A Bayesian network meta-analysis in the same systematic review analyzed various medications used for prophylactic migraine treatments compared with placebo.\(^1\) Off-label ACE inhibitors/angiotensin II receptor blockers were more likely to reduce monthly migraines by >50% (5 trials, n=180; OR 5.9; 97.5% CI, 2.5–15) compared with other medications such as amitriptyline (10 trials, n=595; OR 2.1; 97.5% CI, 1.3–3.6), the off-label anti-epileptics, gabapentin, lamotrigine, and valproate (9 trials, n=457; OR 2.2; 97.5% CI, 1.3–3.5), and NSAIDS (9 trials, n=11,442; OR 2.5; 97.5% CI, 1.4–4.7). Treatment discontinuation compared with placebo was greatest with tricyclic antidepressants (10 trials, n=646; OR 2.3; 97.5% CI, 1.3–4.2), off-label anti-epileptics (9 trials, n=435; OR 2.7; 97.5% CI, 1.4–5.5), and topiramate (11 trials, n=1,266; OR 2.4; 97.5% CI, 1.5–4.0). Overall, 86% of the RCTs were double blinded; however, adequacy of allocation concealment and randomization was unclear in most studies.

A 2010, 24-week, double-blind, placebo-controlled trial followed by a 32-week open-label phase with 705 patients (age range, 18–65 years) evaluated the effect of onabotulinumtoxinA for preventing chronic migraines.\(^2\) The primary endpoint was the average reduction from baseline in the number of headache days 1 month after treatment and again at 6 months.

There was a mean decrease of 9 headache days per month from baseline in the onabotulinumtoxinA group versus 6.7 days in the placebo group (mean intergroup difference −2.3 days; 95% CI, −3.25 to −1.31).\(^3\)

A 2013 systematic review and meta-analysis of 5 RCTs (N=1,009) evaluated gabapentin as a prophylactic agent for episodic migraines.\(^4\) One study was excluded from the analysis due to a protocol violation. Pooled analysis (4 trials, n=351) found no reduction in frequency of migraine headache for gabapentin versus placebo (OR 1.6; 95% CI, 0.6–4.5). Gabapentin caused more dizziness (NNH=7; 95% CI, 5–13) and somnolence (NNH=9; 95% CI, 6–33) than placebo, but no difference in total adverse effects (risk difference 0.05; 95% CI, −0.04 to 0.14).

### Does the addition of whole-fiber food reduce the new diagnosis of colorectal cancer in adults with a history of adenomatous polyps?

#### Evidence-Based Answer

Probably not, although the evidence is indirect. In adults with a history of adenomatous polyps, the addition of whole-fiber food has not been shown to reduce recurrence of colorectal adenomas, which are precursors of most colorectal carcinomas (SOR: B, RCTs).

A 4-year multicenter RCT evaluated the effects of high-fiber diet (18 g/1,000 kcal) on the recurrence of colorectal adenoma.\(^1\) A total of 2,079 patients, 35 years of age or older, with at least 1 colorectal adenoma removed within 6 months of study, were randomized to a dietary intervention (a diet of high fiber, fruits, and vegetables) or a regular diet. Patients had colonoscopies and removal of adenomatous polyps at 1 and 4 years of follow-up.

No difference was seen in the number of patients with at least 1 recurrent adenoma (40% fiber group vs 40% control group; RR 1.0; 95% CI, 0.90–1.1) out of the 92% of patients who completed the study. Among patients with recurrent adenomas, the mean number of adenomas was 1.9 in the intervention group and 1.8 in the control group (P=0.93). No significant difference was noted between the 2 groups in the rate of recurrence of large adenomas (maximal diameter ≥1 cm) and advanced adenomas (lesions >1 cm or ≥25% villous elements or evidence of high-grade dysplasia, including carcinoma).\(^1\)

---

**Table:** Comparison of the FDA-approved medications for migraine prophylaxis versus placebo in reducing migraine frequency by >50%\(^1\)\(^5\)

