Special Report

New Guidelines for the Treatment of High Blood Cholesterol in Adults from the National Cholesterol Education Program

From Controversy to Consensus

James I. Cleeman and Claude Lenfant

Launched by the National Heart, Lung, and Blood Institute (NHLBI) in November 1985, the National Cholesterol Education Program (NCEP) is a nationwide cooperative effort by major medical and health organizations — the American Heart Association prominently among them — to reduce the prevalence of elevated blood cholesterol in the United States. The NCEP seeks to achieve this goal by mounting educational initiatives for health professionals and the public to raise their awareness that lowering high cholesterol levels will reduce the risk of heart attacks and by providing guidance on how to accomplish such cholesterol lowering.

One of the most important early fruits of the NCEP is a set of guidelines for the management of high blood cholesterol in adults, which was released on October 5, 1987. Officially titled the Report of the Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (NCEP Adult Treatment Panel), the guidelines are a response to a need identified by surveys of physicians conducted by NHLBI in 1983 and 1986. The surveys showed that many physicians were waiting until their adult patients showed relatively high levels of blood cholesterol before initiating diet and/or drug therapy. The report is directed primarily to health care professionals — especially to physicians, but also to nurses, dietitians, and pharmacists — who will all have to be actively involved in the care of patients with high blood cholesterol. The recommendations are intended to guide practitioners by giving them a practical and detailed approach for dealing with an individual adult patient’s elevated cholesterol. We are hopeful that the guidelines will be of interest and assistance to both generalists and specialists.

Development of the Cholesterol Adult Treatment Guide-

lines is part of the NCEP’s initial emphasis on a strategy of finding and treating adults who are at high risk for coronary heart disease (CHD) by virtue of their elevated blood cholesterol levels. Two additional panels will address, respectively, a population- and community-based approach for cholesterol reduction, and treatment of high blood cholesterol in children. A fourth panel, the Laboratory Standardization Panel, will soon be unveiling its draft recommendations for improving the accuracy of blood cholesterol measurements and standardizing the reporting of cholesterol values.

The report of the NCEP Adult Treatment Panel marks an important milestone in the continuing evolution of the cholesterol field. For many years, despite substantial scientific evidence that elevated serum or plasma cholesterol levels were linked to increased rates of CHD, controversy reigned as to whether the role of cholesterol was, in fact, etiologic in the development of coronary atherosclerosis. In early 1984, the results of the Coronary Primary Prevention Trial showed that lowering high blood levels of cholesterol actually reduces the risk of heart attacks. Thereafter, the NIH Consensus Development Conference on “Lowering Blood Cholesterol to Prevent Heart Disease” concluded that: 1) elevated blood cholesterol is a major cause of CHD, and 2) lowering elevated cholesterol levels would help prevent CHD, and they recommended in broad policy outlines the treatment of everyone with a blood cholesterol level above the 75th percentile. Now, with the report of the NCEP Adult Treatment Panel, we have for the first time a detailed set of guidelines giving practical advice for dealing with an individual adult patient’s cholesterol problem.

Both the substance of the guidelines and the process by which they were developed reflect the highly consensual nature of the panel’s report. Substantively, the guidelines build on the consensus view that anyone with a serum total cholesterol level at or above 240 mg/dl deserves careful medical evaluation, that a desirable cholesterol level is below 200 mg/dl, and that dietary change is the primary line of treatment for high blood cholesterol. The basic approach reflected in the guidelines is compatible with the recent recommendations of the European Atherosclerosis

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Reprints of this special report and copies of the guidelines may be obtained from: National Cholesterol Education Program, National Heart, Lung, and Blood Institute, C-200, Bethesda, Maryland 20892.

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Society and the British Cardiac Society Working Group on Coronary Disease Prevention, and we are thus witnessing the emergence of a broad transnational consensus.

