Basic Skills Qualifications

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Introduction

Evaluation Process

Prior to seeking BSQ certification, a resident should be confident in his/her skills. The “Basic Skills Qualification” is printed and given to the supervising physician, where after, the resident performs the procedure under direct observation of the supervising physician. The competency assessment is completed by the supervising physician with his/her signature and given back to the resent. The resident then returns the competency assessment to the Academic Coordinator.

If a procedure requires a Time-Out, the following steps must be completed.

Prior to starting a medical procedure, the medical team stops for a Time-Out. Time-Out is a deliberate pause in activity involving clear communication and verbal confirmation. Time-Out is one element of Universal Protocol, designed to ensure that the appropriate steps are taken to operations and invasive procedures.

Time-Out steps:

1. Everything stops
2. Identify the patient using name and date of birth
3. Correct side and site marked as indicated if applicable.
4. Agreement on procedure to be done, as read from the informed consent document.
5. When two or more procedures are performed on the same patient, and the person performing the procedure changes, perform a time-out before each procedure is initiated.

Documentation: “Time out was performed. Correct patient was identified, and patient verified the procedure and correct site and side.”

Basic Skills Qualification
Abscess Incision and Draining

Resident: _____

	Competent
Accurately diagnoses an abscess appropriate for I&D	
Discusses indications and contraindications for I&D procedure	
Performs informed consent and appropriate patient education	
Procedure performance	
Appropriate documentation	
Describes potential complications and their remedies	

Faculty: _____

Date: _____

Description: Abscesses are localized collection of pus surrounded by inflamed tissue; may be found in any area of the body, but most abscesses presenting for urgent care are found on the extremities, buttocks, breast, perianal area, or from a hair follicle.

Indications
Abscess on the skin which is palpable

Contraindications
- Extremely large abscesses which require extensive incision, debridement, or irrigation (best done in OR)
- Deep abscesses in very sensitive areas (supralevator, ischiorectal, perirectal) which require a general anesthetic to obtain proper exposure
- Palmer space abscesses, or abscesses in the deep plantar spaces
- Abscesses in the nasolabial folds (may drain to sphenoid sinus, causing septic phlebitis)

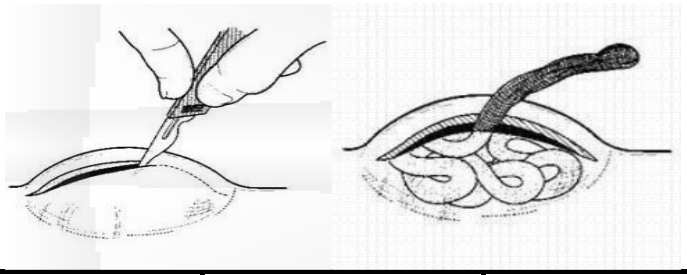
Materials
- Universal precautions materials
- 1% or 2% lidocaine with/without epinephrine for local anesthesia, 10 cc syringe and 25-gauge needle for infiltration
- Skin prep solution
- #11 scalpel blade with handle
- Draping
- Gauze
- Hemostat, scissors, packing strip gauze (plain or iodoform, 1/2")
- Tape
- Culture swab

Pre-Procedure Education
1. Obtain informed consent
2. Inform the patient of potential severe complications and their treatment
3. Explain the steps of the procedure, including the pain associated with anesthetic infiltration

4. Explain necessity for follow-up, including packing change or removal

Procedure

1. Use universal precautions
2. Cleanse site over abscess with skin prep
3. Drape to create a sterile field
4. Infiltrate local anesthetic; allow 2-3 minutes for anesthetic to take effect
5. Incise widely over abscess with the #11 blade, cutting through the skin into the abscess cavity. Follow skin fold lines whenever able while making the incision
6. Excising an ellipse may help keep wound open
7. Allow the pus to drain, using the gauzes to soak up drainage and blood. Use culture swab to take culture of abscess contents, swabbing *inside* the abscess cavity
8. Use the hemostat to gently explore the abscess cavity to break up any loculations within the abscess
9. Using the packing strip, pack the abscess cavity, then dress



Complication	Prevention	Management
Insufficient Anesthesia	Anesthesia doesn't work in acidic environment	Use more, use field block, allow more time
No Drainage	Localize it by palpation	Incise deeper or wider
Drainage is Sebaceous	Inflamed Sebaceous Cyst	Express material, pack as abscess

Post Procedure:

1. Send culture if indicated
2. Record the procedure and the outcomes and the plan in the progress note.

Documentation on the Medical Record:

1. Consent, start and stop time, "surgical pause"
2. Procedure used, prep, anesthetic (and quantity), success of drainage, culture if made
3. Any complications (or "none")
4. Who was notified of any complication (family, attending MD)
5. Follow-up arrangements:
   - Instruct the patient when to return for dressing change and monitoring.
   - Instruct patient on daily wound care and dressing change and on the signs and symptoms of infection.

May watch the procedure on video at www.medicalvideos.us and type Abscess Incision and Drainage

References: 1. Textbook of Emergency procedures. 2. Basic Skill Qualification tool from Tufts University Family Medicine Residency program. 3. Up-to-Date information.

Basic Skills Qualification
Amniotomy

Resident: _____

	Competent
Provides appropriate informed consent	
Atraumatically inserts amniotomy hook	
Able to rupture membranes	
Performs assessment for prolapsed cord	

Faculty: _____

Date: _____

Basic Skills Qualification
Anoscopy

Resident: _____

	Competent
Informed consent	
Positioning: lateral decubitus, knees flexed	
Inspection of external perianal area	
Correct assembly of anoscope including using lubrication	
Insert anoscope gradually	
Slow removal of obturator, and adequate inspection of anal canal	
Safe biopsy technique if needed, hemostasis achieved	
Correct diagnosis of physical findings on anoscopy	
Attention to patient's comfort at all times	

Faculty: _____

Date: _____

Indications

- Initial evaluation of rectal bleeding, anal or perineal pain
- Anal discharge, rectal prolapse, anal fissures
- External/Internal hemorrhoids, perianal condyloma
- Painful DRE or palpable mass on DRE.
- Retrieval of foreign body
- Evaluation of sexual abuse
- Fecal impaction, anal polyps, cancer

Contraindications

- Unwilling patient
- Severe debilitation
- Acute MI
- Anal canal stenosis

Relative Contraindication

- Acute abdomen

Complications:

1. Generally a safe procedure, anoscopy has few complications
2. Possible complications: anal discomfort, tearing of perianal skin, tearing or abrasions of hemorrhoidal tissue.

Preprocedural Patient Preparation:

1. Have a medical assistant or RN chaperone procedure
2. Patient must be cooperative and relaxed
3. Frank admission that procedure will be unpleasant and uncomfortable, but not painful.

4. If anal area exquisitely painful, can apply topical anesthetics such as 5% xylocaine 30 min prior to procedure to reduce discomfort.

Technique:
1. Place patient in left/right lateral position preferably with buttocks facing wall not door.
2. Have patient pull up on glutei or have assistant pull glutei laterally so that full inspection of perianal area can be done.
3. Have patient bear down to assess for hemorrhoidal prolapse.
4. Perform digital rectal exam with lubrication jelly
5. Lubricate the anoscope with obturator in place.
6. Gently insert the anoscope into anus, advance instrument in the direction of umbilicus until full length of scope inserted. (May detect resistance. Ask patient to take a couple deep breaths and to bear down slightly).
7. Remove obturator so that mucosa of anal canal is seen. Fecal material may be removed with large swab.
8. Gradually withdraw instrument, observing anal canal as scope is extracted. Rotate Long cylinder anoscope to the right and left to visualize entire canal.

Reference: Pfenniger, JL and Fowler GC, Procedures for Primary Care. Mosby 2003. (Apgar, B. and Pfenninger J., p 763-766)

Basic Skills Qualification
Basic OB Ultrasound

Resident: _____

	Competent
Explain procedure and purpose to patient	
Select the appropriate probe	
Select the appropriate exam	
Apply USN probe to patient's abdomen and adjust USN device to optimize image	
Determine presence of fetal life	
Determine fetal position	
Determine placental position	
Perform an amniotic fluid index (AFI)	
Interpret results and explain to patient	

Faculty: _____

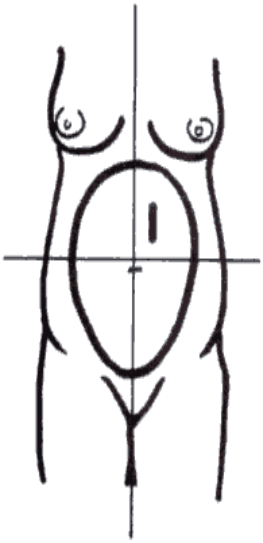
Date: _____

Key Steps

- Identify fetal cardiac activity
- Determine fetal lie
- Determine placental location
- Perform an AFI

You will be expected to demonstrate the following:

1. Explain procedure and purpose to patient
2. Select appropriate probe
3. Select appropriate exam
4. Apply USN probe to maternal abdomen
5. Adjust controls to optimize image (depth, gain, resolution and focus)
6. Identify fetal cardiac activity and fetal movement
7. Determine fetal lie
8. Determine location of placenta
9. Perform an amniotic fluid index (AFI)
10. Interpret results and explain to patient




C6-2


Scale
Base Line
Filter
Depth
Zoom
Focus
END EXAM
SPEED
INVERT
PROG
TEXT
CLEAR
CHG
ZOOM
2D
Dual
PD
C
D
M
M4R
CW

Basic Skills Qualification
Circumcision

Resident: _____

	Competent
Informed consent: can state contraindications and describe risks, benefits, alternatives and procedure	
Dorsal penile nerve block	
Selects and draws appropriate anesthetic, typically 1% lidocaine without epinephrine	
Injects 0.5 ml at the 2 and 10 o'clock positions at the base of the penis, with slight medial angulation and approximately 0.5 cm beneath the skin surface, or ring block by injecting circumferentially around the base of the penis, completing a 180-degree half circle.	
Gomco clamp	
Makes dorsal crush and slit	
Breaks adhesions	
Inserts bell over the glans	
Grasps the edges of the dorsal slit and inserts the arms of the bell through the hole of the plate	
Pulls the foreskin upward and adjusts the bell and base	
Assembles and tightens clamp	
Excises the foreskin	
Removes clamp, inspects, applies gauze	
Can state how to manage bleeding and other complications	

Faculty: _____

Date: _____

Indications
- Parental desire

Contraindications
- Hypospadias, episadias, megaurethra
- Ambiguous Genitalia
- Age less than 12 hours or more than 6 weeks
- Severe illness
- Prematurity

Relative Contraindications
- Short penile shaft (less than 1 cm)
- Family history of bleeding disorder
- Age over 1 month

Other considerations
- Financial obligations

Risks – Serious (1:500)

- Infections, bleeding, gangrene, scarring, surgical accidents

You will be expected to demonstrate the following:

1. Confirm the following prior to performing the procedure:
    a. The infant is at least 12 hours old (preferably 24 hours old)
    b. The infant has voided at least once since birth
    c. Written parental consent has been obtained
    d. The correct infant has been brought to the procedure room
2. Explain procedure to the parent/guardian (risks, benefits, alternatives)
3. Prepare equipment/field; prepare the patient, light the area
4. Identify the anatomy
5. Perform dorsal penile nerve block or ring block under sterile conditions
6. Procedure:
    a. Apply two hemostats at the three and nine o'clock positions on the foreskin (fig 1)
    b. Use third hemostat and sweep around the glans to break adhesions
    c. Clamp the foreskin at the 12 o'clock position so that the hemostat tip is .5 cm from the coronal sulcus (fig 2)
    d. Retract the foreskin and remove any remaining adhesions
    e. Replace the foreskin over the glans
    f. Place the bell inside the foreskin and over the glans with the apex of the crush injury/incision visible above the rim of the bell (fig 3)
    g. Slip the handle of the bell through the circular opening of the base plate
    h. Inspect to ensure that equal amounts of foreskin and mucosa are present circumferentially and judge the amount of the shaft skin left below the corona
    i. Confirm the crossbar at the top of the bell sits squarely in the yoke of the clamp and tighten (fig 4)
    j. Carefully remove any remaining tissue in and around the groove that connects the clamp and bell
    k. Leave clamp secured for a total of five minutes then loosen the thumbscrew and gently remove the clamp and bell
    l. Inspect the penis for bleeding, especially in the area of the frenulum
    m. Place a small nonstick bandage or petroleum gauze around the cut edge of the foreskin
7. Provide parent/guardian with information about post-circumcision care

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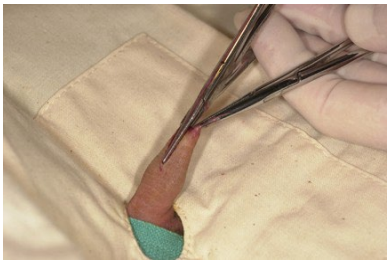
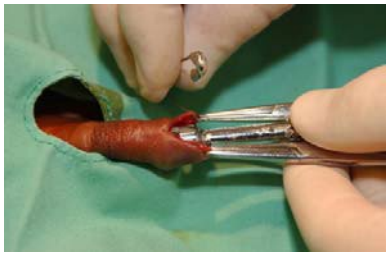
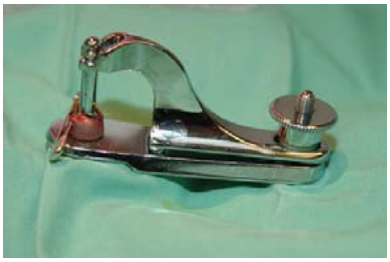
2. 

