

APGO Basic Clinical Skills Curriculum



Surgical Instruments



Association of Professors of Gynecology and Obstetrics (APGO)
Undergraduate Medical Education Committee ©2017

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DESCRIPTION

Learners rotating on the Obstetrics and Gynecology clerkship require basic knowledge and dexterity related to commonly-used surgical instruments. These skills with surgical instruments are important for 3rd and 4th year learners in all surgical and procedural specialties. Knowledge and dexterity with instruments and basic surgical techniques can increase faculty willingness to allow more hands-on learner participation in procedure-related encounters and the operating room in general. Increased learner participation can increase learner interest in the surgical and procedural aspects of Obstetrics and Gynecology. It can also allow the learner to explore if a procedural specialty is attractive as a future career choice. The goal of this module is to increase student knowledge and dexterity with commonly-used surgical instruments which ought to result in improved faculty willingness to actively involve learners in the surgical care of patients. This module presents a clinical simulation for teaching learners to correctly identify, hold and manipulate the commonly-used instruments for a C- Section and an abdominal hysterectomy.

INTENDED LEARNING OUTCOMES

After completing this module learners will be able to do the following:

1. Visually identify the common surgical instruments used in a Cesarean section and an abdominal hysterectomy
 - a. Scalpel (10-blade, 15-blade)
 - b. Scissors (Metzenbaum, Mayo-Curved, Mayo-straight, Suture)
 - c. Needle driver
 - d. Clamps (Heaney, Zeppelin, Kelly, Kocher, Allis, Hemostats, Tonsils, Right Angle, Babcock)
 - e. Retractors (Richardson, Bladder Blade)
 - f. Forceps (Russians, Adsons, Pick-ups with teeth)
 - g. Electrosurgical unit
 - h. Skin stapler
 - i. Suture (Free-ties)
 - j. Needles ("Stick"-ties)
2. Demonstrate proper technique for holding and manipulating each instrument
3. Document competency using a checklist

BEST PRACTICES

The introduction to surgical instrumentation should be taught by an experienced instructor (resident, fellow, faculty, scrub technician or nurse) with a relatively small group of students (<20) during the orientation to the Obstetrics and Gynecology clerkship. The ideal module includes a C-section simulator model, an abdominal hysterectomy simulator model, and the actual surgical instruments. However, if these are unavailable, photos of the instruments or online pictures or videos of the instruments may be utilized, as well as online videos of a C-section or abdominal hysterectomy. You can also simply describe verbally the steps of the surgery, the choice of instrument, and why it is used.

Materials

For this module you will need the following:

1. A faculty member, resident, fellow senior medical student, scrub technician, or a scrub nurse to teach the names, uses, and proper handling of each instrument
2. A C-Section surgical tray with all necessary instruments
3. An abdominal hysterectomy tray with all necessary instruments
4. A C-Section simulator module (Found on ACOG website, CREOG section, Surgical Curriculum in Obstetrics and Gynecology, Cesarean Section) (<http://cfweb.acog.org/scog/>) *
5. An abdominal hysterectomy module (Found on ACOG website, CREOG section, Surgical Curriculum in Obstetrics and Gynecology, Abdominal Hysterectomy) (<http://cfweb.acog.org/scog/>) *
6. Checklist for C-Section instruments (Included in this module)
7. Checklist for abdominal hysterectomy instruments (Included in this module)

** Access to these links is restricted to ACOG members.*

Module Flor for C-Section (45 minutes)

1. The module begins with the instructor reviewing each instrument with the learner from the C-Section surgical tray
 - a. Point out the unique features of the instrument so the learner can visually identify it and understand the reasons for its use and when
 - b. Demonstrate how to hold the instrument
 - c. Demonstrate how to manipulate the instrument
 - d. Explain how, where, and why the instrument is used in a particular step of the C-Section

2. Allow the learner to visualize, hold, and manipulate each instrument
3. Demonstrate the steps of a C-section using the simulator
 - a. Link the steps of the C-section with each instrument
 - b. Review how to hold the instrument
 - c. Review how to manipulate the instrument
 - d. Review how, where, and why the instrument is used in each step of a C-section
4. Perform an assessment of the learner using the C-Section checklist
 - a. State each step of a C-Section and ask the student what instrument would be used, ask them to identify the instrument, hold and manipulate it correctly.

Module Flow for Abdominal Hysterectomy (45 minutes)

1. The module begins with the faculty member reviewing each instrument with the learner from the abdominal hysterectomy surgical tray
 - b. Point out the unique features of the instrument so the learner can visually identify it and understand the reasons for its use
 - a. Demonstrate how to hold the instrument
 - b. Demonstrate how to manipulate the instrument
 - c. Explain how, where, and why the instrument is used in a particular step of the abdominal hysterectomy
2. Allow the learner to visualize, hold, and manipulate each instrument
3. Demonstrate the steps of an abdominal hysterectomy using the simulator
 - a. Link the steps of the abdominal hysterectomy with each instrument
 - b. Review how to hold the instrument
 - c. Review how to manipulate the instrument
 - d. Review how, where, and why the instrument is used in each step of an abdominal hysterectomy
4. Perform an assessment of the learner using the abdominal hysterectomy checklist

State each step of an abdominal hysterectomy and ask the student what instrument would be used, ask them to identify the instrument, hold and manipulate it correctly.

