## IFC

The primary aim of IFC is to provide symptomatic pain relief through peripheral nerve stimulation. IFC can improve localized blood flow and has been show to reduce edema.

The following is meant to serve as guidelines. Adjustments and parameters are to ultimately be decided by the treating physician or therapist.

## **IFC Parameters**

**Classical IFC** is a quad-polar (4 pole) stimulation method in which the area of pain is encircled with 4 electrodes. The currents are designed to cross and literally interfere with each other, giving rise to an interference (beat frequency) which mimics low frequency stimulation.

**Premodulated IFC** is a bipolar (2 pole) application method in which the desired frequency is modulated within the unit and carried to the target area on a mid-range carrier frequency (e.g., 4000 Hz). This method is perfectly acceptable, and there is no physiological difference in treatment outcome compared to 4 pole stimulation.

Patient comfort should be the deciding factor when considering which method to utilize.

## **Treatment Ranges**

It is difficult to find support for the concept that there is a single frequency that works best for every patient, but the following ranges appears to cover the majority of individuals.

**Pain management** via the Pain Gate Mechanism involves excitation of the <u>A beta</u> sensory fibers, which reduces the transmission of the pain stimulus from the 'c' fiber through the spinal cord to other parts of the body.

A beta fibers appear to respond optimally to stimulation at relatively high rates:

- Frequency: 90 130 Hz
- Pulse Width: SET 4 pole method; 80 120 µs 2 pole method (Adjusts the width until a comfortable level is reached)

**Pain management** via the Endogenous Opioid system involves excitation of the <u>A delta</u> fibers which causes the release of an endogenous opiate (encephalin) in the spinal cord - hence reducing the activation of the pain sensory pathways.

A delta fibers appear to respond optimally to stimulation at relatively high rates:

- Frequency: 2 5 Hz
- Pulse Width: SET 4 pole method; 150 200 µs 2 pole method (Adjusts the width until a comfortable level is reached

**Increase Blood Flow and Edema Management** – evidence suggests stimulation of the motor nerves can achieve this effect:

- Frequency: 10 25 Hz
- Pulse Width: SET 4 pole method; 150 200 µs 2 pole method (Adjusts the width until a comfortable level is reached

Other Considerations:

**Intensity:** general rule of thumb - strong but not painful **Time:** minimal effective dosage – 30 minutes **Modulation:** The modulation of phase/pulse characteristics has been added to delay perceptual accommodation to current flow. Modulation features allow for variation in the aforementioned treatment ranges for optimal effect and comfort.

Sweep Low: 1-10 Hz Sweep High: 80-150 Hz Sweep Full: 1-150 Hz

### **Common Conditions that Warrant IFC Therapy**

#### **Systemic Pain**

Bursitis	Phantom Limb Syndrome
Cancer	Raynaud's Syndrome
Causalgia	Rheumatoid Arthritis
Multiple Sclerosis	Synovitis
Neuralgia	Diabetic Peripheral
Osteoarthritis	Neuropathy

#### Head and Neck Pain

Cluster Headaches	Suboccipital Headaches
Dental Disorders	TMJ Syndrome
Migraine Headaches	Torticollis
Spondylosis	Trigeminal Neuralgia
Sprains/Strains	Whiplash

#### **Abdominal Pain**

Diverticulosis	Labor
Dysmenorrhea	Postoperative Pain

## Back Pain

Intercoastal Neuralgia IVD Syndrome Lumbago Lumbosacral Pain Radiculitis Sprains/Str Thoracody Whole Bac	rains nia ek Pain
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# Lower Extremity Pain

Ankle Pain	Passive Stretch Pain
Foot Pain	Sciatica
Fractures	Sprains/Strains
Ischialgia	Tendonitis
Knee Pain	Thrombophlebitis

# Upper Extremity Pain

Epicondylitis Frozen Shoulder	Sprains/Strains
Hand Pain	Subdelioid Duisius
Peripheral Nerve Injury	wrist Palli

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