

Ligament

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Intramuscular Stimulation (IMS): What You Need to Know...

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What is IMS?

IMS is a total system for the diagnosis and treatment of myofascial pain syndromes including chronic pain (Gunn, 2013). This technique involves the use of acupuncture needles that penetrate the trigger points within the muscles without injecting any substance and facilitates their release. By releasing the tight bands/trigger points within the muscles IMS has been postulated to help alleviate pain and tightness within muscles, tendons and joints, increase range of motion and relieve pressure on nerves, nerve roots and intervertebral discs, all of which can be beneficial for several musculoskeletal and chronic pain conditions.

Development of IMS

Dr. Chan Gunn developed IMS in 1973 when he became increasingly frustrated with the unsatisfactory results of conventional physical therapies to treat chronic pain patients. He developed IMS and the radiculopathy model from clinical observations and research he conducted over more than 20 years, first at the Worker's Compensation Board of British Columbia and subsequently at his pain clinic in Vancouver.

Theory Behind IMS

IMS blames pain on unwell nerves or a hypersensitivity in the peripheral nervous system (neuropathic pain), often caused by spondylosis. Dr. Gunn postulates that neuropathy occurs at the nerve root causing radiculopathic pain and because there is no adequate lab or imaging test for neuropathy, IMS's clinical exam is indispensable for the diagnoses of these

conditions. Dr. Gunn examined 100 patients with chronic low back pain who did not have obvious signs of injury and compared them to controls who did not have pain. He found that the patients with chronic low back had tenderness in muscles within the affected myotomes and postulated that these tender points are indicators of radicular involvement and help differentiate a simple mechanical low back strain (which normally heals quickly), from one with neural involvement which is slower to recover.

IMS versus Acupuncture

IMS's radiculopathy model can help explain an array of myofascial and chronic pain syndromes such as low back pain, headaches, tendonopathies and postural syndromes. IMS borrows its needling technique from traditional Chinese acupuncture and augments it with neurophysiology and anatomy. Results are often superior to traditional acupuncture because treatment is based on a clinical exam and physical signs.

How IMS Works

Most musculoskeletal pain syndromes are accompanied by sensory, motor and autonomic changes that signify disturbances in the peripheral nerves, including the dorsal and ventral rami of segmental nerves, giving rise to radiculopathy. When there is nerve dysfunction of the spinal nerve root it causes muscle shortening in that nerve root distribution causing pain anywhere along that path and tight bands in the muscles (including the paraspinal muscles which causes further compression at the spine, further nerve root irritation and consequent muscle shortening along that nerve root distribution). This leads to a vicious cycle of radiculopathy and chronic pain. IMS helps to release this muscle shortening both peripherally and centrally at the spine to help desensitize the peripheral nervous system and musculoskeletal system.

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A Good Example

If a patient is suffering from lateral elbow pain it is often caused from a pull of the wrist extensor tendons on the lateral epicondyle/humerus, which is usually caused from muscle shortening in the wrist extensor muscle bellies, pulling on and irritating the tendons, ligaments, periosteum and joint capsule. This is often caused or complicated by nerve dysfunction at the spine (e.g. C6 C7 level which innervates these muscles), causing these muscles to become shortened. By needling tight bands in both the wrist extensor muscles and paraspinals muscles, IMS can quickly help alleviate the patient's lateral elbow pain.

Conclusion

IMS has been clinically shown to be extremely effective in treating several myofascial and chronic pain syndromes and usually provides very fast subjective improvements in the patients' symptoms and objective improvements in their neurological signs and musculoskeletal issues (e.g. joint ROM, muscle tightness, posture, biomechanical/alignment problems, etc.).

STAFF PROFILE

Sharyn Van Damme, BA(Kin), MPT,
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• **Education:** Master of Physical Therapy from Western University.
 > Bachelor of Arts in Kinesiology from Wilfrid Laurier University.

• **Post Graduate:** completed her Level 3 in Manual Therapy from the Canadian Orthopaedic Division.
 > Completed her Level 3 in acupuncture with the AFCI as well as her certification examinations.
 > Recently taken the Gunn IMS needling course and has also completed several other courses including running analyses, temporomandibular joint dysfunction and peripheral manipulation.

• **Focused Interests and Skills:** Special interest in the areas of lumbar spine, pelvis, and shoulder dysfunction.

Intramuscular Stimulation (IMS): Summary

Indications: Treatment of myofascial pain syndromes (e.g., neuropathic pain and chronic pain syndromes)

Background:

- Nerve root dysfunction affects the associated myotome and dermatome causing pain and tight bands of muscle anywhere along that path
- When paraspinal muscles are affected, neuroforamen compression can be exacerbated which causes further nerve root irritation and consequent muscle shortening along that nerve root distribution
- Leads to a vicious cycle of radiculopathy and chronic pain

Mode of action:

- IMS involves the use of special acupuncture-type needles that penetrate trigger points within muscles to facilitate their release
- Releases muscle tension both peripherally and centrally at the spine to help desensitize peripheral nervous system and MSK system
- Alleviates chronic pain and tightness within muscles, tendons and joints, as well as increasing ROM of joints

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 - Benjamin Franklin

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