

What else is new (pain)

DR ANDREW DAVIES

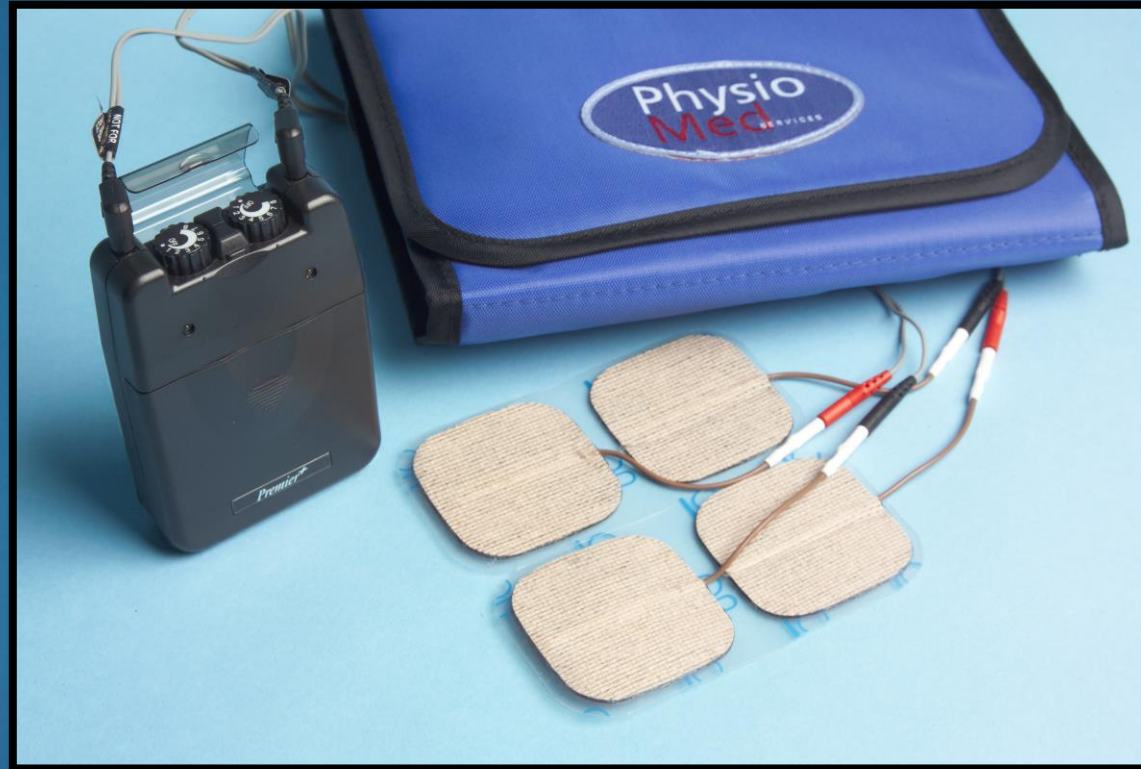
Outline

- ▶ TENS
- ▶ Scrambler therapy

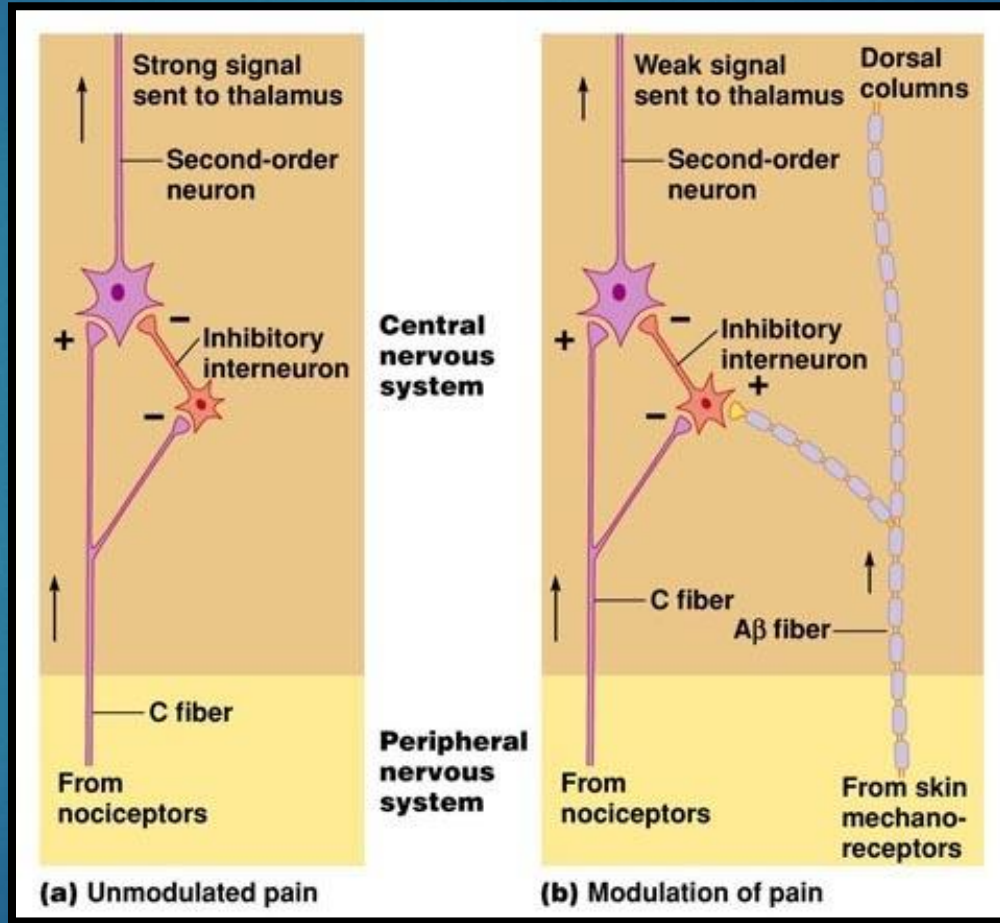
TENS



TENS



TENS



TENS

Cochrane Systematic Review: Transcutaneous electric nerve stimulation (TENS) for cancer pain in adults (2012)

“...the results of this updated systematic review remain inconclusive due to a lack of suitable RCTs”

TENS

Cochrane Systematic Review: Transcutaneous electrical nerve stimulation for acute pain (2015)

“The analysis provides tentative evidence that TENS reduces pain intensity over and above that seen with placebo (no current) TENS when administered as a stand-alone treatment for acute pain in adults”

Cochrane Systematic Review: Transcutaneous electrical nerve stimulation (TENS) for chronic pain (2008)

“Published literature on the subject lacks the methodological rigour or robust reporting needed to make confident assessments of the role of TENS in chronic pain management”

