

Perioperative Services Competency Assessment - Vanderbilt University Medical Center

ESU Safety	Interpretation	Rationale
A. Demonstrate ability for use of ESU generator use.	<ol style="list-style-type: none"> 1. Inspect electrical cord. 2. Plug unit into wall. 3. Activate unit to complete self-test. 4. Verify alarms are audible. 5. Obtain ESU supplies needed for surgical procedure. 6. Cover foot pedal with plastic bag if needed. 7. Do not store liquids on top of ESU. 8. Use of adaptors will be approved by manufacturer. 	<ol style="list-style-type: none"> 1. Basic electrical safety. 2. ESU completes self test to verify proper working order. 3. Alerts staff if ESU is inadvertently activated during use. 4. Preparation for surgical procedure. 5. Prevents fluid from interfering with ESU or failure. 6. Ensures ESU safety features are not compromised.
B. Demonstrate ESU dispersive electrode site (pad) placement.	<ol style="list-style-type: none"> 1. Inspect skin before pad placement. 2. Choose size appropriate size pad – do not cut or alter. 3. Place pad over muscle mass. 4. Avoid pad placement in the following areas: <ol style="list-style-type: none"> a. Hairy surfaces b. Bony prominences c. Over scars d. Over implants e. Areas distal to tourniquets 5. Place after positioning patient. 6. Ensure pad maintains uniform body contact. 	<ol style="list-style-type: none"> 1. Ensures proper functioning of dispersive pad. 2. Interferes with pad function. 3. May cause burns to patient skin. 4. Prevent skin injury.
C. Demonstrate safe use of active electrode.	<ol style="list-style-type: none"> 1. Ensure cord is not knotted or kinked. 2. Store active electrode in holster provided by manufacturer when not in use. 3. Remove eschar during procedure or use Teflon coated tips. 4. Use ESU at lowest effective setting. 5. Verify ESU settings with surgeon before use. 6. Do not use in the presence of flammable agents, including vapors. 7. Do not use in presence of intestinal gas. 8. Use with caution in head and neck cases. 	<ol style="list-style-type: none"> 1. Electricity can leak from active electrode cord causing ignition of surgical drapes. 2. Accidental activation of active electrode can cause patient injury or ignition of surgical drapes. 3. Eschar build up increases resistance requiring higher power settings. 4. Ignition of flammable substances can cause fires and patient injury. 5. Intestinal gas is highly flammable. 6. Oxygen enriched environment and combustible anesthetic gases can ignite from a spark of the active electrode.
D. Verbalize special precautions for use of ESU if patient has pacemaker or internal defibrillator.	<ol style="list-style-type: none"> 1. Verify patient clearance by cardiologist or surgical plan before usage of ESU. 2. Determine if a pacemaker programmer is needed to place in asynchronous mode. 3. Deactivate ICD before use of monopolar. 4. Other implantable devices such as stimulators and pumps use bipolar cautery. 	<ol style="list-style-type: none"> 1. ESU usage can interfere with pacemaker function. 2. Have defibrillator available. 3. Verify functioning of all devices post operatively.
E. Verbalize bipolar active electrode and return electrode.	<ol style="list-style-type: none"> 1. Current runs from one pole of the instrument to the other (forceps & scissors) allowing for precise hemostasis at surgical site without stimulation or spread of current to other parts of the body. 	<ol style="list-style-type: none"> 1. No need for dispersive pad.
F. Verbalize method for retaining any supplies/ESU if adverse event occurs.	<ol style="list-style-type: none"> 1. Notify charge nurse. 2. Retain all accessories/electrodes during procedure. 3. Remove ESU from use. 	<ol style="list-style-type: none"> 1. Allows for investigation into adverse advent.
G. Verbalize special precautions during endoscopic procedures.	<ol style="list-style-type: none"> 1. Risk of injuries cause by: <ol style="list-style-type: none"> a. Direct coupling of current b. Insulation failure c. Capacitive coupling d. Non-flammable insufflation gas 	<ol style="list-style-type: none"> 1. Causes necrosis of underlying tissue causing patient injury. 2. Alternate way for current leave active electrode causing patient injury. 3. Undetected burns causing patient injury. 4. Patient safety.
H. Demonstrate documentation of ESU usage.	<ol style="list-style-type: none"> 1. ESU serial number. 2. Dispersive pad placement. 3. Skin condition before and after usage. 	<ol style="list-style-type: none"> 1. Allows for retrieval information for investigation of adverse events.