

# Verruca-Freeze®

Safe, Easy & Effective Cryosurgery

[www.verrucafreeze.com](http://www.verrucafreeze.com)

## INSTRUCTION MANUAL

U.S. PATENT #5200170, #5330745, #5516505  
CANADA Patented 1996 #2021375

KEEP THIS REVISED 2010 EDITION INSTRUCTION MANUAL WITH  
THE VERRUCA-FREEZE SYSTEM FOR FUTURE REFERENCE.



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Nashville, TN 37205 USA

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## The 65 Freeze Kit

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- 65 freeze canister of cryogen
- Set of 5 soft tipped CryoCones  
3, 5, 7, 9 & 12mm
- CryoBuds  
10 Small, 10 Medium, 10 Large
- Cryo insulator for the canister
- Extender tube
- Practice pad
- Training DVD
- Instruction manual
- Patient information sheets

## The 35 Freeze Kit

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- 35 freeze canister of cryogen
- Set of 5 soft tipped CryoCones  
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- Cryo insulator for the canister
- Extender tube
- Practice pad
- Training DVD
- Instruction manual
- Patient information sheets

## Replacement Parts

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- Trigger nozzle
- Extender tube
- Cryo insulator
- CryoCones (set of 5)
- Disposable CryoBuds in 3 sizes (30/pack):  
Small (3mm), Medium (5mm), Large (9mm)
- Verruca-Freeze canister (includes trigger nozzle)
- CryoBag insulated travel bag ideal for storage or rounds
- Patient information sheets

Thank you for purchasing Verruca-Freeze . For more information or to view an instructional video, please visit [www.verrucafreeze.com](http://www.verrucafreeze.com).

Please tell your colleagues about Verruca-Freeze !



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### DISCLAIMER OF WARRANTIES AND LIABILITY

As with the use of liquid nitrogen as a cryogenic agent or use of any surgical instrument such as a scalpel, the effectiveness of devices used is highly dependent on the skill and diligence of the physician and veterinarian using the device. This device is intended for use only by physicians and veterinarians who have attained experience and skill in cryosurgery and in no event will CryoSurgery, Inc. or its agents be liable to you or anyone else for any use, misuse, and/or poor results obtained from use of this device. The user assumes the entire risks for direct, indirect, special, incidental, or consequential damages from any use of this device.

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## IMPORTANT!

Inspect the trigger nozzle prior to using Verruca-Freeze . Remember damage may not be visible and the practitioner may not know if the canister was dropped since it was last used. If the trigger nozzle is cracked - DO NOT USE - If you can see the clear tube located behind blue trigger (inside the charcoal nozzle housing) is bent - DO NOT USE - contact CryoSurgery, Inc.

Verruca-Freeze is portable. When transporting Verruca-Freeze pack the canister so the trigger nozzle cannot engage. Protect the canister from being dropped, jarred or left in vehicle. Do not leave near a source of heat.

- If you drop the canister, inspect the nozzle. If cracked or broken, DO NOT USE. Contact CryoSurgery, Inc. for availability of a replacement trigger nozzle.
- Use the cryogen in a well ventilated area and store the canister in a cool area away from sunlight. Do not puncture or incinerate the canister.

If cryogen should ever release from the canister through the safety release features - immediately protect the patient and yourself from the cryogen by promptly removing the canister or people from the area. Allow the contents to discharge in a safe area.

- Since the canister is under pressure the contents of a new canister may feel half full. Test spray the canister at a 33° angle. If air comes out, but no cryogen, turn the nozzle one or two 90° (quarter) turn(s) until the tube inside the canister is completely surrounded by cryogen. This technique may also work on the larger sizes of Verruca-Freeze when the canister appears to be getting low.

**Read all the instructions, watch the training DVD and practice spraying into a CryoCone on the practice pad and using a CryoBud several times prior to using Verruca-Freeze on actual patients.**

Use Verruca-Freeze only with a CryoCone or CryoBud . Use CryoBuds if a seal is difficult or potentially not achievable. Do not use K-Y jelly, Vaseline or other lubricants that are used with liquid nitrogen. Lubricants can interfere with achieving a proper seal.

A surgical drape interferes with the visual observation of the cone and prevents seeing if the cone is properly placed with enough pressure to create a seal. Never use an absorbent pad as a surgical drape.

- Try to schedule patients during your slower times or on surgery days so you will not feel rushed.
- Do not accumulate more than 1/8 inch (3mm) of cryogen in the CryoCone for each freeze-thaw cycle.
- Two freeze-thaw cycles are more effective and efficient.
- Unless you are experienced only treat 2 or 3 lesions per patient visit. It is less traumatic to the patient and less stressful for the physician.
- Always squeeze the trigger gently to drip or slowly spray the cryogen into the cone. Aim the spray against the inside wall of the cone to avoid splattering. Less splattering means less waste and ultimately more treatments per canister. Also, the patient is less likely to be startled from a loud spray noise if the spray is gentle and contained properly.
- When in doubt under-treat the patient and see that patient in 7-10 days for a follow-up visit and retreatment if necessary.
- CryoCones are not recommended for use on the head and neck.

