Letter to the Editor

Quick Saturation of a Cotton Tip Applicator Using a Handheld Cryosurgical Spray Device

To the Editor:

The precise treatment of periocular, perinostril, and intra-auricular neoplasms with a handheld cryosurgical spray device can be challenging. Liquid nitrogen overspray can startle patients; cause discomfort; and, although rare, cause undesired damage to surrounding tissue. Treating these locations may call for the precision of a cotton tip applicator (CTA) or closed cryoprobe system. I present an efficient technique for the rapid saturation of a CTA with liquid nitrogen using only a handheld cryosurgical device.

The cotton tip of the CTA is held at a 180° to 210° angle and is apposed (end-to-end) to the tip of the cryosurgical spray device (Figure). This angle allows the user to apply sufficient gentle pressure to maintain direct contact of the CTA and the tip of the cryosurgical spray device despite the air pressure created while using the device. Liquid nitrogen is continuously delivered to the CTA using a slow steady stream of liquid nitrogen from the cryosurgical device. Throughout the saturation process, one should be aware of the direction and potential path of any overspray or drops of liquid nitrogen. An often visible advancing freeze of the cotton tip first marks the saturation of the CTA, followed shortly by small drops of liquid nitrogen from the proximal portion of the cotton tip. A 25% to 50% axial twist of the CTA while stopping liquid nitrogen delivery will terminate the tendency for additional drops to form from the fully saturated CTA. This process typically takes less than 10 to 15 seconds from start to finish with adequate proficiency. The saturated CTA can then be used to treat the desired skin lesion in the standard fashion.[1-3]

This technique requires no additional equipment aside from a supply of CTAs, which are a common staple in most dermatology offices. It eliminates the need for alternate containers for dipping the CTAs and removes the process of decanting the liquid nitrogen from a cryosurgical device or Dewar flask. Liquid nitrogen also is used more efficiently, as there is no excess liquid nitrogen to discard after treatment.

Universal precautions should be taken when treating multiple lesions, as viable virus particles have been isolated from liquid nitrogen.[4] Therefore, a fresh CTA should always be used for each treatment application to prevent the risk for contamination of the spray nozzle of the cryosurgical device.

The use of a cryoprobe attachment to a cryosurgical device would be a reasonable alternative for treating lesions on these delicate anatomic sites; however, it can be a cumbersome process for occasional use. Cryoprobes are capable of delivering a much colder (−50°C to −60°C) end point and may be more appropriately suited to the treatment of malignant lesions in these anatomic locations.[3]

After any prolonged use of a handheld cryosurgical device or cryoprobe, a frost often forms over the spray nozzle; this phenomenon often is noted with this CTA saturation technique. Although the presence of a functional pressure relief valve is an important safety feature on all cryosurgical spray devices, blockage of the nozzle has not been encountered using this technique.

This technique is preferable when treating a small number of sites. It allows the rapid and efficient cryosurgical treatment of delicate anatomic sites using a CTA without the need for additional equipment or substantial preparation time. If

A cotton tip applicator is held at a 180° to 210° angle to maintain direct contact with the tip of a cryosurgical spray device. Small drops of liquid nitrogen from the proximal portion of the cotton tip signify completed saturation.

numerous sites need to be treated using CTAs, the reservoir dipping method is more advantageous, as many CTAs can be saturated at one time.

Sincerely,
James O. Barlow, MD

From the Beatrice Keller Clinic, Sun City West, Arizona.

The author reports no conflict of interest.

REFERENCES

1. Kuflik EG, Gage AA, Lubritz RR, et al. Millenium paper: history of dermatologic cryosurgery. *Dermatol Surg*. 2000;26:715-722.
2. Kuflik EG. Cryosurgery for cutaneous malignancy: an update. *Dermatol Surg*. 1997;23:1081-1087.
3. Kuflik EG. Cryosurgery updated. *J Am Acad Dermatol*. 1994;31:925-944.
4. Jones SK, Darville JM. Transmission of virus particles by cryotherapy and multi-use caustic pencils: a problem to dermatologists? *Br J Dermatol*. 1989;121:481-486.