3. 

4. 

Resources

- Up To Date
- Procedures for Primary Care
- Neonatal Circumcision Model and Competency Evaluation for Family Medicine Residents, Fam Med 2007;39(4):241-3
- Basic Skill Qualification tool from Tufts University Family Medicine Residency program

Basic Skills Qualification
Colposcopy with Biopsy

Resident: _____

	Competent
Explains procedure in understandable terms	
Obtains informed consent including performing a “time out”	
Inserts the speculum and adequately visualizes the cervix	
Correctly applies acetic acid solution and identifies the squamocolumnar junction	
Correctly identifies the most severe lesion	
Competently performs an ECC	
Utilizes biopsy instruments effectively	
Obtains hemostasis	
Commits to a colposcopic diagnosis	

Faculty: _____

Date: _____

Description: Colposcopy is a diagnostic procedure in which a colposcope (a dissecting microscope with various magnification lenses) is used to provide an illuminated, magnified view of the cervix, vagina, or vulva. The primary goal of colposcopy is to identify precancerous and cancerous lesions so that they may be treated early.

Basic Skills Qualification
Colonoscopy

Resident: _____

	Competent
Explain procedure to the patient	
Be sure the patient has adequately prepped for procedure	
Position patient in left lateral decubitus position	
Perform rectal examination with lubricated finger	
Lubricate scope insert	
Insufflate colon to optimize visualization of colon	
Insert scope to visualization of splenic flexure	
Slowly remove scope with complete visualization of descending, colonic mucosa, obtain biopsy if indicated	
Retroflex scope to visualize anal verge and possible hemorrhoids	
Document findings, procedure note and photo documentation	
Inform patient of results	

Faculty: _____

Date: _____

Indications

- Screening for colorectal cancer
- Hematochezia
- Persistent diarrhea**,** without cause
- Unexplained weight loss
- Unexplained iron deficiency anemia

Contraindication

- Recent diverticulitis or colitis
- Toxic megacolon
- Recent bowel surgery
- Acute peritonitis
- Known or suspected bowel perforation
- Conditions that may increase the risk of bleeding
- Uncooperative/unstable patient
- Pregnancy

You will be expected to:

- Inform patient of indication and expectations during procedure
- Demonstrate appropriate skill and dexterity to safely perform procedure
- Document lesions
- Perform biopsies as indicated
- Abort procedure if patient is not tolerating
- Be able to identify and mange post procedure complications

Basic Skills Qualification
Common Skin Procedures

☐ **Punch Biopsy** ☐ **Shave Biopsy Excision** ☐ **Excisional Biopsy**

Resident: _____

	Competent
Informed consent obtained	
Identifies lesion and describes appropriate rational for technique choice (punch, shave, or excision)	
Selects and administers appropriate anesthetic	
Demonstrates good technique for punch biopsy	
Demonstrates good technique for shave biopsy	
Demonstrates good technique for excisional biopsy	
Sends specimen to pathology when indicated.	
Demonstrates appropriate post- procedural patient education and follow-up plan for suture removal if indicated.	
Completes documentation of procedure	

Faculty: _____

Date: _____

Indications
Punch Biopsy

- Obtain full-thickness tissue sample for histopathology
- Complete removal of skin lesion < 5mm.

Shave Biopsy

- Removal of protruding portion of raised skin lesion when full thickness sample isn't required.

Excisional Biopsy

- Technique used in removal of an entire skin lesion when full-thickness specimen is needed.

Contraindications

- Significant coagulopathy
- Patient with allergy to anesthetics, preservatives, or other materials which are used for procedure
- If melanoma is suspected, partial-thickness biopsy is contraindicated, do not use epinephrine in local anesthetic for biopsies involving ear, nose, digits, or penis.

Complications

- Infection, bleeding, scarring, pain, missing correct diagnosis by wrong technique and inadequate sample, allergic reaction to agents used during procedure

Procedural Steps

- For ALL skin biopsies, obtain informed consent from the patient.

Punch

1. Prepare site with antiseptic
2. Place ring of local anesthetic around lesion
3. Use appropriately sized tool (2-5 mm)
4. Stretching skin away from site, perpendicular to lines of minimal tension, may reduce scarring
5. Push biopsy tool vertically into the skin, rotating it to cut through skin and subcutaneous tissue.
6. Withdraw tool, push down with fingers on each side of biopsy
7. Gently grasp specimen with forceps, cut at subcutaneous base with sharp tissue scissors
8. Provide hemostasis with direct pressure, may consider aluminum chloride or cautery if needed.
9. Large punch biopsies require 1 or 2 interrupted sutures.

Shave

1. Prepare site with antiseptic
2. Instill local anesthetic within dermis beneath skin lesion
3. Excise lesion by shaving with slightly bowed, flexible, single-edged razor, or with scalpel blade (blade is kept parallel to skin)
4. Skin defect after removal should be essentially level, or minimally depressed
5. Provide hemostasis with direct pressure, 5.5 pen cautery.
6. Silver nitrate or cautery for hemostasis (can cause discoloration of skin)

Excisional

1. Set up for sterile procedure and prepare site with antiseptic
2. Anesthetize area using field block
3. Use surgical marking pen to outline planned margins of excision, orienting the long axis of the biopsy parallel to lines of minimal skin tension.
4. Shape of the ellipse should have length measure 3 times width, with 30◦ corners
5. Using a #10 or #15 scalpel, make incision along outline
6. Free up corner of ellipse, and excise full thickness of skin from end to center, then opposite end to center and put in specimen jar.
7. Undermine skin edges and close with simple, single layer sutures.

Reference: Pfenninger JL et al. Pfenninger & Fowler's Procedures in Primary Care, 1st ed. Saunders: 1994. pp 229-236

Basic Skills Qualification
Cryotherapy

Resident: _____

	Competent
Discusses indications and contraindications for cryotherapy	
Freezes lesion with a 2-3 mm white border	
Allows lesion to thaw and then refreezes	
Appropriate documentation	
Describes potential complications and their remedies	

Faculty: _____

Date: _____

Indications

- Rapid method of treatment for superficial lesions
- Benign Lesions: wart or seborrheic keratosis
- Premalignant lesion: actinic keratosis.

Contraindications

- Unclear lesion identification
- Possible malignant melanoma
- Young children due to pain
- Cosmetically sensitive area on the face, lip or eyelid
- Local infection should be treated prior to the procedure
- Use caution on digits due to risk of severe pain and neuropathy.
- Use caution in patients with darker skin, especially on the face.
- Take care in areas with poor circulation, especially in the elderly.

Complications

- Blisters can develop if freezing too deeply or too long, and infection may occur
- Blood blisters when treating thick lesions such as warts.
- Skin discoloration, especially hypopigmentation in patients with darker skin.
- Hypertrophic scar formation or pyogenic granuloma occur rarely with healing.
- Nerve damage where nerves are superficial like sides of fingers, post-auricular, or the peroneal nerve.
- Permanent nail dystrophy if periungual lesion frozen too deeply.
- Recurrence of the lesion, particularly warts, is possible.

Technique

Perform cryotherapy using either a cotton swab dipped in liquid nitrogen and applied to the lesion or a liquid nitrogen container equipped with a spray tip to apply the liquid nitrogen directly to the lesion.

1. Freeze each lesion so that the lesion is white and a 1-3 mm white halo or “ICE BALL” around the lesion is maintained for desired time.
2. Allow the lesion to thaw completely.

3. Depending on the lesion type and location, consider freezing another time.
4. The lesion can be pared down prior to freezing.
5. Always better to under freeze than over freeze.

	Ice Ball Size	Freeze Time	Can Repeat
Flat lesions or small papules	1-3mm	5-10 seconds	No
Thicker warts or Seborrheic Keratoses	2-3 mm	20- 40 seconds maintain ice ball.	Yes, after lesion completely thaws.

Reference: Goldstein, B and Goldstein A. Up to Date: Derm Procedures. Updated 4/30/12.

Basic Skills Qualification
EKG

Resident: _____

EKG	Points earned	Points possible
1		6
2		6
3		6
4		6
5		6

Faculty: _____

Date: _____

EKG Reading

All EKG tracings should be evaluated for the following:

***Rate* (fig 1)** is calculated by:
1) Finding an R wave that falls on a heavy black line. Find the next R wave and count the large boxes between them as follows: 300; 150; 100; 75; 60; 50.

To determine ***Axis* (fig 2):**
1) Look at the R waves in leads I and aVF
2) If both are positive, axis is normal
3) Down in I, up in AVF = RAD
4) Up in I, down in AVF – LAD
5) To more closely estimate axis, find the most isoelectric lead (parts of the QRS above and below baseline are equal); the axis will be 90° away from that.

***Rhythm* (fig 3a-d)** is determined by:
1) Do QRS complexes occur regularly? (rhythm strip)
2) P before every QRS? QRS after every P?
3) Yes + Yes + Yes = NSR
4) If irregular, determine pattern: regularly or irregularly irregular
   a. If *regularly* irregular, determine intervals. Does P-R interval lengthen?
   b. If *irregularly* irregular, look for dropped complexes, abnormal appearing complexes, and presence of P waves

***Intervals* (fig 4)** determined by:
1) PR interval – count the small boxes from the beginning of the P wave into the beginning of the R wave

- One small box = 0.04 seconds
- *Normal PR ≤0.2 Normal PR; > 0.2 First degree AV block*
- Note whether intervals or constant or variable
- Need to recognize second degree AV Block Mobitz Type 1 and Mobitz Type 2 (figure 5)

- Need to recognize third degree AB Block (figure 6)

2) QRS interval – beginning of the Q wave to end of the S wave

- Normal = < 0.08 sec
- Interventricular conduction delay = 0.08 – 0.12 sec
- Bundle branch block = > .12 sec
    - Look at morphology in anterior chest leads to determine RBBB vs LBBB

3) QT interval

- Start of the Q wave to end of the T wave
- *QT length is heart rate dependent. If >0.44 sec for corr. QT = prolonged*

4) Wave size is determined by counting small boxes from the beginning to the end of the wave; > 3 boxes (0.12 sec) = QRS widening

Hypertrophy

1) LVH: Count small boxes vertically
   a. S in V1 + R in V5: >35 is positive, or
   b. S in V2 + R in V6: >25 is positive, or
   c. R in AVL: > 11 is positive

2) Atrial hypertrophy:
   a. Look at P wave in V1

- If P wave is diphasic (upward and downward component) atrial hypertrophy is present
    - If initial component of diphasic P wave in V1 is largest = Right atrial hypertrophy
    - If terminal component of diphasic P wave in V1 is largest = Left atrial hypertrophy

The signs of ***ischemia/Infarction*** **(fig 7)** are:

1) Ischemia:
   a. ST depression > 2 mm
   b. Inverted or flattened T waves

2) Infarction:
   a. ST elevation > 1 mm
   b. Q-wave = completed infarction. Significant Q is one small square wide or 1/3 the height of the QRS complex

3) Distribution of changes across leads describes location
   a. Anterior = V1-V4; Inferior = II, III, AVF, Lateral = 1, AV

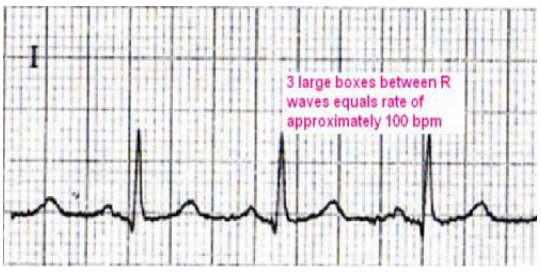


Figure 1

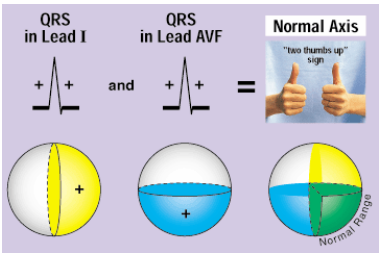


Figure 2

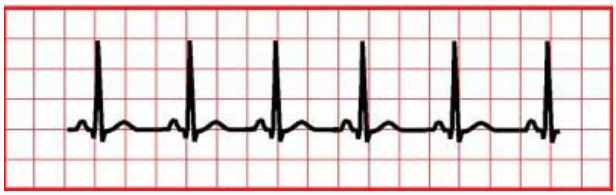


Figure 3a (sinus rhythm)

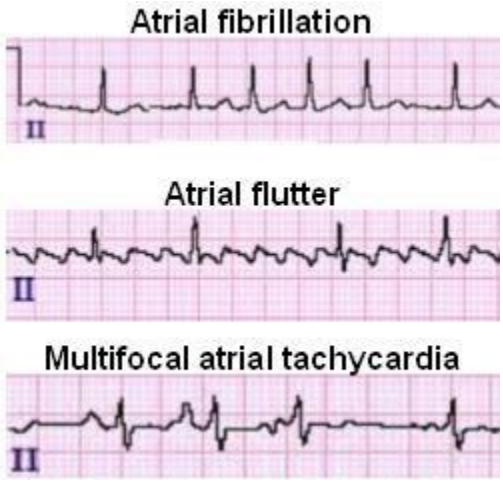


Figure 3 b

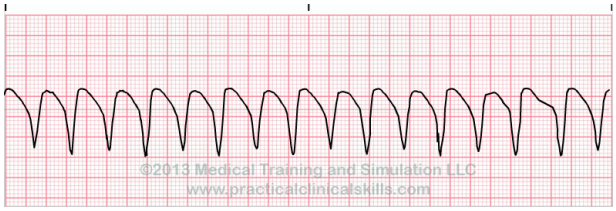


Figure 3c (ventricular tachycardia)

