Cervical Exam

Indications
- Well woman exam

Anatomy
- **Cervix**: narrow neck/outlet of the uterus, projects into the vaginal inferiorly
  - Ectocervix: exterior/vaginal surface of the cervix, seen upon visualization of the cervix with the speculum
    - Covered by plush, red columnar epithelium (ectropion) surrounding the os and a shiny pink squamous epithelium continuous with the vaginal lining
    - Transformation zone: squamocolumnar junction near the os that is at risk for dysplasia and is sampled by the pap smear
  - Endocervix: interior cervical canal, walls contain numerous folds and pilcae
  - External os: a round, oval or slitlike depression located in the center of the cervix which marks the opening to the endocervical canal
- **Hymen**: an incomplete partition formed by the mucosa of the distal vaginal orifice, highly vascular, may or may not be intact
- **Introitus**: vaginal opening
- **Labia majora**: hair-covered, elongated fatty skin folds
- **Labia minora**: thinner pinkish-red folds that extend anteriorly to form the prepuce and the clitoris
- **Mons pubis**: hair-covered fat pad overlying the symphysis pubis
- **Perineum**: diamond-shaped region of soft tissues that overly the muscles of the pelvic outlet. Located between the pubic arch anteriorly, the coccyx posteriorly, and the ischial tuberosities laterally
- **Vagina**:
  - A musculomembranous tube extending upward and posteriorly between the urethra and rectum, approximately 3-4 inches long
  - The upper third of the vagina lies at a horizontal plane and terminates in the cup-shaped fornix
  - Vaginal mucosa lies in transverse folds (rugae)
- **Uterus**:
  - Flattened fibromuscular structure shaped like an inverted pear
  - Composed of the corpus (or body) and the cervix which are joined at the isthmus
  - Fundus: convex upper surface of the body of the uterus

Equipment
- Exam light
- Sheet to cover patient
- Warmed speculum (Pederson or Graves, select appropriate size)
- Water-based lubrication or warm water

Technique
1. The patient should empty their bladder before the exam
2. Ask the patient to sit at the edge of the exam table and place a sheet over their lap and knees
3. Position the head of the bed at approximately 30°

4. Help the patient lie back, slide down until her buttocks are at the edge of the table, place her feet in the footrests, bend her knees, and open her legs (lithotomy position)
5. The examiner should sit at the foot of the exam table with an exam light shining on the perineum
    a. Remember to reassure the patient, explain what is going on, tell the patient before you touch them, and remind them to tell you if anything is uncomfortable
6. Choose the appropriate speculum
    a. The speculum should be warmed either with warm water or by holding it in the examiner's hand
7. Apply lubrication (if necessary)
8. Check the location of the cervix with one lubricated finger
9. If needed, enlarge the vaginal introitus by inserting one finger and applying downward pressure at its lower margin
    a. If the patient is not relaxed, direct her to breathe in through her nose and out through her mouth, gently and regularly, rather than hold her breath. Also, direct the patient to identify specific muscle groups that need to be relaxed
10. Hold the speculum with the dominant hand
    a. Hold by the handle with blades completely closed
11. Insert the speculum at a horizontal plane with the width of the blades oblique to the vertical axis of the introitus
    a. Use slight continuous downward pressure to distend the perineum to create space for the speculum to advance
    b. Direct the speculum posteriorly at approximately 45° angle from horizontal
12. Adjust the angle as the speculum is inserted
    a. Take care not to pull no the pubic hair, pinch the labia with the speculum, or place too much pressure on the sensitive urethra
    b. It may be helpful to separate the labia majora to avoid this
13. Insert the speculum as far as it will go (in most women the entire length of the speculum length can be inserted)
14. Open the speculum in a smooth, deliberate fashion
15. Gently rotate and adjust the speculum until the cervix comes into view and is cupped by the speculum
    a. Failure to find the cervix most commonly results from not having the speculum inserted far enough
    b. Withdraw the speculum slightly and reposition on a different slope if still having difficulty finding the cervix
    c. If the uterus is retroverted, the cervix points more anteriorly
16. Lock the speculum into the open position using the thumbscrew
    a. If more space is required, gently expand the vertical distance between the blades by the use of the screw on the handle of the speculum
    b. The speculum usually stays in place without being held
17. Adjust the lamp so the cervix is well visualized
    a. If discharge obscures the view, wipe it away with a large cotton swab
18. Note the color, position, surface characteristics, ulcerations, nodules, masses, bleeding or discharge of the cervix. Inspect the cervical os for discharge
    a. Normal shape of the cervical os is oval or slit like
    b. Lacerations from vaginal deliveries include bilateral/unilateral transverse and stellate

19. Tell the patient you are removing the speculum
20. Open the blades of the speculum slightly by putting pressure on the thumb hinge, and completely loosen the thumbscrew
    a. Opening the blades slightly avoids pinching the cervix between the blades
21. Withdraw the speculum approximately 1 inch before slowly releasing the pressure on the thumb hinge
    a. Take care that no pressure is placed on the thumb hinge as the end of the blades approaches the introitus as any pressure can cause the anterior blade to flip up and hit the sensitive vaginal, urethral, and clitoral tissue
22. Inspect the vaginal walls as you slowly remove the speculum
    a. Note the color, presence of inflammation, discharge, ulcerations, bulges, or masses
23. Remove the speculum completely
24. Wipe off the patient's external genitalia or offer her some tissue so she can do it herself

References

1. Beckman CRB et al. Obstetrics and Gynecology. 7th ed. Philadelphia, PA: Lippincott Williams & Wilkins. 2014;11-14, 409.
2. Bickley LS et al. Bates' Guide to Physical Examination and History Taking. 11th ed. Philadelphia, PA: Lippincott Williams & Wilkins. 2013;539-541, 548-560.
3. Marieb EN, Hoehn K. Anatomy & Physiology. 3rd ed. San Francisco, CA: Pearson Benjamin Cummings. 2008;950-954.