Percutaneous Electrical Nerve Stimulation for Chronic Lower Back Pain

Patient volunteers are being solicited for a double-blind research study evaluating—

‘The Effectiveness of Percutaneous Electrical Nerve Stimulation
In the Treatment of Chronic Lower Back Pain’
Qualified participants receive medical care free of charge

JAMA, March 3, 1999, published an article comparing the effectiveness of Percutaneous Electrical Nerve Stimulation/PENS for lower back pain detailing the effectiveness of this therapy compared to other treatments and using acupuncture as a control/‘sham’ procedure. PENS was far superior to all other interventions and was the most effective decreasing pain, improving level of activity and quality of sleep allowing reduced used of non-opioid analgesics and improving sense of well being at levels of statistical significance. 91% of patients reported PENS as the most effective treatment, and 81% willingness to pay extra for the treatment even if not insurance covered (compared to only 6% for acupuncture, 9% for TENS and 4% for therapeutic exercise). The treatments were provided 30 minutes 3 X per week for a total of 9 treatments. The goal of our study is to validate these results using a double-blind protocol, and to develop a commercially available electri-

Exclusion Criteria-
- Acute medical illness
- Long-term illness or Diabetes (no peripheral neuropathy)
- Drug or alcohol abuse
- Regular use of opioid medications
- Recent significant change in pain
- Active or pending litigation
- On compensation/not working
- Prior back surgery
- Coagulation disorders
- Seizure disorders
- Known or suspected pregnancy
- Pacemaker, ICD, implanted devices

Inclusion Criteria-
- Back pain stable, but ≥ 2 months
- Signed informed consent
- 18 years of age or older

Vertis Neuroscience Protocol
# V 30003
Patients randomized into 4 groups:
— Percutaneous Electrical stimulation
  — 1 cm needle electrodes
  — 3 cm needle electrodes
— Cutaneous electrical stimulation
— ‘Sham’ procedure

Active Montage— 5 paired acupuncture needles with crossed electrical stimulation

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Lumbosacral Radiculopathy

Indications for Electrodiagnosis and Lumbar epidural steroid injections

In the ‘Unstable’ phase of disc degeneration, herniated discs associated with radiculopathy is frequent. The role of surgery is for major herniations associated with prominent or progressive nerve root injury, or complicating significant spinal stenosis. Electrodiagnostic testing to assess the severity of axonal/nerve fiber injury is an important diagnostic tool.

Electrodiagnosis

1. The ideal timing for electrodiagnostic testing after an acute radicular syndrome is 3-4 weeks, which allows sufficient time for Wallerian degeneration.
2. EMG/NCV is a physiologic test that evaluates the acuity, severity and level of root injury.
3. Electrodiagnostic testing can differentiate lumbosacral radiculopathy vs. a plexus lesion vs. a peripheral nerve injury vs. a generalized peripheral neuropathy which can mimic radiculopathy.
4. Dermatomal Somatosensory Evoked Potential study/DSEP is complimentary to EMG/NCV in understanding single vs. multiple root disease and its severity particularly in lumbar spinal stenosis.
5. Quantitative Sensory Testing by Current Perception Threshold QST by CPT has a limited role in evaluating and monitoring sensory radiculopathy.

The role of lumbar epidural steroid injections in acute radiculopathy

- There is abundant proof of inflammation at the sight of disc herniation
- Best practice is utilizing fluoroscopic guidance directed to the site of maximal pathology
- Blind epidurals (and potentially intrathecal injections), are less reliable than those done utilizing fluro, and are associated with increased risks
- Indications- symptomatic acute to subacute radiculopathy with a reasonable suspicion that an inflammatory mechanism exists

Benefit of epidurals– prior weight of the evidence = C, but with fluro in acute HNP, possibly = B, or even higher in select cases

Understand Evidence-Based Medicine

Use the AHCPR guidelines with new updates as the foundation for clinical practice

Scientific Evidence– A = Strong  B = Moderate  C = Limited  D = Poor

Please visit our developing Web site at www.salu.net/electrodiagnose