

# **AFFILIATED DERMATOLOGISTS & DERMATOLOGIC SURGEONS, P.A.**

## **INFORMATION FOR PATIENTS UNDERGOING TREATMENT WITH CRYOSURGERY**

### **Cryosurgery (Icy Cold Surgery)**

Cryosurgery refers to surgery accomplished through the application of intense cold to cause tissue necrosis (death of cells) by rapid freezing. The skin cells die because of the rapid formation of ice crystals in the cell's interior which disrupts the cell's energy-making machinery.

To produce the rapid freezing, a material called liquid nitrogen is used. This liquefied air is at a temperature of -196C or -321F which is extremely cold; so cold that it actually feels hot (or burns) when applied to the skin. The sensation is similar to that which occurs when your finger sticks to a metal ice cube tray.

In this office, liquid nitrogen cryosurgery is used to treat warts, some types of acne lesions, and various types of benign or malignant (cancerous) skin tumors.

#### **WARTS:**

As the liquid nitrogen is being applied to the skin, a white "ice ball" forms which gradually thaws out. When you leave the office, the treated area may look the same as it did before. Sometimes a hive develops in the frozen area. A blister often forms and may appear dark in color. This is an expected part of the treatment. It is best to leave the blister intact. The top of this blister, which usually contains most of the wart, comes off in 7 to 10 days. Some oozing and formation of a small scab is followed by healing. Many warts are fairly resistant to all forms of therapy and even with liquid nitrogen sometimes 3 to 5 treatments (or more); 1 to 3 weeks apart are needed.

#### **ACNE:**

A light superficial application of liquid nitrogen to inflamed acne nodules and cysts frequently leads to a more rapid flattening and healing of the lesions.

#### **BENIGN AND/OR MALIGNANT LESIONS:**

For some types of benign and malignant (cancerous) skin tumor or tumors in certain locations, liquid nitrogen cryosurgery is one of the preferred forms of treatment. The liquid nitrogen is applied longer and repeatedly to get a deeper, more complete freeze of the skin. This usually destroys the tumor or cancer cells and a zone of surrounding normal skin. Because the area treated may be large, it will take some time to heal . . . usually 2 to 4 weeks, depending on the size and depth of skin destroyed by the freeze. During the healing phase, soak or compress the area with warm water. This should be done 3 or 4 times a day at first and then less frequently as the oozing slows down. A light coating of antibiotic ointment (Petrolatum ointment) should be applied after each wash, soak or compress. A light dressing may be worn during the early stages. Healing leaves a generally acceptable scar. Cryosurgical treatment of most tumors or skin cancers is as effective as other commonly used techniques, but, as with any treatment for cancer, some are not cured and tend to recur. Then a repeat treatment with

liquid nitrogen or some alternative therapy will be needed. If you are treated for skin cancer, follow-up visits to observe the skin area are required to be scheduled.

**COMPLICATIONS OF CRYOSURGERY:**

Post-treatment throbbing pain may occur several to 24 hours after treatment. Usually elevation of the area and mild, non-aspirin analgesics (like Tylenol) will help.

The scar may be hypopigmented (lighter skin color than the surrounding normal skin).

With very deep treatment, blood vessels may be seen in the scar.

Keloids or large raised scars: certain people who tend to form this type of scar usually do so regardless of the type of procedure done.

Bleeding several days after cryosurgery very rarely occurs. Apply a clean pressure bandage for 20 minutes and if the bleeding (more than slight oozing) persists, notify the office, or go to your nearest emergency room.

Infection rarely complicates cryosurgery because the bacteria are also killed by the freezing. Some oozing and crusting are to be expected. It may be necessary to apply an antibiotic ointment to treat or prevent an early infection. If pus or a bad odor develops, you may have an infected wound and a course of internal antibiotics will be needed. If you think you have an infection, notify our office.

Sometimes the small nerves running under the skin are frozen, producing numbness or weakness in the area supplied by the nerve. Fortunately, the nerve sheath remains intact and the nerve fibers frequently regenerate. However, since nerves grow slowly, this regeneration may take a number of months.