Relief of primary dysmenorrhea by transcutaneous electrical nerve stimulation.

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In this study we describe the use of high-frequency transcutaneous electrical nerve stimulation (TENS) (100 Hz) and low-frequency TENS (lf-TENS) (2 Hz trains) as compared with placebo-TENS (p-TENS) in a group of 21 patients suffering from primary dysmenorrhea. Naloxone, a relatively pure opiate antagonist, was an additional test administered to 6 volunteer patients who had experienced an alleviation of pain with TENS. As will be seen, 14 out of 21 patients receiving high-frequency TENS (hf-TENS) experienced a pain reduction exceeding 50% of its original intensity. During lf-TENS or p-TENS, only 7 and 5 patients, respectively, obtained pain relief exceeding 50%. In 4 out of 6 volunteer patients, the relief of pain obtained with lf-TENS was counteracted by naloxone, whereas the relief experienced with hf-TENS in the same patients was, in general, unaffected by naloxone.

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Clinical evaluation of a new model of a transcutaneous electrical nerve stimulation device for the management of primary dysmenorrhea.

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Transcutaneous electrical nerve stimulation (TENS) has been proven effective in pain relief of primary dysmenorrhea (PD). We evaluated the efficacy of a new TENS device (Freelady, Life Care, Tiberias, Israel), designed to correct disadvantages of older models used in previous studies, in 102 nulliparous women with PD, who were treated with various types of pain relief medications. Marked pain relief was reported by 58 patients (56.9%) and moderate relief by 31 (30.4%). These subjective findings were supported by the fact that the same number of patients (58 and 31) either stopped analgesic use altogether during the trial or reduced the quantity of analgesics, respectively. The device examined proved to be efficient and safe in controlling the pain and disability caused by PD.

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Transcutaneous electrical nerve stimulation (TENS) for the treatment of primary dysmenorrhea: a randomized crossover comparison with placebo TENS and ibuprofen.

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In a randomized four-way crossover study, 32 women with primary dysmenorrhea were treated with transcutaneous electrical nerve stimulation (TENS) for two cycles, placebo (sham) TENS for one cycle, or ibuprofen 400 mg four times a day for one cycle. The TENS setting used was 100 pulses per second with 100-microsecond pulse widths. The subjects were allowed to adjust the amplitude to a comfortable level. The pain rescue medication was ibuprofen 400 mg as needed, up to 1600 mg/day. Significantly more subjects who had TENS treatment did not require rescue medication or required less backup ibuprofen at 0-4, 4-8, and 8-12 hours after the onset of dysmenorrhea and starting treatment, as well as during the first 24 hours and for the duration of the menstrual flow, when compared with placebo TENS or ibuprofen-treated cycles (Tukey multiple comparison, P less than .01). Transcutaneous electrical nerve stimulation significantly delayed the need for ibuprofen by an average of 5.9 hours, compared with 0.7 hours when using ibuprofen alone (P less than .05, paired t test). Transcutaneous electrical nerve stimulation alone provided good to excellent subjective pain relief in 42.4% of subjects, compared with 3.2% with placebo TENS, and significantly reduced diarrhea, menstrual flow, clot formation, and fatigue compared with placebo TENS. Transcutaneous electrical nerve stimulation plus less ibuprofen provided pain relief equivalent to that obtained with ibuprofen alone (71 and 75% of the subjects, respectively). We conclude that TENS is a safe, effective, non-medication method for managing primary dysmenorrhea and that TENS plus ibuprofen was the best overall treatment, as indicated by pain relief.
Transcutaneous electrical nerve stimulation (TENS) as a relief for dysmenorrhea.


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Sixty-one women who suffered from primary dysmenorrhea, were treated with Transcutaneous Nerve Stimulation (TENS) for two menstrual cycles, and reported the effect of the treatment on their pain. Thirty percent of the patients reported marked pain relief, 60% reported moderate pain relief and 10% reported that TENS had no influence on their pain. No side effects were reported. We conclude that TENS is an effective and safe non-pharmacological means for the treatment of primary dysmenorrhea. It could serve as a main treatment modality for women who suffer from primary dysmenorrhea and do not wish to or cannot use the conservative pharmacological agents. In addition TENS can serve as an adjuvant therapy to the conventional pharmacological agent in severe cases of primary dysmenorrhea.

