



Practice Pearls 6: Tips for Best Practice on Role of Ablative Therapy in the United States

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Excision vs. Ablation

Cervical intraepithelial neoplasia (CIN) can be treated with surgical excision or ablation methods. Loop electrosurgical excision procedure (LEEP), the most commonly used excision treatment in high-resource settings, involves surgical removal of the squamocolumnar junction (SCJ) using a wire loop with a high-frequency electric current. Ablative therapies include cryotherapy, thermal ablation and carbon dioxide (CO₂) laser ablation. Cryotherapy uses freezing and thawing to cause tissue necrosis, thermal ablation uses heat to cause tissue inflammation and necrosis, and CO₂ laser ablation removes tissue by vaporization. Ablative methods are not common in settings where there are LEEP resources and providers trained to perform excision. One disadvantage of ablation is that, unlike excision, it does not yield a pathology specimen for confirmatory diagnosis. Limited studies comparing cryotherapy to LEEP have shown that they have similar recurrence and complication rates, but there are no randomized trials that compare LEEP performance to thermal ablation.

Thermal Ablation

Thermal ablation recently received endorsement by the World Health Organization (WHO) for treatment of CIN 2/3. WHO guidelines are expected to mostly impact low-resource settings where excision is not feasible or accessible. The procedure does not require general anesthetic and the majority of women report mild or moderate discomfort. Several hand-held thermal ablation devices have been introduced into the U.S. market. These instruments are lightweight, portable, work on electricity or a battery, and do not require complex training. These new devices could be used by non-OB/GYN physicians and providers not trained to perform LEEP, increasing the availability of cervical precancer treatment in hard-to-reach or underserved populations.

ASCCP Guidelines Regarding Ablation

ASCCP guidelines state that ablative treatment for CIN 2/3 is acceptable but that excisional treatment is preferred. Excisional treatment is recommended for adenocarcinoma in situ (AIS). The WHO guidelines recommend LEEP over cryotherapy in settings where LEEP is available and accessible. Where LEEP is available, ablation is unacceptable for a lesion that extends into the canal and for a lesion that covers more than 75% of the surface area of the ectocervix or extends beyond the tip of the device being used. Additional situations for which cryotherapy is not recommended are listed in Table 1. Laser ablation, unlike the other ablative techniques, may be appropriate when performed by highly experienced providers in the treatment of large cervical lesions or when the lesion extends to the vagina.



Table 1. Additional situations for which cryotherapy is not recommended (adapted from the ASCCP guidelines, p. 118).

Squamocolumnar junction or the upper limit of any lesion is not fully visualized
Endocervical canal sample is diagnosed as CIN 2+ or CIN that cannot be graded
After previous treatment for CIN 2+
In the setting of inadequate biopsies of the cervix to confirm histologic diagnosis
If cancer is suspected

References:

WHO Guidelines for the Use of Thermal Ablation for Cervical Pre-Cancer Lesions, Geneva: World Health Organization, 2019. Available at <https://apps.who.int/iris/handle/10665/329299>

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Standard Abbreviations

HPV - Human Papillomavirus

hrHPV - High-Risk Human Papillomavirus

HSIL - High-Grade Squamous Intraepithelial Lesion

VaIN - Vaginal Intraepithelial Neoplasia

NCCN - National Comprehensive Cancer Network

LSIL - Low-Grade Squamous Intraepithelial Lesion

NILM - Negative for Intraepithelial Lesion or Malignancy

ASC-H - Atypical Squamous Cells, Cannot Rule Out High-Grade Lesion

ASC-US - Atypical Squamous Cells of Undetermined Significance

AGC - Atypical Glandular Cells

AIS - Adenocarcinoma In Situ

LEEP - Loop Electrosurgical Excision Procedure

ECC - Endocervical Curettage

CIN - Cervical Intraepithelial Neoplasia

SCJ - Squamocolumnar Junction

mRNA - Messenger Ribonucleic Acid

CO₂ - Carbon Dioxide

WHO - World Health Organization