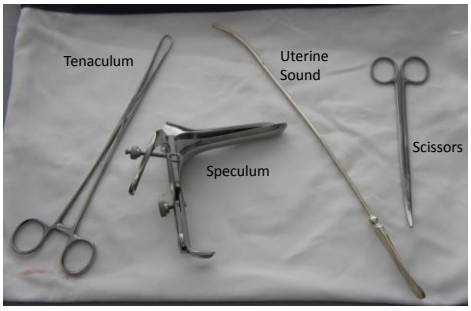
Pelvic Models Simulation

A resource for students in Obstetrics and Gynecology

Smriti Khosla Meds 2014
Schulich School of Medicine and Dentistry

Commonly used gynecological instruments



The Bimanual Exam

1. Properly position and drape the patient. Wash your hands and put on gloves. Explain to the patient what you are going to be doing.
2. Inspect the labia and clitoris for any abnormalities or asymmetry.
3. Lubricate the index and middle finger of your right hand. Using the thumb and index finger of your left hand, gently separate the labia and insert your two lubricated fingers.
4. Palpate all of the vaginal walls as you advance your fingers feeling for any abnormalities.
5. Palpate the cervix, feeling for its size, shape, and any abnormalities.
6. Assess for cervical motion tenderness by gently moving the cervix with your finger tips and observing the patient's face for signs of discomfort.
7. Palpate the uterus by using your left hand to press against your inserted fingers. Feel for uterine enlargement and any masses or asymmetry.
8. Try and palpate each ovary by first positioning your internal fingers in the left fornix and trying to press the left ovary between them and your left hand. Do the same with the right ovary. Note any tenderness or masses.
9. Carefully remove your fingers and check your glove for any blood or discharge.

Lubricate the index and middle finger of your right hand. Using the thumb and index finger of your left hand, gently separate the labia and insert your two lubricated fingers.

Palpate the uterus by using your left hand to press against your inserted fingers. Feel for uterine enlargement and any masses or asymmetry. Try to palpate each adnexa in the same manner.

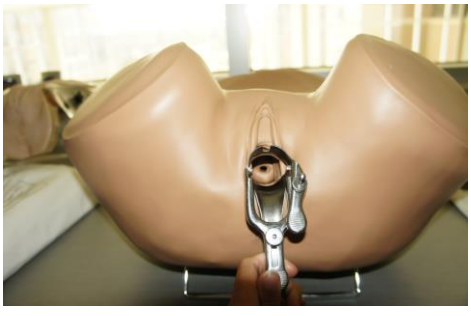
The Speculum Exam

1. Position and drape the patient. Wash your hands and put on gloves. Warm the speculum with warm water. Explain to the patient what you are about to do.
2. Using your left hand, gently separate the labia. With your right hand carefully insert the speculum with the handle pointed towards the bottom of the table.
3. While maintaining inward and downward pressure on the speculum, gently open the speculum.
4. Assess your view of the cervix and adjust the speculum as needed in order to completely view the cervix. Lock the speculum blades in place. The cervix can then be visually examined, a pap smear can be performed and cervical and vaginal swabs can be taken. The speculum exam is also performed prior to IUD insertion and endometrial biopsies.

Using your left hand, gently separate the labia.

With your right hand carefully insert the speculum with the handle pointed towards the bottom of the table.

While maintaining inward and downward pressure on the speculum, gently open the speculum and lock the blades in place



