

HSIL Treatment Modalities

Cryotherapy

External warts can also be treated by freezing with liquid nitrogen, nitrous oxide, or carbon dioxide. Liquid nitrogen is applied by spraying or direct contact with a swab; nitrous oxide is connected to a closed cryo-system and applied with a probe to produce an iceball. The freezing causes necrosis of the wart. This may also cause mild irritation, and may be uncomfortable during the process. Discomfort can be reduced by applying lidocaine spray or gel prior to freezing. Cryotherapy causes the wart to fall off within a few days and may leave a shallow ulceration, which generally heals without scarring. It may require several applications. These treatments can be 1-2 weeks apart. The lesion [1] must be completely treated. If the warts have not been successfully treated by the fourth application, an alternative method should be sought.

Indication: External warts, LSIL [2] or HSIL [3]. Limited disease. Safe during pregnancy.



The hyfrecator uses electrocautery to remove HSIL.

Electrocautery (Hyfrecation)

Lesions [1] can be treated by application of an electric needle to cauterize or burn the warts. Local anesthesia should be used. Many lesions [1] can be treated in a clinic setting, but larger and more extensive lesions usually require treatment in an outpatient surgery setting. The cauterization destroys the warts or lesions. Bleeding and discomfort following the procedure is common and can last for several days or weeks depending on the extent of treatment. However, the warts and lesions are more completely treated in one application and generally do not require multiple treatments. Even so, warts may recur with electrocautery as with any treatment modality.

Indications: Internal or external warts, LSIL [2], HSIL [3]. Office procedure limited to the tolerance of the patient; treats disease less extensive than that requiring outpatient surgery.

Infrared Coagulation (IRC)

IRC was developed for the treatment of external anal warts, hemorrhoids and tattoo removals. More recently it has been shown to be an effective treatment for internal anal HSIL [3] and warts. The treatment involves the application of a heat-guided probe directly to the lesions. The heat is at a lower range compared to laser or electric cauterization. It does not burn the lesions [1] but rather destroys the tissue, similar to a sunburn blister, which can then be removed. It can be done as an office therapy with minimal discomfort both during and after the procedure. Patients are anesthetized pre-treatment with lidocaine gel followed by the injection of 1% lidocaine into the areas to be treated. The treatment can take up to an hour (or more if very extensive) but post-treatment recovery is brief and there are none of the risks of surgical intervention. Following treatment there is frequently bleeding with bowel movements for up to 2-3 weeks. Post-procedure pain may require medication for 1-3 days but for most patients it is minimal although noticeable and most of the pain is associated with bowel movements. The pain can be minimized by frequent soaking in hot water, especially following bowel movements. Care should be taken to increase fluids at this time to avoid constipation. Although the procedure takes longer than electrocautery, the lesions [1] are usually completely treated in one procedure. Extensive disease may require an additional treatment. We generally schedule a follow-up exam three months following the procedure. If there is too much to treat in one session, we complete the treatment with an additional procedure two to three months later.

Indications: Internal and external LSIL [2] and HSIL [3]; can effectively treat more extensive areas (50-70% circumference of the anal canal or perianus) but may require 2 treatments if extensive.

Laser Therapy

Clinicians trained in laser therapy can apply this technique for perianal disease as well. There are also case reports of laser therapy for intra-anal lesions and it has become a more common practice in some offices. It appeared to be effective in some studies, but there were

significant recurrences of the group treated with laser in another study. More extensive treatments, or those done in conjunction with ablation [4] of cervical, vaginal or vulvar warts, are often done in an operating room. It is done in conjunction with the colposcope for guidance in finding the areas to treat. Laser treats the lesions by destroying them with the heat from the laser light. The laser controls the depth of treatment, which can help minimize scarring. Extensive treatments can be painful and can be managed with hydrocodone/acetaminophen. The pain may be minimal for the first few days since the nerve endings may be burnt initially, but can last for 2-3 weeks. Soaking in warm water especially following bowel movements will be soothing and can facilitate healing. It can take up to two months for the area to heal completely.

Indications: Warts, LSIL [2] or HSIL [3], more commonly used for external disease but internal disease can be treated as well.

