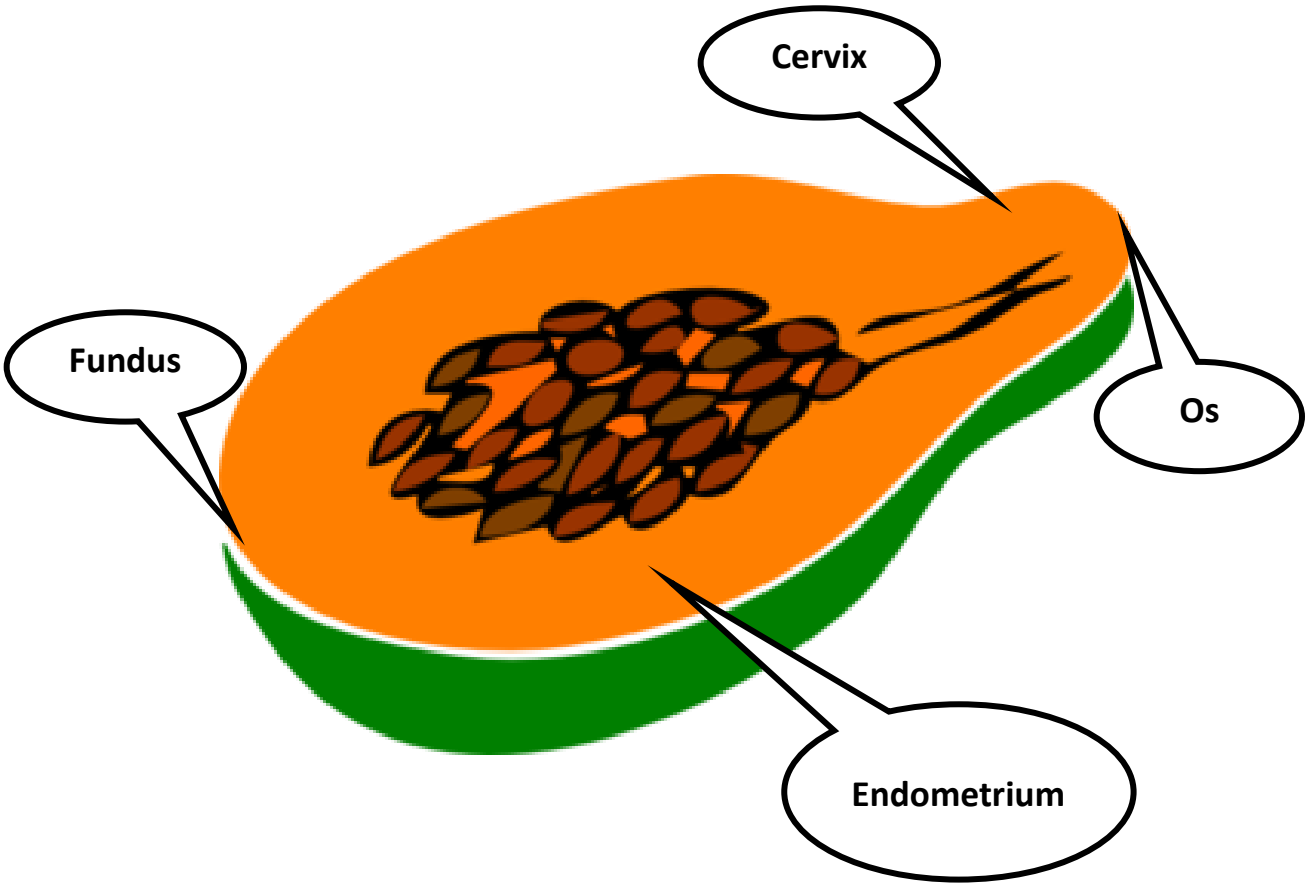

The Papaya Workshop: Using the Papaya to Teach Medical Students Intrauterine Gynecologic Procedures

Facilitator Guide

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December 2012
University of California, San Francisco

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Objectives:

At the end of this workshop you will be able to:

1. Model a perfect bimanual examination.
2. List the risks of instrumenting a uterus.
3. Perform a paracervical block, endometrial biopsy, and IUD insertion (on a papaya).
4. List the contraindications to IUDs for contraception.
5. Aspirate and curette a papaya.

I. Review of Uterine Anatomy: Papaya vs. Uterus

A. **Draw a papaya on the board and discuss similarities and differences, drawing and labeling papaya as if it were a uterus.**

TIP: When demonstrating these procedures, lay the papaya flat to simulate a woman on her back, rather than standing on her head.

B. **Similarities – students brainstorm.**
   1. Shape
      a) fundus
      b) cervix
      c) endometrium
   2. Inner texture: curetting a papaya can feel gritty.
   3. Size: papaya is similar to a 6-8 week gravid uterus.

C. **Differences – students brainstorm.**
   1. Papaya is a fruit, not a muscle/organ.
   2. Papaya is not connected to anything—Review connections:
      a) blood supply
      b) nerves
      c) ligaments
      d) peritoneum/broad ligament
      e) fallopian tubes
      f) vagina
   3. Uterine position—a papaya is not flexed.
      a) Flexion is the relation of fundus to cervix.
      b) Version is the relation of uterus to vagina.

