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Cryosurgery for the Naturopathic Physician

By John Hahn, ND, DPM

As naturopathic physicians, we look for ways to help our patients with skin lesions and avoid surgery when possible. Unfortunately, our patients might present with various skin lesions that are either physically unattractive or could potentially be precancerous.



As family practitioners, we sometimes will refer these patients with skin lesions to a dermatologist for evaluation and treatment. Skin lesions that would be amenable to treatment with a shave biopsy or liquid nitrogen can now be treated with a new delivery system for cryosurgery.

Cryosurgery is broadly defined as the controlled destruction of unwanted tissue by precise application and extreme cold during clinical procedures. It's a well-proved method and might be used to effect the unselective, but controlled, destruction of living tissue because normal and disease cellular elements will not survive after being subjected to freezing (-27°C). In active cryosurgery, the rate of removal of heat from the tissues is more important than just the application of extremely low temperatures. Slow heat reduction causes a protective reaction of osmotic fluids flowing out of the cell leading to cell preservation instead of necrosis. Effective treatment requires a rapid freeze of the tissue.

In my practice as a podiatrist and naturopathic physician, I see many skin lesions on my patients during their physical examinations that would be amenable to treatment. Some of these lesions could become cancerous in the future. Traditionally, I would treat these patients either with a high-frequency radio wave ablation or utilize a liquid nitrogen-dipped Q-tip to remove superficial skin lesions and not create scars. These methods would sometimes require the injection of a local anesthetic beneath the skin to prevent discomfort during the procedure.

The cryoprobe, developed in Belgium for the general practitioner, utilizes a unique system for freezing skin tissue, with minimal collateral cellular destruction and allows for a virtually painless removal of skin lesions such as seborrheic keratosis, common warts, actinic keratosis, solar keratosis, skin tags and age spots. This unit is unique in that it utilizes nitrous oxide cartridges rather than an open container of nitrous oxide. For the naturopathic physician, this is very cost-effective because the only time the unit is charged is when you have a specific patient and lesion you would like to treat.

Other skin lesions I have utilized this instrument on with excellent results are, acne vulgaris, acne scars, Condyloma acuminata, molluscum contagiosum and poro keratosis plantaris discreta. This technique works very well in the treatment of molluscum contagiosum on children since it's virtually painless and effectively can treat a number of lesions in a short period of time. Children also are amenable to this procedure for the removal of warts, since no injections of anesthetic are necessary.

The process involves a cryosurgical delivery system which converts nitrogen oxide gas into a liquid at -127°F under 725 PSI with pinpoint precision. The nitrous oxide liquid penetrates the lesion at the rate of 1 mm per five seconds to a maximum penetration of the skin of 5 mm.

Anesthesia is not required for these lesions and the recurrence of lesions is

infrequent with a 20 to 40-second treatment time. This method of treatment offers pinpoint accuracy of the freeze which does not affect the surrounding normal skin, as liquid nitrogen on a swab creates collateral tissue damage and the colder temperature ruptures the small blood vessels creating blisters and hematomas in the skin. There is the added advantage of not exposing the patient to an injection of anesthesia and the treatment usually only takes one visit. Patients may bathe and go about their normal daily life in extremities without having dressings or bandages applied.

The patient represented in these pictures, demonstrated compound pigmented nevi, and warts which she wanted to have removed without leaving a scar. Nitrous oxide therapy is very precise and, unlike liquid nitrogen does not penetrate through the durable layers which at times would result in an unsightly scar.

The cryoprobe can be utilized by the physician who knows exactly the depth of the freeze by the number of seconds that the nitrous oxide is being applied to the lesion. The lesions shown in these photos were eradicated without any telltale scars.

If you are finding patients with similar skin lesions in your practice, cryosurgery might be a treatment option worth looking into. Your patients will appreciate having another alternative to treatment of these lesions that is safe, effective and convenient.



About the Author: Dr. John Hahn is a graduate of Sacramento State University, California College of Podiatric Medicine and National College of Naturopathic Medicine. He has operated a private practice in Oregon since 1972, with special interest in podiatric surgery and podiatric sports biomechanics. He added naturopathy to his practice in 1993. He has lectured at various naturopathy and podiatric conventions and been published in numerous journals. Dr. Hahn can be reached at jmhahn2@verizon.net.

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