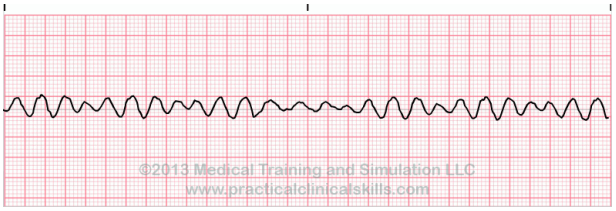
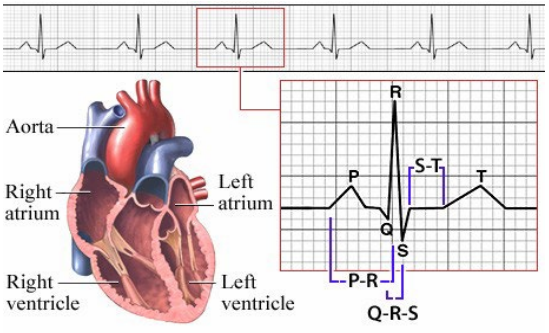


Figure 3d (ventricular fibrillation)

Figure 4



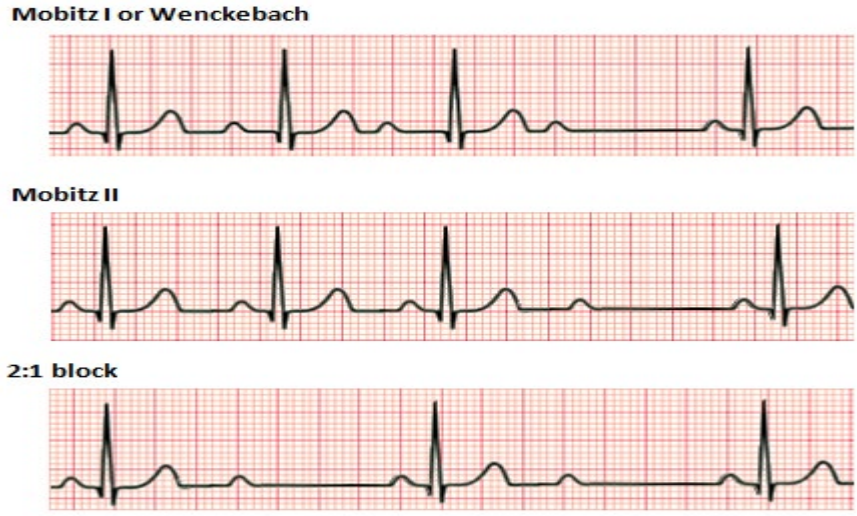


Figure 5

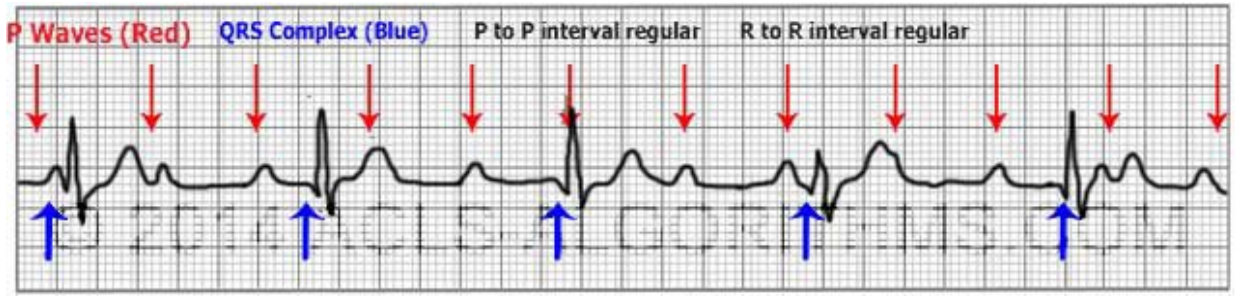


Figure 6

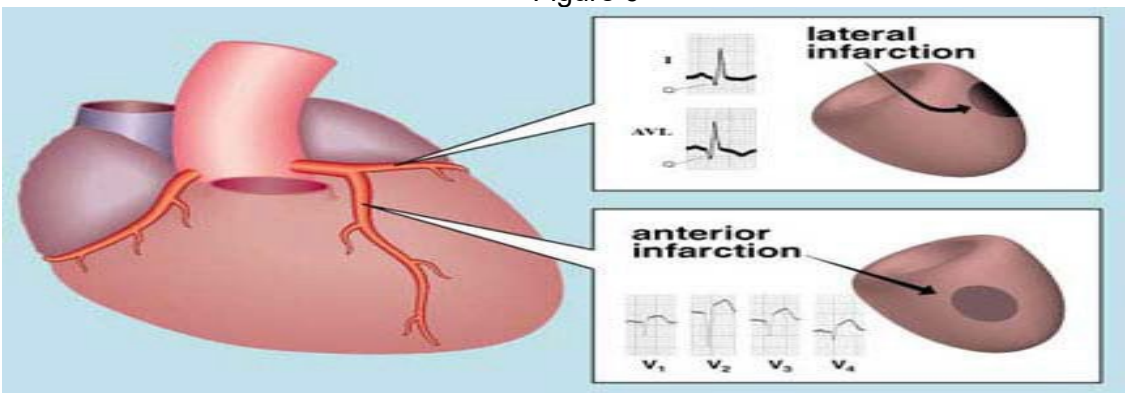


Figure ’

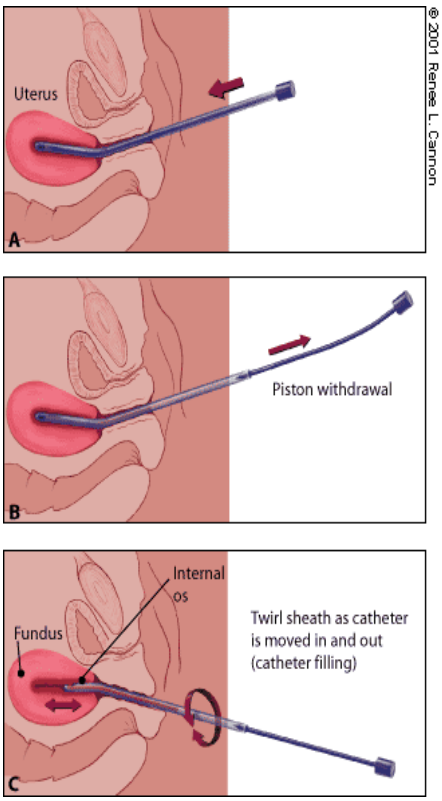
Basic Skills Qualification
Endometrial Biopsy

Resident: _____

	Competent
Informed Consent, can state Contraindications and describe indications, risks, and alternatives	
Performs bimanual for uterine position	
Cleanses cervix	
Introduces aspirator, uses Tenaculum if needed	
Stabilizes aspirator, draw piston; completely back in one motion to cause negative pressure	
Rotate sheath between thumb and index while moving in and out until adequate sample is obtained	
Withdraw device without pushing piston back in sheath	
Cut off distal tip with scissors and expel sample into formalin	
Remove speculum	
Ask patient to stay supine for 10 min	
Review home care. (nsaids, sex after bleeding stops, report fever, cramping after 48 hours or heavy bleeding)	

Faculty: _____

Date: _____



Basic Skills Qualification
Endotracheal Intubation

Resident: _____

	Competent
Informed consent: can state contraindications and describe risks, benefits, alternatives, and procedure	
Positioning: In the sniffing position. Discuss technique for suspected cervical spine injury.	
Identify anatomy of the airway	
Selects proper device, blade and size. Properly sizes endotracheal tube.	
Prepares and discusses alternative methods of ventilation, and difficult intubation	
Proper preoxygenation. Checks equipment.	
Laryngoscope insertion and visualization. Advancement of endotracheal tube.	
Discuss placement confirmation techniques. Confirms proper placement with at least 3 methods.	
Discuss pharmacologically assisted intubation. Discuss rapid sequence intubation	

Faculty: _____

Date: _____

Orotracheal intubation via direct laryngoscopy. This route is generally favored in most circumstances, including when cervical spine is suspected.

Equipment

- Bag-mask-valve resuscitation unit with oxygen supplementation
- Medications as selected for analgesia/anesthesia, amnesia, and neuromuscular blockade
- Towel roll or pad for occipital elevation
- Pulse oximeter
- ECG monitor
- Automatic blood pressure device or personnel to provide frequent manual blood pressure monitoring
- Gloves, mask, eye protection
- Laryngoscope handle and blade(s) - usually sizes 3 and 4 curved and 2 and 3 straight Endotracheal tubes (usually 7.0- or 7.5-rnm for adult women and 8.0-mm for adult men) Malleable stylet
- Yankauer and tracheal suction catheters, suction device Magill forceps
- 10-mL syringe to inflate cuff
- Qualitative CO2 detector, CO2 monitor, or esophageal detector device
- Tape or tracheal tube stabilization device
- Resuscitation cart

Preparation

1. Don gloves, mask, and eye protection
2. Explain the procedure, if patient is conscious
3. Assure patent airway
4. Assure optimal oxygenation and ventilation
5. Assure IV access
6. Apply pulse oximeter, ECG, and blood pressure device
7. Assemble all equipment and ensure proper working order
8. Prepare the endotracheal tube
9. Check cuff integrity by inflating and fully deflating
10. Insert lightly lubricated stylet into endotracheal tube, bend to configuration predicted to assist glottic entry
11. Apply water-soluble lubricant to the cuff end of the tube
12. Connect laryngoscope blade to handle
    a. Blade selection (operator's choice)
        i. Straight blade - used to elevate the epiglottis anteriorly
        ii. Curved blade - inserted into the vallecula
13. Select blade length - #3 blade is proper unless patient's neck is very long
14. Assure that light from bulb is bright OR the screen can be easily seen
15. Place pad or towel under occiput if cervical spine injury not suspected
16. Topically anesthetize the patient's oropharynx
17. Preoxygenate with 100% oxygen for 2 to 3 minutes or using 3 to 4 vital capacity breaths if time permits
18. As necessary, proceed with sedation and neuromuscular blockade.

The operator stands at the head of the bed, and the bed is raised to a position of comfort for the operator. The head of the bed may be flat or raised slightly per operator preference.

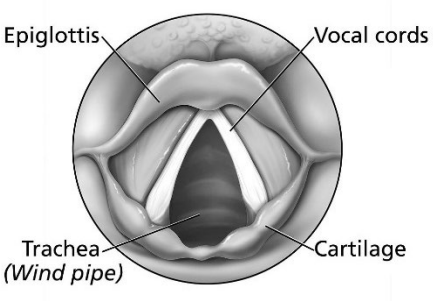
Regardless of the operator's dominant hand in other contexts, the laryngoscope is always held in the left hand.

Cricoid pressure should be gently but firmly applied by an assistant as soon as consciousness is lost and should be sustained until endotracheal tube placement is confirmed and the cuff inflated.

Insert tip of laryngoscope blade into the right side of the patient's mouth; advance the blade to the base of the tongue. Sweep the tongue to left; proper tongue control is key to laryngeal visualization.

Gently advance the blade further to its proper position. A straight blade is placed beneath the epiglottis; a curved blade is placed into the vallecula above the epiglottis.
Caution! Traction should be applied only along the long axis of the laryngoscope handle as the laryngoscope lifts the tongue upward away from the larynx, revealing the glottic opening. A rocking or rotating motion of the blade and handle may damage teeth, gingiva, or lips. The base of the laryngoscope blade should never contact the upper teeth!

Visualize the vocal cords and glottic opening.



If the vocal cords and glottis cannot be visualized, it may be helpful for an assistant to grasp the thyroid cartilage between the thumb and index finger and exert pressure in the following sequence: Pressure is applied backward against the cervical vertebrae and then in an upward direction to shift the larynx superiorly. Additional pressure is applied to shift the thyroid cartilage no more than 2 cm to the right side of the patient's neck. (This procedure can be remembered by the acronym BURP: backward, upward, and rightward pressure on the thyroid cartilage).

Gently insert the endotracheal tube through the vocal cords, holding the tube/stylet with the right hand. The stylet, if angled, may interfere with passage of the tube into the trachea. Until resistance is encountered as the tube is advanced, consider having an assistant remove the stylet while the operator holds the endotracheal tube firmly in the glottic opening.

Carefully remove stylet and laryngoscope. The operator must continue to firmly hold the endotracheal tube; position the tube such that the external centimeter length markers on the tube show 21 cm (female) or 23 cm (male) adjacent to the front teeth.
Inflate cuff.

To ensure proper position of the tube:
1. Inspect and auscultate chest to assure equal bilateral gas entry
2. Use qualitative CO2 detector or monitor or esophageal detector device. Lack of color change with a qualitative CO2 detector or low exhaled CO2 may occur with a correctly placed tracheal tube in the patient with poor pulmonary perfusion.
3. Observe for condensation in the endotracheal tube during exhalation.
4. Listen for breath sounds through the endotracheal tube as the patient is breathing spontaneously.
5. Obtain chest radiograph (tube tip 2 to 3 cm above carina)
6. Secure endotracheal tube with tape or endotracheal tube stabilization device.

