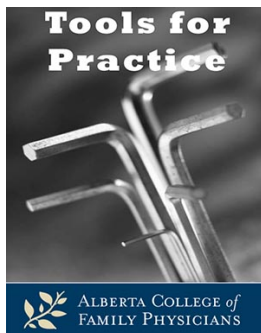


Tools for Practice is proudly sponsored by the Alberta College of Family Physicians (ACFP). ACFP is a provincial, professional voluntary organization, representing more than 4,000 family physicians, family medicine residents and medical students in Alberta. Established over fifty years ago, the ACFP strives for excellence in family practice through advocacy, continuing medical education and primary care research. www.acfp.ca

Reviewed: April 30, 2015
Evidence Updated: Meta-analysis
Bottom Line: No change
First Published: September 6, 2011



Antidepressants for preventing headaches: Which work and how well?

Clinical Question: In the prevention or prophylaxis of headaches (including migraines), which antidepressants work and how effective are they?

Bottom-line: Daily tricyclic antidepressants, particularly amitriptyline, effectively reduce headache severity and frequency (for 1 in 8 over placebo). They are effective regardless of headache type and the benefit improves with time.

Evidence:

- Two systematic reviews and meta-analyses provide the best evidence:
 - Tricyclic antidepressants (TCA):¹ 37 trials (17 tension, 13 migraine, rest mixed); 3,176 patients, mean age 40, 73% female.
 - Versus Placebo, daily TCA resulted in statistically significant:
 - Reduced “burden of headache” (standard mean difference -0.96, -1.39 to -0.53).
 - More patients experienced 50% reduction in headaches: 38.4% versus 24.9%, Number Needed to Treat (NNT)=8.
 - Both migraine and tension type benefited.
 - Benefit improved with time.
 - Higher adverse events with TCA (NNT to harm=5) but no difference in withdrawal.
 - Versus Selective Serotonin Re-uptake Inhibitor (SSRI): TCA’s were superior.
 - Versus other agents: Limited data but direct comparisons suggest no efficacy difference between TCA and topiramate (two trials) or beta-blockers (three trials).
 - No evidence to support the use of SSRI or SNRI antidepressants for migraine prophylaxis:² 11 trials, 585 patients.

Context:

- A review of all medications for migraine prophylaxis places amitriptyline (with propranolol and nadolol) as first line agents.³

- Dual benefits with amitriptyline can be achieved when patients have co-morbid depression and/or early insomnia.³
- Blood pressure medicines for headache prophylaxis are covered in the next Tools for Practice (#52).
- Majority of TCA trials used amitriptyline (30 of 37 trials) at doses of 10-150 mg, mean 80 mg)¹
 - Slow titration can maximize benefit while limiting adverse events.
- Beta-Blockers, some anticonvulsants and some blood pressure medications (other than just beta-blockers) have also been shown to be effective for migraine prevention.⁴⁻⁶
 - For example, NNT is 4-7 for topiramate producing 50% reduction in migraine frequency.⁴

Original authors:

G Michael Allan MD CCFP, Michelle Levy MD CCFP

Updated:

Emélie Braschi MD PhD

Reviewed:

G Michael Allan MD CCFP

References:

1. Jackson JL, Shimeall W, Sesums L, *et al.* BMJ. 2010; 341:c5222.
2. Banzi R, Cusi C, Randazzo C, *et al.* Cochrane Database Syst Rev. 2015:CD002919.
3. Pringsheime T, Davenport WJ, Becker WJ. CMAJ. 2010 Apr 20; 182(7):E269-76.
4. Chronicle E, Mulleneres W. Cochrane Database Syst Rev. 2004; (3):CD003226.
5. Shamliyan TA, Choi JY, Ramakrishnan MPH, *et al.* J Gen Intern Med. 2013; 28:1225-37.
6. Kapusta MJ, Allan GM. Tools for Practice, Alberta College of Family Physicians. 2011 September 19. Available for download from: http://www.acfp.ca/wp-content/uploads/tools-for-practice/1397836024_20111028_100921.pdf

Tools for Practice is a biweekly article summarizing medical evidence with a focus on topical issues and practice modifying information. It is coordinated by G. Michael Allan, MD, CCFP and the content is written by practicing family physicians who are joined occasionally by a health professional from another medical specialty or health discipline. Each article is peer-reviewed, ensuring it maintains a high standard of quality, accuracy, and academic integrity.

The ACFP has supported the publishing and distribution of the Tools for Practice library since 2009. If you are not a member of the ACFP and would like to receive the TFP emails, please sign up for the distribution list at <http://bit.ly/signupfortfp>. Archived articles are available at no extra cost on the [ACFP website](#).

You can now earn credits on Tools for Practice! In August 2014, the ACFP launched [GoMainpro, an online accreditation tool](#) to help facilitate MAINPRO® accreditation for the ACFP's Tools for Practice library which has been accredited for Mainpro-M1 credits by the College of Family Physicians of Canada (CFPC). The combination of the CFPC's Direct Entry Program and GoMainpro's tracking and reporting features provide an easy and convenient way to earn Mainpro-M1 credits.

This communication reflects the opinion of the authors and does not necessarily mirror the perspective and policy of the Alberta College of Family Physicians.