



South City Physiotherapy & Manual Concepts Physiotherapy

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Director's Message Fall 2008 From Francine Doré, Clinic Director

With the Holiday Season around the corner, in spite of the gloomy economic news, I hope everyone is busy getting ready for special

celebrations with friends family and loved ones. While easy to forget, good health is an important part of those celebrations —and as the New Year approaches, this would be a good time for all of us to be more proactive in protecting that good health.

On that subject, I have got to share something with you that is really exciting to me. I have just returned from Vancouver where I completed my training in **Gunn IMS** (Intramuscular Stimulation) . In my twenty plus years of practice, no other technique I've encountered has changed the way I look at chronic pain like this technique has. **IMS** is actually very effective in helping patients who have not been able to find answers to their chronic cycles of pain. Finally!

The enclosed paper contains more detail, but in short.....

Neuropathic dysfunction -where muscles and other structures of common innervation become supersensitive, is often the root cause of chronic pain. By eliminating the source of nerve irritation, **IMS** can return muscles to their normal state, taking away the super sensitivity—and the chronic pain!.

Please see the enclosed paper and the IMS website at www.istop.org for more information on this very effective tool.

In closing, I would like to take the time to thank all of the physicians who have supported both South City and Manual Concepts over the years and wish all of you a happy holiday season.

Please contact **Francine Doré** for more information about our facilities and services at:

Phone: 519-763-2885

Email: francine@southcityphysio.com

Web Site: www.southcityphysio.com

Staff Profiles

Meet our Health Care Practitioners



Theresa Fox Physiotherapist South City Physiotherapy

Teresa graduated from The University of Toronto in 1999 with a B.Sc. in Physiotherapy. She also holds a bachelor of Kinesiology from McMaster University.

Prior to joining South City in 2008 Teresa worked in Guelph in private practice. Teresa has a keen interest in orthopedic and sports injuries – stemming from a life-long involvement in sport, during which she represented Canada as part of the national team in wrestling for many years. She attended the 2004 Athens Olympics as a physiotherapist for the Canadian Wrestling Team.

Teresa holds a Certificate in Sports Physiotherapy and a Certificate in Intermediate Manual Therapy. She is currently working towards her Diploma of Advanced Manual Therapy.



Stephen Guy Physiotherapist Manual Concepts Physiotherapy

Since completing his Masters in Physiotherapy from McMaster University in 2003, Stephen has focused his clinical work experience in orthopaedics and manual therapy.

While attending McMaster University, Stephen worked as a team therapist for the varsity men's basketball and football teams. In his final year, Stephen was also accepted for an international student placement, giving him the opportunity to work at an orthopaedic clinic in New Zealand.

Over the years, Stephen has taken many continuing education courses, successfully completing his intermediate manual therapy exams in 2006 (RCAMT), and his advanced diploma in manual and manipulative therapy in 2007 (FCAMT). His next challenges will be pursuing higher levels in acupuncture certification, and starting to teach post-graduate manual therapy courses.

Treatment and Management of Chronic Pain with Intramuscular Stimulation (IMS)

by Francine Doré BSc.(PT), CAFCI, CGIMS

Chronic pain is a silent epidemic affecting some 10 million Canadians. It ranges from mildly debilitating to completely disabling. But why do some patients suffer so much?

When facing chronic pain, the following factors must be taken into consideration :

Is it coming from ongoing nociception or inflammation?

Is it due to psychological factors such as depression?

Or is it the result of functional and structural alterations within the central or peripheral nervous systems?

The term neuropathy (or radiculopathy) has been applied to the last category. Neuropathic pain often arises and persists indefinitely in the absence of a detectable permanent injury or inflammation. It is in the treatment and management of this category of chronic pain that **Intramuscular Stimulation (IMS)** can play a significant role.

CAUSES OF NEUROPATHY :

The causes of neuropathy are as numerous as those of nerve damage : they may include neoplasm, trauma, and vascular, metabolic, infectious and degenerative changes. But the most common cause, since it is near-universal, is spondylosis (or degenerative changes).

Ordinarily, spondylosis follows a gradual, relapsing, and remitting course that is silent - unless and until symptoms are precipitated by an incident (often so minor that it passes unnoticed by the patient). What becomes interesting is that with an acute injury to a healthy nerve, there is no prolonged discharge of pain signals, whereas the same injury to a previously irritated nerve (neuropathic nerve) can cause a sustained discharge. This is one of the reasons why some people develop severe pain after an apparently minor injury, and why that pain can continue beyond a reasonable period.

CLINICAL FEATURES OF NEUROPATHIC PAIN :

Most clinical neuropathies are of mixed pathology including axonal degeneration and segmental demyelination. Routine laboratory and radiological tests are unfortunately unhelpful, but could still be indicated to rule out serious pathology. Therefore, neuropathy is determined principally by clinical examination.

