

Cryotherapy / Liquid nitrogen

Cryotherapy is a common treatment for skin lesions. The idea is to freeze the abnormal lesion and a small amount of surrounding normal skin. When the frozen cells subsequently thaw out, contents within the cell rupture and cell death occurs.

There are many ways to effect the treatment. The commonest method uses liquid nitrogen. This drops the temperature of skin quickly to way below freezing point. The nitrogen is applied through a "gun" that sprays the liquid onto the skin.

It is very commonly used to treat sun spots. These are premalignant skin lesions caused by sun exposure. The damage occurs only on the surface layer of the skin called the epidermis.

After cryotherapy, blistering and redness often occur. The site can look quite ugly for a week or more. The area can look like it had been burnt. Don't worry. This invariably resolves in time.

In time new fresh skin cells grow out and regenerate the area that was treated.

Cryotherapy is also sometimes used for lesions unrelated to sun damage, such as warts or seborrheic keratoses (senile warts).

Side effects?

Every treatment has potential complications and cryotherapy is no exception. The most common complication of cryotherapy is "hypopigmentation". This means the skin treated ends up looking more pale than surrounding skin. This occurs because the pigment producing cells (melanocytes) are destroyed by cryotherapy and are not regenerated. The healed skin is actually rejuvenated and healthier, and hence can look paler than surrounding sun damaged skin. However, hypopigmentation can be very striking on people with very dark or black natural skin.

Other side effects include infection, persistent pain, and damage to tissues under the skin and blood blisters. These are all fairly uncommon and mostly resolve.

Skin cancer usage?

Cryotherapy can sometimes be used to treat skin cancers. This is restricted to certain cancers growing only very close to the skin surface. That is, selected cases of superficial BCC and Bowen's disease only. It does not always work and cancers that do not respond or recur usually end up being excised later. We don't use cryotherapy on deeper growing skin cancers such as nodular or tough BCCs or invasive SCC or keratoacanthoma.

Freezing is never used to treat melanoma or suspected melanoma. When we use cryotherapy to treat superficial BCC or Bowen's disease, we often couple the treatment with curettage (scraping of the skin before the freezing).