Basic Skills Qualification
Epidermal Cyst Removal

Resident: _____

	Competent
Resident performs all steps safely and independently	

Faculty: _____

Date: _____

Pre-Procedure

- Confirms indication for cyst removal (e.g., cosmetic concern, recurrent infection, discomfort)
- Verifies informed consent has been obtained and documented
- Performs and documents focused physical exam of cyst
- Assembles all required equipment (see list below)
- Identifies and marks the cyst margins and incision line

Equipment List

- Sterile gloves
- Antiseptic solution (e.g., chlorhexidine)
- Local anesthetic (e.g.,1% lidocaine with/without epinephrine)
- Syringe with a 25-30G needle
- Scalpel (No. 15 blade)
- Hemostat or blunt dissection tool (e.g., curved hemostat for dissection)
- Iris scissors
- Tissue forceps
- Suture material (e.g., 4-0 nylon)
- Sterile gauze, drapes, adn dressing
- Specimen container (if sending cyst to pathology)

Procedure

1. Performs surgical timeout and confirms site
2. Preps and drapes skin using sterile technique
3. Infiltrates local anesthetic appropriately (including under cyst)
4. Makes small elliptical or linear incision over the cyst
5. Bluntly dissects around cyst, preserving cyst wall
6. Removes cyst completely INTACT, including the capsule
7. Irrigates wound if needed and confirms hemostasis
8. Closes incision with appropriate suture technique
9. Applies sterile dressing and gives wound care instructions

Post-Procedure

1. Documents procedure notes accurately in chart
2. Provides patient with post-op instructions and follow-up plan
3. Disposes of sharps and biohazard appropriately
4. Sends specimen to pathology if indicated

Basic Skills Qualification
Fetal Scalp Electrode (FSE) Placement

Resident: _____

	Competent
Described two relative contraindications and two potential risk of FSEs	
Explain to patient indication for FSE and placement	
Demonstrate all steps necessary in placing FSE	
Successfully places FSE	

Faculty: _____

Date: _____

Description: Internal fetal scalp electrode monitoring involves placing an electrode directly on the fetal scalp through the cervix. This test is performed to evaluate fetal heart rate and variability between beats, especially in relation to the uterine contractions of labor.

Prerequisites:
1. Fetal membranes are ruptured
2. Cervical is sufficiently dilated, at least 1-2 cm

Indications:
1. External monitoring is unable to be used (e.g., Maternal obesity)
2. Inability to obtain a continuous trace externally
3. The signal quality of external monitoring is poor
4. Confirm an abnormal fetal heart tracing

Contraindications:
1. Diagnosed or suspected previa, vasa previa, and uterine bleeding of undetermined origin
2. Infectious risks to fetus (i.e. active maternal herpes, HIV)

Materials:
1. Sterile gloves
2. FSE device

Preprocedural Education
1. Explain indication for FSE to patient
2. Explain procedure to patient
3. Obtain verbal consent

Procedure:
1. Using sterile technique, remove the FSE from its package leaving the wires locked in the retention notch at the top of the FSE.
2. Insert the FSE until the presenting part is contacted and ensure the guide tube end is held flat against the presenting part.
3. Press firmly against scalp and twist 3 turns clockwise
4. Tug gently to ensure firm placement
5. Release the wire from the retention notch and remove guide tube

6. Attached to leg adapter
7. Ensure proper functioning
8. Document placement of FSE in the chart

Removing the FSE:

1. Grasp the electric wires as close as possible to the fetal presenting part, turning them counter-clockwise until the spiral tip is free from the fetal skin. DO NOT pull the spiral tip from the fetal skin. DO NOT pull the FSE wires apart.
2. Inspect the spiral tip to ensure that it is still attached to the FSE hub.

Complications:

1. Lacerate maternal vagina or cervix (inadvertent maternal application)
2. Increased risk of chorioamnionitis or endometritis
3. Lacerate fetal scalp or misplacement of fetal scalp electrode
4. Needle electrode can break with retention of portion of needle in fetal scalp
5. Small increased risk of neonatal infection

Basic Skills Qualification
Fluorescein Eye Exam

Resident: _____

	Competent
Describe indications for exam	
Remove Contacts if necessary	
Apply fluorescein to eye utilizing either saline or tetracaine	
Use of black light	
Describe findings	
Irrigate Eye	
Discuss care	

Faculty: _____

Date: _____

Basic Skills Qualification
Ingrown Toenail Removal

Resident: _____

	Competent
Informed consent	
Anesthesia	
Lift nail	
Cut nail	
Grasp nail	
Ablate nail bed (optional)	
Dress wound	
Post-op instructions	

Faculty: _____

Date: _____

Indications

- Onychocryptosis (ingrown nail)
- Onychomycoses (fungal infection)
- Chronic recurrent paronychia (inflammation)
- Oychogryposis (deformed nail)
- Traumatic deformation of the nail

Contraindications

- Uncooperative patient
- Serious infection may need pretreatment with antibiotics
- Marginal vascular status of the digit
- These contraindications require clarification before anesthesia/procedure is started

Procedure

1. Informed Consent: discussion of anesthetic choices, benefits and risks of removal, post-procedure expectations, and possible complications
2. Provide adequate anesthesia: perform a digital block
    a. a mixture of lidocaine and Marcaine may provide longer pain relief
    b. ring anesthesia at the base of the toe may help along with numbing of the tip of the toe
3. Remove nail:
    a. Lift the nail plate off the nail bed using the appropriate tool
4. Periosteal elevator or hemostat
    a. Lift only the portion of the nail to be removed
    b. There is a perceptible “give” when reaching the proximal edge of the nail
    c. Use scissors to completely split the nail in a longitudinal direction to include the base of the nail that rests beneath the cuticle
    d. Grasp nail with a hemostat or needle driver at the affected edge of the nail
    e. Roll the affected edge away from the affected paronychia
    f. Ensure all the affected nail has been removed

        i. Curette the base
5. Nail bed ablation: phenol (optional)
    a. Cotton tipped swab applied to nail bed tissues
        i. Amount of time phenol is applied varies by provider (30-180 seconds)
    b. Swab the area with isopropyl alcohol to neutralize the phenol
6. Dress the wound:
    a. Use petroleum impregnated gauze and apply to the nail
    b. Cover with gauze and wrap in Coban
7. Post-procedure instructions:
    a. Leave the applied dressing on for 24 hours
    b. The patient may ambulate and wear shoes as comfort allows
    c. Dressing may need to be soaked to remove
    d. Thereafter, cover with Band-Aid as needed
    e. Pain medication – acetaminophen or NSAIDS as appropriate

Basic Skills Qualification
Intrauterine Pressure Catheter (IUPC)

Resident: _____

	Competent
Described two relative contraindications and two potential risk of IUPCs	
Explain to patient indication for IUPC and placement	
Demonstrate all steps necessary in placing IUPC	
Successfully places IUPC	

Faculty: _____

Date: _____

Description: An IUPC provides a reliable, quantifiable measure of uterine contraction frequency, duration, and strength.

Prerequisites
- Fetal membranes are ruptured
- Cervical is sufficiently dilated, at least 1-2 cm

Indications
- External methods do not provide clear tracing
- To improve delineation of the relationship between the timing of fetal heart rate decelerations and contractions
- To determine MVU's in cases of suspected labor dystocia or during labor induction and augmentation
- To perform an amnioinfusion

Contraindications
- Diagnosed or suspected previa, vasa previa, and uterine bleeding of undetermined origin
- Chorioamnionitis

Materials
- Sterile gloves
- IUPC device

Preprocedural Education
- Explain indication for IUPC to patient
- Explain procedure to patient
- Obtain verbal consent

Procedure
1. Open IUPC package
2. Put on sterile gloves
3. Perform cervical exam to confirm adequate cervical dilatation, ruptured membranes, and presenting part. Feel for either 10 o'clock or 2 o'clock position and maintain fingers on target areas

4. Insert catheter gently into uterus (10-14 cm) to the first mark on IUPC catheter. Observe for flashback of amniotic fluid within the catheter. Advance gently, about 45 cm, to the second mark on the catheter.
5. Removed guide tube and attach to cable
6. Ensure proper functioning
7. Document placement of IUPC in chart

Complications

- Placement in extra membranous space between fetal membranes and uterine wall
- Fetal or placenta trauma
- Uterine perforation
- Umbilical cord prolapse
- Increased risk of maternal and/or fetal infection

Basic Skills Qualification
IUD Insertion

Resident: _____

	Competent
Pre-procedure education to patient—what will happen	
Confirm all needed materials are present and set up appropriately	
Aseptic/sterile technique maintained throughout	
Confirm negative pregnancy test and GCCT (or consider obtaining GCCT), update pap if needed	
Bimanual exam for uterine position, place speculum, adequately visualize cervix and prep cervix with betadine	
Sound uterus – uses tenaculum or dilator as needed	
Correctly deploy IUD following standard insertion protocol for IUD type	
Cut strings to 3-5 cm	
Post-procedure education to patient: -symptom control -return-to-care problems -follow-up -string check	

Faculty: _____

Date: _____

Indications

- Contraception
- Menorrhagia or dysmenorrhea (Progesterone containing IUD)
- Emergency contraception (Copper IUD)

Contraindications

- Active STI
- Pregnancy (when not used as EC)
- Uterus < 6cm or >9cm
- Undiagnosed AUB
- Uterine distortion
- Recent PID
- Copper allergy (Paraguard)

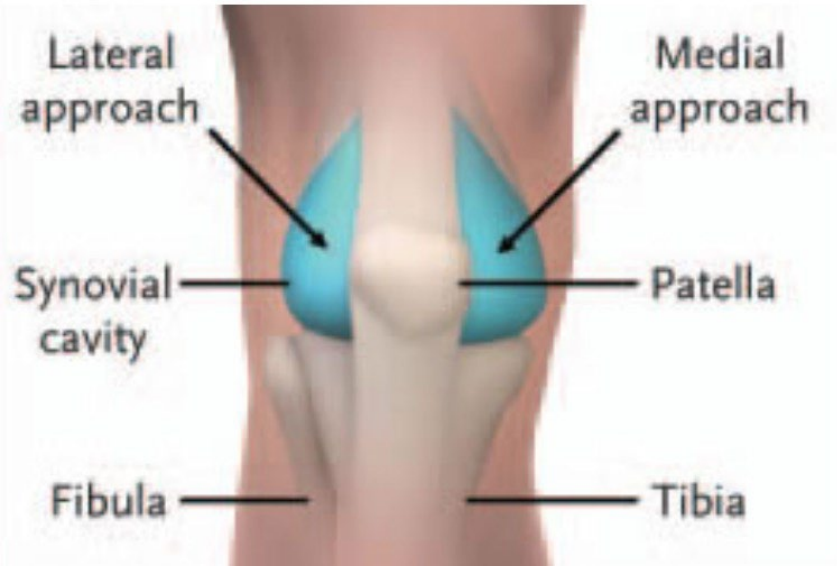
Basic Skills Qualification
Large Joint Arthrocentesis/Injection - Knee

Resident: _____

	Competent
Lists indications for arthrocentesis/injection	
Discusses contraindications	
Determines point of best access	
Discusses decision to use/not use local anesthesia	
Demonstrates appropriate sterile field	
Orders appropriate ratio of anesthesia and corticosteroid	
Inserts needle into joint atraumatically. Aspirates/injects as appropriate.	
Collects samples and orders tests as appropriate	
Discusses appropriate billing code	

Faculty: _____

Date: _____



Indications

- Diagnostic
  - Differentiate between crystal arthropathies, such as gout and pseudogout, inflammatory and noninflammatory effusions, and hemarthroses.
  - Demonstration of fat globules in suspected fracture involving joint surface
- Therapeutic
  - Increased comfort by relief of tense effusion or hemarthrosis
  - Reduction of inflammatory process and pain with intra-articular corticosteroid

Contraindications

- Bleeding disorder or excessive anticoagulation
- Superficial infection or cellulitis
- Artificial joint
- Immunocompromised patient with non-infected joint

Procedure

1. Patient is placed in supine position with knee extended or flexed at 20 degrees if the lateral approach is selected or sitting with legs dangling over end of table at ninety degrees if an anterior approach is chosen.
2. In the case of a lateral approach, the patella is identified, and palpation is carried out to determine presence of effusion. The joint will be entered at the upper third of the patella, 1 cm lateral to the patella, through the supra-patellar recess at the superior patellar pole.
3. If an anterior approach is selected, the anterior joint line on either side of the patella tendon is palpated to determine effusion and easiest approach.
4. In either approach, the needle is directed toward the intracondylar notch
5. The planned site of entry may be marked with skin marker at this stage.
6. A local sterile field is created with antiseptic solution.
7. 1% Lidocaine may be injected along the proposed needle track, particularly if an 18-gauge or larger needle is used. (Evacuation of a hemarthrosis). If so, a 25 or 30-gauge needle may be used. A wheal can also be raised as an additional landmark.
8. The needle is directed toward the suspected effusion
9. In the case of a lateral approach, the medial aspect of the joint may be compressed to encourage collection of effusion at target site. This may also stabilize the joint for needle entry.
10. In the case of an anterior approach, the needle should be directed into the joint at approximately 20 degrees to the horizontal plane.
11. In either case, if indicated, fluid should be collected for diagnostic purposes.
12. In the case of tense effusions (usually hemarthrosis) large volumes of extraction - 50 mls at a time - may reduce pain and. Improve function.
13. If corticosteroid is to be injected, or if the sole purpose of the arthrocentesis is injection, the ratio of steroid to anesthetic solution should be 1:2. In the case of a knee joint, 10 mls may be injected.
14. At conclusion, injection site should be covered with a Band-Aid.