**Remember to protect sensitive areas of the body such as eyes and ears by proper positioning of the patient and protective devices.**

- **Do not attempt facial treatments** until you gain significant experience and have good control and timing. Eyes should always be shielded, the ear canal protected by cotton balls and the patient properly positioned so freezing spray drains away from the ear canal.
- **Always position the patient properly** so that the CryoCone surrounding the lesion being treated is perpendicular to the floor.
- **Never freeze scrotum tissue with testicle directly beneath.** Always gently separate scrotum tissue that is being treated away from the testicles and then perform the procedure.

**The CryoCones and CryoBuds have been designed specifically for use with Verruca-Freeze .**

## INTRODUCTION

Thank you for choosing Verruca-Freeze . Many physicians and veterinarians are just beginning to understand the benefits that cryosurgery can offer their patients and their practices. Some are learning the relatively simple procedure and techniques of cryosurgery; others are veteran practitioners in the use of liquid nitrogen or other less common cryogenic agents. The relative simplicity and ease with which expertise in cryosurgery for benign lesions can be mastered, is demonstrated by the number of busy dermatology practices which have delegated routine cryosurgery to nurses.

Cryosurgically treating benign lesions in a bloodless environment decreases the chances of transmitting blood borne infectious diseases such as those caused by HIV and Hepatitis B. With cryosurgery there are no needles, blood soaked materials or other medical waste.

A small amount of practice time and commitment is all most physicians, podiatrists and veterinarians need to perfect their technique and increase their own confidence level. We recognize that physicians, podiatrists, veterinarians and physician extenders – under the supervision of physicians – of all levels of interest and experience are using this treatment process and some material may be repetitive. We are highly confident that your commitment to mastering the technique and understanding the basic principles of cryosurgery will be highly rewarding to you and your patients as we enter a new decade of medical practice and health care delivery.

Medicine is just as much an art as science. No drug or procedure can achieve exact results (or perceived exact results) 100% of the time even if performed with perfection under optimal conditions. Due diligence and reasonable care must be exercised at all times. Scalpel surgery, electrosurgery and cryosurgery techniques can all be invaluable therapeutic modalities if used properly. They all have the potential for negative therapeutic outcomes when used inappropriately or if the patient fails to become a responsible partner in his/her own treatment. The responsibility for proper use and results of this cryogenic agent and technique as with any cryogenic agent or surgical modality must be shared entirely by the physician and the patient.

Enclosed is your complete cryosurgical kit. The art and practice of cryosurgery is relatively recent with very little information published prior to the mid-1960s. Its clinical applications are continuously increasing and improving. We welcome any comments, suggestions or ideas for improvement of the kit or information and materials that are provided. Write to CryoSurgery, Inc., 5829 Old Harding Pike, Nashville, TN 37205 USA or email [info@cryosurgeryinc.com](mailto:info@cryosurgeryinc.com).

To obtain more Verruca-Freeze products contact your local medical distributor, call (800)729-1624 for help locating a distributor or visit [www.verrucafreeze.com](http://www.verrucafreeze.com).

# CRYOBIOLOGY UPDATE

## CRYOSURGICAL APPLICATIONS AND TECHNIQUE

Tissue injury from freezing may be inflammatory or destructive in nature, depending on the severity of cooling. Usually cryosurgical techniques are intended to produce necrosis. If the freeze time is too short or the thaw time is aborted from touching the treated lesions, only inflammation usually occurs.

Mechanisms of injury are the direct effects of freezing on the cells (such as crystallization of water, concentration or solute in the cells and irreversible changes in cell membranes) and the vascular stasis which develops in the tissue after thawing.

The cornerstone of injury is ice crystal formation. Extracellular ice formation, which occurs with slow freezing, is associated with the loss of water from the cells and toxic concentration of solute in the cells, called solution effects. Intracellular ice formation, which occurs with rapid freezing, is considered more lethal. Both types of ice formation occur in cryosurgery. Fast cooling occurs in the center, slow cooling occurs at the border of the frozen tissue.

Vascular stasis (microcirculatory failure) is a major factor in tissue death. The loss of blood supply deprives all cells in frozen tissues of any possibility of survival.

Melanocytes, osteocytes are sensitive to cryogenic injury and cellular tissue sloughs quickly. Bone, though devitalized, resists sloughing. Fibrous stroma, large arteries, nerves and cartilage resist structural change. The matrix serves as a framework for repair.

**Factors determining the extent of cryogenic injury:** 1) choice of the cryogen 2) manner of use and technique 3) freeze-thaw duration 4) efficiency of heat transfer 5) induced tissue ischemia 6) blood supply to the tissue 7) extent of vascular stasis after freezing.

**Variable factors in freeze-thaw cycles:** 1) cooling rate 2) temperature produced in the tissue 3) duration of freezing 4) thawing rate 5) repetition of freeze-thaw cycles 6) interval between freeze-thaw cycles.