So look for the following features:

Pain in the absence of an ongoing tissue-damaging process.

Delay in onset after precipitating injury (if any). Typically, causalgic pain appears within one week following nerve injury, but its onset may be delayed by as much as 3 months.

Abnormal or unpleasant sensations such as burning or searing pain or deep, aching pain.

Pain felt in region of sensory deficit.

Brief shooting or stabbing pain.

A mild stimulus causing extreme pain (Excessive tenderness to digital pressure is not a normal feature of muscles because their mechano receptors are located deep within the muscle and have high thresholds).

Pronounced summation and after-reaction with repetitive stimuli (pain after repetitive work or over training).

Loss of joint range or pain caused by the mechanical effects of muscle shortening.

AUTONOMIC MANIFESTATIONS OF NEUROPATHY:

Vasomotor : vasoconstriction generally differentiates neuropathic pain from inflammatory pain; with neuropathic pain affected parts are perceptibly colder and retained catabolites from ischemia may exacerbate the pain.

Pilomotor and **sudomotor** : there can be an interaction between pain and autonomic phenomena. A stimulus such as chilling, which excites the pilomotor response, can precipitate pain and vice versa; pressure upon a tender motor point can provoke the pilomotor and sudomotor reflexes.

Trophedema and **trophic changes** : may occur in skin and nails and there may be dermatomal hair loss. Trophedema can be found over affected regions by skin rolling test or matchstick test.



Goosebumps



Matchstick Test



Skin Rolling Test



Orange Peel

Any of the above features should raise suspicion of neuropathic pain.

CANNON AND ROSENBLUETH'S LAW OF DENERVATION

This law is crucial to the understanding of the treatment of chronic pain with **IMS**, but is not often known. In simple words, it shows that when a nerve is below par and is not functioning properly (as in neuropathy), it becomes supersensitive! This super sensitivity can also occur in many structures of the body including skeletal muscle, smooth muscle, spinal neurons, sympathetic ganglia, adrenal glands, sweat glands and even brain cells.

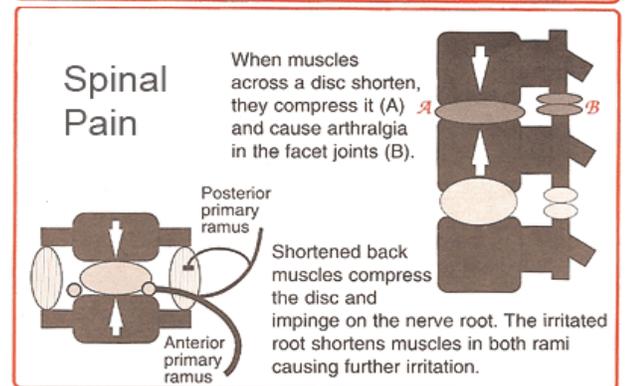
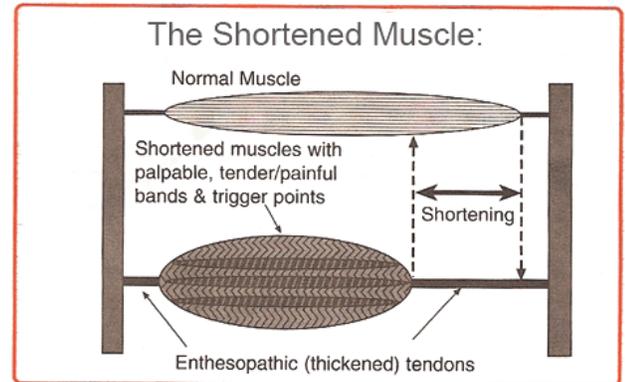
THE SHORTENED MUSCLE SYNDROME:

(or what chronic pain should be called?)

Of all structures that can become supersensitive, the most common one is striated muscle. It is seen in patients as shortened muscles and can be palpated as ropey bands within the muscle. What is interesting is that these bands can be present in paraspinal muscles as well.

SPECIFIC EFFECTS OF MUSCLE SHORTENING :

- It can produce primary muscle pain from pressure of intramuscular nociceptors,
- It can mechanically stress tendons, as seen in tendonitis, tenosynovitis, etc.
- It can alter alignment and restrict range of motion in joints and later lead to degenerative arthritis,
- It can put pressure on a nerve and produce an entrapment syndrome,
- And very importantly, paraspinal muscles can create pressure across a disc space and perpetuate neuropathy or lead to disc degeneration.



TREATMENT OF CHRONIC PAIN WITH IMS :

IMS is a complete system for the diagnosis and treatment of myofascial pain syndromes. It blames pain on unwell nerves. It borrows its needle technique from traditional Acupuncture, but updates and enhances it with anatomy and neurophysiology.

TREATMENT GOALS :

The primary goal is to desensitize supersensitive structures and restore motion and function.

