MEDICAL POLICY

USE OF COLD/HOT PACKS AND ELECTRICAL STIMULATION IN A PHYSICAL THERAPY/CHIROPRACTIC PRACTICE

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POLICY

- **Cold/hot packs and electrical stimulation are both unattended modalities, which do not require the ongoing training or expertise of a physical therapist or chiropractor.**

- **Cold/hot packs and electrical stimulation have a limited effect and should be regarded as only an adjunct to more effective therapies, such as exercise. The exclusive use of "passive care" (e.g., palliative modalities) is not recommended.**

- **Consequently, cold/hot packs and electrical stimulation, either alone or in combination, should not be the only modalities utilized in a therapy session.**

- **The one exception in which electrical stimulation may be the sole modality is during a single session to instruct a patient on the proper use of a new home electrical stimulation unit.**

SUPPORTING DOCUMENTATION

Cold/Hot Therapy: It has been proposed that cold and heat have actual therapeutic benefits to modify the disease processes (e.g., cold to allegedly reduce acute inflammation and swelling, and heat to speed healing through increased blood supply). (Grana 93; Michlovitz 96) However, others propose that these various modalities are all distractants that do not materially alter the clinical course. Still others postulate that the distractants allow increased activity levels, thus even though there may be no direct action of these modalities and the disease processes, this

theory supports using these modalities through indirect mechanism(s) of action. Many patients with chronic pain report a temporary soothing effect from the application of heat or the use of ice packs in the home setting.

TENS: There are quality studies of TENS for several outcomes, (Koke 04; Oosterhof 06; Oosterhof 08) but no trial has demonstrated large effects. Thus, if there is efficacy of TENS, it is of low magnitude. There are quality studies of TENS for neck pain. (Chiu 05; Vitiello 07) However, the available studies do not suggest efficacy. Instead, the stronger study suggests that exercise is the better treatment for chronic neck pain. Therefore, there is no recommendation for or against use of TENS for treatment of chronic neck pain. There are no quality studies that address treatment of myofascial pain syndrome patients or patients with trigger points. (Chee 86; Hsueh 97) There is no recommendation for or against use of TENS for these potential indications. There are quality studies evaluating the utility of TENS, particularly for chronic LBP. (Bloodworth 04; Deyo 90) There are quality studies on a few other chronic pain outcomes besides LBP. There are studies evaluating TENS for sciatica patients. In reviewing these studies, there is not clear evidence of benefit. While the highest quality study did find benefit, (Jarzem 05) not all of the higher quality trials did, thus the evidence conflicts. Evidence suggests that TENS is not effective for rheumatoid arthritis, although a low-quality study is positive. The better designed quality study was negative, (Langley 84) thus it is most likely correct that this modality is not effective. As there are many other treatments that are now efficacious for rheumatoid arthritis, this intervention is not recommended in favor of those more efficacious disease modifying anti-rheumatic drugs. There are no quality studies on the use of TENS to treat osteoarthritis. The overall quality of studies of TENS is poor. (Carroll 01; Johnson 00) A study evaluating the use of TENS for analgesia during shoulder arthrography was not reviewed, (Morgan 96) although a 50% reduction in pain may be of interest. Use of TENS for cancer treatment was also not included (Ballegaard 85; Robb 07) nor was its use for craniofacial pain (Murphy 90) or critical limb ischemia. (Simpson 04) TENS is not invasive, has no significant adverse effects, and is moderately costly. However, other treatments have documented efficacy.

Interferential Current Stimulation (ICS): Not recommended as an isolated intervention. There is no quality evidence of effectiveness except in conjunction with recommended treatments, including return to work, exercise and medications, and limited evidence of improvement on those recommended treatments alone. The randomized trials that have evaluated the effectiveness of this treatment have included studies for back pain, jaw pain, soft tissue shoulder pain, cervical neck pain and knee pain. (Van der Heijden, 1999) (Werners, 1999) (Hurley, 2001) (Hou, 2002) (Jarit, 2003) (Hurley, 2004) (CTAF, 2005) (Burch, 2008) The findings from these trials were either negative or insufficient for recommendation due to poor study design and/or methodologic issues. In addition, although proposed for treatment in general for soft tissue injury or for enhancing wound or fracture healing, there is insufficient literature to support Interferential current stimulation for treatment of these conditions. There are no standardized protocols for the use of interferential therapy; and the therapy may vary according to the frequency of stimulation, the pulse duration, treatment time, and electrode-placement technique. Two recent randomized double-blind controlled trials suggested that ICS and horizontal therapy (HT) were effective in alleviating pain and disability in patients with chronic low back pain compared to placebo at 14 weeks, but not at 2 weeks. The placebo effect was remarkable at the

beginning of the treatment but it tended to vanish within a couple of weeks. The studies suggested that their main limitation was the heterogeneity of the low back pain subjects, with the interventions performing much better for back pain due to previous multiple vertebral osteoporotic fractures, and further studies are necessary to determine effectiveness in low back pain from other causes. (Zambito, 2006) (Zambito, 2007) A recent industry-sponsored study in the Knee Chapter concluded that interferential current therapy plus patterned muscle stimulation (using the RS-4i Stimulator) has the potential to be a more effective treatment modality than conventional low-current TENS for osteoarthritis of the knee. (Burch, 2008) This recent RCT found that either electroacupuncture or interferential electrotherapy, in combination with shoulder exercises, is equally effective in treating frozen shoulder patients. It should be noted that this study only showed the combined treatment effects with exercise as compared to no treatment, so the entire positive effect could have been due to the use of exercise alone. (Cheing, 2008)

Physical Therapy: (1) As time goes by, one should see an increase in the active regimen of care, a decrease in the passive regimen of care, and a fading of treatment frequency; (2) The exclusive use of "passive care" (e.g., palliative modalities) is not recommended; (3) Home programs should be initiated with the first therapy session and must include ongoing assessments of compliance as well as upgrades to the program; (4) Use of self-directed home therapy will facilitate the fading of treatment frequency, from several visits per week at the initiation of therapy to much less towards the end; (5) Patients should be formally assessed after a "six-visit clinical trial" to see if the patient is moving in a positive direction, no direction, or a negative direction (prior to continuing with the physical therapy); & (6) When treatment duration and/or number of visits exceeds the guideline, exceptional factors should be noted.

Each billed treatment should require one-on-one patient contact with the licensed therapist and not include modalities/exercises that the patient has learned to do on their own without supervision.

REFERENCES

American College of Occupational College of Occupational and Environmental Medicine (ACOEM), Occupational Practice Guidelines, 3rd Edition.

Official Disability Guidelines (ODG), Preface & Pain Chapter, 2013.