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Transcutaneous electrical nerve stimulation and acupuncture for primary dysmenorrhea.

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BACKGROUND: Dysmenorrhea is the occurrence of painful menstrual cramps of the uterus. Medical therapy for dysmenorrhea commonly consists of nonsteroidal anti-inflammatory drugs or the oral contraceptive pill both of which work by reducing myometrial (uterine muscle) activity. However, these treatments are accompanied by a number of side effects, making an effective non-pharmacological method of treating dysmenorrhea of potential value. Transcutaneous electrical nerve stimulation (TENS) is a treatment that has been shown to be effective for pain relief in a variety of conditions. Electrodes are placed on the skin and electric current applied at different pulse rates (frequencies) and intensities is used to stimulate these areas so as to provide pain relief. In dysmenorrhea, TENS is thought to work by alteration of the body's ability to receive or perceive pain signals rather than by having a direct effect on
the uterine contractions. Acupuncture may also be indicated as a useful, non-
pharmacological method for treating dysmenorrhea. Acupuncture is thought to
excite receptors or nerve fibers which, through a complicated interaction with
mediators such as serotonin and endorphins, blocks pain impulses. Acupuncture
typically involves penetration of the skin by fine, solid metallic needles, which are
manipulated manually or by electrical stimulation. OBJECTIVES: To determine
the effectiveness of high and low frequency transcutaneous electrical nerve
stimulation and acupuncture when compared to each other, placebo, no treatment,
or medical treatment for primary dysmenorrhea. SEARCH STRATEGY:
Electronic searches of the Cochrane Menstrual Disorders and Subfertility Group
Register of controlled trials, CCTR (Cochrane Library Issue 3, 2001), MEDLINE,
EMBASE, CINAHL, Bio-extracts, PsycLIT and SPORTDiscus were performed in
August 2001 to identify relevant randomized controlled trials (RCTs). The
Cochrane Complementary Medicine Field’s Register of controlled trials
(CISCOM) was also searched. Attempts were also made to identify trials from the
UK National Research Register, the Clinical Trial Register and the citation lists of
review articles and included trials. In most cases, the first or corresponding author
of each included trial was contacted for additional information. SELECTION
CRITERIA: The inclusion criteria were randomized controlled trials of
transcutaneous electrical nerve stimulation and acupuncture that compared these
treatments to each other, placebo, no treatment, or medical treatment for primary
dysmenorrhoea. Exclusion criteria were: mild, infrequent or secondary
dysmenorrhoea and dysmenorrhoea associated with an IUD. DATA COLLECTION
AND ANALYSIS: Nine RCTs were identified that fulfilled the inclusion criteria
for this review, seven involving TENS, one acupuncture, and one of the treatments.
Quality assessment and data extraction were performed independently by two
reviewers. Meta analysis was performed using odds ratios for dichotomous
outcomes and weighted mean differences for continuous outcomes. Data
unsuitable for meta-analysis was reported as descriptive data and was also
included for discussion. The outcome measures were pain relief (dichotomous,
visual analogue scales, descriptive), adverse effects, use of analgesics additional
to treatment and absence from work or school. MAIN RESULTS: Overall high
frequency TENS was shown to be more effective for pain relief than placebo
TENS. Low frequency TENS was found to be no more effective in reducing pain
than placebo TENS. There were conflicting results regarding whether high
frequency TENS is more effective than low frequency TENS. One small trial
showed acupuncture to be significantly more effective for pain relief than both
placebo acupuncture and two no treatment control groups. REVIEWER’S
CONCLUSIONS: High frequency TENS was found to be effective for the
treatment of dysmenorrhea by a number of small trials. The minor adverse effects
reported in one trial requires further investigation. There is insufficient evidence
to determine the effectiveness of low frequency TENS in reducing dysmenorrhea.
There is also insufficient evidence to determine the effectiveness of acupuncture
in reducing dysmenorrhea, however a single small but methodologically sound
trial of acupuncture suggests benefit for this modality.

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