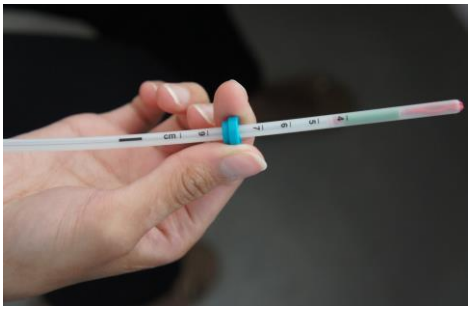
IUD Insertion

1. Release the IUD strings from behind the slider, allowing them to hang freely. Position the slider on the handle farthest away from you and align the IUD arms horizontally.
2. Draw the IUD into the tube by pulling on both strings and fix the strings in the gap at the end of the handle
3. Set the depth on the tube. A uterine sound can carefully be used to determine the desired depth.
4. Stabilise the cervix by applying a tenaculum to its anterior aspect.
5. Apply gentle traction with the tenaculum to straighten the cervicouterine angle and to apply counter traction as you advance the IUD tube through the cervix.
6. Release the IUD arms by pulling the slider back to a mark on the handle. Then re-advance the IUD tube.
7. Release the strings by gently pulling the slider as far back as possible. Then carefully remove the inserter altogether until only the strings are left. Cut the strings about 2-3 cm long. Release the tenaculum and remove the speculum.

Release the IUD strings from behind the slider, allow them to hang freely, position the slider on the handle farthest away from you and align the IUD arms horizontally

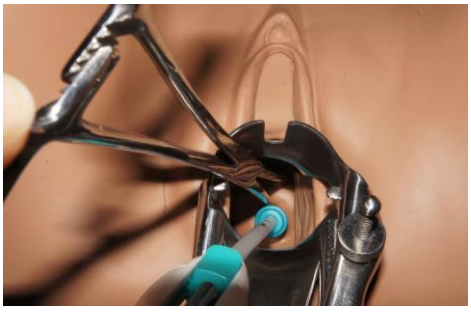
Draw the IUD into the tube by pulling on both strings and fix the strings in the gap at the end of the handle

Set the depth on the tube. A uterine sound can carefully be used to determine the desired depth

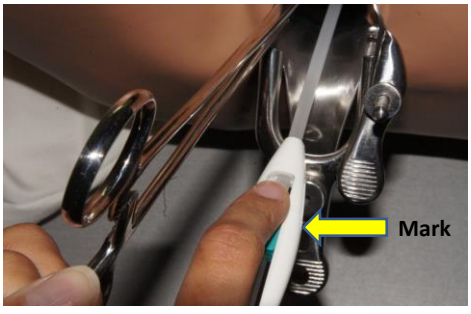


Stabilize the cervix by applying a tenaculum to its anterior aspect

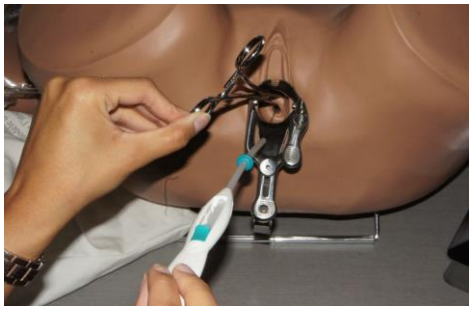
Apply gentle traction with the tenaculum to straighten the cervicouterine angle and to apply counter traction as you advance the IUD tube through the cervix.



Release the IUD arms by pulling the slider back to the mark on the handle. Then re-advance the IUD tube



Release the strings by gently pulling the slider as far back as possible. Then carefully remove the inserter altogether until only the strings are left. Cut the strings about 2-3 cm long. Release tenaculum and remove the speculum



Endometrial Biopsy

If the cervical os is open enough, the biopsy device may pass easily and a tenaculum and/or sound may not be needed. If not, place the tenaculum on the anterior aspect of the cervix to straighten its axis. You can then try to pass the biopsy device through the cervix using counter traction provided by the tenaculum. If this is unsuccessful uterine sounding is needed. The sound is gently passed into the endometrial cavity to both determine its depth and dilate the cervicle os.