**Maximize tissue destruction:** 1) freeze as fast as possible 2) attain lethal temperature (minimum  $-50^{\circ}\text{C}$ ) 3) maintain freezing for appropriate time 4) thaw slowly and completely 5) provide a short thawed interval (1-2 minutes) 6) repeat the freeze-thaw cycle (2-3 cycles for large lesions) 7) rapid freezing, slow thawing and repetition of freeze-thaw process are standard features of technique 8) reduce the blood supply to the tissue by fluid (anesthetic) injection beneath the lesion prior to freezing. A tissue temperature of at least  $-50^{\circ}\text{C}$  is associated with extensive necrosis and is sufficient for permanent destruction of benign lesions.

## COMPLICATIONS OF CUTANEOUS CRYOSURGERY

Complications may be divided into five classes: 1) technical problems 2) patient selection 3) acute reactions 4) short-term complications 5) long-term problems.

**Technical problems:** 1) Extender tube not seated in nozzle 2) Improper positioning of canister while spraying 3) Cryogenic agent leaking from poor contact of CryoCone to skin 4) Occasional splattering of cryogenic agent (rare with experience and skill) 5) Improper use of applicators.

**Patient selection** is very important. One must distinguish benign from malignant lesions; biopsy for diagnosis prior to treatment if in doubt. Treat patients who have heavily pigmented skin, sensory loss, poor blood supply, infants and /or the elderly with caution. Those with collagen vascular disease, cryoglobulinemia, diabetes, stasis problems, pyoderma gangrenosum and ulcerative bowel disorders may present special problems. Safety in pregnancy has not been established.

**Acute reactions** involve pain, inflammation, hemorrhage and systemic effects although all are usually mild and self limiting, if they occur.

**Short-term complications** involve delayed bleeding, infections and granuloma pyogenicum. These are relatively rare. Rare reports of infection appear to be mostly in hot and humid or tropical regions of the world.

**Long-term problems** may be the most troublesome and include psudoeplitheliomatous hyperplasia, milia formation, nerve damage (mostly temporary), pigmentary problems (mostly temporary), tissue defects and the recurrence of benign lesions. Many problems can arise secondary to the lack of skill, experience and good judgement of the cryosurgeon.

## DEPTH-DOSE DEFINITIONS

**Depth of Freeze** (DF) is the maximum depth of frozen tissue, “ice ball”, under the center of the lesion. **Lateral Spread of Freeze** (LSF) is the minimal lateral extension of the “ice ball” peripheral to the area of application. When a flat surface is cooled evenly by cryospray the depth of freeze is approximately equal to the lateral spread of freeze and is independent of the size of the treated area. The levels of cold within the tissue (tissue isotherms) vary with the rate of cooling; this freeze time is important in estimating ultimate tissue destruction. The faster the freeze the deeper the destruction.

# USING VERRUCA-FREEZE

## Getting Started

Be sure to inspect the canister as described on page one of the instruction manual. Place the insulator over the canister. Remove the blue safety tab (if new canister) and insert the extender tube into the spray nozzle. Test the spray by pointing the canister toward the floor and pulling the trigger mechanism.

Next, practice using the black side of the practice pad (shipped with the kit) to simulate soft fleshy areas.

## Practice Freezing Lesions Using CryoCones

Choose the 5mm cone. Be sure to firmly depress the cone to prevent leakage of the cryogen. Gently pull the trigger. A white spray will appear. The most efficient method (maximizing the use of the freezing agent) is dripping into the cone until approximately 1/8" (3mm) of cryogen accumulates and begins to bubble. This should take 3 to 6 seconds. Lightly spraying a fine mist into the cone is also effective. Moderate or hard spraying only increases splattering and wastes the cryogen. Although occasional splattering has no dire consequences, except around the eyes, it can be annoying and irritating to both the physician and patient. **CryoBuds are recommended for treating lesions on the head, face and neck.**

After accumulating approximately 1/8" (3mm) of cryogen, cease spraying and allow the cryogenic agent to evaporate (boil off). Continue to hold the cone firmly on the pad to prevent leakage. You can hear and see the cryogenic agent evaporate. This evaporation usually takes 20-25 seconds. If the evaporation time is significantly less than 20 seconds on a patient, you probably under-froze the lesion and definitely need a second or even a third freeze-thaw cycle. We usually recommend one freeze-thaw cycle on lesions  $\leq 4\text{mm}$  and two freeze-thaw cycles on lesions that may be deep or are  $\geq 5\text{mm}$ . The average spray time of 3-6 seconds plus the evaporation time of 20-25 seconds equals total treatment time of approximately 30 seconds.

After the bubbling and evaporation stop, you may remove the cone and you should see a concentric white ice ball. This is the beginning of the thaw stage which lasts about 40 seconds. Take care not to touch the ice ball during the thaw period since the heat withdrawn from your finger will shorten the thaw time and reduce the effectiveness of the freeze. It is thought that on the cellular level, most of the permanent destructive effects from freezing occur during the thaw stage. A thaw time significantly less than 40 seconds can be due to inadequate freezing or a patient with "hot" hands or feet.

