

These include transdermal patches e.g. clonidine (but may cause hypotension) fentanyl (an opiate agonist). Fentanyl patches tend to produce fewer side effects than oral morphine.

These include transdermal patches e.g. clonidine (but may cause hypotension) fentanyl (an opiate agonist). Fentanyl patches tend to produce fewer side effects than oral morphine.

Topical application of capsaicin is used to treat pain in peripheral neuropathies such as seen in diabetes mellitus. However, many patients find the initial (expected) increase in pain (which occurs prior to the anaesthetic effect) is intolerable, and few remain using it.

Non-pharmacological treatments.

These include Transcutaneous Electrical Nerve Stimulation: TENS (of limited use).

Acupuncture (contact with patients who have tried this suggests that it is not as useful as could be hoped)

Physiotherapy: must be gentle as vigorous exercise may precipitate a flare-up. As in PPS, a non-fatiguing programme is likely to be the most beneficial.

Hydrotherapy: often very useful, but the water must not be too warm (heat intolerance is common in arachnoiditis patients)

Hypnosis

Biofeedback

Cognitive techniques

Relaxation/meditation: these are all helpful adjuncts to drug treatment, but few patients can manage on these pain management techniques solely.

3 relatively new techniques are becoming available:

1. APS (Action Potential Simulation) electrical stimulation (non-invasive) similar to TENS but of a different electrical waveform.

2. LLLT (Low-level Laser Therapy) again, non-invasive, resembling ultrasonic treatment in its application, it has been used with success in patients with various types of neuropathic pain, (e.g. post-herpetic) but mostly in more localized conditions.

3. PENS (Percutaneous Electrical Nerve Stimulation) is a technique that bridges acupuncture and electrical stimulation (TENS); low level electrical current (cf. TENS) is delivered via a series of ultra-fine, acupuncture-like needles. A recent study ([\[i\]](#)) has demonstrated that PENS was more effective than TENS in providing short-term pain relief and improved physical function in patients with chronic low back pain.

---

[\[ i \]](#) El-sayed A et al *JAMA* 1999; 281:818-823 Percutaneous Electrical Nerve Stimulation for Low Back Pain. A Randomised Crossover Study.