SMALL GROUP SESSION 22  
February 28th or March 2nd  

LOWER EXTREMITY EXAMINATION AND ETHICS CASE

Readings: Complete the lower extremity exam web module before your small group meets.

The video alone is available at:  


Review your lecture notes on Discussing an Ethics Case and Ethics of Being a Medical Student.

Prepare by:
- Dressing for the lower extremity exam (e.g gym shorts).

Brief outline:

Section 1: Touch base (15 minutes)

Section 2: Discuss an ethics case (90 minutes)

Section 3: Lower Extremity Examination Workshop (60 minutes)

Section 4: Evaluate Session (15 minutes)
SMALL GROUP SESSION 21
Section 1: Touch Base (15 minutes)

Section 2: Case: Do you want to do a thoracentesis? (90 minutes)

Objectives:
- to become aware of some of the ethical issues medical students face
- to apply the principles of autonomy, beneficence and justice to a medical case with ethical dimensions
- to practice articulating your ethical opinion about a case

A PATIENT WITH PLEURAL EFFUSION:

You are a third year medical student on your surgery rotation. You enjoy surgery, though so far your rotation has consisted mainly of scut work (collecting and recording lab data, getting X-rays, drawing blood, getting coffee for the residents) and holding retractors in the operating room.

This morning, the residents and attending physician are headed for the OR (operating room) to do an operation that will take several hours. As you all leave the ward, a nurse approaches your team and says that Ms. Sanchez is short of breath again.

Ms. Sanchez had emergency cholecystectomy (removal of her gall bladder) five days ago. Since surgery, she has had recurrent right pleural effusion (fluid in the pleural space) large enough to compress her lung and make her short of breath. The residents have drained the fluid twice using a needle (thoracentesis), which relieved her symptoms; but each time it re-accumulated within 36 hours. You watched the thoracentesis both times and feel you probably know how to do it, though you have never done one before.

Ms. Sanchez is 42 years old and was healthy before her gall bladder infection and surgery. She is Mexican and understands English fairly well, though she is reluctant to say much in English. She is not your patient, so you have seen her on rounds but don’t know her well. She works at a local chicken processing plant, and though no one asks, your team believes she is an undocumented worker (lacks a green card).

Hey! says your intern. Do you want to do a thoracentesis?
You are eager to have hands-on procedure experience and go with your intern to see Ms. Sanchez. She is sitting up in bed and looking uncomfortable, breathing 28 times per minute. Your intern asks for her permission to do the thoracentesis; she consents and signs the form for the procedure. The intern writes on the form and reads to her the risks of thoracentesis, including pneumothorax (air in the pleural space causing a collapsed lung), bleeding and infection.

The intern then tells her that you will do the procedure. She nods. Neither the intern nor you tells her that this is your first thoracentesis.

The intern stays with you in the room as you prepare to do the thoracentesis.

Part 1: Ethical Issues:

Write on the board or sticky poster paper:

Autonomy  Beneficence  Justice

Decide as a group how each of these issues may apply to Ms. Sanchez’s case.

For instance:

1. She has a right to decide whether she will have the procedure.
   Does she have a right to decide who will do it?
   Did her nod constitute agreement to let you do it?
   Has she made an informed decision if she doesn’t know that you are doing the procedure for the first time?
   Does the intern’s presence in the room affect your opinion?
   Does her language difference affect her autonomy in this case?

2. You have a duty to be competent and to do the best you can for her. Are you breaching that duty by doing a thoracentesis on her?
   If so: when or how can you learn to do any procedures?

3. Would your intern have suggested that you do the thoracentesis if Ms. Sanchez were his wife? or if she were a prominent local attorney?

Part 2: Give your opinion:

Your small group is now the ethics committee responding to the student who asked about Ms. Sanchez’s case. Each of you should give their opinion on the ethical issues facing the student and what you advise the student and/or supervising physician to do. Go around the room and ask everyone to speak.
Section 3: Lower Extremity Examination Workshop (60 minutes)

Goal: To learn how to examine the lower extremity, with a special emphasis on the examination of the knee.

