
- Assessment technique varies in order: Inspection, Auscultation, Percussion & Palpation
- Specific tests can be used if appendicitis is suspected

Sample charting

SUBJECTIVE
- Status: appetitite is good with no recent change, no dysphagia, no food intolerance, no pain, no nausea/vomiting. Has one formed BM/day. Takes vitamins, no other prescribed or over-the-counter medications.
- No history of abdominal disease, injury, or surgery. Diet recall of last 24 hours listed at end of history.
Sample charting (cont.)

- Objective
  - Inspection: Skin smooth with no apparent masses.
  - Auscultation: Breath sounds present, no bruits.
  - Percussion: Tympanic resonance in all four quadrants.
  - Palpation: No masses, no tenderness.

Assessment
- Rectal exam normal, no masses present.

Male Genitourinary
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Male Genitalia: Anatomy & Physiology

- Externally:
  - Penis
  - Scrotum

- Internally:
  - Testes
  - Epididymis
  - Vas deferens

Penis

Scrotum

Inguinal Area
Genitourinary Assessment

- Subjective data: Frequency, urgency, nocturia, hesitancy and/or straining.
- Urine: Color, cloudy, hematuria?
- Penis: pain, lesions, discharge, STD?
- Scrotum: pain, lumps, TSE, sexual activity and contraceptive use.

Genitourinary Assessment

- Self-care: Testicular self-examination (TSE)
  - Encourage self-care by teaching every male from 13 to 14 years old through adulthood how to examine his own testicles
    - Overall incidence of testicular cancer is still rare, but testicular cancer most commonly occurs in young men age 15 to 40
    - Males with undescended testicles are at greatest risk, and white males are four times more likely to contract testicular cancer than nonwhites
    - This tumor has no early symptoms; if detected early by palpation and treated, cure rate is almost 100%

Genitourinary Assessment

- Infants and children – urine stream look straight?
- Over age 2-2 and ½ toilet training?
- Hernia, hydrocele?
- Screen for sexual abuse: has anyone ever touched your penis and you did not want them to?

Genitourinary Assessment

- Preadolescents and adolescents:
  - Ask direct, age appropriate, matter of fact questions, avoid sounding judgmental. Ex.- often boys your age experience...
  - Who can you talk to about body changes and sex information?
  - Nocturnal emissions, screen for sex abuse.
Genitourinary Assessment

- Considerations for aging adult: early s/s of enlarged prostate (hesitancy, dribbling) may be ignored. Hematuria- late s/s
- Nocturia- may be due to diuretics, take them in AM and no fluids 3 hrs. prior to bed.
- Depressants to sexual desire and function: antihypertensives, estrogens, sedatives, tranquilizers, ETOH.

Physical Examination: Genitourinary

- Inspection:
  - Inflammation
  - Foreskin problems
  - Lice
  - Hernias
  - Discharge

Inspect and palpate for hernia

Physical Examination: Genitourinary

- Palpation:
  - Lymph nodes
  - Testicular masses
  - Hernias

Summary: Genitourinary

• Includes only Inspection & Palpation
• Developmental considerations are necessary
• Teaching must include TSE

Sample Charting

- Subjective
  - Urination: four to five times/day, clear, straw-colored. No nocturia, dysuria, or hesitancy. No pain, lesions, or discharge from penis.
  - Does not do testicular self-examination. No history of genitourinary disease.
  - Sexually active in a monogamous relationship. Sexual life satisfactory to self and partner. Uses birth control via barrier method (partner uses diaphragm). No known STD contact.

Sample Charting (cont.)

- Objective
  - No lesions, inflammation, or discharge from penis. Scrotum—testes descended, symmetric; no masses. No inguinal hernia.