

## New cholesterol guidelines for the new millennium

The May 16, 2001 issue of *JAMA* carries the Executive Summary of the Third Report of the National Cholesterol Education Program (NCEP) Expert Panel (Adult Treatment Panel III [ATP III]).<sup>1</sup> The Executive Summary is an excellent condensation of the comprehensive ATP III document, which is based on a rigorous evidence-based framework constituting more than 200 pages and 800 references.<sup>2</sup>

The original guidelines, published in 1988, emphasize primary prevention for individuals with high low-density-lipoprotein cholesterol (LDL-C) levels.<sup>3</sup> In 1993, a second set of recommendations shifted the direction toward more aggressive therapy for those who already had cardiovascular disease.<sup>4</sup> Since 1993, there has been an abundance of information on lipoproteins, resulting in the most recent set of guidelines with a multitude of new recommendations. The new features of ATP III are summarized into three categories:

- Focus on Multiple Risk Factors,
- Modifications of Lipids and Lipoprotein Classifications, and
- Support for Implementation.

The category focusing on multiple risk factors incorporates several new recommendations. Individuals with diabetes mellitus without coronary heart disease (CHD) should now be considered at a risk equivalent to that of those patients with CHD. Persons without clinical CHD but with multiple risk factors should have their absolute risk calculated. To calculate the absolute risk, ATP III recommends using a modification of the Framingham Risk Prediction Score,<sup>5</sup> which differs in that it does not include diabetes, because diabetes is now considered a CHD equivalent instead of a risk factor. In ATP III, individuals with an absolute 10-year risk of greater than 20% for the development of CHD are considered CHD equivalents relative to therapeutic LDL-C goals. Thus, those individuals without clinical CHD who are diabetic or who have an absolute 10-year risk greater than 20% have an LDL-C goal of less than 100 mg/dL and a recommendation to initiate drug therapy at an LDL-C cutpoint of greater than 130 mg/dL.

Individuals without clinical CHD and multiple risk factors who have an absolute 10-year risk of 10% to 20% have a somewhat less aggressive recommendation, although the guidelines do recommend drug therapy, if needed, to maintain LDL-C levels at less than 130 mg/dL.

Another recommendation under the multiple risk factor category includes recognition of the metabolic syndrome as a distinct entity. The metabolic syndrome arising from insulin resistance includes at least three of the following components:

- abdominal obesity,
- hypertension,
- hyperglycemia,
- elevated triglyceride levels, and
- decreased high-density-lipoprotein cholesterol (HDL-C) levels.<sup>6</sup>

ATP III recognizes the metabolic syndrome as a secondary target of risk reduction after the LDL-C goal has been attained. Specific recommendations for treatment of the metabolic syndrome include intensified therapeutic lifestyle changes and, if elevated, triglyceride level (defined as >200 mg/dL) into the treatment strategy. If the triglyceride level is elevated, a second lipid goal for non-HDL cholesterol (total cholesterol–HDL-C), which targets triglyceride-enriched atherogenic lipoproteins, can be set at 30 mg/dL higher than that for LDL-C.

The second general category consists of modifications of lipid classifications. In this category, LDL-C levels less than 100 mg/dL are deemed optimal. A low HDL-C level remains a risk factor; however, the level at which the risk is conferred is now raised from less than 35 mg/dL to less than 40 mg/dL. A third change in lipid classification is lower triglyceride cutpoints to give more attention to moderate triglyceride elevations.

The third general category where changes are noted are areas in support for implementation. In this category, a complete lipid profile as the preferred initial test rather than screening for only total cholesterol and HDL-C levels is recommended. The use of a Therapeutic Lifestyle Change (TLC) diet is the recommended diet of choice. This diet includes:

- reducing saturated fat to less than 7% of total calories,
- reduction of dietary cholesterol to less than 200 mg/d, and
- supplementing the diet with plant stanols/sterols and viscous (soluble) fiber.

Also in this category are recommendations for strategies promoting adherence to therapeutic lifestyle changes and drug therapy to support the use of these guidelines into routine clinical practice.

Recent data suggest that even under the previous guidelines, individuals at risk are not currently being treated to their LDL-C targets.<sup>7</sup> The new guidelines have now raised the ante considerably, estimating 36 million Americans would benefit from drug therapy, up from 13 million under the previous guidelines. Diet should now be recommended for 65 million Americans, up from 52 million.

The osteopathic medical profession is one that embraces

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the tenets of primary care, health promotion, and disease prevention. It is time that we as a profession step up to the plate and take the lead by implementing these guidelines in our daily practices. In doing so, our actions will help lead the way in having a positive impact on the number one killer—cardiovascular disease—in the United States.

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### References

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2. *Third Report of the National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation and Treatment of High Blood Cholesterol in Adults (ATP III)*. Available at: [www.nhlbi.nih.gov](http://www.nhlbi.nih.gov)
3. Report of the National Cholesterol Education Program Expert Panel on Detection, Evaluation and Treatment of High Blood Cholesterol in Adults. *JAMA* 1988;148:36-69.
4. Summary of the Second Report of the National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation and Treatment of High Blood Cholesterol in Adults (ATP II). *JAMA* 1993;269:3015-3023.
5. Wilson PW, D'Agostino RB, Levy D, Belanger AM, Silbershatz H, Kannel WB. Prediction of coronary heart disease using risk factor categories. *Circulation* 1998;97:1837-1847.
6. Wilson PW, Kannel WB, Silbershatz H, D'Agostino RB. Clustering of metabolic factors and coronary heart disease. *Arch Intern Med* 1999;159:1104-1109.
7. Pearson TA, Laurora I, Chu H, Kafonek S. The lipid treatment assessment project (L-TAP): a multicenter survey to evaluate the percentages of dyslipidemic patients receiving lipid-lowering therapy and achieving low-density lipoprotein cholesterol goals. *Arch Intern Med* 2000;160:459-467.

### Correction

An error appears in the article titled "Clinical review of home uterine activity monitoring (HUAM)," by Mark A. Kalchbrenner, DO (*JAOA* 2001;101(2 Suppl):S18-S24). On page S21, the first sentence of the last paragraph in the first column should read, "In a recent randomized prospective trial that led to FDA approval of an HUAM device, Mou and associates<sup>28</sup> addressed the effectiveness of the HUAM device alone compared with self-palpation of uterine activity for early detection of preterm labor in a study of 377 women at risk for preterm labor." The study by Mou and associates was incorrectly referred to as a "randomized, retrospective trial."