## Practice Freezing Lesions Using CryoBuds

CryoBuds are convenient when treating bony surfaces or hard to reach areas of the body (knuckles, between fingers and toes, helix of the ear, head and neck). They are also preferred by doctors who treat venereal warts and want a disposable applicator. They are available in 3 sizes. Small, Medium & Large

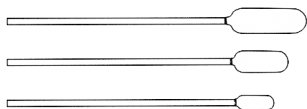
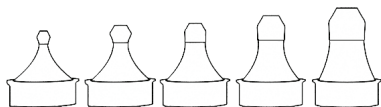
Choose a CryoBud . To saturate the bud before freezing, hold the canister in one hand and the CryoBud in the other hand pointing away from the patient. Very gently pull the trigger and spray onto bud until the bud is saturated to the first drip point. Place the bud directly on the practice pad and hold firmly for 25-30 seconds. After the freeze time has been completed, remove the bud. The “lesion” should appear white. The thaw time should be about 40 seconds. If the thaw time is considerably less than 40 seconds, the “lesion” has not been frozen properly and will definitely need another freeze-thaw cycle. Just as with CryoCones , do not touch or allow the patient or the patient’s clothing to touch the lesion prior to thawing. On the cellular level, most of the permanent destructive effects from freezing occurs during the thaw phase.

Shield the patient’s eyes with eye shields and ear canals with ear plugs to prevent any drainage or leakage into those areas when treating lesions around the patient’s eyes or ears. Position the patient so the foam bud is below the eye or ear structure or so it is not possible for a drop of cryogen to drain in the direction of the eye or ear structure.

If you see that you have inadvertently frozen adjacent normal tissue primarily from leakage beneath the cone (because of patient movement, etc.) or had too much cryogen on the CryoBud you can touch this area with your finger or the palm of your hand causing rapid rewarming. This significantly reduces the chances that some normal tissue will ultimately slough off and often only mild temporary erythema (redness) occurs. Practice this technique on the practice pad.

After practicing with various sized CryoCones and CryoBuds on the practice pad, practice using raw steak to give a more realistic feel of the freezing process. Use a Formica® counter surface or desktop to simulate hard bony surfaces.

***Use CryoCones and CryoBuds with Verruca-Freeze only.***



## HELPFUL TIPS

When treating patients choose the appropriate sized CryoCone or CryoBud to fit the lesion being treated. If you are not certain of the number of cycles or freeze time, it is always better to under treat than over treat. Retreatment is always possible in one to two weeks. With time and experience you will gain confidence freezing various sized lesions.

Try to schedule your cryosurgery patients during slow times of your day so that you won't feel rushed. This is probably a good practice for all surgical procedures.

Unless you are very comfortable with cryosurgery we would not recommend treating more than 2 to 3 lesions per treatment session. The exact number of lesions to be treated depends both on patient tolerance and the degree of confidence and skill of each physician or veterinarian.

**Extender Tube** The tube is taped to the canister to prevent misplacement during unpacking. To prevent loss, tape the tube to the side of the canister that you are currently using or leave the tube inserted between treatments. When discarding empty canister save the extender tube. Another tube is sent with each new canister. Additional extender tubes are available. Contact your distributor or CryoSurgery, Inc. for availability.

**Cryo Insulator** Some Verruca-Freeze kits include a cryo insulator. It is optional. The cryo insulator keeps your hand warm when freezing multiple lesions and for added control. To avoid accidentally engaging the trigger, place insulator on the canister before removing blue safety tab. Slide it onto the canister or pull with a rocking motion until the insulator feels comfortable below the nozzle.

**Trigger Doesn't Work** If the canister has been dropped the trigger nozzle may be cracked. DO NOT USE. Contact CryoSurgery, Inc.

If at any time you have difficulty in getting spray to come out of the canister, reset the trigger nozzle. Gently lift the blue trigger upward while gently depressing at the rear of the gray rectangular section of the trigger. Next, point the nozzle away from the patient toward the floor and pull firmly on the trigger. Generally this will clear the nozzle and allow spraying to continue with gentle trigger pressure. If air comes out, but no cryogen, turn the nozzle one or two 90° (quarter) turn(s) until the tube *inside* the canister is completely surrounded by cryogen. Holding the canister upright and no more than at a 33° angle also works when the canister appears to be getting low.

**Spraying the Cryogen** Instruct the patient to not move during cryosurgery. By squeezing the trigger mechanism **very gently** the fine spray mist can accumulate in the CryoCone without waste. Accumulate cryogen in the bottom of the cone by dripping slowly into the cone. Gently pulling the trigger and using the dripping technique can also eliminate excessive splattering. Also pointing the tube so the spray runs down the inside wall of the cone (instead of spraying directly onto the

skin) can significantly improve your technique. Choose the appropriate sized CryoCone (1mm larger than the lesion). Be sure to firmly hold the cone in place during the freezing and evaporation process to prevent leakage under the cone. This is especially important when treating lesions on uneven surfaces such as between the fingers. (If you cannot obtain a good seal, use a CryoBud ).

If you feel that you have frozen a lesion too long or that some of the cryogenic agent has leaked beneath the CryoCone and frozen surrounding normal tissue, then you may place your own finger on the undesired frozen area to achieve rapid rewarming of this part. If you sprayed too much, use a CryoBud to absorb the cryogen and stop the freezing. Remember most of the permanent destructive effects of freezing are achieved during the thaw period.