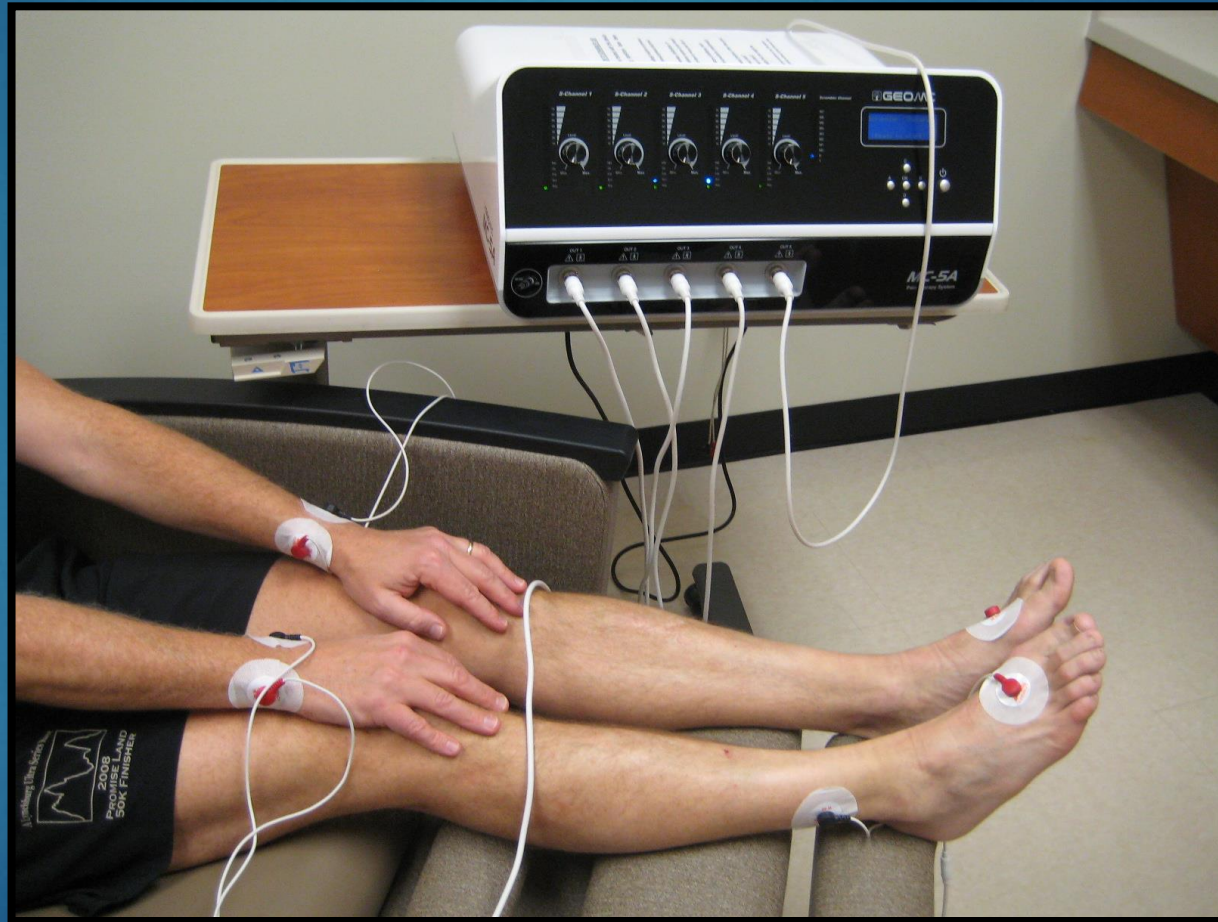
Scrambler therapy



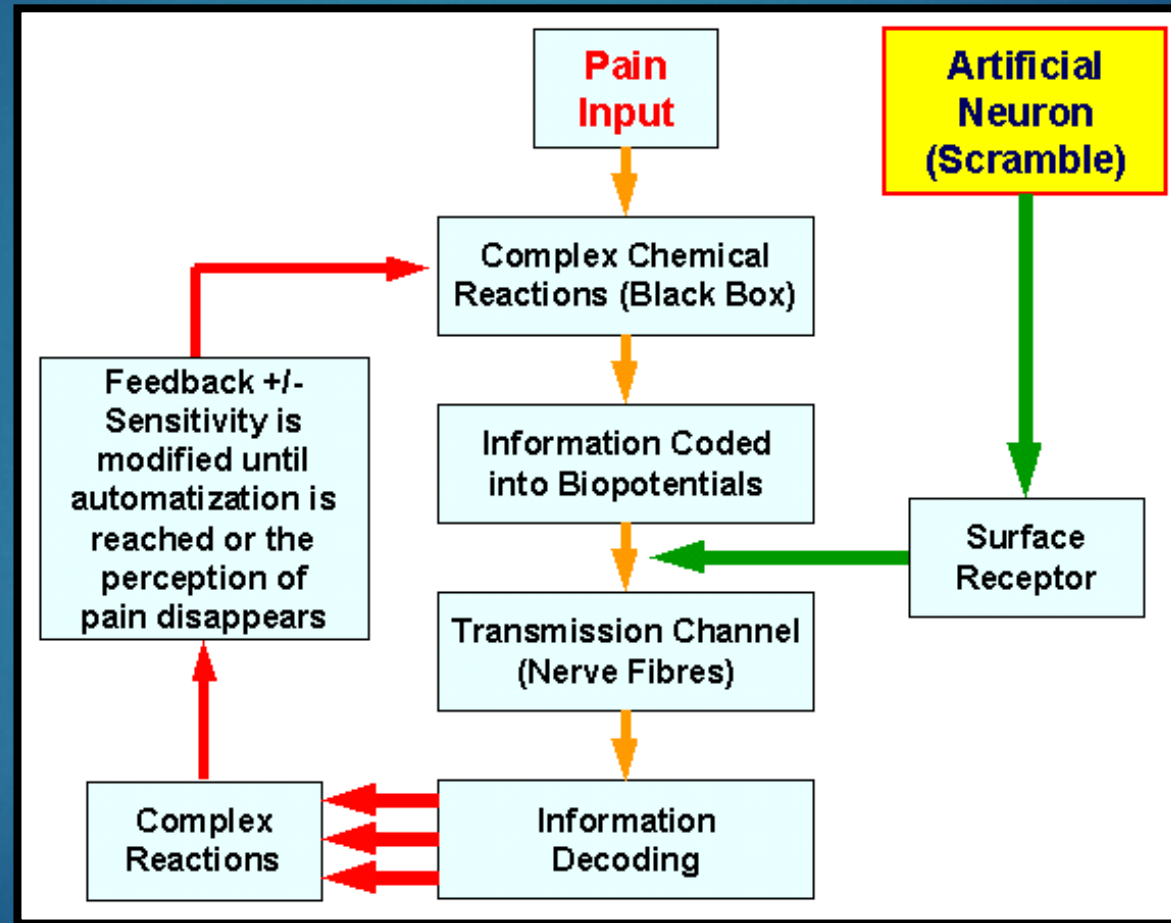
Scrambler therapy

- ▶ “Calmare® scrambler therapy” / “Calmare® therapy”
- ▶ Developed by Giuseppe Marineo (biophysicist, University of Rome Tor Vergata)
- ▶ First publication in 2000 / first phase II trial in 2003

Scrambler therapy



Scrambler therapy



Scrambler therapy

- ▶ Stimulates C fibres (not A β fibres)
- ▶ Electrical signals are “scrambled” / varied (type action potential, packet frequency, packet duration, amplitude of modulation)
- ▶ Replaces pain information with “non-pain”/“normal-self” information
- ▶ [“Retrains” brain (reverses central sensitisation)]

Scrambler therapy

- ▶ Electrode pads placed on area of normal sensation close to (above, below) area of pain/neuropathy
- ▶ ≥ 5 sets of electrodes used
- ▶ Intensity of output gradually increased (limit – patient comfort)
- ▶ Patient should feel “pleasant, vibratory, and/or humming” sensation in area of pain/neuropathy

Scrambler therapy

- ▶ 30-45 minute treatment
- ▶ Daily treatment
- ▶ 10 treatments (standard)

Scrambler therapy

- ▶ Effect lasts minutes to hours (first treatment)
- ▶ Effect lasts weeks to months (first course)