IMS is unique in the way it releases muscle tension in deep paraspinal muscles that compress nerve roots. No other modality has been proven to be as effective in doing this. A stretch receptor in the muscle is stimulated, producing a reflex relaxation.

It also promotes healing. Needling produces local inflammation which is the necessary prelude to healing; growth factors such as platelet derived growth factor (PDGF) are released. PDGF attracts cells to the damaged area and induces cells to proliferate.

The introduction of the needle into tissue creates minute injuries and also generates a small amount of electricity. This current of energy remains in effect for several days. This will assist in making the nerve function normally again as neuropathy only responds to a physical input of energy.

HOW DOES IMS WORK?

The treatment involves dry needling of affected areas of the body without injecting any substance. The needle sites can be over tight muscle bands or can be near the spine to release tight deep paraspinal muscles. Penetrating of a needle into a normal muscle is painless; however, a supersensitive muscle or shortened muscle will grasp the needle in a way that can be described as a cramping sensation. This sensation only lasts for a short time and a feeling of muscle relaxation is often felt immediately following treatment.

In effect, **IMS** treats the underlying neuropathic condition that causes the chronic pain. When properly and completely performed **IMS** has a remarkable success rate.

References :

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Katz B, Miledi R : *The development of acetylcholine sensitivity in nerve-free segments of skeletal muscles*. J Physiol 170: 389-396, 1964
Melzack R, Wall P D : *Pain Mechanisms : A New Theory*. Science 150: 971-979, 1965

Clinic News



Manual Concepts Physiotherapy

Partners **Scott Whitmore** and **Francine Doré** would like to offer congratulations to physiotherapist **Jennifer McKay** (now Becket) on her wedding to Jason Becket. Jennifer also managed to complete her **IMS** certification and **Level 4 Manual Therapy** training all in the same year!

A big welcome to **Stephen Guy** who joined the Manual Concepts team in September.

Congratulations to **Johanna Thackwray** who had an amazing experience in China supporting our athletes at the Olympics. Johanna is also expecting her first child in March of 2009.

Staff athletic therapist **Heather Mielzynski** has started instructing exercises classes for patients who have, or are at risk of developing Osteoporosis—at both South City and Manual Concepts locations. Call Heather at **519-766-7774** for more information.

South City Physiotherapy

A big welcome to physiotherapist **Judy Hettinga** who is the newest addition to our physiotherapy staff. Judy is a graduate of Queen's University.

Also welcome to **Heidi DeJonge** who will join our administration staff in December.

Congratulations to **Teresa Fox** who is expecting her second child in January. Teresa was also very busy this year completing her **Level 4 Manual Therapy** training.

Congratulations to **Rachael Everts** who has announced she is engaged to be married.

Congratulations to **Francine Doré** on completing the Gunn **IMS** training and certification.

Congratulations to physiotherapist **Monique Muller** on successful completion of her Masters MSc.PT degree—and both her Intermediate and Advanced Manual Therapy exams at the University of Western Ont.

South City Physiotherapy was host to the **Melio Guide** -osteoporosis seminar (Part II) this month. Thank you Margaret Martin for an amazing job!

Clinic Hours and Services



Manual Concepts Physiotherapy

Services

- Post MVA programs
- Intramuscular Stimulation (IMS)
- Work injury rehabilitation
- Sports physiotherapy
- Acupuncture
- Massage Therapy
- Manual Therapy
- Neck & back pain

Hours:

Mon, Wed & Thur. 12:00pm – 8:00pm
Tuesday & Friday 8:00am – 3:00pm

Typical Conditions Treated

- Musculoskeletal pain syndromes including tendonitis, bursitis, fasciitis, sprains & strains
- Sports injuries
- Repetitive strain injuries including carpal tunnel syndrome, deQuervain's and tennis elbow
- Arthritis & degenerative conditions
- Postural dysfunctions

- Handicapped Access
- Ample Free Parking



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South City Physiotherapy

Services

- Post MVA programs
- Intramuscular Stimulation (IMS)
- Work injury rehabilitation
- Sports physiotherapy
- Fitness assessments & programs
- TMJ treatment programs
- BPPV treatment programs
- Acupuncture
- Massage Therapy
- Pedorthic services & Orthotics
- Manual Therapy

Hours:

Monday – Thursday 7:00am – 8:00pm
Friday 8:00am – 3:00pm

Typical Conditions Treated

- Musculoskeletal pain syndromes including tendonitis, bursitis, fasciitis, sprains & strains
- Sports injuries
- Repetitive strain injuries including carpal tunnel syndrome, deQuervain's and tennis elbow
- Neck & back pain
- Postural dysfunctions
- Arthritis & degenerative conditions
- Osteopathic treatments
- Functional Abilities Evaluations

- Handicapped Access
- Ample Free Parking



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