Case Scenario 1

Ms. Winters is a 22-year-old female who has been laboring for the last 6 hours, but has made no cervical change during that time. At 5cm/100%/-1 station the decision was made to perform artificial rupture of membranes to speed up labor. Two hours after rupture of membranes with clear fluid, no cervical change had occurred and the decision was made to augment labor with oxytocin. Two hours later, an intrauterine pressure catheter placed as the maximum oxytocin dose per protocol had been reached. Contractions were shown to be adequate, and after the obtaining informed consent from the patient, the decision was made to proceed with a primary low flap transverse C-section.

The learner's tasks are to:

1. Identify the common surgical instruments used in a C-section
2. Demonstrate how to hold and manipulate the instrument for each step

Case Scenario 2

Ms. Winters is a 48-year-old female who has failed conservative treatment for menorrhagia and uterine fibroids. On exam, she has a 20-week size uterus and you are taking her to the operating room for a total abdominal hysterectomy.

The learner's tasks are to:

1. Identify the common surgical instruments used in an abdominal hysterectomy
2. Demonstrate how to hold and manipulate the instrument for each step

CHECKLISTS

C-Section

Steps of a C-Section	Instrument for Steps of C-Section	Visually Identifies Instrument Correctly		Holds and Manipulates Instrument Correctly	
		DONE	NOT DONE	DONE	NOT DONE
Abdominal Incision					
Epidermis/Dermis Layer	Scalpel				
Subcutaneous Layer	Scalpel or Electrocautery Unit				
Fascial Layer	Scalpel, Mayo Scissors				
Rectus Muscle Layer	Bluntly/Manual				
Peritoneal Layer	Bluntly/Manual or Metzenbaum Scissors				
Bladder Flap	Forceps, Metzenbaum Scissors				
	Bladder Blade				
Uterine Incision	Scalpel, Bandage Scissors, Bluntly/Manual				
Delivery of Fetus	Manual				

Artificial Rupture of Membranes	Allis clamp				
Umbilical Cord Clamping	Heaney or Kelly clamps				
Delivery of Placenta	Manual				
Exploration of Uterine Cavity	Sponge gauze, Manual				
Uterine Closure	Forceps, needle driver, suture-stitch, suture scissors				
Closure of Abdominal Wall					
Peritoneal Layer	None				
Fascial Layer	Forceps, needle driver, suture-stitch, suture scissors				
Subcutaneous Layer >2cm	Forceps, needle driver, suture-stitch, suture scissors				
Skin Closure	Skin stapler or forceps, needle driver, suture-stitch, suture scissors				

Abdominal Hysterectomy

Steps of an Abdominal Hysterectomy (TAH)	Instrument for Steps of TAH	Visually Identifies Instrument Correctly		Holds and Manipulates Instrument Correctly	
		DONE	NOT DONE	DONE	NOT DONE
Abdominal Incision					
Epidermis/Dermis Layer	Scalpel				
Subcutaneous Layer	Scalpel or Electrocautery Unit				
Fascial Layer	Scalpel, Mayo Scissors				
Rectus Muscle Layer	Bluntly/Manual				
Peritoneal Layer	Hemostat, Metzenbaum scissors				
Obtain visualization of Pelvis	Laparotomy sponges, retractor				
Transection of the Round ligament	Kelley or Heaney clamp, Scissors, Electrocautery unit				
Opening of the Posterior broad ligament	Metzenbaum scissors, Electrocautery unit				
Identification of the ureter	Visual, Manual				

Transection of the Uterine-Ovarian Ligament	Kelley or Heaney clamp, scissors, electrocautery unit				
Ligation of the Uterine-Ovarian Ligament	Right angle clamp, suture-tie, needle driver, suture-stitch, suture scissors				
Creation of the Bladder Flap/Opening of Anterior broad ligament	Metzenbaum scissors, Electrocautery unit				
Transection of the Uterine artery	Curved Zeppelin/Heaney/Kelley clamps, curved Mayo scissors				
Ligation of the Uterine Artery	Needle driver, suture-stitch, suture scissors				
Transection of the Cardinal Ligament	Straight Zeppelin or Kocher clamps, Scalpel				
Ligation of the Cardinal Ligament	Needle driver, suture-stitch, suture scissors				
Transection of the Utero-sacral Ligament	Curved Zeppelin/Heaney/Kelley clamps, curved Mayo scissors				

Ligation of the Utero-sacral Ligament	Needle driver, suture-stitch, suture scissors				
Colpotomy	Electrocautery unit or scissors				
Closure of the colpotomy	Straight Kocher clamps, needle driver, suture-stitch, suture scissors				
Closure of Abdominal Wall					
Peritoneal Layer	None				
Fascial Layer	Forceps, needle driver, suture-stitch, suture scissors				
Subcutaneous Layer >2cm	Forceps, needle driver, suture-stitch, suture scissors				
Skin Closure	Skin stapler or needle driver, suture-stitch, suture scissors				

PERFORMANCE ASSESSMENT

The provided checklists can be used for performance assessments. Each assessment ought to take about 15 minutes per student.

PRACTICAL TIPS

We suggest that surgical instrumentation be introduced in the third year of medical school, proximate either to the Ob-Gyn or Surgery rotations. Performance assessment may take place after the Ob-Gyn rotation or at the end of the third year.

RESOURCES

CREOG Resident Education Committee: Surgical curriculum for residents in obstetrics and gynecology. Chair and editor, Patrick Duff; 2002.

<https://www.apgo.org/binary/SurgicalCurriculum.pdf>

<http://cfweb.acog.org/scog/>(Cesarean Section)

<http://cfweb.acog.org/scog/>(Abdominal Hysterectomy)