iontophoresis therapy effective for tennis elbow (lateral epicondylitis)?

A randomized, double-blinded, placebo-controlled study of 199 patients with lateral epicondylitis compared iontophoresis with the corticosteroid salt dexamethasone sodium phosphate against placebo treatment. Dexamethasone was found more effective than placebo at alleviating pain symptoms for just 2 days after therapy. On a 100-mm visual analog scale (VAS), with 0 mm being no pain and 100 mm being the most pain imaginable, patients receiving dexamethasone initially had a larger mean VAS improvement than patients receiving placebo (23.0 and 14.0 mm, respectively; \( P = .012 \)). However, after 1 month, patients who received dexamethasone had a mean VAS improvement comparable to patients treated with placebo (24.5 and 19.5 mm, respectively; \( P = .25 \)).

In another trial, iontophoresis with a naproxen salt was evaluated. Naproxen iontophoresis in 29 patients was compared with naproxen phonophoresis (a process using ultrasound instead of like charges to compel a solution transdermally) in 32 patients. All patients were instructed to use standard physiotherapy in addition to their naproxen treatments. This physiotherapy included stretching and strengthening exercises, as well as cryotherapy (icing) treatments. Both groups had improvement in pain symptoms over baseline at 4.5 months from treatment initiation. VAS pain scores were reduced by 25.0 mm (95% confidence interval [CI], 17–33 mm) for the iontophoresis group and by 24.3 mm (95% CI, 16–33 mm) in the phonophoresis group (difference not significant). There was no placebo or physiotherapy-only group.

The naproxen study data may be placed in context by noting that an RCT performed just the year before found similar physiotherapy measures to be the best long-term treatment of tennis elbow pain. This study compared physiotherapy alone with both a corticosteroid injection group and a “wait-and-see” control group. At 52 weeks after treatment onset, 91% of the physiotherapy group noted successful treatment of symptoms, compared with an 83% success rate in the “wait-and-see” group and 69% in the corticosteroid group. When comparing the 2 active treatment groups (physiotherapy and corticosteroid injection), the relative risk reduction favoring physiotherapy was 0.3 (95% CI, 0.1–0.5) and the number needed to treat was just 4.

Evidence-Based Answer
Corticosteroid iontophoresis therapy does not provide long-term improvement of symptoms over placebo. Nonsteroidal anti-inflammatory drug iontophoresis has not been compared against placebo. (SOR B, based on randomized controlled trials [RCTs].)