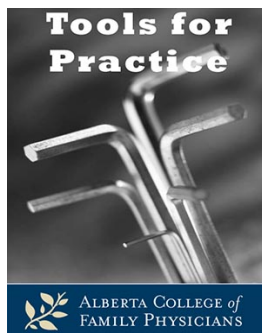


**Tools for Practice** is proudly sponsored by the Alberta College of Family Physicians (ACFP). ACFP is a provincial, professional voluntary organization, representing more than 3000 family physicians, family medicine residents and medical students in Alberta. Established over fifty years ago, the ACFP strives for excellence in family practice through advocacy, continuing medical education and primary care research. [www.acfp.ca](http://www.acfp.ca)

Beginning May 2012, each **Tools for Practice** is peer-reviewed, ensuring the articles maintain a high standard of quality, accuracy, and academic integrity. TFP will be circulated every 3 weeks throughout the summer.

July 3, 2012



## **Omega-3 Fatty Acids (Fish Oil) for Patients with Cardiovascular Disease (CVD)**

**Clinical Question: Do omega-3 fatty acid supplements reduce the risk of recurrent cardiovascular events in patients with existing cardiovascular disease (CVD)?**

### **Evidence:**

Three recent high-quality randomized controlled trials (RCTs)<sup>1-3</sup> and a subsequent meta-analysis (20,485 patients)<sup>4</sup> did not show a CVD or mortality benefit with omega-3 supplementation:

- 4837 Dutch patients with previous myocardial infarction (MI)<sup>1</sup>
  - Major cardiovascular events and cardiac interventions at 3.3 years: omega-3s 14.0% vs placebo 13.8% (p= 0.93)
- 2501 French patients with recent MI, unstable angina, or ischemic stroke<sup>2</sup>
  - Non-fatal MI, stroke, or cardiovascular death at 4.7 years: omega-3s 6.5% vs placebo 6.1% (p=0.64)
- 3851 German patients post-MI<sup>3</sup>
  - Sudden cardiac death at 1 year: omega-3s and placebo = 1.5% (p=0.84)

Another RCT published after the meta-analysis also found no cardiovascular benefit from 6 years of omega-3 supplementation in 12,536 diabetic or 'near diabetic' patients, 59% of whom had previous CVD.<sup>5</sup>

Previous RCTs where omega-3s were beneficial were not blinded<sup>6,7</sup> or had low use of standard cardiovascular medications (like statins).<sup>6</sup>

One RCT<sup>8</sup> demonstrated a decrease in all-cause mortality in patients with heart failure (omega-3s 27.3% vs placebo 29.1%, p=0.041), but achieved statistical significance only after adjusting for differences in baseline characteristics.

### **Context:**

- Omega-3s are a group of polyunsaturated fatty acids found in fish oils, flax seed (to a lesser extent other nuts), canola oil and soybeans.
- Observations of lower CVD in the Inuit was thought to be due to their high marine omega-3 intake.<sup>9</sup>

- Meta-analyses of lower-level evidence (cohort trials) of omega-3s are inconsistent.<sup>10,11</sup>
- Canada's Food Guide,<sup>12</sup> American Heart Association,<sup>13</sup> and NICE guidelines<sup>14</sup> encourage consumption of 2 or more portions of fish per week for primary and secondary prevention of CVD.

**Bottom-line: Although guidelines recommend increased dietary omega-3 consumption, evidence does not support using omega-3 fatty acid supplements to prevent recurrent CVD events in patients with cardiovascular disease.**

Authors: Ricky Turgeon BSc(Pharm), Fred Janke MD MSc CCFP,  
Michael R. Kolber MD MSc CCFP

1. Kromhout D, Giltay EJ, Geleijnse JM, et al. N Engl J Med. 2010; 363(21):2015-26.
2. Galan P, Kesse-Guyot E, Czernichow S, et al. BMJ. 2010; 341:c6273.
3. Rauch B, Schiele R, Schneider S, et al. Circulation. 2010; 122:2152-9.
4. Kwak SM, Myung SK, Lee YJ, et al. Arch Intern Med. 2012; doi: 10.1001/archinternmed.2012.262
5. The ORIGIN Trial Investigators. N Engl J Med 2012, epub June 11, 2012 (10.1056/NEJMoa1203859)
6. GISSI-Prevenzione Investigators. Lancet. 1999; 354:447-55.
7. Yokoyama M, Origasa H, Matsuzaki M, et al. Lancet. 2007; 369:1090-8
8. Tavazzi L, Maggioni AP, Marchioli, et al. Lancet. 2008; 372:1223-30.
9. Stone NJ. Circulation. 1996; 94:2337-2340
10. He K, Song Y, Daviglius ML, et al. Circulation. 2004; 109(22):2705-11
11. Hooper L, Thompson RL, Harrison RA, et al. Cochrane Database Syst Rev. 2004; (4):CD003177
12. Canada's Food Guide: [www.hc-sc.gc.ca/fn-an/food-guide-aliment/choose-choix/meat-viande/index-eng.php](http://www.hc-sc.gc.ca/fn-an/food-guide-aliment/choose-choix/meat-viande/index-eng.php) (accessed 28 May 2012)
13. Kris-Etherton PM, Harris WS, Appel LJ, et al. Circulation. 2002; 106(21):2747-57
14. <http://www.nice.org.uk/nicemedia/pdf/CG48NICEGuidance.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 practising family physicians who are joined occasionally by a health professional from another medical specialty or health discipline. If you are not a member of the ACFP and would like to receive the TFP emails, please contact [subscribetfp@acfp.ca](mailto:subscribetfp@acfp.ca) to be added to the distribution list. Archived articles are available on the ACFP website.

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

Save the date for the inaugural Practical Evidence for Informed Practice conference - <http://bit.ly/acfppeip>