

## What is Cryotherapy?

Cryotherapy is treatment to cause the destruction of skin lesions by a cold substance. In the surgery, we use liquid nitrogen to freeze skin problems.

Liquid nitrogen reduces the skin temperature down to nearly  $-50^{\circ}\text{C}$ , turning the water in the skin cells to ice which kills them. This leads to mild inflammation which helps to clear up the lesion and, in the case of viral warts, kill off the virus.

## What do we use Cryotherapy for?

We only use Cryotherapy to treat benign (non-cancerous) skin conditions. The most common problems we treat include:

- Warts and verrucae
- Seborrhoeic warts (non-viral warts that tend to appear in later life)
- Actinic keratosis (a type of sun damage which if left can sometimes turn malignant)
- Some skin tags

However, with the exception of actinic keratosis, we would normally only treat these common and harmless problems if they are causing symptoms such as pain or itching.

## How effective is Cryotherapy?

This depends on the size, site and the type of lesion being treated.

For the most common problem we treat, warts and verrucae, it is only about 60-70% effective. This means that even with effective treatment, about a third of people will find the warts or verrucae will persist.

Normally will need to repeat the cryotherapy more than once. Evidence suggests that the treatment should be repeated every 2 to 3 weeks for maximum effect. If cryotherapy has not been cleared the lesion after 3 months of treatment, it is highly unlikely to be effective.

## Are there any problems with Cryotherapy?

Cryotherapy is safe and effective, but even in competent hands side effects and complications can occur:

- **Pain:** cryotherapy does cause mild pain. A burning pain is usually felt whilst we are freezing the lesion (freezing can take up to 30 seconds, depending on the size)

which is replaced by a more intense pain on thawing. This intense pain is usually of short duration. For a few days afterwards, you may feel a dull throbbing pain, like a burn. For lesions on the face and scalp, some patients develop a headache or migraine that can last several hours; if this occurs some simple analgesia such as paracetamol is normally effective.

- **Swelling and blister formation:** a small amount of swelling at the site of the freezing is a completely normal part of the inflammation process. A cool compress can help. Blisters also occur and should be left alone. If they are tense and painful, we would suggest seeing the nurse who can burst the blister with a sterile needle and apply a dressing. However, burst blisters are more prone to infection
- **Ulceration:** Slow wound healing can occasionally happen. It is more common with lesions treated on the lower limbs of elderly patients or where blood circulation is poor.
- **Nerve/tendon damage:** this is the most serious complication but is rare. Nerve tissue is particularly sensitive to cold damage and may lead to long term loss of sensation. It is more common in areas where the nerves are close to the skin, such as around the jaw, behind the ear, the inside of the elbow and the sides of the fingers.
- **Pigment Changes:** Localised temporary depigmentation causing lightening of the colour of the skin is normal, but occasionally it can be permanent. It is more common in people with naturally darker skin.
- **Scarring:** scarring may occur with long freezes. The nail bed is particularly prone to scarring which could result in permanent damage to the nail. For this reason we would not ordinarily freeze lesions close to nails.

### Is Cryotherapy the right treatment?

It is important for patients to decide for themselves whether the benefits of using cryotherapy outweigh the potential complications.

This is particularly true with warts and verrucae which normally resolve given sufficient time. In the first instance we usually recommend trying wart treatments available from all pharmacists.

In most cases, if the lesion is not causing any symptoms, we would advise against Cryotherapy.

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