The new cardiovascular disease prevention guidelines: What you need to know

A new, partially tested CVD risk-assessment tool significantly increases the number of individuals who would qualify for statin therapy. Treating to a target LDL-C value has given way to reducing the level by different percentages based on patient characteristics.
advises intensive interventions for weight management and additionally offers much more detail on recommended diet and exercise.

**Lifestyle management**

The 10 recommendations on lifestyle management to reduce cardiovascular risk, all evidence based, are limited to diet and exercise as a means to control hypertension and hypercholesterolemia. They do not cover other important lifestyle modifications for preventing CVD, such as smoking cessation. The guideline panel acknowledged that the interventions are aimed at those with high blood pressure and elevated cholesterol, but they encour-
age all adults to follow them. Although these recommendations are not particularly controversial, the 2 recommendations to reduce sodium intake are said to be based on strong or moderate strength evidence, in contrast to a recent IOM report that concluded evidence for the health benefits of salt intake < 2.3 g/d is weak.10 This illustrates how separate authoritative groups can rate the strength of the same evidence differently.

Summary highlights:
• Encourage adults who would benefit from lowering either blood pressure (BP) or low-density lipoprotein cholesterol (LDL-C) to eat a diet that emphasizes vegetables, fruits, whole grains, low-fat dairy products, and other notably healthful foods, and to cut down on products high in sugar content and on red meats.
• Review, as appropriate, such options as the DASH (dietary approaches to stop hypertension) eating plan, US Department of Agriculture Food Patterns, or the American Heart Association’s diet.
• Establish a dietary plan that also incorporates nutritional requirements for an existing comorbidity, such as type 2 diabetes mellitus (T2DM).
• Lower saturated-fat intake to 5% to 6% of total calories, and reduce trans fats.
• Advise patients with high BP to reduce sodium consumption to ≤2400 mg/d; or, at the very least, to reduce daily consumption by 1000 mg.
• Promote aerobic activity to reduce either LDL-C or BP, at moderate or vigorous intensity 3 to 4 times a week with 40-minute sessions.

CVD risk assessment
The CVD risk assessment guideline1 has generated a lot of controversy. It proposes a new tool for assessing an individual’s 10-year risk of developing an atherosclerotic cardiovascular disease (ASCVD) event, defined as a fatal or nonfatal heart attack or stroke. While the tool is new, the risk factor categories it uses have been known for decades: age, gender, race, lipid levels, diabetes, smoking status, and BP. It has not performed better in validation studies than other existing tools (all of which are suboptimal), and it may be worse.11,12 Moreover, this new tool has been tested only in African Americans and non-Hispanic whites. Using it could classify 33 million adults age 40 to 79 years as having a 10-year risk of 7.5%, and 13 million a risk between 5% and 7.5%.12 The significance of this is discussed in the next section on the management of high cholesterol levels.

Summary highlights:
• Use race- and sex-specific Pooled Cohort Equations to predict 10-year risk for a first hard ASCVD event (nonfatal myocardial infarction, coronary death, or nonfatal or fatal stroke) in non-

---

**TABLE 2**

A new approach: Using high-, moderate-, or low-intensity statin therapy to reduce cardiovascular events4

These drugs were studied in randomized controlled trials at the specified doses and found to reduce major cardiovascular events.

<table>
<thead>
<tr>
<th>High-intensity therapy (Lowers LDL-C by ≥50%)</th>
<th>Moderate-intensity therapy (Lowers LDL-C by 30% to &lt;50%)</th>
<th>Low-intensity therapy (Lowers LDL-C by &lt;30%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atorvastatin 40-80 mg</td>
<td>Atorvastatin 10 mg</td>
<td>Pravastatin 10-20 mg</td>
</tr>
<tr>
<td>Rosuvastatin 20 mg</td>
<td>Rosuvastatin 10 mg</td>
<td>Lovastatin 20 mg</td>
</tr>
<tr>
<td>Simvastatin 20-40 mg</td>
<td>Pravastatin 40 mg</td>
<td></td>
</tr>
<tr>
<td>Pravastatin 40 mg</td>
<td>Lovastatin 40 mg</td>
<td></td>
</tr>
<tr>
<td>Fluvastatin 40 mg bid</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

LDL-C, low-density lipoprotein cholesterol.
The major departure from the old cholesterol guideline is an abandonment of “treating to target” that attempts to lower LDL-C to a specified level.

### Cholesterol management

The guideline on lowering blood cholesterol is a significant departure from the previous one. It contains 54 recommendations, 21 based on expert opinion. Using an unusual methodology that considered only randomized controlled trials in the evidence report, the guideline panel stated that the evidence demonstrates that 4 groups will benefit from treatment with statins:

- patients with established ASCVD
- individuals whose LDL-C is ≥190 mg/dL
- patients with diabetes and no established ASCVD who are 40 to 75 years of age and have an LDL-C between 70 and 189 mg/dL
- anyone with an estimated 10-year ASCVD risk of ≥7.5% (based on the new risk-assessment tool) and an LDL-C of 70 to 189 mg/dL.

The major departure from the old guideline is an abandonment of “treating to target” that attempts to lower LDL-C to a specified level. The panel concluded that the evidence does not show any benefit in achieving a specified level of LDL-C and that this approach can lead to either over- or under-treatment. The proposed new approach is to use high-, moderate-, or low-intensity statin treatment based on a patient’s age and reason for treatment, and the dose that they can tolerate (TABLE 2). Absent any contraindications, high-intensity treatment is indicated for:

- patients ≤75 years old with established ASCVD
- patients with an LDL-C level ≥190 mg/dL
- patients 40 to 75 years old with diabetes and a ≥7.5% 10-year risk of ASCVD.

Moderate-intensity treatment is indicated for those who cannot tolerate a high-intensity regimen, and for those ages 40 to 75 with diabetes and <7.5% 10-year ASCVD risk.

Low-intensity treatment is recommended for those who should receive moderate-intensity treatment but cannot tolerate it.

For those >75 years of age, the guideline makes only 2 recommendations:

- Prescribe a statin at the highest tolerable intensity for an LDL-C ≥190 mg/dL.
- Assess those with established ASCVD for potential benefits and risks of moderate- to high-intensity statin treatment. (It is reasonable to continue statin therapy for those already on it and tolerating it.)

Value of nonstatin drugs is questionable. In another significant departure from the previous guideline, the panel said that other cholesterol-lowering drugs can be considered when LDL-C remains high after statin treatment, but the benefit of these agents in preventing ASCVD is not proven.

Several objections to the new guideline have been raised in the short time since its release. Criticisms center on the large number of adults who would now qualify for statin treatment based on the new risk-assessment tool. Using the 7.5% 10-year risk cutoff, the number needed to treat to prevent one ASCVD event over 10 years would be 67. Also of concern to many is the fact that 7 out of 16 members of the guideline panel had financial ties to the pharmaceutical industry.

Commentary

The new guidelines reflect a more rigorous evidence-based approach than those of the
past. That some of them diverge significantly from previous recommendations that relied heavily on expert opinion reveals the pitfalls of making authoritative recommendations based on weak evidence. Such recommendations, especially those emerging from the National Institutes of Health, are used as national and international standards and serve as the basis of performance measures. When they do not stand the test of time because of a weak evidence base, medicine’s reputation is damaged. Notably, the new set of cholesterol recommendations, while an improvement from an evidentiary perspective, is founded partly on a questionable risk-assessment tool, and it is possible it will suffer the same long-term fate as its predecessor. (For more on these guidelines, see “The new cholesterol guideline: Beyond the headlines,” [J Fam Pract. 2013;62:730.])

References


