

AHA/ACC Guidelines for Preventing Heart Attack and Death in Patients With Atherosclerotic Cardiovascular Disease

A Statement for Healthcare Professionals From the American Heart Association and the American College of Cardiology

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Since the original publication (in 1995) of the American Heart Association (AHA) consensus statement on secondary prevention, which was endorsed by the American College of Cardiology (ACC), important evidence from clinical trials has emerged that further supports the merits of aggressive risk reduction therapies for patients with atherosclerotic cardiovascular disease. As noted in that statement, aggressive risk factor management clearly improves patient survival, reduces recurrent events and the need for interventional procedures, and improves the quality of life for these patients.

The compelling evidence from recent clinical trials was the impetus to revise the 1995 guidelines. As examples, the many lipid reduction trials have generated significant changes in the National Heart, Lung, and Blood Institute's Adult Treatment Panel III report. This report further defined target cholesterol levels, expanded indications for drug treatment, and initiated therapy earlier. Accumulating β -blocker data have resulted in broader indications for a larger patient group. The Heart Outcomes Prevention Evaluation (HOPE) trial has demonstrated the benefit of ACE inhibitor therapy in high-risk patients with cardiovascular disease without a history of an acute event. Further data from ongoing trials should provide insight into the potential benefits of treating lower risk patients with combined therapies. The Clopidogrel versus Aspirin in Patients at Risk of Ischemic Events (CAPRIE) trial has provided evidence for Clopidogrel benefit in certain patients. Diabetes management recommendations have been updated to include recent guidelines from the American Diabetes Association for risk factor management of diabetics and the growing body of evidence showing diabetics at high risk for cardiovascular events. The Heart and Estrogen/Progestin Replacement Study (HERS) documented that hormone replacement therapy is ineffective for secondary prevention. The writing group revising this document also considered other important trials and reports, and they are included in the selected reading list. In the six years since the guidelines were first published, two other developments have made them even more important in clinical care: the aging of the

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Goals	Intervention Recommendations					
<p>BP control: <u>Goal</u> < 140/90 mm Hg or < 130/85 mm Hg if heart failure or renal insufficiency < 130/80 mm Hg if diabetes</p>	<p>Initiate lifestyle modification (weight control, physical activity, alcohol moderation, moderate sodium restriction, and emphasis on fruits, vegetables, and low-fat dairy products) in all patients with blood pressure \geq 130 mm Hg systolic or 80 mm Hg diastolic. Add blood pressure medication, individualized to other patient requirements and characteristics (i.e., age, race, need for drugs with specific benefits) if blood pressure is not < 140 mm Hg systolic or 90 mm Hg diastolic or if blood pressure is not < 130 mm Hg systolic or 85 mm Hg diastolic for individuals with heart failure or renal insufficiency (< 80 mm Hg diastolic for individuals with diabetes). Refer to Seventh Report of the Joint National Committee on Prevention, Evaluation, and Treatment of High Blood Pressure (JNC7 August 2004) at http://www.nhlbi.nih.gov for further detail.</p>					
<p>Lipid management: <u>Primary goal</u> LDL < 100 mg/dL (Until on-going trials are completed, prudence requires that setting an LDL-C goal of < 70mg/dL for high-risk patients must be left as a therapeutic option on the basis of clinical trial evidence, whereas a goal of < 100 mg/dL can be retained as a strong recommendation. [refer to the NCEP report “Implications of Recent Clinical Trials for the NCEP ATP III Guidelines;” April, 2004.]</p>	<p>Start dietary therapy in all patients (< 7% saturated fat and < 200 mg/day cholesterol) and promote physical activity and weight management. Encourage increased consumption of omega-3 fatty acids. Assess fasting lipid profile in all patients, and within 24 hrs of hospitalization for those with an acute event. If patients are hospitalized, consider adding drug therapy on discharge. Add drug therapy according to the following guide:</p> <table border="1" data-bbox="522 1125 1520 1528"> <thead> <tr> <th data-bbox="522 1125 829 1528">LDL < 100 mg/dL (baseline or on-treatment) Further LDL-lowering therapy not required Consider fibrate or niacin or statin (if low HDL or high TG)</th> <th data-bbox="829 1125 1174 1528">LDL 100-129 mg/dL (baseline or on-treatment) Therapeutic options: Intensify LDL-lowering therapy (statin or resin*) Fibrate or niacin (if low HDL or high TG) Consider combined drug therapy (statin+fibrate or niacin)(if low HDL or high TG)</th> <th data-bbox="1174 1125 1520 1528">LDL \geq 130 mg/dL (baseline or on-treatment) Intensify LDL-lowering therapy (statin or resin*) Add or increase drug therapy with lifestyle therapies</th> </tr> </thead> </table>			LDL < 100 mg/dL (baseline or on-treatment) Further LDL-lowering therapy not required Consider fibrate or niacin or statin (if low HDL or high TG)	LDL 100-129 mg/dL (baseline or on-treatment) Therapeutic options: Intensify LDL-lowering therapy (statin or resin*) Fibrate or niacin (if low HDL or high TG) Consider combined drug therapy (statin+fibrate or niacin)(if low HDL or high TG)	LDL \geq 130 mg/dL (baseline or on-treatment) Intensify LDL-lowering therapy (statin or resin*) Add or increase drug therapy with lifestyle therapies
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<p>Lipid management: <u>Secondary goal</u> If TG \geq 200 mg/dL, then non-HDL_c should be < 130 mg/dL</p>	<p>If TG \geq 150 mg/dL or HDL < 40 mg/dL: Emphasize weight management and physical activity. Advise smoking cessation. If TG 200-499 mg/dL: Consider fibrate or niacin <i>after</i> LDL-lowering therapy* If TG \geq 500 mg/dL: Consider fibrate or niacin <i>before</i> LDL-lowering therapy* Consider omega-3 fatty acids as adjunct for high TG</p>					
<p>Smoking: <u>Goal</u> complete cessation</p>	<p>Assess tobacco use. Strongly encourage patient and family to stop smoking and to avoid secondhand smoke. Provide counseling, pharmacological therapy, including nicotine replacement and bupropion, and formal smoking cessation programs as appropriate.</p>					

