

## **TREATABLE AILMENTS**

**Q: What ailments can the TheraKnit/Stimprene provide therapy for?**

**A: Let the clinicians decide if the TheraKnit/Stimprene will work for the conditions they see in their practice. Listed below are some treatable conditions:**

Acute Edema  
Anterior Cruciate Ligament Tear (rehab)  
Arthritis  
Bunionectomy  
Carpal Tunnel Syndrome  
Chronic Edema  
Herniated Nucleus Pulposus (pain mgmt)  
Joint Replacement - Acute  
Joint Replacement - Chronic  
Lateral/Medial Epicondylitis - Acute  
Medial Collateral Ligament Tear  
Medial Stress Syndromes  
Paraspinal Muscle Spasm/Strain (pain & spasm mgmt)  
Piriformis Syndrome (pain & spasm mgmt)  
Plantar Faciitis  
Post-op Arthroscopy  
Radial Tunnel Syndrome  
Reflex Sympathy Disorder (RSD)  
Tarsal Tunnel Syndrome  
Traumatic & Post-op Ankle  
Volar Forearm Tenosynovitis

## GENERAL TREATMENT GUIDELINES FOR GALVANIC STIMULATION

- < **Edema**
- < **Increased Range of Motion**
- < **Muscle Spasms and Chronic Pain**
- < **Pressure Ulcers**

### **Edema**

Swelling due to trauma or lymphatic dysfunction can be reduced with Galvanic Stimulation due to its Direct Current properties which chemically moves interstitial fluid and increases blood flow to the injured area. This can also be coupled with a mild muscle contraction which slowly contracts and mechanically milks fluid from the extremity. Within the first 48 hours, Galvanic Stimulation can be used in the positive mode to reduce the influx of edema. Once edema is present or after 48 hours post trauma, negative polarity should be used.

Use a comfortable level of stimulation. A visible and strong muscle contraction is not necessary to reduce edema in most cases. If large levels of edema are present, or if edema must be quickly reduced, a muscle pumping action can be used to assist the negative current effects. Use a low level, low rate contraction or a setting at a higher rate to cause the muscle contractions. The TheraKnit Garment Electrodes may be wetted, or even used in water therapy (hydrotherapy), but keep in mind that you are fighting gravity by putting the extremity in the dependent position below the heart. Salt water is a better conductor, and can be used to increase depth of penetration. The Stimprene Electrode Braces retain considerable moisture from the skin, and therefore may not need to be wetted. Elevate the extremity whenever possible.

### **Increasing Range of Motion**

Negative Galvanic Stimulation helps to soften tissue, leading to an increase in range-of-motion and flexibility. Increasing the range-of-motion is important to tendons that have shortened or stiffened during periods of inactivity such as post casting or bracing. It can also be used to break up old adhesions or scar tissue following extensive surgery or trauma. Negative Galvanic Stimulation is commonly applied to the patient during aggressive mobilization and therapy by the Physical Therapist or Hand Therapist to increase range while reducing the discomfort of therapy.

Negative Galvanic Stimulation can be also used to maintain flexibility when the joint is immobilized due to surgery or trauma. It should be used at home between treatments to maintain levels achieved during therapy.

### **Muscle Spasm and Chronic Pain**

Galvanic Stimulation is indicated as a first step treatment in a comprehensive program for the treatment of chronic pain. Galvanic Stimulation treats and reduces muscle spasm and the resulting pain from the spasm as part of a total regimen to reduce the spasm-pain-spasm cycle, thus enabling the patient to increase their activity and exercise levels to gain flexibility and strength in an attempt to cure themselves of their chronic pain.

Muscle stimulation is commonly used to fatigue a muscle in spasm to relax it. Galvanic Stimulation works on the same principle while normalizing blood flow through the contracted muscle for a more comfortable and longer residual reduction of spasm.

### **Pressure Ulcers and Wounds**

The effectiveness of Galvanic Stimulation for pressure ulcers and wounds has not been established by the FDA. However, it has been used as a treatment for pressure ulcers for decades with many published clinical reports of successes. Galvanic Stimulation appears to reduce bacterial infection by increasing blood flow, creating an environment within the wound which allows the body's own healing mechanisms to take hold. Galvanic Stimulation initiates, and then speeds the healing process.

The U.S. Department of Health and Human Services, Agency for Health Care Policy and Research has made the following statement in their Clinical Practice Guideline #15, *Treatment of Pressure Ulcers*. "At this time, electrical stimulation is the only adjunctive therapy with sufficient supporting evidence to warrant recommendation by the panel. Consider a course of treatment with electrotherapy for Stage III and IV pressure ulcers that have proved unresponsive to conventional therapy. Electrical stimulation may also be useful for recalcitrant Stage II ulcers."

General guidelines for use indicate that in Stage I or II, wounds where skin is not broken, stimulation should be done directly over the site of discoloration or breakdown.

When the epidermis is broken, as in Stage III or when a full thickness ulceration occurs in a Stage IV, you should attempt to pack the wound with gauze and saline solution. A sterile, occlusive dressing should then be used over the top of the gauze to seal in the liquid before applying the TheraKnit garment.\* Rather than change the dressing after each treatment, the dressings can be left in place and the unit can be turned on and off as needed or the leads disconnected from the unit and reconnected for each treatment. With this method, the dressings need only be changed once a day to save time and money.

Any undermined or tunneled areas should be packed carefully so as to cause healing in the entire tunnel rather than cause closure only at the mouth of the tunnel.

\* please note that the TheraKnit products are not shipped sterile. Care should be taken to use sterile techniques when treating open wounds.

Negative current should be used first to treat any bacteria that may be present. Use negative polarity until the wound healing process plateaus, or after 3 days of no noticeable change. When this occurs, reverse polarity and treat again until a plateau is reached, then switch again. Continue this process until the ulcer is closed.

Facilities should be billed directly since most patient insurance will not reimburse for ulcer care at a nursing facility or hospital. All insurances should be billed showing progress on a case by case basis since Galvanic Stimulation is being paid at an increasing frequency over the last year. The cost of \$15-\$20 a day for a HVPC rental should be perceived by the administration as a huge cost savings. Most dollars for adjunctive equipment are used to reduce capillary pressure under a patient with elaborate pressure reducing mattresses. None of these pressure relieving devices that rent for upwards of \$75 per day close wounds, they just attempt to prevent the wounds from forming.

Galvanic stimulation is the most cost effective adjunctive therapy available that helps to heal wounds.