Uterine Sounding can be used to both gently dilate the os and determine the depth of the cavity

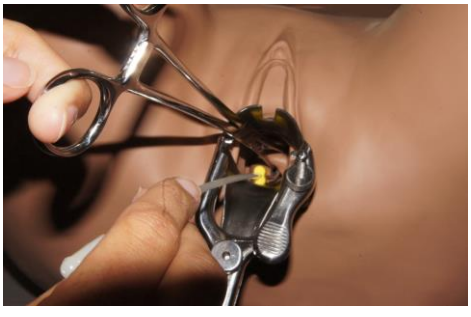
Endometrial Biopsy

1. Set the desired depth on the biopsy device.
2. Pass the device into the cervix to the desired depth.
3. Withdraw the stabilising insert while keeping the biopsy device in place.
4. Attach the suction syringe and pull back on the plunger to create the vacuum. Lock the plunger in place by turning it clockwise relative to the syringe.
5. While maintaining gentle counter traction with the tenaculum, quickly rotate the device while moving it in and out within the endometrial canal. Do this for about 20-30seconds while being careful to not pull the device out of the canal. This will cause loss of suction. Once the sampling device fills completely or stops filling, remove it from the canal and using the plunger, deposit it in the proper specimen container. Carefully release the tenaculum and remove the speculum.

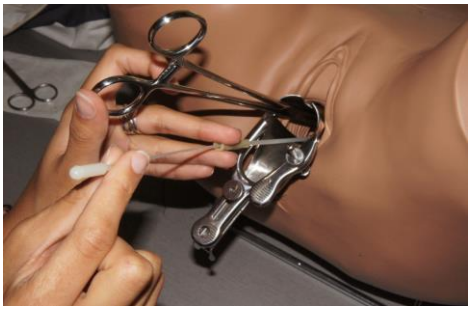
Endometrial Biopsy

Set the desired depth on the biopsy device

Pass the device into the cervix to the desired depth

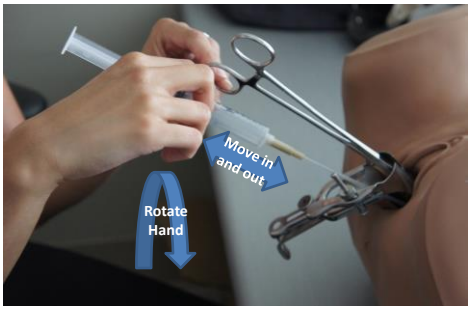


Withdraw the stabilising insert while keeping the biopsy device in place



Attach the suction syringe and pull back on the plunger to create the vacuum. Lock the plunger in place by turning it clockwise relative to the syringe.

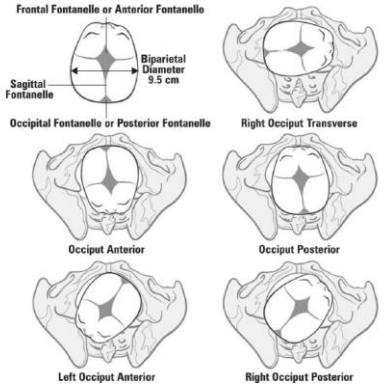
Maintain gentle counter-traction with the tenaculum and quickly rotate the device while moving it in and out within the endometrial canal. Do this for 20-30s. Be careful to not pull the device out of the canal. This will cause loss of suction. Use the plunger to deposit the sample in the specimen container.



Labour and Delivery

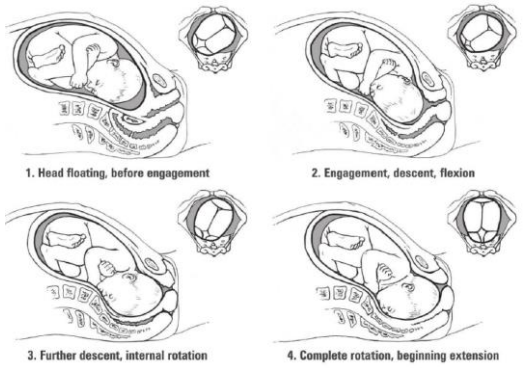
- It is important to know the position of the fetus during labour (vertex, breech, transverse) and the presenting part
- This can be accomplished via a combination of Leopold's maneuvers, vaginal exam, and ultrasound if needed
- Knowing the cardinal movements of the fetus during delivery will help to identify when a delivery is not following the predicted pattern and what might be the cause behind this