Objectives:

A. Review the techniques (inspection, palpation, and range of motion) used to evaluate the joints and surrounding soft tissues of the lower extremity.

B. Review the following characteristics assessed during a musculoskeletal exam:
   - range of motion
   - signs of inflammation
   - crepitus
   - deformities
   - condition of surrounding tissues
   - muscular strength
   - symmetry

C. Describe and demonstrate the examination (inspection, palpation, range of motion) of normal joints of the lower extremity:
   - foot and ankle: tibiotalar, subtalar, transverse tarsal and metatarsophalangeal joints
   - knee
   - hip, including assessment of proximal muscle strength through observation of standing from a sitting position

D. Describe and demonstrate and know the significance of the following components of the knee exam:
   - Lachman test
   - anterior and posterior drawer tests
   - varus and valgus stress
   - McMurray test

Section 4: Evaluation: (15 minutes)

How did this session go?
How was the ethics discussion? Do you feel more clear on how to evaluate an ethical issue?
**Physical Examination**  
**Objective Structured Clinical Examination (OSCE)**

### Lower Extremity Exam

**A** = Attempted Satisfactory  
**B** = Attempted Below Satisfactory  
**C** = Did Not Attempt

<table>
<thead>
<tr>
<th>Procedure</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>Comments</th>
</tr>
</thead>
</table>
| 1. **INSPECTION:**  
a. Examiner assesses strength of hip muscles by asking patient to rise from chair.  
b. Examiner assesses hips, knees, ankles and feet for symmetry, deformity and discoloration while patient is standing. |
| 2. **HIP** Palpate: Ex palpates iliac crest and greater trochanter. |
| 3. **HIP** Range of motion: (Passive)  
a. Flexion – with the patient supine, Ex flexes the patient’s hip with knee bent.  
b. Extension (prone or standing) – Ex extends patient’s hip.  
c. Adduction and abduction – with patient supine, Ex adducts and abducts patient’s hip.  
d. Internal and external rotation – with patient supine and knee flexed to ~90°, Ex internally and externally rotates patient’s hip. |
| 4. **KNEE** Inspect: Ex inspects knee with patient supine for swelling and discoloration. |
| 5. **KNEE** Palpate: Ex palpates popliteal space, tibiofemoral joint space laterally and medially, and patella. |
| 6. **KNEE** Range of motion: Ex asks patient to flex and extend knee. |
| 7. **KNEE** Strength: Ex resists patient while patient flexes and extends knee. |
| 8. **KNEE** Special maneuvers:  
a. Mediolateral instability – Ex flexes knee to 30° and applies varus and valgus stress to knee, assessing for medial and lateral laxity.  
b. Cruciate ligament: Lachman test – Ex flexes knee to 20° to 30°, grasps the distal thigh above the patella with one hand (thumb should wrap over thigh just above patella), grasps proximal tibia with other hand and pulls tibia anteriorly.  
-or-  
Cruciate ligament: Drawer test – Ex flexes knee to 90°, stabilizes foot by lightly sitting on it, and pulls tibia anteriorly for anterior drawer test, and also pushes posteriorly for posterior test. (Ex may choose which cruciate test to perform) |
c. McMurray test (included only for small group use, not for testing) – Ex flexes knee completely, encircles joint space with thumb and index finger, rotates foot laterally, and extends knee. Maneuver should be repeated with medial rotation of foot.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
</table>

9. ANKLE and FOOT Inspection: Ex inspects feet and ankles without shoes or socks for deformity or discoloration.

10. ANKLE and FOOT Palpation: Ex palpates Achilles tendon, lateral and medial malleoli and forefoot.

11. ANKLE and FOOT Range of motion: Ex asks patient to dorsiflex, plantar flex, evert and invert the ankle.

12. ANKLE and FOOT Strength: Ex resists patient while patient dorsiflexes and plantar flexes ankle. Ex also resists inversion and eversion.