<table>
<thead>
<tr>
<th>Medication</th>
<th>Trials</th>
<th>N</th>
<th>RR (97.5% CI)</th>
<th>NNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Propranolol</td>
<td>24</td>
<td>1,172</td>
<td>2.9 (2.0–4.2)</td>
<td>4</td>
</tr>
<tr>
<td>Timolol</td>
<td>17</td>
<td>276</td>
<td>3.4 (2.3–5.3)</td>
<td>4</td>
</tr>
<tr>
<td>Topiramate</td>
<td>16</td>
<td>1,422</td>
<td>2.5 (1.7–3.6)</td>
<td>3</td>
</tr>
<tr>
<td>Divalproex</td>
<td>8</td>
<td>405</td>
<td>3.2 (2.0–5.6)</td>
<td>4</td>
</tr>
</tbody>
</table>

---

A 3-year, multicenter, double-blind, RCT assessed the effects of wheat-bran fiber supplement on recurrence of colorectal adenomas. A total of 1,429 patients with at least 1 histologically confirmed colorectal adenoma removed within 3 months before recruitment were randomized to dietary supplementation with either a high (13.5 g/d) or low (2 g/d) amount of wheat-bran fiber.

Of the 91% of patients who completed the study, no difference was noted between groups in the number of patients with at least 1 adenoma identified at the last follow-up colonoscopy (47% high-fiber group vs 51% low-fiber group; OR 0.88; 95% CI, 0.7–1.1).

Shemushi Nasreen, MD
St. Mary Mercy Hospital
Livonia, MI


Does a low glycemic index diet lead to greater weight loss at 6 months in overweight adults compared with no dietary restriction?

Evidence-Based Answer
No. Diets designed to have a low glycemic index are not associated with a significant weight reduction compared with other types of diets (SOR: B, conflicting meta-analyses with low-quality studies).

A systematic review and meta-analysis (14 RCTs, N=1,770; body mass index [BMI] ≥25 kg/m²) investigated the long-term effects of low glycemic index diets on weight loss in overweight and obese adult patients. All included studies reported glycemic index values and used intervention and follow-up periods of at least 6 months (range, 24–68 months). Studies were excluded if they enrolled patients with type 1 diabetes.

No significant weight reduction was observed during the intervention (weighted mean difference [WMD] −0.62 kg; 95% CI, −1.28 to 0.03). The authors noted the following limitations in the studies: a wide range of criteria for low glycemic index diets, incomplete assessment of dietary adherence, lack of reporting of randomization method or reason for patient withdrawal, and potential for publication bias.

An earlier Cochrane review of 6 RCTs, with 202 overweight or obese, but not diabetic patients (mean age range, 16–46 years) not included in above publication, evaluated weight loss using low glycemic index diets versus high glycemic index or other diets. Trials lasting 2 weeks or longer were considered for inclusion. Difference in mean weight and BMI between groups was reported. The studies followed patients for between 5 weeks (with no additional follow-up) and 6 months (with additional follow-up at 12 months).

Low glycemic index diets reduced weight (4 trials, n=163; WMD −1.1 kg; 95% CI, −2 to −0.2) and BMI (2 trials, n=48; WMD −1.3 kg/m²; 95% CI, −2.0 to −0.5) compared with high glycemic or other diets. The mean change in weight between studies ranged from −0.3 to −7.4 kg. In studies comparing ad libitum low glycemic index diets with conventional restricted-energy low-fat diets, participants fared as well or better on the low glycemic index diet, even though they could eat as much as desired (no data were provided). As in the previous review, details about low glycemic index diets were not specified. Not all studies included a follow-up protocol. No study reported adverse effects.

Alejandro Pacheco, MD  
Lois Coulter, PharmD  
Jonell Hudson, PharmD  
The University of Arkansas for Medical Sciences Northwest FMR  
Fayetteville, AR


In patients who have had a renal transplant, what medication factors influence the incidence and management of hypertension?

Evidence-Based Answer
Calcium channel blockers (CCBs) reduce the risk of graft loss after renal transplant by 25% compared with placebo; no antihypertensive class decreases mortality (SOR: A, meta-analysis of RCTs). Hypertension (HTN) may be more common after transplant in patients treated with cyclosporine compared with tacrolimus (SOR: C, meta-analysis of RCTs with nonsignificant results).

A 2009 systematic review and meta-analysis of 60 RCTs (N=3,802) compared the efficacy of different classes of antihypertensive medication in kidney transplant recipients. Patients were treated with antihypertensives for at least 2 weeks; however, only 1,370 patients (36%) were formally diagnosed with HTN while most patients...