

Overview of Scenar therapy and its application to physiotherapy practice

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Scenar is an advanced form of electrotherapy which can be effective in the treatment of both acute and chronic pain conditions and physical dysfunction - even those that have not responded to other forms of treatment. Scenar therapy involves treatment using a hand held device that delivers non-invasive, non toxic computer-modulated therapeutic electro-stimulation onto and through the patient's skin. It is a reflex bio-feedback medical technology which activates the body's inherent self-healing mechanisms

Scenar therapy relies on two fundamental physiological principles: first, that the body has it's own sophisticated healing capabilities and second, that it is continually employing processes of self-regulation of it's various functions to maintain health.

The body continually maintains surveillance, information transfer and response to achieve balance or homeostasis. For example, when there is trauma to the body, the response from the brain (once it has received the appropriate information) is to release neuropeptides¹². Neuropeptides regulate life processes on the cellular level linking together all body systems³. However, should the body encounter a challenge that it is unable to completely resolve, it will temporarily reorganize itself in some new way that will permit the body to keep functioning even though it still has an unsolved problem. This reorganization is called an adaptive reaction and if it remains unresolved it will interfere with healthy self regulation which leads to pathology in the area and symptoms may include pain.

Scenar therapy involves detection of changes to the skin's electrical resistance (caused by internal pathology and environment) and then electro-stimulation as a response via the skin to restore neural communication between dysfunctional areas and the brain. The skin and the nervous system develop from the same embryonic layer (ectoderm) hence its effectiveness as a neural interface.

The physiological effectiveness of Scenar therapy is made possible by two technological advances:

1. the Scenar wave form – the electrical impulse utilized by Scenar therapy is unique. It has a high amplitude, but is short in duration, non-damaging in action and is almost identical in form to the body's own neural impulse. It does not stimulate during the refractory phase, so the Scenar impulse is not perceived as intrusive or alien and there is little discomfort or negative side effects to the patient. Due to the high amplitude, the device can stimulate the small and unmyelinated 'C' fibres of the

¹ Nozdrachev, A (1983) 'Physiology of the Nervous System' p296, Medicine, Ginberg, Y (1996), 'Effectiveness of SCENAR Therapy. Physiological aspects. Accessed at http://www.scenar.com.ru/science/sborniki/pdf/grin_4_e.pdf, March 2009

² Ginberg, Y (1996), 'Effectiveness of SCENAR Therapy. Physiological aspects. Accessed at http://www.scenar.com.ru/science/sborniki/pdf/grin_4_e.pdf, March 2009

³ Mortensen, C (2008), 'SCENAR Sport Manual', Scenar Health Pty Ltd, Sydney,

nerve root bundle to a much higher degree than with other forms of electrotherapy. This is of critical importance because it is the peptide-containing 'C' fibres, making up approximately around 80 per cent of the nerve root bundle, which when stimulated sufficiently, triggers the release of chains and cascades of the neuropeptides and regulative peptides throughout the body. These biochemicals are required by the body to effect pain relief and healing.

2. the computer modulated active ('real-time') bio-feedback capability (also referred to as 'self-controlled energo-neuro adaptive regulation' or Scenar).- Scenar is delivered by the first electrotherapeutic device in the world working on the principle of real time biological feedback between the device and the body. The Scenar impulse is carried via the afferent nerve fibres to the regulatory centres in the brain whose response is then carried back down via the efferent nerve fibres and interpreted by the device. Pathology reflected onto the skin surface alters skin resistance which affects response times. Computer modulation by the Scenar device results in its next impulse being modified accordingly to provide information back to the brain to either amplify or dampen the form of the pathological signals that exist in the body. This prompts the body to identify and harmonise these areas which are referred to as 'asymmetries' when and where the information signal is not within ideal parameters. This process of signal and response leads to homeostasis and a return to normal self regulation in the area of asymmetry. Thus pain and dysfunction are effectively treated. Also because each impulse is different to the previous one the development of habituation to the impulse before the body has generated enough amounts of neuropeptides is prevented.

In a clinical setting Scenar therapy may be effective in treating acute pain, oedema and inflammation associated with post-operative rehabilitation, sporting injuries, whiplash burns, leg ulcers and fractures. It may also be an effective treatment with all types of chronic pain symptoms such as for conditions including back and neck pain, frozen shoulder, tendonitis, plantar fasciitis and carpal tunnel.

Therapy methodology is disciplined, measurable and fact-based. Protocols include rating of pain, measurement of range of movement and testing of movement relating to functional impairment are standard. Therapy can be used as an adjunct or as a specialist other physiotherapy discipline.

Benefits to patients may include faster recovery times, versatility (can treat symmetrical and reciprocal areas to the site of pain), effectiveness (can use with children, adults and the elderly), comfort, safety and few contraindications so, for example, treatment over sites with metal implants is permitted. Pain relief for patients can be achieved without concern for complicating side-effects or possible problems associated with the interaction of concurrent drug based therapies prescribed for other health conditions. The therapy is not advised for patients with cardiac pacemakers:

Benefits to therapists include that the therapy is carried out using a device that is small, portable, user-friendly, safe (for patient and therapist) and requires only a relatively low level of capital investment. Scenar therapy is not physically taxing for the therapist and

may even extend the effective working life of a manual therapist with shorter durations of mobilization and less pressure on thumbs. There is no requirement for modification to premises (say for equipment installation) or for special insurance risk or coverage specifically related to therapy. Scenar therapy does require dedicated therapists time with patients (one-on-one) ranging from a few minutes for acute conditions to up to an hour for those that are chronic.

Professional therapy training can now be undertaken in Australia for Scenar techniques, devices and peripheral equipment. Current clinical research projects in areas ranging from hospital emergency rooms to resident aged care facilities will serve to broaden the local knowledge base of this new low-cost, medical modality.