A video can be found here:

"New England Journal of Medicine - knee arthrocentesis"

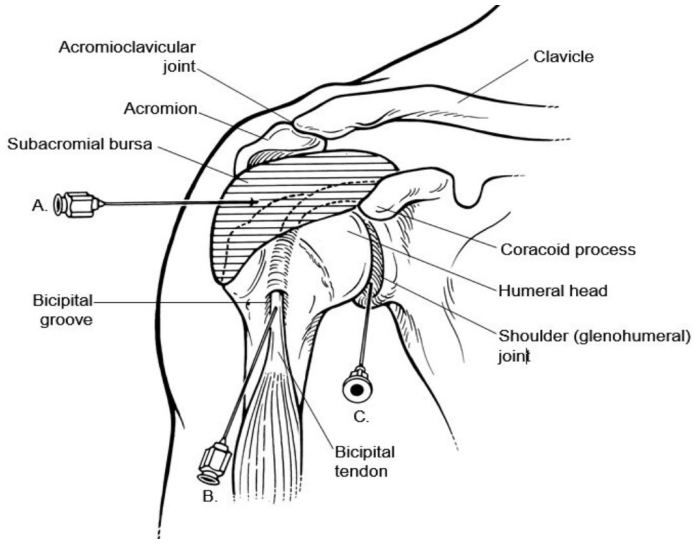
Basic Skills Qualification
Large Joint Arthrocentesis/Injection – Shoulder

Resident: _____

	Competent
Lists indications for arthrocentesis/injection	
Discusses contraindications	
Determines point of best access	
Discusses decision to use/not use local anesthesia	
Demonstrates appropriate sterile field	
Orders appropriate ratio of anesthesia and corticosteroid	
Inserts needle into joint atraumatically. Aspirates/injects as appropriate.	
Collects samples and orders tests as appropriate	

Faculty: _____

Date: _____



Indications

Diagnostic:

- Differentiate between crystal arthropathies, such as gout and pseudogout, inflammatory and noninflammatory effusions, and hemarthroses.
- Confirm site of pain apparently arising from shoulder.

Therapeutic:

- Increased comfort by relief of tense effusion or hemarthrosis
- Reduction of inflammatory process and pain with intra-articular corticosteroid
- Facilitate Physical Therapy

Contraindications

- Bleeding disorder or excessive anticoagulation
- Superficial infection or cellulitis
- Artificial joint
- Immunocompromised patient with non-infected joint

A posterior approach is preferred and demonstrated. An anterior approach, lateral to coracoid process, may also be used.

Instructions:

1. Patient is seated with the arm dangling at the side.
2. The following surface anatomy landmarks are identified: spine of the scapula, anterior and posterior ends of acromion, coracoid process.
3. The planned site of entry may be marked with skin marker or ballpoint pen at this stage. This is two finger breadths below, and two finger breadths medial to, the postero-inferior edge of the acromion.
4. A local sterile field is created with antiseptic solution.
5. 1% Lidocaine may be injected along the proposed needle track. Aa 25 or 30-gauge needle may be used for this. A wheal can also be raised as an additional landmark.
6. The needle, 20 gauge and 2.5", is directed toward the coracoid process.
7. If indicated, fluid should be collected for diagnostic purposes.
8. If corticosteroid is to be injected, or if the sole purpose of the arthrocentesis is injection, the ratio of steroid to anesthetic solution should be 1:2. 5 - 10 mls may be injected.
9. At conclusion, injection site should be covered with a Band-Aid.

A video is available here:
"Arthrocentesis - shoulder joint, posterior approach"

Basic Skills Qualification
Lumbar Puncture

Resident: _____

	Competent
Informed consent: can state contraindications and describe risks, benefits, alternatives and procedure	
Positioning: Lateral decubitus, position, knee-chest, neck flexed, lower lumbar spine should be flexed with the back perfectly perpendicular to the edge of a bed	
Identify anatomy of the lumbar spine correctly	
Sterile technique, universal precaution	
Selects and draws appropriate anesthetic, typically 1% lidocaine without epinephrine	
Stylet and Spinal needle insertion	
Place 3-way stopcock and manometer, measure open pressure	
CSF collection in 4 tubes	
Remove stylet and spinal needle, place bandage over the puncture site	

Faculty: _____

Date: _____

Lumbar Puncture (Adult)

Consent

Indications
- Suspected CNS infection
- Suspected subarachnoid hemorrhage
- Therapeutic reduction of CSF pressure
- Sampling of CSF for any other reason

Contraindications
- Local skin infections over proposed puncture site
- Uncontrolled bleeding diathesis
- Lack of patient cooperation

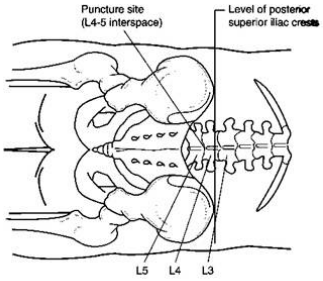
Relative contraindications
- Raised intracranial pressure (ICP)
- Suspected spinal cord mass or intracranial mass lesion

Other Considerations
- Spinal column deformities (may require fluoroscopic assistance)

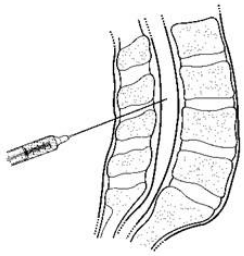
Risks
- Headache: up to 40% with Quincke needle, 5% with Sprotte or Whitacre needle

- Infection, lower back pain, nerve root irritation, bleeding, spinal hematoma, cranial neuropathy, herniation, are rare.

You will be expected to demonstrate the following:
1. Assess indications for procedure and obtain informed consent as appropriate
2. Explain procedure to the parent/guardian (risks, benefits, alternatives)
3. Prepare equipment/field; prepare the patient, light the area
4. Positioning
   - Place the patient in the lateral decubitus position lying on the edge of the bed and facing away from operator.
   - Place the patient in a knee-chest position with the neck flexed.
   - The lower lumbar spine should be flexed with the back perfectly perpendicular to the edge of a bed.
   - The hips and legs should be parallel to each other and perpendicular to the table.
   - The patient's head should rest on a pillow, so that the entire cranio-spinal axis is parallel to the bed.
5. Locate landmarks: between spinous processes at L4-5, L3-4 levels. (See [1]) On obese patients, find the sacral promontory; the end of this structure marks the L5-S1 interspace. Use this reference to locate L4-5 for the entry point. You will aim the needle towards the navel.



1] Anatomy of lumbar spine showing sites for dural puncture


[2] Angling the needle so it passes between the spinous processes of the vertebrae.

6. Prep and drape the area after identifying landmarks.
7. Use lidocaine 1% with or without epinephrine to anesthetize the skin and the deeper tissues under the insertion site.
8. Assemble needle and manometer. Attach the 3-way stopcock to manometer.
9. Insert stylet, then the spinal needle (bevel-up if Quincke needle) through the skin and advance through the deeper tissues.
   - A slight pop or give is felt when the dura is punctured.
   - Angle of insertion is on a slightly cephalad angle, between the vertebra (see [2]).
   - If you hit bone, partially withdraw the needle, reposition, and readvance.
10. When CSF flows, attach the 3-way stopcock and manometer. Measure ICP…this should be 20 cm or less.
   - Pressure reading is not reliable if the patient is in the sitting position.
11. If CSF does not flow, or you hit bone, withdraw needle partially, recheck landmarks, and re-advance
12. Once the ICP has been recorded, remove the 3-way stopcock, and begin filling collection tubes 1-4 with 1-2 ml of CSF each.

After tap, remove stylet and the needle, and place a bandage over the puncture site. Instruct patient to remain lying down for 1-2 hours before getting up.

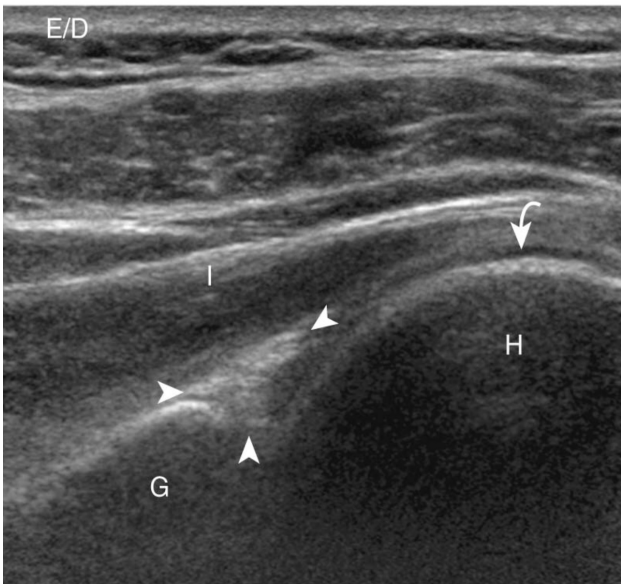
Basic Skills Qualification
Musculoskeletal Ultrasound Basic

Resident: _____

	Competent
Can identify and demonstrate:	
-muscle	
-articular cartilage	
-ligament	
-peripheral nerve	
-tendon	

Faculty: _____

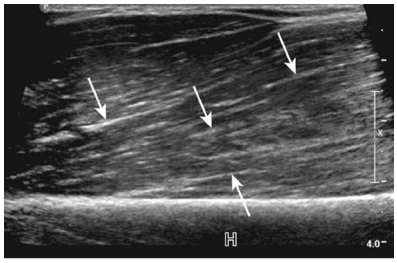
Date: _____



Explanation

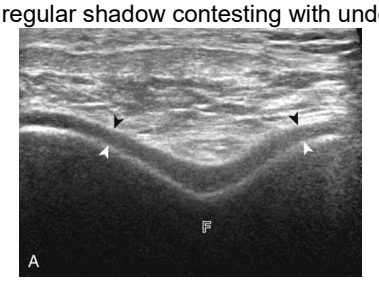
Muscle

- shows hypoechoic muscle fibers and intervening hyperechoic fibroadiose septa particularly in long axis.



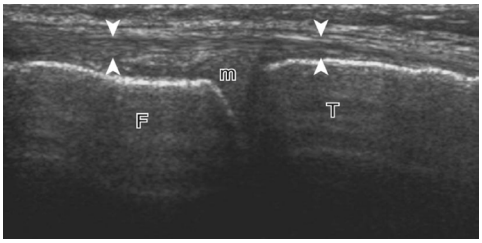
Articular cartilage

-shows hypoechoic, regular shadow contesting with underlying hyperechoic bone.



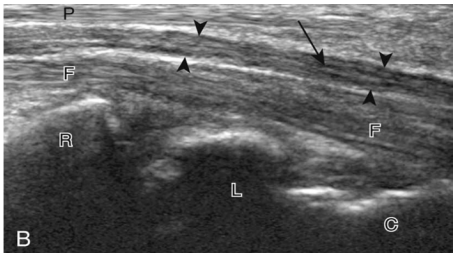
Ligament

-compact fibrillation echotexture



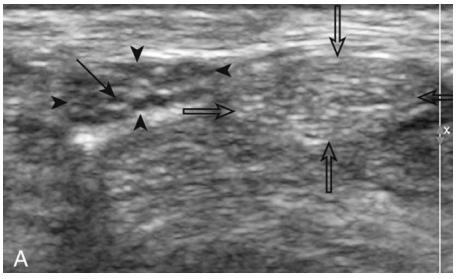
Peripheral nerve

- hypoechoic nerve fascicles on short axis



Tendon

-fibrillation, parallel echotexture



Basic Skills Qualification
Nexplanon (etonogestrel implant) Insertion

Resident: _____

	Competent
Describe the appropriate timing for placement	
Identify contraindications and common side effects	
Explain to patient the indication(s) for Nexplanon and the placement	
Obtains written consent and performs appropriate time out	
Demonstrate all steps necessary in placing Nexplanon	
Successfully places Nexplanon and applies appropriate compression and education	

Faculty: _____

Date: _____

Description: The Nexplanon (etonogestrel implant) is a single-rod progestin contraceptive placed subdermally in the inner upper arm for long-acting (three years) reversible contraception in women.