**Lesion Thaws Too Quickly** Care should be taken not to touch the ice ball during the thaw period since the heat withdrawn from your finger will shorten the thaw time and reduce the effectiveness of the freeze. A patient or the patient's clothing touching the lesion will shorten the thaw time. It is thought that on the cellular level, most of the permanent destructive effects from freezing occur during the thaw stage. A thaw time significantly less than 40 seconds can be due to inadequate freezing or a patient with "hot" hands or feet as a result of extraordinary circulation.

Heat from an exam light shining directly above the lesion may contribute to decreased thaw time and should be moved aside.

**Personal Protection** Although the cryogenic agent itself is nontoxic you may consider wearing non-sterile latex exam gloves to protect yourself from some occasional mist or splattering of the cryogenic agent. Thin cotton surgical glove liners can be used under latex gloves to keep hands warm. Be extremely careful to protect the patient's ears and the patient's eyes with eye protectors when working around the patient's face. Ophthalmologists use eye spoons to protect the patient's eyes when treating near the eyes or on eyelids. Use of CryoBuds are recommended on head, face, and neck.

**Disinfecting CryoCones** Cones can be autoclaved on the lowest setting if desired. Extender tubes should not be autoclaved; they are meant for reuse. CryoBuds are disposable.

According to CDC guidelines, CryoCones are classified as a non-critical medical device and may be disinfected using an EPA registered intermediate-level or low-level disinfectant. CaviCide or CaviWipes by Metrex are recommended. Please follow directions provided by disinfectant manufacture.

**Anesthesia** Some patients may have a very low pain threshold especially when working around the fingers. Others may report no pain or sensation whatsoever. Most patients will describe a burning sensation that lasts from 3-10 seconds. The

burning usually stops shortly because the cryogen becomes its own anesthetic agent. However, pre-treatment use of 1%-2% lidocaine is advisable in sensitive or overly anxious patients. Remember to wait 5 minutes after injecting the lidocaine prior to freezing to allow the lidocaine to achieve its maximum effect. Alternatively, anesthetic spray may be sprayed onto the treatment area prior to cryosurgery as a pre-freezing anesthetic. Some pediatricians prescribe anesthetizing cream for apprehensive children and have a parent apply the cream one hour prior to treatment.

Although a local anesthetic agent is usually not necessary due to the self-anesthetizing properties of the cryogenic agent itself, it is used when necessary. In some situations injecting a local anesthetic (i.e. lidocaine) beneath the lesion being treated can serve to raise the lesion away from underlying tissue (nerves, bone or vessels) thereby causing the cryogen to freeze a little deeper.

**Ballooning** When freezing an area that has numerous blood vessels, prior anesthetic (lidocaine with epinephrine) can serve to increase the effectiveness of the cryogenic agent since the blood provides a constant source of heat and may promote early thawing of the lesion. This technique should be reserved for a physician who has more experience in cryotherapy.

**Skin Thickness** The freezing time should be shorter in treating lesions on thin skin and somewhat longer in treating lesions on thicker skin. With experience you will soon be able to estimate precise freezing times in order to achieve a minimal blister reaction. If ever in doubt when treating a benign skin lesion, always under treat rather than over treat, since you can always refreeze the under-treated lesion 1-2 weeks later.

A two or three second spray time may be adequate for very thin skin. One or two additional seconds of spray time may be needed on very thick skin such as the sole of the foot. Also when treating lesions on very thick skin, superficial debriding of the lesion prior to freezing has been recommended by some physicians. On thick skin (especially with large plantar warts) a double or occasionally even triple freeze-thaw cycle should be used to increase the destructive effects of the cryogenic agent.

**Veterinarians** should treat lesions according to skin thickness. When working around the eyes and ears of animals it may be best to use CryoBuds and to spray the CryoBud away from the animal to avoid startling the animal. Vets typically use Verruca-Freeze on dogs, especially for warts on cocker spaniels and poodles, and on benign lesions on show horses and cows. Be aware that hair follicles can be destroyed with cryosurgery.

**Treatable Lesions** Verruca-Freeze should be used on benign, superficial skin lesions. Any lesion should be biopsied prior to treatment if the diagnosis is uncertain or there is suspicion of any cancer. Follow directions according to thickness

and whether a light freeze (10-15 seconds) for superficial lesions or whether longer (30-40 seconds) or multiple freezes are appropriate. Under-freeze if in doubt and reevaluate in two weeks.

### **After purchasing a starter kit do I ever need to purchase another kit?**

Although some of our customers go many years without purchasing a new kit, we highly encourage the purchase of additional kits if you wish to treat patients in different exam rooms or at different offices; so you will have all the CryoCones and CryoBuds readily available. It is also our recommendation to purchase a new kit every 3 to 5 canister uses to receive additional cones and bud applicators as well as updated educational and instruction materials. The kits are priced only \$60 to \$75 more than the individual canisters, and are well worth the cost to update your applicators and educational materials.

### **Examples of benign skin lesions that can be treated:**

Verruca (Warts)	Lentigo (age spots)
flat	Actinic Keratoses (solar keratoses)
finger	Seborrheic Keratoses
vulgaris	Achrochordon (skin tags)
condyloma acuminatum (venereal)	Molluscum Contagiosum
superficial plantar warts	Small Keloids
other superficial warts	Dermatofibromas
Keratoacanthoma	Granuloma Annulare
Angiomas	Chondrodermatitis
Epithelial Nevus	Leukoplakia
Porokeratosis Plantaris Discreta	

\*See back page for recommended freeze times.

