Treatment of Skin Conditions by Freezing (Cryotherapy)

What is cryotherapy?
The term cryotherapy literally means treatment using low temperature, and refers to the removal of skin lesions by freezing. The most common substance used by doctors for this purpose is liquid nitrogen.

What conditions can be treated with cryotherapy?
A wide variety of superficial benign lesions can be treated with cryotherapy. It is most commonly used to remove actinic keratoses (areas of sun-damaged skin found predominantly on sun-exposed parts of the body), viral warts, seborrhoeic keratoses and other benign lesions. Occasionally, your dermatologist may suggest using cryotherapy to treat small skin cancers such as basal cell carcinomas and Bowen’s disease.

Looking after the treatment area

Pain – Cryotherapy is usually well-tolerated, but can sometimes be painful if a deep freeze has been necessary (for example, to treat a basal cell carcinoma). Discomfort can occur both at the time of treatment and for a variable time afterwards. Pain relief medication (such as paracetamol) taken for the first 24 hours will relieve any pain. Taking pain relief an hour or so before treatment can reduce discomfort.

Swelling and redness is a normal immediate response to freezing the skin, and usually settles after 2–3 days. For a short while the treated area may ooze a little.

The treated area is likely to blister within a few hours. Sometimes the blister is clear and sometimes it is red or purple because of harmless bleeding. Treatment near the eye may result in a puffy eyelid, especially the following morning, but the swelling settles within a few days. Within a few days a scab forms and the blister gradually dries up.

Usually, no special attention is needed during healing. The treated area may be gently washed once or twice daily, and should be kept clean. A dressing is optional, but is advisable if the affected area is subject to trauma or if clothes rub on it.

When the blister dries to a scab, apply petroleum jelly (Vaseline) and avoid picking at it. The scab peels off after 5–10 days on the face and three weeks on the hand. A sore or scab may persist as long as three months on the lower leg because healing here is often slow.

Secondary infection is uncommon. When it occurs it may cause increased pain, swelling, thick yellow blister fluid, a pus-like discharge and/or redness around the treated area. Consult your doctor if you are worried: topical antiseptics and/or oral antibiotics may be necessary.

Final results
After a standard freeze for a solar keratosis, seborrhoeic keratosis or viral wart, the skin may appear entirely normal without any sign of the original skin lesion.
However, cryotherapy may result in a white mark (hypopigmentation) or a scar, particularly when freezing has been deep or prolonged, as is required for a cancerous lesion. The white mark may be quite noticeable, especially in those with darker complexions. In darker complexions, cryotherapy may also result in a darker mark (hyperpigmentation), especially in sun-exposed areas. Although the appearance often improves with time, the colour change can be permanent.

Skin lesions may fail to clear or may recur at a later date, needing further cryotherapy, surgery or other treatment.

A hard freeze to the skin over a skin nerve, such as treatment to a viral wart on the side of a finger, can cause numbness of the skin that the nerve supplies. The feeling nearly always returns to normal within a few weeks or months.