Prerequisites
- Successful completion of Nexplanon training course

Indications
- Long term reversible contraception

Contraindications
Standard contraindications to use of hormonal contraceptives are:
- Known or suspected pregnancy
- Current or past history of thrombosis or thromboembolic disorders
- Hepatic tumor or active liver disease
- Undiagnosed abnormal genital bleeding
- Known or suspected breast cancer or history of breast cancer
- Hypersensitivity to any component of the method

Materials
- Sterile drape, sterile gloves, antiseptic solution, and sterile marker (optional)
- Local anesthesia
- Sterile, preloaded Nexplanon inserter
- Pressure bandage (Kerlex)

Preprocedure Education
- Explain indication for Nexplanon to patient
- Explain procedure to patient
- Obtain written consent

- Perform appropriate time out with nursing staff

Procedure

1. The implant can be inserted at any time as long as the clinician is reasonably certain that the patient is not pregnant. An appropriately timed pregnancy test (at least two weeks after the last episode of sex) can be obtained if the absence of pregnancy is uncertain.
2. Have the woman lie on her back on the examination table with her non-dominant arm flexed at the elbow and externally rotated so that her hand is underneath her head (or as close as possible).
3. Identify the insertion site, which is at the inner side of the non-dominant upper arm. The insertion site is overlying the triceps muscle about 8-10 cm (3-4 inches) from the medial epicondyle of the humerus and 3-5 cm (1.25-2 inches) posterior to (below) the sulcus (groove) between the biceps and triceps muscles. This location is intended to avoid the large blood vessels and nerves lying within and surrounding the sulcus. If it is not possible to insert the implant in this location (e.g., in women with thin arms), it should be inserted as far posterior from the sulcus as possible.
4. Make two marks with a surgical marker: first, mark the spot where the etonogestrel implant will be inserted, and second, mark a spot at 5 centimeters (2 inches) proximal (toward the shoulder) to the first mark. This second mark (guiding mark) will later serve as a direction guide during insertion.
5. After marking the arm, confirm the site is in the correct location on the inner side of the arm.
6. Clean the skin from the insertion site to the guiding mark with an antiseptic solution.
7. Anesthetize the insertion area (for example, with anesthetic spray or by injecting 2 mL of 1% lidocaine just under the skin along the planned insertion tunnel).
8. Remove the sterile preloaded disposable NEXPLANON applicator containing the implant from its blister packaging. Prior to use, visually inspect the packaging for breaches of integrity or damage (e.g., torn, punctured, etc.). If the packaging has any visual damage that could compromise sterility, do not use the product.
9. Hold the applicator just above the needle at the textured surface area. Remove the transparent protection cap by sliding it horizontally in the direction of the arrow away from the needle. If the cap does not come off easily, the applicator should not be used. You should see the white colored implant by looking into the tip of the needle. Do not touch the purple slider until you have fully inserted the needle subdermally, as doing so will retract the needle and prematurely release the implant from the applicator. If the purple slider is released prematurely, restart the procedure with a new applicator.
10. With your free hand, stretch the skin around the insertion site towards the elbow. The implant should be inserted subdermally just under the skin. To help sure the implant is inserted just under the skin, you should position yourself to see the advancement of the needle by viewing the applicator from the side and not from above the arm. From the side view, you can clearly see the insertion site and the movement of the needle just under the skin.
11. Puncture the skin with the tip of the needle slightly angled less than 30°. Insert the needle until the bevel (slanted opening of the tip) is just under the skin (and no further). If you inserted the needle deeper than the bevel, withdraw the needle until only the bevel is beneath the skin. Lower the applicator to a nearly horizontal position. To facilitate subdermal placement, lift the skin with the needle while sliding the needle to its full length. You may feel slight resistance but do not exert excessive force. If the needle is not inserted to its full length, the implant will not be inserted properly. If the needle tip emerges from the skin before needle insertion is complete, the needle should be pulled back and be readjusted to subdermal position before completing the insertion procedure.

12. Keep the applicator in the same position with the needle inserted to its full length. If needed, you may use your free hand to stabilize the applicator. Unlock the purple slider by pushing it slightly down. Move the slider fully back until it stops. Do not move the applicator while moving the purple slider. The implant is now in its final subdermal position, and the needle is locked inside the body of the applicator. The applicator can now be removed. If the applicator is not kept in the same position during this procedure or if the purple slider is not moved fully back until it stops, the implant will not be inserted properly and may protrude from the insertion site. If the implant is protruding from the insertion site, remove the implant and perform a new procedure at the same insertion site using a new applicator. Do not push the protruding implant back into the incision.
13. Apply a small adhesive bandage over the insertion site.
14. Always verify the presence of the implant in the woman's arm immediately after insertion by palpation. By palpating both ends of the implant, you should be able to confirm the presence of the 4 cm rod. Request that the woman palpate the implant.
15. Apply a pressure bandage with sterile gauze to minimize bruising. The woman may remove the pressure bandage in 24 hours and the small adhesive bandage over the insertion site after 3 to 5 days.
16. Complete the PATIENT CHART LABEL and affix it to the woman's medical record. The applicator is for single use only and should be disposed in accordance with the Center for Disease Control and Prevention guidelines for handling of hazardous waste
17. Abstinence or back-up contraception is suggested for the first 7 days after insertion if the implant is inserted >5 days since the beginning of the patient's last menstrual period.

Complications

Complications are rare, reported in 0.3 to 1 percent of insertions. Potential complications include infection, hematoma formation, local irritation or rash, expulsion, and allergic reactions. The implant may migrate a short distance (less than 2 cm) over time

Basic Skills Qualification
Office Spirometry

Resident: _____

	Competent
Discuss procedure indications	
Coach good effort for 6 seconds of exhalation	
Obtain 3 acceptable trials	
Interpret FEV1, FVC, FEV1/FVC ratio	
Administer bronchodilator and repeat testing (optional)	

Faculty: _____

Date: _____

Indications
- Identify pulmonary disease and assess severity
- Monitor for disease progression and assess response to treatment
- Establish baseline prior to initiation of medications with pulmonary toxicity
- Risk stratification for surgical patients
- Evaluate for occupational or Social Security disability

Contraindications
- Symptoms that would affect performance (nausea/vomiting, vertigo)
- Hemoptysis of unknown etiology
- Pneumothorax
- Recent abdominal, thoracic or eye surgery
- Recent MI or unstable angina
- Thoracic aneurysm

Technique
- Discuss procedure in detail to patient
- Fit mouthpiece into spirometer, place disposable nose clip (or plug nose with hand)
- Have patient exhale as deeply as possible with spirometer away from mouth, insert mouthpiece into mouth with teeth clamped and lips closed around it to form seal
- Have patient exhale as hard and fast as possible, continuing for a full 6 seconds (coaching is key)
- Inhale fully at the end of expiration to create a full flow/volume loop (optional)
- Repeat until spirometer confirms 3 acceptable results
- Interpret and explain results to patient

Basic Skills Qualification
One-Hand Knot Tying

Resident: _____

	Competent
Demonstrates all steps necessary to proficiently tie a secure one-hand knot	

Faculty: _____

Date: _____

Procedure
hSuture Basics: How to Tie a One-Handed Surgical Knot | J&J MedTech

https://www.youtube.com/watch?v=AOfdq-h1WMg

Basic Skills Qualification
Pap Smear Collection

Resident: _____

	Competent
Performs the test for an appropriate indication	
Explains to patient the procedure	
Demonstrate appropriate gentle insertion of speculum	
Properly obtains specimen sample	
Demonstrates appropriate follow up recommendations	

Faculty: _____

Date: _____

Description: The pap smear is an effective tool for cervical cancer screening and detection.

Indications

- Screening for cervical cancer
- DES-exposed offspring
- Abnormal vaginal bleeding or discharge
- Post treatment for follow up of cervical dysplasia or carcinoma
- Visible or palpable lesion of the cervix

Contraindications

- No absolute contraindications
- Relative contraindication may be vaginal bleeding. Clinician must weigh benefits versus risk of poor sample under these circumstances.

Materials

- Drape for patient
- Gloves
- Various sized speculums
- Light for speculum
- Water soluble lubricant
- Large swab for gently blotting excess discharge or bleeding
- Cytobrush
- Collection container properly labeled with patient identifiers

Preprocedural Education:

1. Explain indication for the pap smear to patient
2. Explain procedure to patient
3. Ensure patient is modestly draped

Procedure

1. Place patient in dorsal lithotomy position with appropriate draping
2. Proper gloving should occur at this time
3. Inspect external genitalia for any abnormalities

4. Ensure speculum light is on
5. Place a small amount of water-soluble lubricant onto speculum
6. Gently insert speculum by placing a hand on the inner thigh and then proceeding to insert the speculum into the vagina. Carefully advance the speculum by applying gentle pressure posteriorly.
7. Ensure adequate visualization of cervix. Identify transformation zone and evaluate for any cervical lesions such as leukoplakia, cyst, etc.
8. Obtain pap smear by using the Cytobrush. Broom is inserted into the endocervical canal and rotated five times in one direction. Make sure to include the transformation zone during the sampling.
9. Broom is removed and placed into collection container. Upon completion of the pap smear, the brush is vigorously swished in the container to transfer sample to the container fluid. Make sure container is properly labelled.
10. Slowly remove the speculum and inspect the vagina for any abnormalities during removal of the speculum
11. Timely notification to the patient of the pap smear results and recommended follow up based on most recent pap smear guidelines

Complications
The pap smear is a screen test. False negative can occur. More frequent screening or colposcopy may be indicated based upon patient history, physical exam finding or risks of malignancy.

Basic Skills Qualification
Perineal Laceration Repair

Resident: _____

	Competent
Informed consent: Clearly communicates with the patient regarding need for repair and what to expect; informal consent obtained	
Assures adequate anesthesia, either through epidural anesthesia or local infiltration	
Thoroughly inspects the vaginal, cervical, and perineal area; rules out injury to anal sphincter or mucosa (involves help if present)	
Selects the appropriate suture and instruments needed. Demonstrates proper knot-tying technique and safe use of the needle	
Demonstrates appropriate re- approximation of tissues, with appropriate use of running, locking, and subcuticular suturing as needed.	
Explains post-procedure expectations to patient regarding pain, sutures, healing	

Faculty: _____

Date: _____

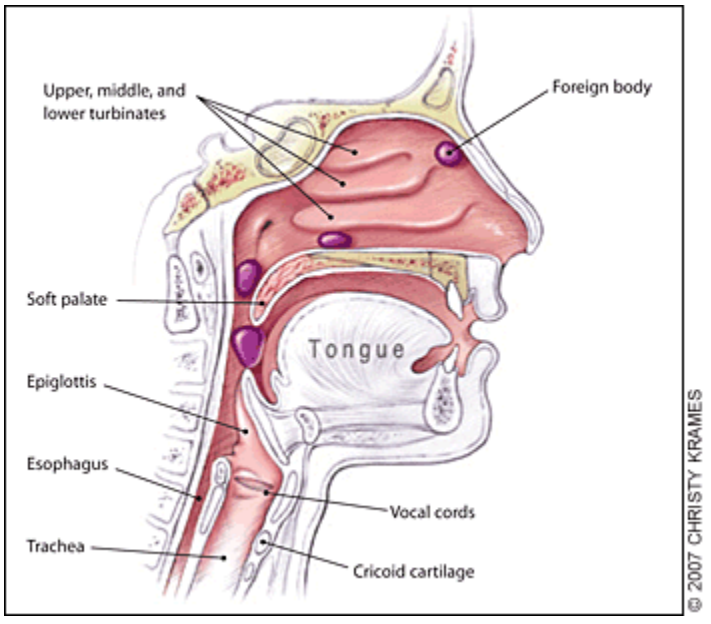
Basic Skills Qualification
Removal of Foreign Body from Nares

Resident: _____

	Competent
Obtains informed consent after explaining risks and benefits in terms the patient understands	
Assures adequate anesthesia	
Inspects thoroughly for evidence of damage to tissues.	
Selects appropriate instrument for removal of foreign body	
Apply to correctly indentify indications for referral	

Faculty: _____

Date: _____



Description
Before foreign body removal, 0.5% phenylephrine (Neo-Synephrine) can be used to reduce mucosal edema, and topical lidocaine may be applied to provide analgesia. Techniques include removal with direct visualization using forceps, curved hooks, cerumen loops, or suction catheters.

Patients may be able to expel the nasal foreign body simply by “blowing their nose” while blocking the opposite nostril. If this fails, or if a nasal foreign body is present in a small child unable to cooperate, positive pressure ventilation can be delivered through the patient's mouth. In this technique, the parent covers the child's mouth with his or her mouth, plugs the unobstructed nostril with a finger, and gives a rapid, soft puff of air

Button batteries must be removed from the nose immediately because of the danger of liquefaction necrosis of the surrounding tissue.[26]

Attempts at removal may push the nasal foreign body into the pharynx, creating an airway hazard. Sedation is discouraged because it can increase complications by reducing the gag and cough reflexes.[12] Consultation should be obtained when the foreign body cannot be removed or adequately visualized, or when a tumor or mass is suspected.

Reference:
STEVEN W. HEIM, MD, MSPH, AND KAREN L. MAUGHAN, MD. Foreign Bodies in Ear, Nose and Throat. *Am Fam Physician.* 2007;76(8):1185-1189

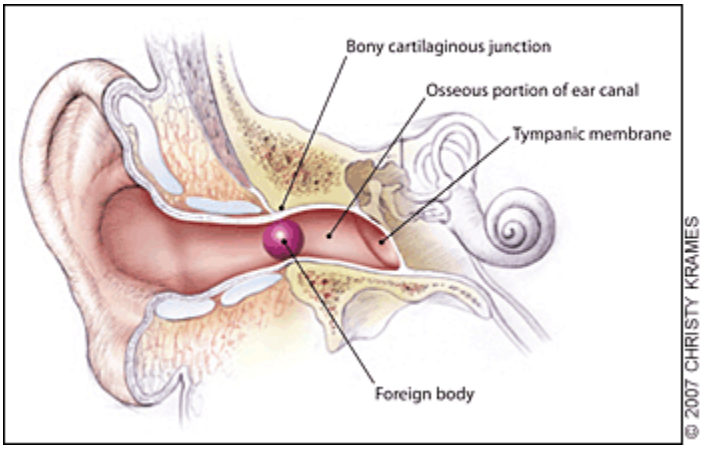
Basic Skills Qualification
Removal of Foreign Body from Ear Canal

Resident: _____

	Competent
Obtains informed consent after explaining risks and benefits in terms the patient understands	
Assures adequate anesthesia	
Inspects thoroughly for evidence of damage to tissues.	
Selects appropriate instrument for removal of foreign body	
Apply to correctly identify indications for referral	

Faculty: _____

Date: _____



Description
The external auditory canal narrows at the bony cartilaginous junction. Foreign bodies can become impacted at this point, increasing the difficulty of removal. Attempts to remove the foreign body may push it further into the canal and lodge it at this narrow point. In addition, the tympanic membrane can be damaged by pushing the foreign body further into the canal or by the instruments used during removal attempts. Adequate visualization, appropriate equipment, a cooperative patient, and a skilled physician are the keys to successful foreign body removal.
In many cases, patients with foreign bodies in the ear are asymptomatic, and in children the foreign body is often an incidental finding. Other patients may present with pain, symptoms of otitis media, hearing loss, or a sense of ear fullness.