**Keratoses (Seborrheic)** The size and thickness of the lesions should be a guide to the technique and freezing time. If the lesion is relatively thick, a few additional seconds of freezing or a double freeze-thaw cycle are beneficial. The precise length of time comes through experience and judgement but accumulating 1/8" (3mm) agent in the cone before evaporation is a useful guideline.

An alternative technique many practitioners prefer is freezing the Seborrheic Keratoses lesion enough to make the raised portion firm and then with the use of a curet stripping off the raised portion of the lesion. The curetted material may be placed in formula and submitted for pathology. If this technique is used a hemostatic solution (Monsel's solution or aluminum chloride) should be applied with a Q-tip® immediately to control any bleeding. A light protective dressing (Gel Foam) is then applied. Good cosmetic results are obtained from both techniques.

**Verruca (warts)** Some types of verruca respond better than other types. The digitata (finger) lesion usually responds the best. The entire lesion is frozen including a slight amount of the base and peripheral rim. Single or double freeze-thaw

cycles are recommended according to the size of the lesion. The larger, deeper lesions (such as plantar warts) generally require double freeze-thaw cycles. Remember to under treat and schedule re-treatments at 1 or 2 week intervals.

**Periungual (around the nail) Verruca** usually respond well but are sometimes refractory to treatment with any cryosurgery technique. This is because some of the virus may reside beneath the nail itself. A good seal with the cones is especially important around the fingers to prevent leakage.

If a good seal is not possible, use a CryoBud . This is especially important around bony areas such as fingers, toes, head, face and neck. From experience we find that using a local anesthetic (topical cream or spray anesthetic) in small children might allow better cooperation and reduce perceived pain. Injection of lidocaine will reduce perceived pain, but note that lidocaine will increase effects of freezing and must be used with caution by experienced physicians.

**Plantar and Palmar Verruca** may or may not require local anesthetics. After a local anesthetic, paring of the lesion prior to initial freezing increases the chance of cure on medium and large lesions. Follow-up debridement and re-treatment of any residual core at 1-2 week intervals is indicated. Several treatments are usually necessary to achieve expected results. Using Verruca-Freeze may be less traumatic, less time consuming and with decreased post-operative pain than surgery. Quarter-sized **mosaic warts** can be reduced in size considerably or possibly cured after 4-8 sessions of debriding and freezing only. Each session should be at least 7-10 days apart.

Cryosurgical treatment can be offered as an alternative to scalpel removal if the patient understands the options and the success rates of each option. Several modifications of the method may significantly improve cure rates: 1) Shaving the wart close to the skin prior to freezing. 2) Ballooning the lesion using lidocaine with epinephrine in areas with good circulation. Ballooning using lidocaine without epinephrine in areas where circulation is less (i.e., foot). This raises the lesion as well as constricts surrounding blood vessels and reduces the heat to the lesion. Thaw time is prolonged and this increases the odds of permanently destroying the entire wart virus. 3) Use of double or triple freeze-thaw cycles. 4) Applying salicylic acid to the lesion after the complete thawing of the last freeze-thaw cycle and/or having the patient continue salicylic acid treatments at home.

Experienced podiatrists invert the 12mm cone to treat large mosaic warts and lesions to 25mm in size or they use the 12mm cone multiple times – until the entire lesion has been frozen.

**Genital Warts (condyloma)** Remember that the areas on the penis and vaginal area have thin skin. **Never freeze scrotum tissue with testicle directly beneath.** Always separate scrotum tissue that is being treated away from the testicles. The spray and freeze times in these areas should be for a shorter time (20-30 seconds) than the recommended 25-30 seconds for other areas of the body. Only one

freeze may be necessary. With thin skin it is better to be conservative and then schedule the patient for follow-up in 10-14 days. If the patient has multiple venereal warts, it is often preferred to freeze the largest lesions once and paint the entire affected area with 25% Podophyllum after the larger lesions have thawed. This will save time. Podophyllum together with cryosurgery increases cure rates.

**Molluscum Contagiosum** Light individual freezing or combination light freezing followed by immediate curetting has been recommended. Other physicians allow normal sloughing to occur after a light freeze.

**Lentigo (age spots)** There is no ideal procedure or treatment for this lesion. For large bothersome lesions cryosurgery certainly must be considered as a treatment option. Large as well as small lesions, because they are very superficial, all respond to one freeze-thaw cycle. If all the color is not removed during the first session, repeat light treatment at 3 and 6 week intervals in order to lighten the lesion. Remember when treating benign cosmetic lesions to be prudent and under treat since follow-up treatment sessions can easily be scheduled. Also it is recommended when treating multiple lesions, only a few should be treated for testing purposes at the initial treatment and consultation session. When treating the large lesions, a central clearing with a darker peripheral ring of pigmentation at the border outside the lesion sometimes occurs. This usually resolves in several weeks to months.

**Medical Economics** Some doctors offer to refreeze the same lesion at half charge or at no charge if freezing the same lesion within 1 to 3 months.