- ▶ Re-treatment generally successful (shorter course)
- ▶ Learning curve!

Scrambler therapy

- ▶ Efficacy

“The positive findings from preliminary studies with Scrambler Therapy support that this device provides benefit for patients with refractory pain syndromes. Larger, randomized studies are required to further evaluate the efficacy of this approach”.

Majithia et al, 2016

Scrambler therapy

- ▶ Tolerability

Adverse effects uncommon (irritation, bruising)

Scrambler therapy

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Original Article

Scrambler Therapy May Relieve Chronic Neuropathic Pain More Effectively Than Guideline-Based Drug Management: Results of a Pilot, Randomized, Controlled Trial

Giuseppe Marineo, PhD, Vittorio Iorno, MD, Cristiano Gandini, MD, Vincenzo Moschini, MD, and Thomas J. Smith, MD

Della Research & Development (G.M.), Centro Ricerche Bioingegneria Medica, University of Rome "Tor Vergata," Rome, Italy; Centro di Medicina del Dolore "Mario Tiengo" (V.I., C.G., V.M.), IRCCS Fondazione Ospedale Maggiore Policlinico, Mangiagalli and Regina Elena, Milan, Italy; and Division of Hematology/Oncology and Palliative Care (T.J.S.), Massey Cancer Center, Virginia Commonwealth University, Richmond, Virginia, USA