The most common ear foreign bodies include beads, plastic toys, pebbles, and popcorn kernels.[2] Insects are more common in patients older than 10 years. In one series, 30 percent of patients required general anesthesia to facilitate removal of an ear foreign body; the majority of those patients were younger than seven years. Graspable foreign bodies (e.g., foam rubber, paper, vegetable material) have higher rates of success for removal under direct visualization. In contrast, nongraspable foreign bodies (e.g., beads, pebbles, popcorn kernels) have lower rates of successful removal and are associated with more complications, particularly canal lacerations.

Many techniques to remove ear foreign bodies are available, and the choice depends on the clinical situation, the type of foreign body suspected, and the experience of the physician. Options include water irrigation, forceps removal (e.g., alligator forceps), cerumen loops, right-angle ball hooks, and suction catheters. Live insects can be killed rapidly by instilling alcohol, 2% lidocaine (Xylocaine), or mineral oil into the ear canal. This should be done before removal is attempted but should not be used when the tympanic membrane is perforated.
Irrigation should be avoided in patients with button batteries in the ear because the electrical current and/or battery contents can cause a liquefaction tissue necrosis. Acetone may be used to dissolve Styrofoam foreign bodies[4] or to loosen cyanoacrylate (i.e., superglue).

The first attempt at removal is critical because success rates markedly decrease after the first failed attempt. Accordingly, complications increase as the number of failed removal attempts increases. Removal attempts are often painful, can cause bleeding that limits visualization, and can further wedge the foreign body into the canal. An otolaryngology referral should be obtained for patients requiring sedation or anesthesia. Other indications for referral include patients with trauma to the canal or tympanic membrane; a nongraspable foreign body that is tightly wedged in the medial two thirds of the canal or is suspected of touching the tympanic membrane; foreign bodies with sharp edges (e.g., pieces of glass); or unsuccessful removal attempts.

Multiple foreign bodies are not uncommon, especially in small children. Thus, all other orifices of the head should be inspected after removal of a foreign body from the external auditory canal.[3] Otic antibiotic drops are needed in patients with concurrent otitis externa and should be considered when canal lacerations or trauma is present. Audiography should be considered if tympanic membrane trauma or hearing loss is suspected.

Reference:
STEVEN W. HEIM, MD, MSPH, AND KAREN L. MAUGHAN, MD. Foreign Bodies in Ear, Nose and Throat. *Am Fam Physician.* 2007;76(8):1185-1189

Basic Skills Qualification
RUSH (Rapid Ultrasound in Shock and Hypotension) Exam

Resident: _____

	Competent
Explain the procedure and purpose to patient	
Select the appropriate US probe and settings	
Identify the heart using the subcostal or parasternal long-axis view evaluating the presence/absence of pericardial fluid and ventricular function	
Identify the inferior vena cava to investigate intravascular volume status	
Identify presence/absence of fluid in the RUQ (Morrison's pouch)	
Identify presence/absence of fluid in the LUQ	
Identify presence/absence of fluid in the suprapubic window (Douglas pouch)	
Identify the abdominal aorta to assess for aneurysm or dissection	
Evaluate the anterior lung fields for lung sliding, B-lines, pleural effusion	

Successful completion of the BSQ requires submission of five (5) complete exams which have been labeled and interpreted. These will be submitted to the faculty who will evaluate the exams.

Faculty: _____

Date: _____

Indications
The RUSH (Rapid Ultrasound in Shock and Hypotension) exam is a focused ultrasound protocol used to assess patients in shock or with undifferentiated hypotension.

Basic Skills Qualification
Slit Lamp Exam

Resident: _____

	Competent
Discusses indications & contraindications for the exam	
Dilates the pupils if appropriate. Position the patient with chin in the chin rest and forehead against the head rest. Examiner position is in reach of the eye.	
Turns on power, focus the eyepiece, darken the room. Adjust the light source appropriately	
Describes a systematic exam of the eye including: -Lashes & lids, demonstrate eversion of the upper lid -Conjunctiva -Cornea with fluorescein -Anterior chamber -Iris and lens	
Demonstrates atraumatic removal of a corneal foreign body	
Discusses findings and appropriate aftercare.	

Faculty: _____

Date: _____

The slit lamp is used to do a thorough exam of the eye to diagnose conditions such as corneal abrasions, keratitis, iritis, hyphemia, and for foreign body removal. An incandescent light source passes through a condenser (the slit) and a lens, and the light is reflected by an inclined mirror onto the patient's eye. The intensity, height & width of the light beam can be adjusted to view different parts of the eye. Magnification of the observed structures can also be adjusted depending on the tissue being viewed.

Indications

- Need for bright illumination or magnification to see anterior eye structures for trauma, red eye, foreign body sensation, UV light or chemical exposure to the eye. Same as for routine fluorescein exam
- When routine fluorescein exam is inconclusive
- Deep, large or central eye abrasions
- If foreign body removal is unsuccessful using standard fashion
- With suspected long-standing inflammation: iritis, ciliary blush, photophobia

Contraindications

- Exposure to caustic chemicals - **needs copious irrigation first,** then slit lamp exam
- Uncooperative patient

Mandatory slit lamp exam, then referral to Ophthalmology:

- Suspected high velocity injury to eye
- Ruptured globe
- Infected FB

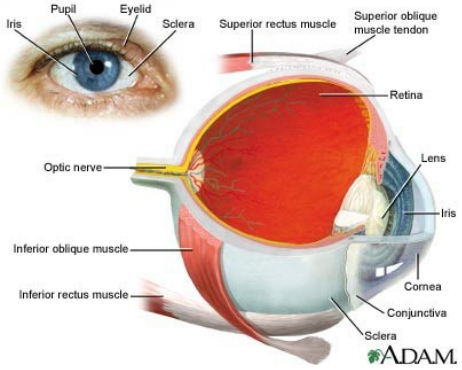
- Large metal FB with potential for rust ring
- Apparently deep or centrally imbedded FB

Equipment

- Topical anesthetic0.5% tetracaine or proparacaine
- Sterile fluorescein strips
- Isotonic ophthalmic irrigant (NS)
- Sterile cotton-tipped swabs

Procedure

1. Seat the patient comfortably with head in chin and head rest
2. Sit comfortably to be able to reach the patient's eye and the eyepiece
3. Turn on power and adjust eyepieces to 1x if wearing corrective lenses. Set intrapupillary distance. Change magnification as needed
4. Move the light source and focus depth to view the eye
5. Systematically view each structure of the eye



Basic Skills Qualification
Splinting and Casting

Resident: _____

	Competent
Correctly describes fracture or injury type	
Identifies correct splint or cast to place	
Identifies correct duration of immobilization	
Informed Consent obtained	
Places splint or cast correctly	
Verifies correct positioning of injured joint and intact distal neurovascular function	
Reviews cast care, pain control, s/sx of compartment syndrome and follow-up plan	

Faculty: _____

Date: _____

Casting vs. Splinting

- Benefits of splinting: Always splint acute fractures initially because of anticipated further swelling.
- Stabilize soft tissue injuries, pain relief, easily removable for icing and monitoring, provides temporary support prior to surgery.
- Benefits of casting: Provides marked stability, significant pain relief

Indications

- Immobilization of stable, non-displaced, closed fractures
- Reduced dislocations
- Injuries to muscle, tendons, and ligaments including grade three ligament sprains
- Treatment of congenital and acquired deformities like congenital clubfoot

Contraindications

- Early/Premature casting: casting before maximal swelling has occurred can cause necrosis and compartment syndrome
- Open Wound: Can cause infection, can use cast window to monitor
- Unstable fractures that require surgical fixation. Splint only until definitive treatment can be provided

Complications

- Nerve entrapment: Compression of the peroneal nerve at the fibular head can lead to foot drop
- Compartment syndrome: Casting before swelling has reached its maximum. (Look for pain with resisted plantar flexion of the great toe)
- Cast loosening: Inadequate stability and immobilization
- Skin necrosis: Pressure over bony prominences

- Joint stiffness

Basic Principles of Splinting and Casting

- Decide whether injury or fracture is appropriate for splinting or casting and if so what type: Short arm, ulnar gutter splint, sugar-tong splint, long arm, thumb spica, short leg, long leg, etc.
- Decide estimated duration of immobilization.
- Obtained informed consent.
- Measure stockinette to allow extra to fold over ends and remove all transverse wrinkles.
- Place joint in neutral position (90 degree of ankle flexion, wrist slightly extended and in position of function, etc.
- Apply cast padding over stockinette, overlapping 50% with each consecutive wrap, and providing two complete layers. Provide extra padding over bony prominences like the heel, malleoli, metatarsal heads, proximal fibula, anterior tibia, flexion creases and fulcrum points.
- Apply plaster or fiberglass rolls after removing excess water same way as cast padding. First turn with 100% overlap and second turn with 50%. Fold ends of stockinette onto initial layers before placing final cast layers. Apply 4-6 layers of cast evenly with extra reinforcement in areas of increased stress.
- Smooth the cast using both hands to make sure it conforms to the contours of local anatomy.
- Recheck positioning of the injured joint: ankle at 90 degrees and wrist slightly extended and relaxed. Verify distal perfusion with color, temp, sensation and cap refill.
- Post Procedure Education: Keep extremity elevated for 48 hours and use ice over splint or cast. Keep cast dry. Do not insert anything between cast and skin. Call provider if increased pain, tightness or irritation, numbness, discolored or cool toes.

Reference

Pfenninger, JL and Fowler GC, Procedures for Primary Care. Mospy 2003. (Marolf, G, Kovan, J and Russell White, Eathorne, S, and Shepherd, Todd, p 1391-1418.

Basic Skills Qualification
Stress Testing

Resident: _____

	Competent
Informed consent	
Identify indications	
Identify contraindications	
Identify complications	
Identify protocols	
Select appropriate protocol	
Perform stress test	
Result interpretation	

Faculty: _____

Date: _____

Indications

- Evaluation of chest pain and/or SOB
- Assess functional capacity
- Evaluation of exercise-induced arrhythmia
- Evaluate BP response to exercise

Contraindications

- Recent acute MI
- Left bundle-branch block
- Unstable angina
- Severe symptomatic left ventricular dysfunction
- Potentially life-threatening dysrhythmia
- Acute pericarditis, myocarditis, endocarditis
- Severe aortic stenosis
- BBP greater than 200 mm Hg systolic or 120 mm Hg diastolic
- Acute pulmonary edema, embolus, or infarction
- Acute thrombophlebitis or DVT
- Any general illness that precludes exercise
- Inability or lack of desire to perform the test
- ACLS equipment and provider not available

Complications

- Hypotension
- Congestive heart failure
- Cardia arrhythmia
- Cardiac arrest
- Acute myocardial infarction
- Acute central nervous system event such as syncope or stroke
- Death

Pre-Procedure Education

- Do not eat for at least 2 hours before the test
- Hold beta blockers, long-acting nitrates, and calcium channel blockers the day of the procedure
- Instruct patient to bring shoes and clothing conducive to exercise

Procedure

1. Review medical history and physical exam
2. Select the protocol
    a. Choose a protocol that starts at low level (2-3 METS)
    b. A protocol with stage durations of at least 3 minutes allowing physiologic adaptation
    c. Workload increases no greater than 1-3 METS at each stage allowing for physiologic adaptation
    d. Choose a protocol that allows completion within 20 minutes
    e. Most common protocols
        i. Bruce
        ii. Modified Bruce
3. Obtain resting blood pressure and EKG
4. Begin exercise test using preselected protocol
5. Instruct the patient to give adequate warning before he or she wants the test stopped. Encourage the patient to go as far as they can.
6. Monitor the patient's symptoms and pulse rate at all times.
7. Record a 12-lead EKG at the end of each stage, if the patient develops symptoms (chest pain, palpitations, etc.), immediately on stopping, and every minute for 8 minutes post exercise
8. Test termination criteria
    a. Systolic blood pressure drops below resting value
    b. Worsening angina chest pain
    c. Central nervous system symptoms (pre-syncope, etc.)
    d. Signs of poor perfusion (pallor, cyanosis)
    e. Serious arrhythmia
    f. Severe shortness of breath
    g. Patient request to stop
    h. Marked EKG ST-segment changes
    i. Technical problems
    j. Hypertensive response (SBP > 240, DBP > 115)
    k. Development of left bundle-branch block

Test Interpretation

- Stress test is adequate only if:
    - Goal HR obtained (220-age X .85)
    - Double product (peak SBP X peak HR) > 20,000
    - Minimum of 4 METS is achieved
- Normal clinical response to exercise can include:
    - A gradual increase in pulse to maximum rate achievable to the patient (220-age)
    - A rise in systolic blood pressure to approximately twice the resting value
    - A return of systolic blood pressure to its baseline by approximately 6 minutes postexercise
    - A minimal change (no > 10 mm Hg) or decrease in diastolic bp during exercise
    - EKG changes