As you gain experience and confidence the procedure will become very routine. You will eventually find that you can perform 5-10 of these procedures in the time it took to perform one traditional scalpel surgery or electrosurgery; a time savings benefit to you, your staff and your patients.

In addition, after gaining experience it is beneficial to your practice to include cryosurgery in your office brochure, on your superbill and posted on your information bulletin board in your reception area to increase awareness among your patients that this service is available.

A unique source of information on charges by CPT coding for your area and your specialty is the *Customized Fee Analyzer* published by INGENIX St. Anthony Publishing/MEDICODE. Call (800) 999-4600 for a catalog of publications and coding services or visit their website [www.IngenixOnline.com](http://www.IngenixOnline.com).

**Training** The National Procedures Institute (NPI) offers dermatologic workshops using Verruca-Freeze . Call NPI at (800) 462-2492 or visit the website [www.npinstitute.com](http://www.npinstitute.com). AAFP conducts workshops. Call AAFP at (800)274-2237.

**Additional References** Wheeland, Ronald G. **Cutaneous Surgery**. Philadelphia: Saunders, 1994. Epstein, Ervin and Epstein Jr, Ervin. **Skin Surgery**. Philadelphia: Saunders, 1987.

## PATIENT INSTRUCTIONS

Prior to treatment it might be a good practice to tell your patient that complete sloughing of the lesion being treated does not always occur 100% of the time after one treatment. This is also true when using liquid nitrogen.

No dressing is necessary immediately after freezing. If the bullous formation begins draining in 2-3 days a small Telfa® pad covering might be beneficial for 1-2 days. Be sure to leave the lesion uncovered at night as healing will be faster.

Cleansing the lesion with water or peroxide on a Q-tip™ might be beneficial during the 3-5 days after treatment.

There is a debate in the cryosurgical community whether the crusting formation may be pulled off in 7-10 days or whether it should be allowed to spontaneously fall off. We feel spontaneous sloughing is the most natural process.

Always tell the patient what to expect and that most post-treatment erythema or temporary hypopigmentation will resolve in 3-6 months. Suggested patient instructions are included in 3 languages. Add your practice name if you desire.

### WHAT TO EXPECT AFTER CRYOSURGERY

- Physicians use freezing agents to treat warts and a variety of other skin growths.
- These skin growths are destroyed by the freezing action.
- Within a few hours to a few days after treatment the area may blister, turn black or form a scab. This is a desirable result.
- Most patients experience little or no pain from this treatment.
- You may soak the area in warm water. Take aspirin (adults only), ibuprofen or acetaminophen if you experience any pain.
- Keep the area dry, but you may shower.
- Protect the treated area from injury.
- No bandage is necessary.
- Your physician may drain a blister to relieve pain.
- The scab will fall off as the treated area heals.
- Do not pull or irritate the scab. Allow it to fall off naturally.
- It can take several days to weeks for the scab to fall off depending on the location of the treated area, size of the lesion, the type of lesion treated and your body's healing ability.
- Do not bandage, irritate or apply any medications to the treatment site after the scab falls off.
- The underlying skin may be red, sensitive to temperature and touch and may possibly itch as it heals.
- Normal skin color will eventually return.
- Contact your physician if you have concerns or questions.

## QUE DEBE ESPERARSE DESPUES DE LA CRIOCIRUGIA

Pocas horas o días después del tratamiento la lesión puede ampollarse, volverse negra o formar una costra. Este resultado es lo esperado. En algunos pacientes no ocurre ninguna de éstas reacciones.

- 1) Inmediatamente después del tratamiento la lesión puede lavarse.
- 2) Si usted siente dolor durante las primeras horas después del tratamiento, la lesión puede bañarse con agua tibia o usted puede ingerir aspirina (ibuprofeno ó acetaminofeno para niños) para calmar el dolor. La mayoría de las personas no sienten dolor o tienen poca molestia como resultado del tratamiento.
- 3) No es necesario cubrir el área tratada con un vendaje. De hecho, ésto no debe hacerse. El área tratada sana mejor si no se cubre. Debe tener cuidado de no lastimar el área tratada.
- 4) Ampollas grandes y dolorosas (aún ampollas con sangre) pueden ocurrir de vez en cuando. Estas ampollas se pueden abrir y drenar para parar el dolor. Este procedimiento debe hacerlo el médico; a no ser que el médico le de instrucciones sobre como hacerlo. Usted debe consultar al médico si éste tipo de ampollas se presentan o si usted tiene otros problemas con el tratamiento.
- 5) La lesión tratada se desprenderá durante el sanado. Esto puede tomar varios días os semanas dependiendo del tamaño y tipo de la lesión, de su localización y de la forma en que su organismo haga el sanado de la lesión.
- 6) Permita que la lesión tratada se desprenda por si sola; no la pellizque ni la desprenda.
- 7) Cuando la lesión tratada se desprende, la piel debajo de la misma aparece roja. Con el tiempo, el color de la piel normal aparecerá. No pellizque la lesión ni coloque vendaje sobre la misma. Tampoco coloque ningún medicamento hasta que la lesión se desprenda por si sola. El área tratada puede ser sensible a la temperatura o al tacto. Algún escozor puede sentirse durante el sanado. Esto es normal. Algún tiempo pasará antes que la piel tratada se vea como el resto de la piel a su alrededor.