Scrambler therapy

Methods:

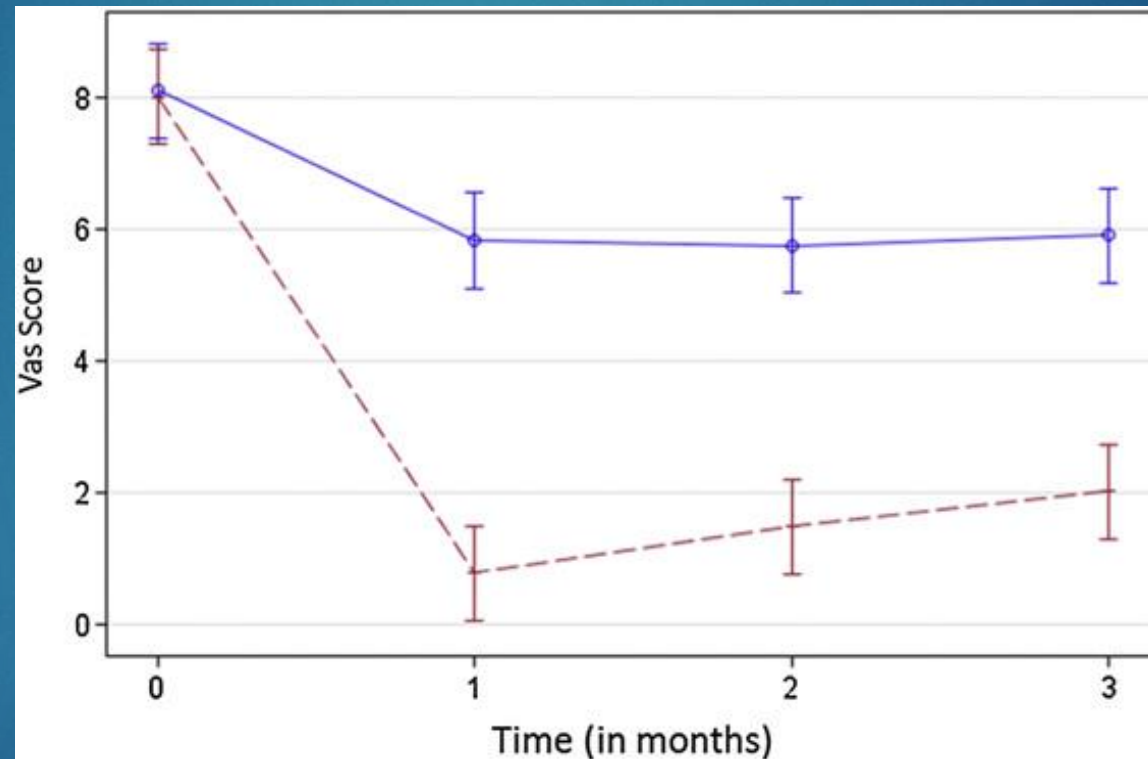
- ▶ Open label, stratified, randomised controlled trial
- ▶ Scrambler therapy (10 x 45min) + current drug versus no scrambler therapy + new drug (EFNS guidelines)

Scrambler therapy

Inclusion criteria:

- ▶ Pain ≥ 6 months
- ▶ Neuropathic pain
- ▶ Allodynia / hyperpathia / hyperaesthesia
- ▶ Pain intensity ≥ 6 (for last 3 months)
- ▶ “Failure” of drug therapy

Scrambler therapy



Scrambler therapy

Scrambler therapy group:

- ▶ 11 patients discontinued opioid, 1 patient reduced opioid (50%), 5 patients no change in opioid
- ▶ 17 patients discontinued anticonvulsant, 1 patient reduced anticonvulsant, 6 patients no change in anticonvulsant
- ▶ 9 patients discontinued antidepressant, 4 patients reduced antidepressant, 6 patients no change in antidepressant

Scrambler therapy

