

HVPC

The primary aim of HVPC is to provide management of localized blood flow, edema, tissue regeneration and relief from, chronic (long-term) intractable pain and post-surgical and post-trauma acute pain.

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

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 A beta 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**
- **Electrode: Active Lead - NEGATIVE**

Pain management via the Endogenous Opioid system involves excitation of the A delta 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:

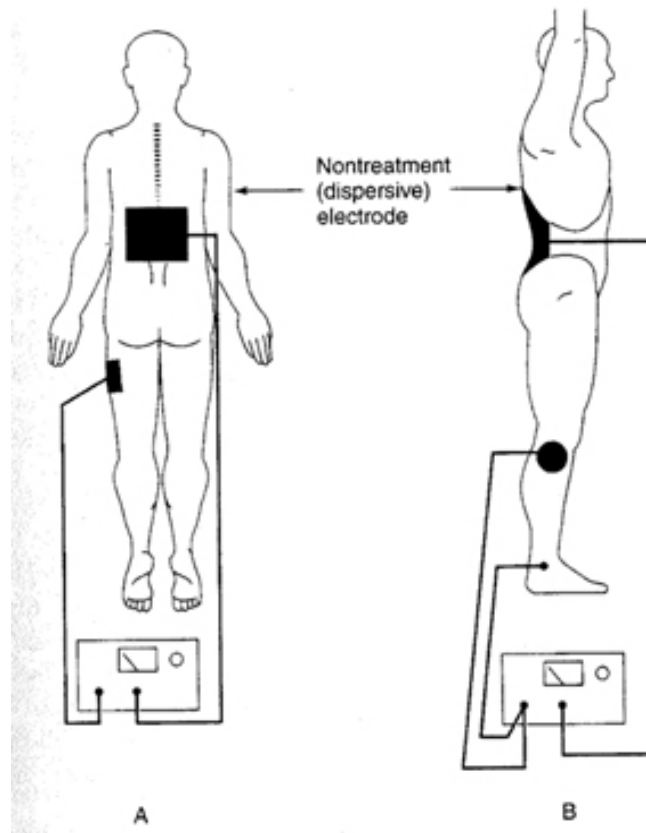
- **Frequency: 2 – 5 Hz**
- **Pulse Width: SET**
- **Electrode: Active Lead - Negative**

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

- **Frequency: 10 – 25 Hz**
- **Pulse Width: SET**
- **Electrode:**
 1. **Edema: Active Lead – Negative**
 2. **Increase Blood Flow: Active Lead – Positive**

Electrodes

Bifurcated lead assembly is typical with HVPC. Bifurcated simply means the active lead (typically red) is multi-pronged (2 or more). The dispersive lead (typically black) is placed away from the target area. **Dispersive lead electrodes are usually equal to or greater than the sum of the area of the bifurcated active leads.**



- (A) Represents a simple technique where the active lead is placed on the hip and the dispersive lead is placed on the back.
- (B) Represents an advanced technique where the *active leads* are placed on the knee and ankle while the *dispersive lead* is placed on the back.

Diagnosis	Mode	Polarity	Pulse Rate	Voltage	Treatment Time
Adhesive Capsulitis	Alternating	Negative	100 pps	Patient Tolerant	45 Minutes/3 times per day
Ankle Post-Op	Alternating	Pos. for 48 hrs.	100 pps	Patient Tolerant	1 hour/3 times per day
		Pos. after 48 hrs.	20 pps		
Arthritis	Alternating	Negative	20 pps	Patient Tolerant	45 Minutes/3 times per day
Arthroscopy Post-Op	Alternating	Pos. for 48 hrs.	100 pps	Patient Tolerant	1 hour/3 times per day
		Neg. after 48 hrs.	20 pps		
Bunionectomy	Alternating	Negative	20 pps	Patient Tolerant	45 Minutes/3 times per day
Bursitis	Alternating	Negative	20 pps	Patient Tolerant	45 Minutes/3 times per day

Carpal Tunnel	Alternating	Negative	100 pps	Patient Tolerant	45 Minutes/3 times per day
Cervical Sprain	Alternating	Negative	100 pps	Patient Tolerant	45 Minutes/3 times per day
Cervical Sprain/Spasm	Alternating	Negative	100 pps	Patient Tolerant	45 Minutes/3 times per day
Degenerative Disc	Alternating	Negative	100 pps	Patient Tolerant	45 Minutes/3 times per day
Discectomy Post-Op	Alternating	Pos. for 48 hrs.	100 pps	Patient Tolerant	45 Minutes/3 times per day
		Neg. after 48 hrs.	20 pps		
Edema/Acute	Alternating	Positive	100 pps	Patient Tolerant	45 Minutes/3 times per day
Edema/Chronic	Alternating	Negative	20 pps	Patient Tolerant	45 Minutes/3 times per day
Epicondylitis	Alternating	Negative	100 pps	Patient Tolerant	45 Minutes/3 times per day
Knee/Acute	Alternating	Pos. for 48 hrs.	100 pps	Patient Tolerant	1 hour/3 times per day
		Pos. after 48 hrs.	20 pps		
Knee/Chronic	Alternating	Negative	20 pps	Patient Tolerant	45 Minutes/3 times per day
Lumbosacral Sprain	Alternating	Negative	100 pps	Patient Tolerant	45 Minutes/3 times per day

Plantar Fasciitis	Alternating	Negative	100 pps	Patient Tolerant	45 Minutes/3 times per day
Sciatica	Continuous	Positive	100 pps	Patient Tolerant	45 Minutes/3 times per day
Shoulder Subluxation	Alternating	Negative	100 pps	Patient Tolerant	45 Minutes/3 times per day
Spinal Fusion	Alternating	Pos. for 48 hrs.	100 pps	Patient Tolerant	1 hour
		Neg. after 48 hrs.	20 pps		
TMJ	Alternating	Negative	100 pps	Patient Tolerant	45 Minutes/3 times per day
Wound Healing	Continuous	Negative	50 pps	Patient Tolerant	30 minutes/1 time per day/6 days
		Positive	100 pps		60 minutes per day

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