

## TENS Pain Relief for Back Pain

- ◆ TENS is used at home to help relieve acute and chronic pain
- ◆ TENS is used to complement other treatments in particular exercise
- ◆ TENS is easy to apply to alleviate back pain

### Transcutaneous Electrical Nerve Stimulation (TENS)

- ◆ A TENS unit is a small battery-powered device which is used to help in the relief of both acute and chronic pain. The patient normally uses it at home on a regular daily basis.
- ◆ TENS devices produce a pattern of mild electric pulses which are applied to the painful area via small self adhesive electrodes, placed on the skin over or adjacent to the area of pain.
- ◆ When applied correctly these pulses stimulate the underlying nerve fibres so that they generate natural signals. When these signals reach the spinal nerve root they block the incoming pain signals and prevent them from reaching the pain perception centre in the brain.
- ◆ TENS may also help stimulate the brain's production of endorphins (natural bio-chemicals that have pain-relieving properties).

### TENS for Back Pain

- ◆ TENS will not provide long term pain relief when it is used as the sole treatment for back pain - for best results TENS should be used to complement other treatments and in particular exercise. Many thousands of back pain sufferers find TENS to be an invaluable adjunct to day-to-day back pain management.
- ◆ A research review published by J. G. Gadsby in 1997 looked at several small studies which applied TENS for low-back pain and concluded that, in chronic low-back pain patients, TENS appears to reduce pain and improve the range of movement when compared with placebo.
- ◆ However these findings were not supported by other medical research (Jarzemetal 1997), which has attempted to measure the outcome of TENS when used as the sole method of treatment.
- ◆ The perception of pain and pain relief is a personal experience, which differs for each individual sufferer. These personal experiences cannot easily be measured *en-bloc* by scientific means.
- ◆ In the pain clinic environment it is generally accepted that TENS can help relieve most types of pain but in varying degrees depending on the patient's individual circumstances and perception of pain and pain relief.
- ◆ TENS is normally administered on a short-term trial basis so that the patient can decide whether TENS is effective or not in his/her given set of circumstances.

### Application of TENS for Back Pain

- ◆ TENS is very easy to apply to treat most types of back pain but, because the electrodes need to be positioned in specific locations to obtain the optimum effect, it is probable that some assistance will be required from a partner or carer.
- ◆ For the majority of applications the electrodes are positioned so that they span or surround the area of pain. TENS devices are normally supplied with three choices of pulse setting (continuous,

burst and modulated) and it is advised that these three settings are applied systematically to determine which produces the most desirable results. The pulse strength is adjusted to suit the patient's personal comfort level but this needs to be as strong as possible in order to obtain a good level of pain relief.

- ◆ Referred pain resulting from sciatic nerve disturbances may require guidance from a physiotherapist/pain clinician to obtain the best results.

There are no side effects from using TENS except minor skin irritation in about 5% of patients. TENS is contra-indicated in the following circumstances:

- ◆ Where there is any history of heart problems, palpitations or arrhythmias
- ◆ During the first six months of pregnancy
- ◆ On undiagnosed pain - the onset of pain is a warning and has a self-protective purpose

## Relevant Information

BackCare Factsheets – Long Term Pain Support Groups, Drugs for Back Pain Relief

BackCare Booklets - Managing Back Pain, Active Back Care, Basic Back Care

Other Publications – “TENS - The Users Guide to Pain Relief- a systematic approach’ by Keith Tippey

## Relevant Referral

External expertise - Keith Tippey MIPTI, (BackCare member) - indirect contact by letter *only* (via BackCare)

Relevant health professionals - Local Hospital Pain Clinic / Physiotherapy

Relevant Websites - <http://www.electrotherapy.org/electro/tens/tens.html>

## Evidence Base

Bio-medical Research - "The Effectiveness of Transcutaneous Electrical Nerve Stimulation (TENS) and Acupuncture-Like Transcutaneous Electrical Nerve Stimulation (ALTENS) in the Treatment of Patients With Chronic Low-Back Pain." Gadsby, J.G., Flowerdew, M.W 1997

Applied Research - "Transcutaneous Electrical Nerve Stimulation for Non-Acute Low-Back Pain: A Randomized Double-Blind Study of Conventional, Nu-Waveform, Acupuncture-Type, and Sham Therapies." Jarzem, Peter, Harvey, E.J., Arcaro, N., Kazarowski, J. 1997