II. Demonstration of Bimanual Exam on Papaya

A. **Importance of the bimanual exam**
   1. Why check for flexion?
      a) In an anteflexed/retroflexed uterus, the instrument can perforate.
      b) Review steps to prevent perforation.
   2. Hints for determining flexion:
      a) With fingers inside vagina under cervix, press down with outer hand.
      b) When cervix moves, outer hand is pressing on fundus.
      c) In extreme anteflexion/retroflexion, vaginal fingers will feel fundus anterior or posterior to the cervix.

B. **What comes first: speculum or bimanual?**
   1. The routine is usually to do speculum examination first.
   2. You can do bimanual first:
      a) If instruments will enter uterus, it is important to know if the uterus is flexed prior to insertion to avoid perforation.
      b) It avoids inserting speculum multiple times, so more comfortable for patients.

C. **Diagnosing pelvic pain**
   1. Cervical motion tenderness
      a) What does it mean? It is a sign of peritoneal inflammation and not always gyn-related.
      b) Place fingers on cervix, and jerk suddenly to each side;
      c) A patient with cervical motion tenderness will JUMP! It's not sufficient just to touch cervix with a Q-tip.
   2. Adnexal tenderness
   3. Uterine tenderness
   4. One of these three signs can support clinical diagnosis of PID; all three are not necessary.

D. **Students practice bimanual exam on papaya with other students holding it in place.** *(See Appendix, Image A)*

III. Orientation to Instruments / Techniques

A. **Arrange tools from left to right.** *(See Appendix, Image A)*
   1. Pipelle for endometrial biopsy
   2. Local anesthetic—syringe with needle
   3. Single tooth tenaculum
   4. Copper iud
   5. Levonorgestrel ius
   6. Dilators
   7. Ipas syringe and cannula for aspiration
   8. Curette

B. **Demonstrate no-touch technique.** *(See Appendix, Image C)*
   1. The vagina is non-sterile environment.
   2. To minimize infection, don't touch anything that enters the uterus.
      a) Don't touch the tips of instruments.
      b) Hold dilators from the middle so both ends avoid contact.

IV. Procedure: Endometrial Biopsy

Case: 58 year-old, post-menopausal woman with no bleeding for 5 years, comes in complaining of bleeding.

A. **Review possible diagnoses.**
B. **Review diagnostic tests – U/S and EMB.**
C. **Biopsy the papaya: Demonstrate and let students practice.**
   1. Create cervical os by poking hole in stem with uterine sound (not a common gyn procedure!).
   2. Insert pipelle to fundus, and pull back plunger to create vacuum.
   3. Twist and move the pipelle in and out, scraping the lining to collect an endometrial sample.

D. **Other tips:** *(See Appendix, Image D1 and D2)*
   1. Tenaculum can be used by attaching at 12:00 of cervix to provide traction on uterus to straighten flexion (not usually needed for biopsy).
   2. 1cc of local anesthetic can be used at tenaculum site to reduce pain.

V. Procedure: IUD Insertion

Case: 25 year-old medical student, never pregnant, chlamydia at age 19, no current STI symptoms, desires no children until after residency (>5 years).

A. **Is she a candidate for Intrauterine Contraception?**
   1. Review reasons why she <u>is</u> a candidate.
   2. Explain that history of chlamydia is not a contraindication.
      a) IUD is not an independent risk factor for PID once inserted.
      b) At time of insertion, IUD can increase risk of PID if STI is present.
      c) Evidence suggests that LNG-IUS protects against PID.
      d) Many experts recommend screening at time of insertion and if positive, treating for cervicitis, leaving IUD in place.
   3. Explain the meaning of *nulliparous*.
      a) She may be at higher risk of cramping/abnormal bleeding side effects.
      b) She may be at slightly higher risk of expulsion.
      c) It may be more complicated to insert.
      d) Myth: Nulliparous women are more likely to be young and have multiple partners, thus higher risk of PID.
      e) Clarify evidence to support use in nulliparous women.

B. **Overview of Paragard (Copper T)**
   1. It is effective for 10 years (evidence to support 12).
   2. Bleeding can be heavier but is usually regular.
   3. It prevents fertilization by disabling sperm (very rarely prevents implantation).
   4. There is a quick return to fertility after removal.
   5. It can be used as EC up to 5-8 days after unprotected intercourse.

C. **Overview of Mirena (LNG-IUS)**
   1. It is effective for 5 years (evidence to support 7).
   2. It prevents fertilization:
      a) Cervical mucus thickens, preventing entrance into uterus.
      b) Thins endometrial lining.
      c) Diminishes sperm motility.
      d) 20% of cycles no ovulation.
   3. It decreases quantity of bleeding, but bleeding can be irregular (especially in first 3-6 months), then generally regular and very light.
      a) Question: If no periods, how can one determine that they are not pregnant?
         i. Take pregnancy tests.
         ii. Feel for the string, and if it is present, pregnancy is very unlikely.
   4. Overall, there is a dramatic reduction in ectopic pregnancy risk.
      a) The risk of pregnancy is so low (.1%) that ectopic risk is very low.
      b) If pregnancy occurs, there is an increased risk for ectopic pregnancy.

