Abdominal Examination

Statement of Goals

Understand and perform a complete abdominal examination.

Learning Objectives

A. Describe the anatomy of the abdomen including:
   - Rectus abdominis muscle
   - Major organs (liver, gallbladder, kidneys, stomach, small and large intestines, spleen, pancreas, bladder)
   - Blood vessels (aorta, renal arteries, iliac arteries, femoral arteries)
   - Inguinal lymph nodes

B. Describe the two systems for identifying a location on the abdomen:
   - Division into four quadrants (RUQ, RLQ, LUQ, LLQ)
   - Division into nine regions (of which only epigastric, umbilical and suprapubic are commonly used in practice)

C. Describe and demonstrate the general approach to performing an abdominal exam including the patient’s comfort (empty bladder, examiner's warm hands/stethoscope, etc.), position and draping. Communicate with the patient during the exam to enlist the patient’s cooperation.

D. Describe and demonstrate inspection of the abdomen including skin, umbilicus, contour, peristalsis and pulsations.

E. Describe and demonstrate auscultation of the abdomen including listening for bowel sounds and listening over all arteries for bruits.

F. Describe and demonstrate percussion of the abdomen, distinguishing dullness (liver), resonance (lung) and tympany (gastric air bubble.) Use percussion to assess liver span, look for splenic enlargement, and test for ascites (shifting dullness).

G. Describe and demonstrate palpation, both light and deep, including tenderness, liver edge, spleen, kidneys, aorta, masses and costovertebral angle. In addition, demonstrate palpation of the superficial inguinal lymph nodes and the femoral pulses bilaterally.

H. List usual biological changes of the aging process and how they affect physical findings for the abdominal exam.

I. Demonstrate a smooth, complete abdominal examination, including (in order) inspection, auscultation, percussion and palpation.

J. Know aspects of the abdominal exam that differ when examining pediatric patients.

K. Document the abdominal exam in the format of a medical record.
**Student’s Preparation for the Unit**

A. **Reading Assignments:**

*Required:*

Bates 9th Edition

pp. 359-370 (up to Promotion and Counseling); p. 477 (Preview Lymph nodes); p. 482 (Legs); pp 374-389 (up to Indentifying an Organ); p 391 (Recording your findings)

*Optional:*

Bates 9th Edition

pp.370-373 (Health Promotion); pp. 374-389 (including red print: Examples of Abnormalities); pp. 387-409

B. **Special Instructions:** *Bring your stethoscope to class. A teaching associate is scheduled for this session. Dress professionally and wear white coat. Be prepared to perform a complete examination of the abdomen and inguinal lymph nodes.*

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**Curriculum Comments**

**Objective A and G:**

The costovertebral angle is formed by the lower border of the 12th rib and the transverse processes of the upper lumbar vertebrae. It overlies the kidney. Tenderness in this area may be significant for a kidney problem. To avoid unnecessary changes in position for the patient, costovertebral angle tenderness is often assessed during examination of the back.

**Objectives H:**

In older adults increased lower abdominal fat and weakened abdominal muscles create a "potbelly." Atrophy of abdominal muscles may make abdominal palpation easier.

**Objective J:**

The liver may be palpable in the infant and child at 1-2 cm below the right costal margin. Its span is best assessed by percussion. The expected liver span increases as the child ages. The spleen is also more likely to be palpated on a child than on an adult. The newborn’s **umbilical cord** should dry up and fall off by 2 weeks of age. Many infants
have **umbilical hernias** that are secondary to abdominal wall defects. They are usually harmless and disappear by age 4 to 5 years. *(Bates pp 723-724; 763-765)*

**Objective K**

Examples of the documentation of abdominal examinations are given in Bates on page 20 and 391. Your description will vary based on the patient’s physical exam findings.

**Apply Your Skills**

Observe your preceptor performing abdominal examinations. If possible, perform abdominal examinations yourself, first with supervision and then independently. If possible, document an abdominal examination on your next patient encounter note.

### Abdominal Examination Checklist

- [ ] Appropriate draping for all aspects of the exam (supine, knees flexed, arms at side or crossed on chest)
- [ ] Appropriate guidance given to the patient throughout the exam
- [ ] Inspect - skin, umbilicus, contour, peristalsis and pulsations
- [ ] Auscultate bowel sounds
- [ ] Auscultate for bruits
  - [ ] aorta
  - [ ] renal arteries
  - [ ] iliac arteries
  - [ ] femoral arteries
- [ ] Percuss
  - [ ] liver span
  - [ ] gastric air bubble
  - [ ] splenic area
  - [ ] flanks for shifting dullness (if indicated)
- [ ] Palpate lightly
  - [ ] all quadrants
- [ ] Palpate deeply
  - [ ] all quadrants
  - [ ] rebound tenderness (if indicated)
  - [ ] liver edge
  - [ ] spleen
  - [ ] kidneys
Study Questions:

1. Do you remember your basic abdominal anatomy? Organs, vessels, nodes?

2. How would you identify the location of a finding in the abdomen (based on external anatomy)?

3. How would you maximize a patient’s comfort during an abdominal exam?

4. What observations can you make by inspecting the abdomen?

5. What can you learn with auscultation? Where should you place your stethoscope? When should you auscultate during the course of the exam?

6. What can you learn using percussion? What is proper percussion technique? What areas should you percuss?


8. What findings are usual for infants and young children?