



## Q/What treatments best prevent chronic tension headaches?

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### EVIDENCE-BASED ANSWER

**A** | **BIOFEEDBACK AND TRICYCLIC ANTI-DEPRESSANTS** appear to be effective as prophylactic treatment for chronic tension headaches, although tricyclic antidepressants have more adverse effects (strength of recommendation [SOR]: **B**, meta-analysis of randomized controlled trials [RCTs] and pre-post trials).

Acupuncture shows limited evidence for effectiveness after 20 to 25 weeks of treatment (SOR: **B**, meta-analysis of RCTs).

#### Biofeedback gets results without adverse effects

A 2008 meta-analysis of 53 trials (32 RCTs, 21 pre-post; 1532 patients, 72% female, average age 36 years) examined the effectiveness of biofeedback for tension-type headaches (TTH) with a mean duration of headache symptoms of 14 years.<sup>1</sup> The mean duration of treatment was fewer than 10 hours over 11 sessions. Control groups included placebo, relaxation, pharmacotherapy, cognitive therapy, and physical therapy.

Biofeedback reduced headache pain (measured in structured headache diaries by frequency, duration, and intensity) more than controls (weighted mean difference [WMD]=0.73; 95% confidence interval [CI], 0.61-0.84; WMD effect sizes >0.8 are considered large, 0.6-0.8 are moderate, and 0.2-0.6 are small).

Eighteen trials (15 RCTs, 3 pre-post; 736 patients) included follow-up analysis ranging from 3 to 60 months (mean 15 months), during which biofeedback showed a moderate effect size compared with controls (WMD=0.62; 95% CI, 0.53-0.72). Biofeedback plus relaxation produced a larg-

er effect than controls (6 RCTs, 3 pre-post; 124 patients; WMD=0.98; 95% CI, 0.69-1.3). No adverse effects were reported.

#### Tricyclics help, too, but have adverse effects

A 2010 meta-analysis of 37 RCTs examined the effectiveness of tricyclic antidepressants as prophylactic treatment for headaches in 3176 patients.<sup>2</sup> Seventeen RCTs (1275 patients, 73% women, average age 40 years) evaluated tension headaches, and 15 of them included only patients who had headaches for more than 14 days per month (the other 20 RCTs, with 1901 patients, studied migraine headaches).

Control groups included placebo, selective serotonin reuptake inhibitors (SSRIs), tetracyclics, topiramate, dihydroergotamine, spinal manipulation, and cognitive behavioral therapy, but only placebo (8 RCTs included) and SSRIs (4 RCTs included) had more than 2 RCTs evaluated. Variables included headache days per month, headache intensity (measured by scales that varied among trials), and headache index (calculated by multiplying intensity by frequency).

In 8 trials with 574 patients, the standard mean difference (SMD) headache index improved for tricyclics compared with placebo over a treatment duration averaging 10 weeks (WMD=-0.99; 95% CI, -1.7 to -0.32). However, the tricyclic arm reported more adverse effects such as drowsiness, dizziness, dry mouth, and abdominal complaints (relative risk [RR]=1.9; 95% CI, 1.2-3.0).

Tricyclics and SSRIs reduced the frequency of TTH equally (4 trials; N=479; standardized mean difference=-0.80; 95% CI, -1.63 to 0.02) but tricyclics were more likely to reduce

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intensity by 50% (RR=1.7; 95% CI, 1.3-2.2).

### Headaches decline after acupuncture, not during

A 2008 meta-analysis of 5 RCTs (838 patients, 68% female) evaluated the effectiveness of acupuncture compared with sham acupuncture for treating episodic and chronic TTH.<sup>3</sup> Separate data on efficacy for

each subtype was not provided. Selection of acupuncture points varied among the trials, and treatment durations ranged from 3 to 8 weeks.

Headache days per month didn't decline during treatment (WMD=-2.9; 95% CI, -7.5 to 1.6), but were significantly decreased on follow-up at 20 to 25 weeks (WMD=-1.8; 95% CI, -3.0 to -0.64). **JFP**

#### References

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