Vertex Position

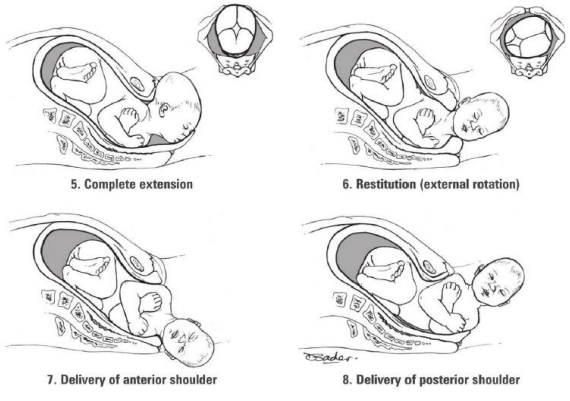


(Toronto Notes, 2012)

Cardinal Movements



(Toronto Notes, 2012)

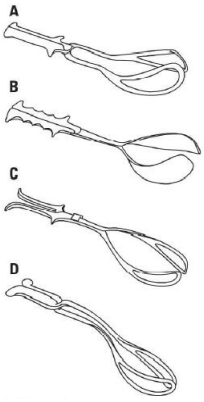


(Toronto Notes, 2012)

Operative Vaginal Delivery

- Forceps or vacuum extraction
- Fetal indications
  - Concerning fetal heart rate
  - Consider in prolonged second stage
- Maternal indications
  - Impaired pushing effort (due to exhaustion, inadequate pain control, etc.)
  - Need to avoid excessive pushing (cardiac or cerebrovascular disease)

Forceps



A: Simpson Forceps (used in OA presentations)

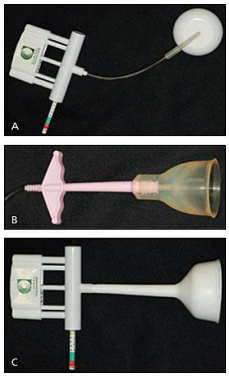
B: Tucker-McLane Forceps

C:Kielland (rotational) Forceps (when rotation of head to OA is necessary)

D: Piper Forceps (breech presentations)

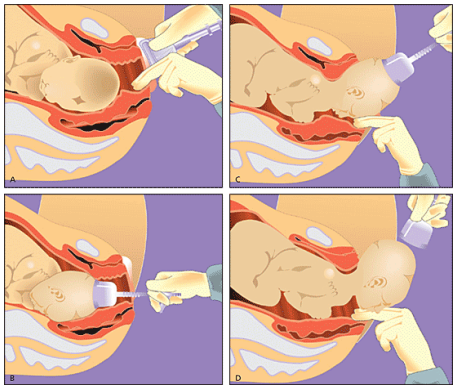
(Toronto Notes, 2012)

Vacuum



- Aids maternal pushing
- Suitable only for vertex presentations
- It is important to recognize the limits for trial of vacuum
  - Any combination of 3 pulls or pop-offs
  - 20 minutes with no delivery

(Hook, 2008)



- Determine position of the head
- Apply cup to the flexion point 3 cm anterior to the posterior fontanel
- Steadily pull device during a contraction
- Maintain the device at a right angle to the cup

(Hook, 2008)

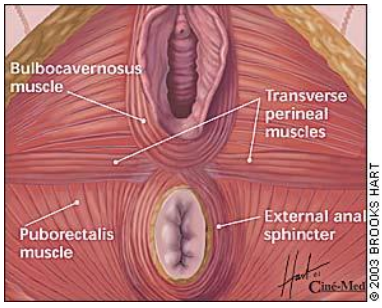
Delivery of the Placenta

- This stage can last up to 30 minutes – be patient
- Start oxytocin to reduce risk of PPH
- Maintain sterility
- Use one hand to maintain firm suprapubic pressure (prevents uterine inversion)
- Use the other hand to apply gentle traction on the umbilical cord
- Signs of placental separation:
  - Gush of blood
  - Lengthening of cord
  - Balling up of the uterus
- Inspect the placenta to ensure it is intact and that there is a 3 vessel cord

