



## Broadmead Orthopaedic Physiotherapy Clinic\*

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### What is IMS?

Intramuscular stimulation, or IMS, is a comprehensive system for the diagnosis and treatment of chronic pain. The treatment technique is performed exclusively by physicians and physiotherapists. The approach was pioneered by Dr. C. Chan Gunn, a clinical professor and Honorary Peterhouse Cambridge Fellow with over 35 years of hands-on experience dealing with chronic pain. Many experts who treat chronic pain now support his "radiculopathic" model.

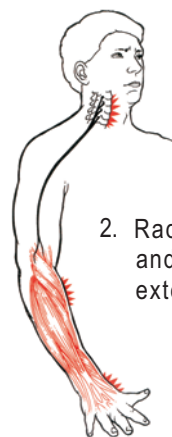
#### Radiculopathic Pain

Simply put, this is pain that arises due to dysfunction in the nervous system. Healthy muscles and nerves require feedback or communication with the central nervous system. When a nerve is compressed the nerve and its target organ become supersensitive. This "disuse supersensitivity" results in abnormal function of the nerve, and target organ. For example, a normally painless sensation of light touch may be interpreted as painful and be associated with muscle spasm. The area sensitive to stimulation (the motor point) is significantly enlarged. Hence the muscle is more tender to touch. Another consequence of disuse supersensitivity is shortening of muscles.

#### Muscle Shortening

Striated muscle is the tissue that most commonly develops supersensitivity. In addition to tenderness a radiculopathy will cause muscle shortening, one of the key findings of chronic pain.

Muscle shortening will increase tissue tension leading to conditions such as tennis elbow. Muscle shortening also increases joint compression and affects joint alignment, two of the most common causes of joint irritation. Perhaps most importantly, shortening of the muscles in the back and neck contributes to abnormal joint forces that accelerate the rate of degenerative changes. Degenerative changes in the vertebral joints reduces the space available to nerves and thus increases nerve compression, perpetuating the radiculopathic pain.



1. Degeneration at the neck causes nerve compression and radiculopathy.
2. Radiculopathy causes spasm and shortening of the wrist extensors.
3. Constant pull of the wrist extensors causes tennis elbow.

#### Treatment

The techniques used in IMS are borrowed from traditional Chinese acupuncture but incorporate up-to-date scientific principles and neurophysiology.

IMS treatment makes use of very fine gauge (acupuncture) needles. These needles are so fine that there is virtually no sensation when the needle penetrates the skin. As the needle penetrates deeper, into normal muscle, there is no discomfort. However, if a needle penetrates a supersensitive and shortened muscle it will "grasp" the needle and cause a characteristic, deep cramping sensation. Failure of the needle to produce a needle grasp indicates that the muscle is not supersensitive and will not respond to needle treatment.

The goal of treatments is to release the shortened muscles and relieve pressure on irritated nerves. Treatments are normally performed once a week and while you should notice improvement with every treatment it may require a number of sessions to bring your symptoms under control. Once this is achieved specific exercises may be prescribed as part of a maintenance program.

For more information visit the iSTOP website at [www.istop.org](http://www.istop.org) or call Broadmead Orthopaedic Physiotherapy Clinic. Phone (250) 881-1199.

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

Information and illustration is taken from:  
C. Chan Gunn. *Treatment of Chronic Pain*. Churchill Livingstone, New York, 1996.