**Cautery**

Electrocautery, also known as thermal cautery, refers to a process in which a direct or alternating current is passed through a resistant metal wire electrode, generating heat. The heated electrode is then applied to living tissue to achieve hemostasis or varying degrees of tissue destruction. Electrocautery can be used in various minor surgical procedures in dermatology, ophthalmology, otolaryngology, plastic surgery, and urology.



**PURPOSE**

1. This procedure outlines the use and maintenance of a veterinary electrocautery

system used to cut skin or tissues and provide hemostasis in a variety of animal species

**II. RESPONSIBILITY**

1. It is the responsibility of the Facility Manager in conjunction with the Surgical Core Manager to ensure that equipment is appropriately cleaned, maintained in good working order, and available for research personnel as requested.

2. It is the responsibility of the veterinary professional, administrative, and managerial staff to ensure that all research and technical staff using this equipment are adequately trained and experienced to perform veterinary electo-cautery techniques.

**III. EQUIPMENT USE**

1. Monopolar

a. Set mode select knob to monopolar.

b. Connect dispersive electrode plug to dispersive electrode receptacle and connect other end to dispersive electrode plate or to metal table directly in contact with patient.

c. Connect foot switch cord to receptacle on rear panel and set foot switch select knob on monopolar. (Not required when using hand switchable instruments).

d. Connect pins of selected instrument to appropriate pin connector of unit.

e. Connect power cord to outlet with power switch off. Turn power switch on. Light will illuminate.

f. Audible tones and indicating lights signal the activation of an instrument. Volume can be adjusted on the rear panel. Do not turn volume below the audible range.

g. Press cut or coagulate hand or foot switch to activate the desired instrument

Cutting

a. Set blend cutting control for desired cutting effect. LED bar display off for pure cutting, fully illuminated for maximum blend (hemostasis cut).

b. Set cutting power wattage to lowest setting giving the desired cutting effect. Note: Increasing blend level may require increasing cutting power to maintain cutting speed.

2. Coagulation

a. Set coagulation type for desired coagulation effect pinpoint or spray.

b. Set coagulation power wattage to lowest setting giving desired coagulating effect.

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2. Bipolar

a. Dispersive electrode not required.

b. Set mode select knob to bipolar.

c. If using foot control set to bipolar.

d. Follow directions D-G under monopolar.

3. Dual Mode

a. Set mode select knob to dual mode.

b. Follow directions B-G under monopolar.

4. Alarms

a. Cord fault automatically give audible and visible alarms when a fault exists in the monopolar dispersive cable connections. The cord fault circuit does not verify dispersive electrode contact or quality of contact with patient. The volume of this alarm in not adjustable.

**IV. WARNINGS**

1. This equipment has an output which is capable of causing a physiological effect and is to be used by qualified personnel only. Follow manufacturer’s instructions carefully.

2. Injury to the patient/operator can result from improper dispersive electrode attachment.

3. Injury to the patient/operator can result when employing needle electrode at

high power settings. Request for higher power settings on longer activations than normal may indicate a fault exists. Do not increase power settings before all cables, electrodes, and connections are checked.

4. Insulate active accessories when not in use. A safety cup is recommended.

5. Explosion hazard: Do not use in the presence of flammable anesthetics

**MAINTENANCE**

1. Inspect condition of unit and electrical cord/plug to ensure safe operation. Equipment determined to be unsafe will be removed from service immediately.

2. Clean unit, cords, and accessories by wiping with a mild disinfectant and soft cloth.

3. Any additional maintenance/service should be performed by authorized personnel. {1}

Based on the recent study and the *Infection Prevention* guide, following is the recommended

reprocessing procedure for thermal cautery tips:

**1.** As soon as possible after use, place the tips, along with the other vasectomy instruments, in a decontamination solution for 10 minutes. The decontamination solution should be a 0.5%

chlorine solution made from liquid household bleach or bleach powder.

**2.** Clean the cautery tip with a soft-bristled brush (such as a toothbrush) in a household

detergent solution. Use longitudinal brush strokes to help prevent damage to the wire. After

cleaning for one minute, examine the tip for residual material and continue to clean until all

visible organic material has been removed.

**3.** Prepare a 0.5% chlorine solution from liquid

or powder bleach. Soak the cautery tip in the

solution for a minimum of 20 minutes. After removal,

rinse the cautery tip with boiled water

to remove any residual bleach.

**4.** After cleaning and disinfecting, tips should

be allowed to air dry and then used immediately

or kept in a dry, covered container.

**5.** Before beginning the surgical procedure, but

after putting a sterile sleeve over the handpiece

and inserting the tip in the handpiece,

briefly turn on the unit and confirm that the

thermal cautery tip becomes red hot.

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This will serve to confirm the proper operation of the cautery device as well as to sterilize

the operating surface of the tip.

**Materials:**

• 0.5% chlorine solution

(using household liquid bleach or bleach powder)

• Soft-bristled brush (such as a toothbrush)

• Household detergent solution

• Boiled water

• Dry, covered container

• Sterile sleeve for cautery handpiece

**Cleaning cautery tips after the surgical procedure**

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**Before beginning the surgical procedure**

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**References:**

1. Standard Operating Procedures , division of comparative medicine , university of South Florida

2. Cleaning and Disinfecting , Thermal Cautery Equipment, 2005, Program for Appropriate Technology in Health (PATH).