Goals	Intervention Recommendations
<p>Diabetes management: <u>Goal</u> HbA_{1c} < 7%</p>	<p>Appropriate hypoglycemic therapy to achieve near-normal fasting plasma glucose, as indicated by HbA_{1c} of < 7%. 2004 ADA Guidelines advise that more stringent goals (i.e. a normal A_{1c}, < 6%) can be considered in individual patients. Treatment of other risks (e.g., physical activity, weight management, blood pressure, and cholesterol management).</p>
<p>Physical activity: <u>Minimum goal</u> 30 minutes 3 to 4 days per week <u>Optimal</u> daily</p>	<p>Assess risk, preferably with exercise test, to guide prescription. Encourage minimum of 30 to 60 minutes of activity, preferably daily, or at least 3 or 4 times weekly (walking, jogging, cycling, or other aerobic activity) supplemented by an increase in daily lifestyle activities (e.g., walking breaks at work, gardening, household work). Advise medically supervised programs for moderate to high-risk patients.</p>
<p>Weight management: <u>Goal</u> BMI 18.5 - 24.9 kg/m²</p>	<p>Calculate BMI and measure waist circumference as part of evaluation. Monitor response of BMI and waist circumference to therapy. Start weight management and physical activity as appropriate. Desirable BMI range is 18.5 - 24.9. When BMI ≥ 25, goal for waist circumference is ≤ 40 inches in men and ≤ 35 inches in women.</p>
<p>Antiplatelet agents/ anticoagulants:</p>	<p>Start and continue indefinitely aspirin 81 to 325 mg/d if not contraindicated. Consider Clopidogrel 75 mg/d or warfarin if aspirin contraindicated. Manage warfarin to international normalized ratio = 2.0 to 3.0 in post-MI patients when clinically indicated or for those not able to take aspirin or Clopidogrel.</p>
<p>ACE inhibitors:</p>	<p>Treat all patients indefinitely post MI; start early in stable high-risk patients (anterior MI, previous MI, Killip class II [S₃ gallop, rales, radiographic CHF], those with CAD who also have diabetes and/or left ventricular systolic dysfunction). Consider chronic therapy for all other patients with coronary or other vascular disease unless contraindicated.</p>
<p>β-Blockers:</p>	<p>Start in all post-MI and acute ischemic syndrome patients. Continue indefinitely. Observe usual contraindications. Use as needed to manage angina, rhythm, or blood pressure in all other patients.</p>
<p>Hormone Therapy:</p>	<p>Combined estrogen plus progestin hormone therapy should not be initiated or continued to prevent CVD in postmenopausal women. Other forms of menopausal hormone therapy (e.g., unopposed estrogen) should not be initiated or continued to prevent CVD in postmenopausal women pending the results of ongoing trials.</p>

BP indicates blood pressure; TG, triglycerides; BMI, body mass index; HbA_{1c}, major fraction of adult hemoglobin; MI, myocardial infarction; and CHF, congestive heart failure.

*The use of resin is relatively contraindicated when TG > 200 mg/dL.

†Non-HDL cholesterol = total cholesterol minus HDL cholesterol.

population continues to expand the number of patients living with a diagnosis of cardiovascular disease (now estimated at 13 million), and the multiple studies of the actual use of these recommended therapies in appropriate patients, while showing slow improvement, have continued to support the discouraging conclusion that a large proportion of patients in whom therapies are indicated are not receiving those therapies in actual clinical practice. The AHA and ACC continue to urge that all medical care settings in which these patients are managed organize a specific plan to identify appropriate patients, provide practitioners with useful reminder clues based on the guidelines, and continuously assess the success achieved in providing all appropriate therapies to all of the patients who can benefit from them.

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