



DERMONEUROMODULATION: DEVELOPED BY DIANE JACOBS

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Dermo (skin) + neuro (nervous system) + modulation (change) = dermoneuromodulation (skin is a medium to interact with the nervous system and effect change).

The term “dermoneuromodulation” (DNM) was developed by Diane Jacobs, a Canadian physiotherapist specialising in pain science and the treatment of painful conditions. She was influenced by Dr. Ronald Melzack, who developed the “Neuromatrix” model that is now central to modern pain science, and by physiotherapist Michael Shacklock’s work with the movement of nerves and nerve trunks. In 2007, Diane did a cadaver study that revealed how peripheral cutaneous nerves divide into rami connecting into the underside of skin. This suggested a new conceptual model for all approaches to manual therapy for people in pain:

For massage therapists, learning DNM is a paradigm change. It’s not a modality based on a specific set of techniques, but rather a way of thinking more flexibly (and critically) about how to use the techniques we already know. The learner gains an updated knowledge of the nervous system, what causes pain, how to apply that knowledge in hands-on work, and better ways to educate our clients.

Pain may persist long after injury or danger have passed. If the nervous system relaxes, it may abandon these protective responses. This way of thinking encourages gentle approaches to help clients resolve pain, regain function, and feel better. It should be pain-free for client and therapist. It promotes relaxation, informs therapeutic work, and can be applied to all kinds of specific modalities.

From the spinal cord to the skin, nerves pass through small contiguous gaps, or “tunnels” through many tissue layers. These layers move and shift. Where nerves pass from one layer into the next, shear forces may impinge nerves to cause localized ischemia and nociception, often called tunnel syndromes. This may lead to pain, increased muscle tension, and other protective responses.

Moving nerves (neurodynamics) helps restore nerve health and function. Since tunnel syndromes often involve cutaneous nerves (found throughout the skin and subcutis), it should be possible to resolve most musculoskeletal pain by moving nerves attached to skin, i.e., by moving skin into which they are embedded from beneath. This may be done without pressure sufficient to deform or damage the underlying muscle, fascia or other soft tissues. Body positioning, skin stretching/gathering, and gentle movement may resolve discomfort from tunnel syndromes.

HOW DOES THIS WORK?

The skin layer is full of innervation, much of it right at the skin surface. Hilton’s Law states: “The nerve supplying a joint supplies also the muscles that move the joint and the skin covering the articular insertion of those muscles.” (Stedman’s Medical Dictionary).

Mechanoreceptors adapt at different speeds and in different ways. Fast adaptors fire when they detect movement, then shut off until new movement restimulates them (e.g. motion detector). Slow adaptors remain turned on, transducing information and firing action potentials into the spinal cord the whole time a stimulus is operating, regardless of whether it moves or doesn’t (e.g., bathroom scales).

KEY IDEA: Use touch strategically. As therapist, give the skin’s mechanoreceptor system as much slow, gentle, and continuous

stimulation as possible without adding any more nociceptive input. This may alter the brain’s perception of what is happening in that area of the body and stimulate a downregulation of pain/bracing protective responses. One simple way to do this is with skin stretch.

BASICS OF SKIN STRETCH

When we stretch skin, we are shifting tissue layers, the nerves embedded within them, and stimulating mechanoreceptors. Ruffini corpuscles are slow-adapting mechanoreceptors sensitive to skin stretch; their input to the brain may trigger a positive response: reductions in discomfort and excess muscular contraction.

The basic process:

1. Find a tender point.
2. Slowly draw the skin away from the tender point.
3. Multiple stretch vectors may be used as necessary.



Anterior Neck DNM

The concept of dermoneuromodulation informs my work with people suffering from chronic and/or complex pain problems, sports performance concerns, and chronic tension patterns. Educating people helps them manage their concerns and take steps towards improvement. We talk about it during intakes, and during sessions if



they wish. Many report a deep sense of relaxation. Most love how quickly pain and tension may dissipate. Athletes are pleased when their flexibility and strength improve. Clients for whom "regular" massage is contraindicated are happy when there are other approaches that may be safe and effective for them.

Dermoneuromodulation training is a great fit for massage therapists that wish to improve their understanding of pain and tension patterns and conditions. Spa-oriented massage therapists may find DNM to be a profoundly relaxing addition to their skill set, particularly for challenging clients.

For those who specialise in "medical", "orthopaedic", "sports", or other massage niche markets, DNM provides a powerful means of leveraging knowledge into real results, even with stubborn cases that previously failed to respond.



Diane Jacobs the founder of DNM will be at the preconference and conference workshops in Wellington 18-20 August 2017.

Jason Erickson has been part of the San Diego Pain Summit (SDPS), the International Massage Therapy Research Conference (IMTRC), and the AMTA National Conference.

His web site is www.HealthArtes.com, and he can be reached via JasonEseminars@gmail.com



MASSAGE NEW ZEALAND'S 2017 CONFERENCE "REINVENTING PRACTICE" IS FAST APPROACHING!

Put the dates in your diary for Wellington:

Friday 18th August – Pre-conference (CBD).

Saturday/Sunday 19th and 20th August – Conference and AGM (Westpac Trust Stadium).

KEY PRESENTERS

Paul Lagerman – "Know Pain"

Diane Jacobs (Canada) – Dermo Neuro Modulation

Rosie Greene – Visceral Manipulation

TICKETS

Members: \$450 for 2 day conference, \$230 for pre conference workshop. See <https://www.massagenewzealand.org.nz/Site/conference/default.aspx> for more information.

CPD HOURS

Pre-conference 6 hrs, Conference 10 hrs, AGM 2 hrs (TBC).

See www.massagenewzealand.co.nz for more information as it becomes available.

Local Volunteers appreciated for support roles – contact conference@massagenewzealand.org.nz