Post Delivery Repairs

- Episiotomy: incision in the perineal body at the time of delivery (midline or mediolateral)
- Lacerations:
  - First degree: involves skin and vaginal mucosa (no fascial or muscle involvement)
  - Second degree: involves fascia and muscle of the perineal body but not the anal sphincter
  - Third degree: involves the anal sphincter but does not extend through it
  - Fourth degree: extends through the anal sphincter into the rectal mucosa

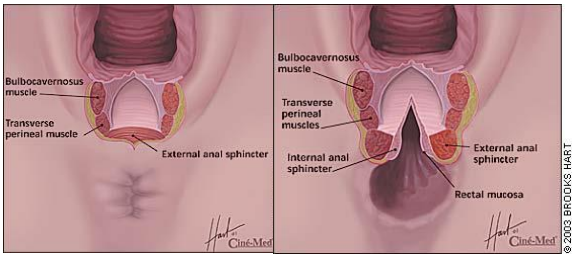
Perineal Anatomy



- Tears are classified according to the depth of their involvement
- A rectal exam is useful to determine the extent of the tear
- A repair requires good visualization, proper instruments, and sterile technique
- Local anaesthetic can be used if the patient requires further analgesia

(Leeman, 2003)

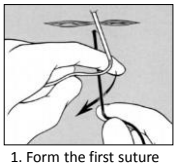
Examples of Tears



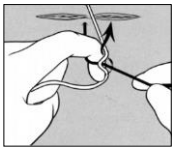
Second Degree Tear **Fourth Degree Tear**

(Leeman, 2003)

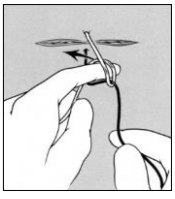
Surgical Knot Tying – One-Hand Tie Technique



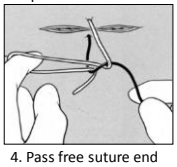
1. Form the first suture loop



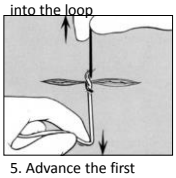
2. Pass index finger down into the loop



3.Begin withdrawal of free suture end up through the suture loop

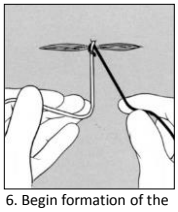


4. Pass free suture end up through the loop

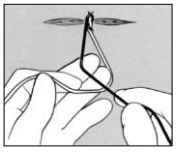


5. Advance the first throw to wound surface

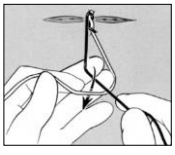
(Edlich, 2005)



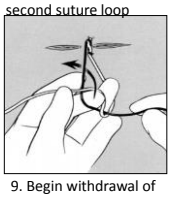
6. Begin formation of the second suture loop



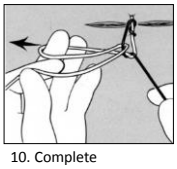
7. Form the second loop



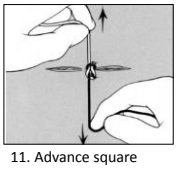
8. Flex long finger toward the free suture end



9. Begin withdrawal of the free suture end down through the loop



10. Complete withdrawal of free end down through the loop



11. Advance square knot to wound surface

(Edlich, 2005)

Some useful references:

American College of Obstetricians and Gynecologists. **www.acog.org**

Edlich, R. SYNETURE Knot Tying Manual. *Syneture.* 2005. **www.uphs.upenn.edu/surgery/Education/facilities/measey/Knot_Tying_Manual.pdf**

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Leeman *et al*. Repair of Obstetric Perineal Lacerations. *American Family Physician.* 68(8):1585-1590. 2003

The Society of Obstetricians and Gynecologists of Canada. **ww.sogc.org**