Trichloroacetic acid (TCA) 80-90% Solution

This is an acid that works by destroying the wart on contact. It is applied to the wart with a cotton tip applicator. Very small lesions can be treated using the wooden tip of the applicator. The surrounding skin should be covered with a barrier cream or gel to protect healthy skin from any spills or drips. TCA will burn with the initial application but discomfort is usually short-term. It will cause a burning sensation, and the wart will eventually fall off, sometimes leaving an ulceration. TCA can be used for internal or external warts. It usually requires several treatments. External warts can be treated weekly but internally warts should be treated 2-3 weeks apart in order to allow healing of the anal mucosa. If a wart is not successfully treated by the fourth application, an alternative method should be found. Thick, large lesions may be difficult to treat with TCA because the acid may not penetrate to treat the entire wart. A similar agent, bichloroacetic acid or BCA, is also used.

Indication: Internal or external, warts, LSIL [2] and HSIL [3], limited disease.

Patient-Applied Therapies

In some cases instead of receiving treatment in the office for warts, LSIL [2], or HSIL [3] the patient will be sent home with topical treatments to use at home. It is important for the patient to be thoroughly instructed on how to use their cream and also that the patient strictly follows these instructions.



Aldara? (5% imiquimod cream)

This is an immune response modulating treatment, which acts to produce a local interferon response. This stimulates the immune system to recruit immune cells to the area and causes the warts to regress. It is applied to the warts and rubbed in 3x/weekly at bedtime and rinsed off in the morning. The treatment continues for 12-16 weeks. Local irritation is expected and is a sign that the treatment is working. It can take 3-4 weeks for the treatment to start working. Occasionally the reaction is severe and the cream should be stopped until the inflammation goes away, or reduced to twice weekly. It is sometimes used post-operatively to prevent recurrence of warts. Once the warts are clear, it may be used continuously 2x/week to prevent recurrences. It has been used experimentally intra-anally. One study showed it reduced recurrences of anal warts following surgery and was also effective as a primary treatment for anal HSIL.

Indications: External anal warts, especially primary outbreaks. The patient must be able to adequately reach the affected areas. Patients should be shown how to apply the cream correctly in the office. Safety in pregnancy is not established. Safety for internal disease is not established.



Efudex? 5% cream (5FU)

Efudex (5FU) is a self-applied topical cream that is sent home with the patient for at-home use. It is currently prescribed off label for anal lesions although it has been used for anal warts and lesions for quite some time. It is also used in women for lower genital tract infections that are related to HPV [5]. Sometimes 5FU is the initial method of treatment and this treatment is followed by an ablative therapy such as hyfrecation. This course of treatment is typically

prescribed if the HSIL covers a large area. The size of the HSIL is reduced with 5FU and then removed with ablation [4].

Indications: Patients whose HSIL^[3] covers more than 50% of the anal canal. Other patients with areas of lesions that are too large for ablation.

Out-Patient Surgery

Patients are referred for outpatient surgery when the warts or lesions [1] are not responsive to other treatments, for very large volume of disease, or if there is any suspicion for cancer or HSIL that cannot be found due to the presence of large amounts of warts. Although the procedures are technically simple, the usual risks for surgery must be considered. It also has significant post-operative recuperation requiring up to two weeks of generally severe discomfort. It also may be the best option for people who prefer to have it ?over and done with? in one treatment, as well as for those who cannot tolerate a long procedure in the clinic room. There are people for whom sedation is necessary and an office procedure would not be easily tolerated. There are several techniques used in surgery, but like the clinic procedures all have the same goal ? eradication of the lesions. Surgical fulguration involves treating the lesions with an electric needle and is the most commonly used surgical intervention.

See the Surgery [6] section for more details.

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Links

- [1] <https://analcancerinfo.ucsf.edu/lesion>
- [2] [https://analcancerinfo.ucsf.edu/lstil](https://analcancerinfo.ucsf.edu/lsil)
- [3] <https://analcancerinfo.ucsf.edu/hsil>
- [4] <https://analcancerinfo.ucsf.edu/ablation>
- [5] <https://analcancerinfo.ucsf.edu/hpv>
- [6] <https://analcancerinfo.ucsf.edu/surgery-hsil-and-anal-cancer>