

Cleaning and Disinfecting Thermal Cautery Equipment



Thermal cautery is an effective method of vas occlusion as part of the vasectomy procedure, using either a no-scalpel approach to the vas or a standard incisional approach. In some clinics, cautery equipment designated for single use may be reprocessed and reused in order to provide services at a lower cost. An evaluation by PATH of the durability of the cautery tips (as seen at right) suggests that, with reasonable care, a single cautery tip can be used for at least 20 vasectomy procedures. Proper cleaning of thermal cautery tips between patients is necessary to prevent the potential spread of infection.



PATH, in consultation with Family Health International and EngenderHealth, conducted a study in 2004 under the USAID-supported HealthTech project managed by PATH. The purpose of the study was to evaluate the applicability and feasibility of standard cleaning and high-level disinfection methods, as found in *Infection Prevention: A reference booklet for health care providers* by EngenderHealth. The results of that study showed that standard methods can be used to effectively clean and disinfect thermal cautery tips. This multilingual reference guide can be found online at <http://www.engenderhealth.org/res/offc/safety/ip-ref/index.html>.

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. This will serve to confirm the proper operation of the cautery device as well as to sterilize the operating surface of the tip.

The other sterilization and high-level disinfection procedures using glutaraldehyde or steam, which are described in *Infection Prevention: A reference booklet for health care providers*, may also be used. However, it should be noted that autoclaving may cause some warping of the plastic finger pad on the tips and make insertion in the handpiece difficult.

Cleaning and Disinfecting Thermal Cautery Equipment



A Job Aid

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

STEPS	TIME
1. As soon as possible after use, place the tips, along with the other vasectomy instruments, in decontamination 0.5% chlorine solution.	10 minutes
2. Clean the cautery tip with a soft-bristled brush in household detergent solution. Use longitudinal brush strokes to help prevent damage to the wire.	1 minute, or until all visible organic material has been removed
3. Soak the cautery tip in chlorine solution.	20 minutes (minimum)
4. After removal, rinse the cautery tip with boiled water to remove any residual bleach.	–
5. Allow tips to air dry.	Until dry
6. Store in a dry, covered container.	Until needed for next procedure

Before beginning the surgical procedure

STEPS
1. Put a sterile sleeve over the handpiece.
2. Insert the cautery tip into the handpiece.
3. Turn on the unit and confirm that the thermal cautery tip becomes red hot.

©2005, Program for Appropriate Technology in Health (PATH). All rights reserved. The material in this document may be freely used for educational or noncommercial purposes, provided that the material is accompanied by an acknowledgement line. The document was prepared under the USAID-supported HealthTech program, Cooperative Agreement #GPA-A-00-01-00005.

For further information, contact Yancy Seamans, PATH, at yseamans@path.org.