In terms of process, the guidelines were developed by a panel of experts representing a variety of disciplines and a range of expertise, including lipiddology, cardiology, epidemiology, dietetics and nutrition, nursing, and primary care medicine. The panel worked for over a year under the very able chairmanship of Dr. DeWitt S. Goodman, Professor of Medicine at Columbia University’s College of Physicians and Surgeons, to forge a consensus position on such crucial questions as: how to go about detecting and evaluating high blood cholesterol, at which levels of cholesterol to initiate treatment, what the goals of treatment are, how to use dietary therapy, and how and when to use drug therapy in addition to diet. Not surprisingly, the panel counted among its members experts associated in one way or another with the American Heart Association (AHA), which has been active for many years in promoting increased attention to cholesterol. These individuals included Dr. Edwin Bierman, former chairman of AHA’s Council on Arteriosclerosis, and present and former chairmen of the AHA Nutrition Committee: Drs. John LaRosa, Scott Grundy, and Virgil Brown. The panel’s report was reviewed and extensively commented on by the NCEP Coordinating Committee, the central body which recommends policy for the program. Its members speak for the major health-related organizations, representing health care professionals, voluntary groups, community organizations, hospitals, public health associations, and citizen groups.

The report of the panel was endorsed by the NCEP Coordinating Committee at its October 5th meeting. The Cholesterol Adult Treatment Guidelines thus represents a true consensus position.

The panel carried out its work through a structure of three subcommittees: the Subcommittee on Prevalence, Detection, Diagnosis, and Evaluation, chaired by Dr. Stephen Hulley; the Subcommittee on Dietary Treatment, cochaired by Drs. Virgil Brown and Scott Grundy; and the Subcommittee on Drug Treatment, chaired by Dr. Donald Hunningshake. The guidelines developed by the panel and its subcommittees display several important characteristics:

1. The cutoffs or blood cholesterol levels that signal the need for further action are not age- or sex-specific. The panel chose to avoid a formal stratification of risk by age or sex, while at the same time mentioning these issues in the text, to develop an approach that is as uniform and as simple as current knowledge will allow.

2. Total cholesterol is used for initial case finding, while low density lipoprotein (LDL) cholesterol is used thereafter to refine the assessment of CHD risk and as the basis for decisions about cholesterol-lowering therapy. The panel felt that it was necessary to use the more specific determinant of CHD risk, LDL cholesterol, to define the trigger levels at which treatment should be initiated and the goal levels for serum cholesterol lowering. However, to make the approach as convenient as possible, the panel chose to use total cholesterol rather than LDL cholesterol as the basis for monitoring the progress of dietary therapy. This will be the cornerstone of cholesterol-lowering treatment for the vast majority of patients.

3. The guidelines incorporate the principle that risk factors other than the serum cholesterol level, such as hypertension or smoking, play a role in determining a person’s overall CHD risk. The presence of other major risk factors for CHD thus influences the choice of cutoffs and goals for cholesterol reduction.

4. The cutoffs and goals for drug treatment are set in such a way as to create a protective barrier to the overuse of cholesterol-lowering drugs. Without such a barrier, the panel felt that drugs might be used merely to achieve a cholesterol level goal which had not quite been reached by diet alone.

The report is intended as the centerpiece of an overall educational effort directed to health professionals and not as a stand-alone product. The NCEP plans to distribute to primary care practitioners a physician’s kit, which will contain the report and other related educational materials. To obtain a copy of the report, please write to: National Cholesterol Education Program, National Heart, Lung, and Blood Institute, C-200, Bethesda, Maryland 20892.

We are hopeful that the guidelines, together with materials in the physician’s kit and supporting activities such as CME modules, will help physicians integrate the detection and treatment of high blood cholesterol into their routine practices. If physicians make cholesterol reduction as standard a feature of their activities as hypertension treatment, the guidelines will have made a major contribution to decreasing the still-enormous toll from CHD.

Index Terms: coronary heart disease • NHLBI report • dietary therapy • drug therapy • blood cholesterol • cholesterol treatment guidelines
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