        - P-wave amplitude increases
        - PR interval decreases
        - R wave amplitude decreases if HR > 150
        - J-point, or the junction between the S wave and ST segment, is depressed at maximum exercise and gradually returns to baseline during recovery
        - ST segment upsloping 40-60 ms after J-point
        - Development of right bundle-branch block
        - Isolated T-wave inversion without ST-segment displacement
- Abnormal clinical response to exercise
    - EKG changes
        - ST segment depression
            - Flat and down sloping most specific
            - Upsloping least specific
            - Must occur in three consecutive beats in two consecutive leads
            - Should be measured 60 ms from J-point
            - Varying opinion on the amount of ST segment depression that indicates an abnormality
                - < 1 mm – low probability for presence of myocardial ischemia
                - 1-2 mm – intermediate probability for the presence of myocardial ischemia
                - > 2 mm – high probability for the presence of myocardial ischemia
        - ST segment elevation suspicious for ischemia
        - Ventricular tachycardia as well as multifocal and frequent PVC's (> 30% of contractions)
        - Transient atrial fibrillation or flutter
        - Exercise-induced second- or third-degree block
        - A drop in SBP or a SBP that does not rise with exercise intensity

Basic Skills Qualification
Thrombosed Hemorrhoid Excision

Resident: _____

	Competent
Informed consent	
Positioning (Lateral decubitus, knees flexed)	
Inspection of perianal area	
Identification of thrombosed hemorrhoid	
Anesthesia(lidocaine with epi, 2-5cc)	
Ellipse of hemorrhoid	
Evacuation of clot	
Obtain hemostasis	
Post procedure dressing	
Post procedure aftercare	

Faculty: _____

Date: _____

Indications

- Painful thrombosed external hemorrhoid

Complications

- Bleeding
- Pain
- Recurrence
- Fissure
- Infection

Basic Skills Qualification
Trigger Finger/Flexor Tendon Sheath Injection

Resident: _____

	Competent
Properly diagnoses trigger finger	
Identifies anatomy including A1 pulley and neurovasculature	
Discusses indications and contraindications	
Orders appropriate ratio of anesthesia and corticosteroid	
Demonstrates appropriate sterile field	
Uses correct needle size	
Inserts needle into flexor tendon sheath atraumatically whether from a proximal or distal approach	
Avoids injecting the tendon or surround subcutaneous tissues	

Faculty: _____

Date: _____

Indications

- Painful locking or clicking of the finger secondary to inflammation and/or thickening of the flexor tendon sheath
- Failure of conservative management

Contraindications

- Bleeding disorder or excessive anticoagulation
- Superficial infection or cellulitis
- Poorly controlled diabetes
- Failure of multiple previous injections

Instructions

1. Patient is seated with hand supported in a volar position (beneficial to support wrist with towel block)
2. The A1 pulley is identified in addition to the location of the flexor tendon.
3. A local sterile field is created with chlorohexidine or antiseptic solution of choice.
4. Ethyl chloride spray or lidocaine can be used if preferable to anesthetize the skin.
5. A 25-27 gauze needle is inserted from either a proximal or distal approach into the tendon sheath while taking precaution to avoid injecting the tendon. A combination of 10-20mg(.25-0.5ml) of 40 mg/ml of Kenalog and 0.5 mL of 1% lidocaine is then injected into the flexor tendon sheath.
6. The needle is then removed and Band-Aid is applied.

Basic Skills Qualification
Ultrasound Guided Venous Access

Resident: _____

	Competent
Understands, and can apply, the concepts of:	
Angle, Axis and Point	
Can identify and demonstrate following (Phantom):	
-aligns limb, transducer and screen appropriately -starts distally and moves proximally -normal vein and compression test -identifies and avoids nerves -depth and distance from probe as equal when selecting skin entry point -keeps needle tip in view at all times -understands 'wiggle' and 'compression' tests -selects a catheter around 2.5" in length if inserting IV line	
Can demonstrate cannula in two planes	
Can identify and demonstrate the following: cephalic, basilica and brachial veins	

Faculty: _____

Date: _____

Basics of Intravenous Cannulation

This is a fundamental skill. Residents are frequently called to challenging patients in the evening or early hours of the morning, after IV resource teams have left and available staff have been unable to secure IV access. Attempts to involve interventional radiology at these times will be unpopular.

All other things considered, axis, angle and tip are fundamental and cannot be ignored. Long axis and short axis have their respective advantages and disadvantage, and either – or both – should be employed depending on circumstances. Fundamentally, the needle tip – not the shaft – must be kept in view, whether by moving or tilting the transducer. Failure to do so converts the procedure to a 'blind procedure'. Additionally, the angle of needle insertion is important, but can be estimated in advance by the depth of the target. For example, a venous target at a depth of 1 cm can be accurately approached from a 45-degree angle if the needle insertion point is 1 cm from the transducer midline. This information is readily obtained from the ultrasound screen.

Basic Skills Qualification
Ultrasound Guided Injection – Nerve or Tendon

Resident: _____

	Competent
Explain the procedure and purpose to patient	
Select the appropriate US probe and settings	
Identifies relevant anatomical structures	
Identifies appropriate areas to avoid (blood vessels, nerves, etc.)	
Prepares equipment and maintains a sterile field throughout	
Advances the needle under real-time guidance with in-plane or out-of-plane technique as appropriate	
Delivers medication under direct visualization	
Capture and labels imaging and documents the procedure appropriately	
Post-injection care discussed	

Faculty: _____

Date: _____

Indications
Ultrasound-guided steroid injections of nerves or tendons are indicated for the treatment of localized inflammatory conditions causing pain, swelling, or impaired function. Common examples include median nerve entrapment in carpal tunnel syndrome and tenosynovitis of the first dorsal compartment in De Quervain's disease. The use of ultrasound enhances the precision of the injection, allowing for accurate delivery of corticosteroid and anesthetic near the target structure while minimizing the risk of injury to adjacent tissues.

Basic Skills Qualification
Vasectomy

Resident: _____

	Competent
Demonstrate the appropriate counseling and informed consent utilizing the consent form set	
Determine the incision site(s)	
Manually isolate the vas deferens	
Anesthetize the skin and perform the vas block on each side	
Use the appropriate tool to fix the vas against the skin of the scrotum	
Make incision and remove a segment	
Interpose fascial layer between the ends of the vas	
Repeat on the opposite side	

Faculty: _____

Date: _____

Indications
Desire for permanent sterilization

Contraindications
- Poorly defined spermatic cord anatomy
- Local infectious process
- Active bladder or prostate infection
- Poorly characterized bleeding disorder
- Unable to give appropriate informed consent
- Testicular mass

Procedure
1. Discuss with the patient all the topics in the counseling outline
2. Complete the informed consent and ensure that it gets scanned into the HER
3. Prep the scrotum using betadine
4. Drape the patient exposing the scrotum
5. Isolate the vas deferens using the 3-finger technique
6. Use local anesthetic to raise a wheal on the skin and perform the vas block. Repeat on the opposite side
7. Using a clamp isolate the vas against the skin of the scrotum
9. Using the vas dissector/scalpel, open the skin of the scrotum and continue dissecting the fascia away from the vas until the vas is clean. The better job you do, the less bleeding there will be
10. Cross clamp the vas using the vas dissector; hemi-sect the vas closest to the prostatic end; cauterize the vas and withdraw slowly. Completely cut the vas and allow the prostatic end to fall back into the fascial layer

11. Close the fascial plane using the surgical clip
12. After ensuring hemostasis, allow the open end of the vas to fall back into the scrotum.
13. Repeat the procedure above on the opposite side
14. Using gauze, cover the scrotal wound
15. Using the patient supplied scrotal support; ensure that the bulky dressing is all in the cup of the support
16. Discuss the post-operative instructions with the pt. and give the written instructions to the patient
17. Give the patient the bag containing the instructions for obtaining the post vas sample at 6 weeks
18. Document the procedure and code

Basic Skills Qualification
Venipuncture

Resident: _____

	Competent
Can properly identify patient with 2 patient identifiers	
Can identify and demonstrate appropriate vein choice	
Can demonstrate proper hand hygiene, skin cleansing technique, and PPE use	
Understands concept of angle and distance and can demonstrate vein cannulation with needle	
Syringe draw # 1 Syringe draw #2 Syringe draw #3	
Vacutainer draw #1 Vacutainer draw #2 Vacutainer draw #3	
Butterfly draw #1 Butterfly draw #2 Butterfly draw #3	
Can identify and demonstrate correct order of draw	
Can identify proper tube selection	
Can demonstrate proper use of blood transfer devices	
Can demonstrate proper labeling techniques	
Can demonstrate proper disposal of materials/supplies in designated containers	

Faculty: _____

Date: _____

Basics of Venipuncture

Venipuncture Procedure

1. Positively identify patient with two forms of identification (state first and last name, DOB)
2. Review requested tests and gather tubes and supplies needed for draw.
3. Position patient in chair or sitting or lying on a bed.
4. Wash hands. Wear appropriate gloves.
5. Select appropriate site for venipuncture by placing tourniquet 3 to 4 inches above selected puncture site on the patient. Do not leave tourniquet on for longer than 1 minute.
6. Put on gloves and palpate vein.
7. When vein is selected, cleanse the area in a circular motion beginning at the site and working outward. Allow the area to air dry. After the area is cleaned, it should not be touched or palpated again.
8. Grasp the patient's arm firmly using your thumb to draw the skin taut and anchor the vein. Swiftly insert the needle through the skin into the lumen of the vein. The needle should form a 15-30 degree angle with the arm surface. Avoid excess probing.

9. When the last tube is filling if using a vacutainer method, remove the tourniquet. Otherwise, withdraw appropriate amount of blood to fill requested tubes for testing.
10. Remove the needle from the patient's arm using swift backward motion.
11. Place gauze immediately on the puncture site. Apply and hold adequate pressure to avoid formation of a hematoma. After holding pressure for 1 minute, tape a fresh piece of gauze or Band-aid to the puncture site.
12. If using syringe or butterfly, use transfer device to fill tubes to stated draw volumes. Gently mix all gel barrier and additive tubes with gentle inversion 5 to 10 times immediately after the draw. Efficient blood transfer is key to avoid clotting.
13. Dispose of contaminated materials/supplies in designated containers.

Order of Draw
Blood collection tubes must be drawn in a specific order to avoid cross contamination of additives between tubes. The recommended order of draw for plastic vacutainer tubes is:

1. First- blood culture bottles
2. Second- coagulation tube (light blue top)
3. Third- non-additive tube (red top)
4. Last draw- additive tubes in this order
    a. SST (gold top)
    b. Sodium heparin (dark green top)
    c. PST (light green top)
    d. EDTA (lavender top)
    e. Oxalate/fluoride (light gray top)

Labeling the Sample
All specimens must be received by the laboratory with legible label containing at least 2 unique identifiers.

The specimen must be labeled with the patient's full name and one of the following:

- MRN
- Patient's full date of birth
- Unique requisition identifier/label

Basic Skills Qualification
Wound and Laceration Repairs

Resident: _____

	Competent
Obtains informed consent after explaining risks and benefits in terms the patient understands	
Assures adequate anesthesia. Selects the appropriate agent, including whether epinephrine is appropriate or not	
Irrigates the wound. Inspects thoroughly for evidence of damage to deep tissues. Uses radiographs appropriately	
Creates and maintains a sterile field	
Selects the appropriate suture and instruments needed. Demonstrates proper knot-tying technique and safe use of the needle	
Demonstrates appropriate placement of sutures, degree of tension, and techniques to optimize cosmesis and healing	
Explains post-op expectations, correct timeframe for return for suture/staple removal, and orders antibiotics or TD vaccine as need.	

Faculty: _____

Date: _____

To demonstrate competence in wound and/or laceration repair, the resident will include the following elements:

- Obtains informed, written consent with clear explanation of risks and benefits of procedure – including (but not limited to) scarring, infection, or bleeding. Explains procedure in terms patients can understand and answers all questions. Clarifies any allergies to anesthetics or iodine.
- Outlines indications for the repair, and the decision-making process regarding type of repair: with wound adhesive, wound tape (steri strips), staples, or sutures. Is able to articulate whether primary closure is appropriate or not in the patient's circumstances.
- Provides appropriate and adequate anesthesia. Demonstrates appropriate choice of epinephrine or not, depending upon site and procedure.
- Thoroughly irrigates any wound at risk for infection.
- Inspects the wound thoroughly and identifies any foreign bodies or injuries to underlying structures. Elects to use radiographs as needed.
- Selects proper suture materials for the site (absorbable vs non-absorbable, gauge, needle size and type)
- Selects appropriate patient positioning and is attentive to patient comfort throughout. Conducts procedure in a sensitive manner.
- Demonstrates proper use of deep sutures, if appropriate. Demonstrates ability to undermine if appropriate.
- Demonstrates appropriate placement of curricular stitches, either continuous or interrupted. Demonstrates appropriate knotting technique.

- Provides appropriate patient instruction on wound care, signs of infection, return for follow-up and timeframe for suture/staple removal as appropriate.
- Orders tetanus vaccination as needed (if>5 yrs. since prior). Evaluates need for antibiotic coverage.

Finer Points: Optimally, the resident can demonstrate understanding and skill in creating neat closures with optimal treatment to facilitate healing. These include:

- Eversion of the wound with proper needle placement
- Forceps placement into dermis to avoid tissue destruction to epidermis
- When delayed primary closure may be considered
- Consideration of Langer's Lines and tension of wound
- Vertical and horizontal mattress sutures as needed for areas of tension or need for greater eversion
- When alternatives to sutures might be best