## CE À QUOI IL FAUT S'ATTENDRE APRÈS UNE CRYOCHIRURGIE

Les médecins utilisent des agents frigorigènes pour traiter certaines excroissances cutanées, comme des verrues et diverses autres excroissances de la peau. Celles-ci sont détruites par l'effet frigorigène.

De quelques heures à quelques jours après le traitement, la surface lésée peut se couvrir d'ampoules, devenir noire ou former une croûte. C'est un effet souhaitable. Chez certains patients et patientes, on n'observe aucune réaction.

Vous pouvez mouiller la surface lésée immédiatement après le traitement.

Si, au cours des premières heures après le traitement, la surface est douloureuse, vous pouvez la faire tremper dans l'eau chaude et prendre de l'aspirine [de l'ibuprofène ou de l'acétaminophène] pour soulager la douleur. Les gens éprouvent généralement peu de douleur, ou pas du tout de douleur, à la suite du traitement.

Il n'est pas nécessaire de couvrir la surface d'un pansement. En fait, cela est peu souhaitable. Les surfaces soignées guérissent mieux lorsqu'on les laisse à l'air. Dans la mesure du possible, il faut protéger la surface des blessures.

De grosses ampoules douloureuses (même des ampoules remplies de sang) peuvent survenir à l'occasion. On peut les percer et les drainer pour soulager la douleur. Cela devrait être effectué par votre médecin, à moins qu'il vous ait donné des directives précises. Si de telles ampoules douloureuses surviennent ou si vous éprouvez tout autre problème lié à la surface soignée, parlez-en à votre médecin.

L'excroissance cutanée tombera à mesure que la surface traitée guérira. La disparition de l'excroissance prendra plusieurs jours ou des semaines dépendant de la nature et de la grosseur de l'excroissance, de l'endroit où elle est située et de la façon dont votre corps se rétablit.

Laissez l'excroissance tomber d'elle-même. Ne la grattez pas et n'essayez pas de l'enlever.

Lorsque l'excroissance tombera, la peau du dessous sera quelque peu rougeâtre. Elle reprendra sa couleur normale avec le temps. Ne mettez pas de pansement, ne grattez pas la surface lésée et n'appliquez pas de pommade après que l'excroissance est tombée. La surface lésée peut être sensible au toucher, au froid et à la chaleur, et peut provoquer des démangeaisons à mesure qu'elle guérit. Cela est normal. Un certain temps peut s'écouler avant qu'elle retrouve son aspect original.

Hommage de/Compliments of Services de santé en français Sault-Sainte-Marie, Ontario.

## RECOMMENDED FREEZE TIMES

Common Lesions Treated	Freeze Time Ranges
Verruca Vulgaris	30 - 40 seconds
Verruca Plantaris	40 seconds
Verruca Plana	20 - 30 seconds
Genital Lesions	20 - 30 seconds
Skin Tags	25 - 35 seconds
Actinic Keratoses	20 - 35 seconds
Seborrheic Keratoses	30 - 40 seconds
Lentigo	25 - 35 seconds
Molluscum Contagiosum	20 seconds

**Use lower end of range for Facial and Thin Skin Lesions.**

## CPT CODING

Type of Lesion	Code:	Medicare \$	Private Insurance \$
Benign Lesion	17000 (1)	\$73.87*	\$100.00 - \$130.00*
	17003 (2-14)	\$6.86*	\$35.00 - \$45.00*
	17004 (>15)	\$162.28*	\$240.00 - \$325.00*
Warts & Molluscum	17110 (1-14)	\$100.81*	\$105.00 - \$135.00*
	17111 (>15)	\$120.28*	\$135.00 - \$185.00*
Skin Tags	11200 (1-15)	\$77.39*	\$195.00 - \$310.00*
	11201 (each add. 10)	\$17.64*	\$110.00 - \$180.00*
Anal Lesions	Simple: 46916	\$211.76*	\$300.00 - \$550.00*
	Extensive: 46924	\$464.14*	\$1000.00 - \$1800.00*
Penile Lesions	Simple: 54056	\$132.05*	\$200.00 - \$375.00*
	Extensive: 54065	\$211.49*	\$750.00 - \$1500.00*
Vulva Lesions	Simple: 56501	\$125.20*	\$200.00 - \$375.00*
	Extensive: 56515	\$215.10*	\$700.00 - 1200.00*

\*Reimbursement amounts vary from state to state and provider to provider. These numbers represent an average. Please check your current locations CPT coding book or check with your insurance company for reimbursement in your area.

Always document size and number of lesions as well as pre-surgery workup and all patient instructions and education. Some CPT codes do not allow physicians to charge for an office visit as well as destruction of a lesion. A difficult or large lesion could be considered complicated. Check the current CPT coding book for any coding changes. For fee data for your area and specialty contact Ingenix: [www.IngenixOnline.com](http://www.IngenixOnline.com) or 1-877-INGENIX

8/2010

**PLEASE GIVE A COPY OF THIS CPT CODING CHART TO YOUR OFFICE STAFF**