D. **Placing an IUD**
   1. Perforation occurs in 1:1000 insertions (may be slightly higher rate).
   2. Local anesthetic at tenaculum site or full paracervical block is optional.
   3. Tenaculum is recommended, especially while learning.

E. **Placing a Paragard: Demonstrate and let students practice on plastic uterine models**
(See Appendix, Image E1 and E2)
   1. Open package—T is out in package to prevent plastic 'memory' of T-arms kept in.
   2. Using sterile gloves (unnecessary for workshop practice), remove from package, tuck plastic tips of T arms into tube.
      a) If time allows, demonstrate technique of loading while in package. This requires opening the package 1/3 of the way and placing the package on a flat, hard surface. Then move the T-arms into the sheath through the plastic covering without tearing it.
   3. Insert plunger.
   4. Insert device into uterus to fundus.
   5. Holding plunger, pull sheath back to release arms.
   6. Remove plunger, then remove sheath so as not to tangle strings.
   7. Cut strings to 3 cm from cervix.

F. **Placing a Mirena: Demonstrate and let students practice on plastic uterine models**
(See Appendix Image F1, F2, and F3)
   1. With sterile gloves (unnecessary for workshop practice), adjust blue slider to sound depth.
   2. Move lever all the way up, pull strings to bring in arms, and tighten strings in notch.
   3. Insert device to fundus and pull back slightly (1/4 inch).
   4. Pull lever down to line (mid-way) to release arms.
   5. Push device to fundus.
   6. Pull lever all the way down. Strings will release.
   7. Pull out device. Strings will pull through. Cut at 3 cm.

VI. Procedure: Uterine/Papaya Aspiration

A. **Why aspirate?**
   1. Elective abortion
   2. Fetal demise
   3. Incomplete or inevitable SAB

B. **Manual Uterine Aspirator (MUA)—uses no electricity**
   1. It has a large impact on maternal mortality world-wide.
   2. It prevents infection in cases of incomplete abortion.

C. **Miscarriage management in the ER or outpatient setting**
   1. incomplete or inevitable abortion (open cervical os with bleeding):
      a) The old way, in the OR with anesthesia, is too risky and expensive.
      b) The new way is to perform MUA in the ED or an outpatient setting, with local anesthesia or sedation. Dilation often isn't necessary because of open os.

D. **Elective abortion**
   1. 88% of abortions performed in the US are in the first trimester.
   2. 50% of abortions are performed at less than 8 weeks.
   3. MUA can be used anytime in 1st trimester as an alternative to electric uterine aspiration (EUA). There is evidence of a similar safety profile, and patients prefer MUA.

Case: Patient 8 weeks pregnant with desired pregnancy, embryo has no heart beat—missed abortion.

A. **Management options**
   1. Expectant management—wait for tissue to pass.
   2. Aspirate.
   3. Use Medication (misoprostol).

B. **Aspiration: Demonstrate each step and let students practice on papayas.**
   1. Paracervical block *(See Appendix, Image D1 and D2)*
      a) Give 1cc at 12:00, at tenaculum site.
      b) Attach tenaculum.
      c) Inject block at 3:00 and 9:00 angling out from center of cervix, 5ccs on each side.
         i. This is an easy method to teach given the papaya has no vagina, but mention alternative techniques.
      d) To make sure you don't hit a blood vessel, use the draw-back technique.
   2. Dilation *(See Appendix, Image C)*
      a) Pratt dilators have two ends (hold in middle) with different sizes (circumferences) increasing by 2mm starting with 13/15, all odd numbers.
      b) Dilate up to # of weeks multiplied by 3 (π);
         i. 8 weeks: 8 * 3 = 24, dilate up to 25 Pratt
         ii. 8 weeks: 9 * 3 = 27, dilate up to 27Pratt
      c) Insert smallest dilator with loose hold at middle, point down and let dilator twist through os, rolling as needed.
      d) Increase dilator size to needed dilation.
      e) Do not force dilator through os, and twist to reduce resistance.
   3. Aspiration *(See Appendix, Image G1 and G2)*
      a) Prepare vacuum: push valves in and forward, pull back plunger and rest on edges.
      b) Insert cannula and adapter into uterus.
      c) Attach syringe to cannula and release valves.
      d) Twist syringe while moving in and out to remove tissue.
      e) When empty, uterus and papaya "endometrium" will feel gritty.
      f) Empty syringe by removing syringe from cannula as needed.
   4. Curettage *(See Appendix, Image H)*
      a) One side of curette is sharp, the other is not. Have students feel on hand – which motion and side actually curette?
      b) Insert curette to fundus and pull back toward self with scrapy side against lining.
      c) Insert again turning slightly to new area of lining, scrape, and repeat.

VII. Review the workshop and reiterate teaching points.