

# AHA/ACC Updated Guidelines for Secondary Prevention

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Stimulated by compelling evidence from recent clinical trials, the American Heart Association (AHA) and the American College of Cardiology (ACC) have updated their 1995 guidelines for prevention of recurrent heart attacks and death in patients with known atherothrombotic vascular disease (secondary prevention).

## **New Guidelines:**

The new guidelines<sup>1</sup> (p. 2) emphasize aggressive control of cardiovascular disease risk factors, and urge the wider use of beta-blockers (BBs) and ACE inhibitors. The use of BBs should no longer be limited to just post-MI and acute coronary syndrome survivors, but should be expanded to most coronary heart disease (CHD) patients. Similarly, ACE inhibitors are now indicated for all post-MI patients and those with any atherothrombotic disease (symptomatic carotid vascular disease, previous stroke or transient ischemic attack, peripheral vascular disease, and abdominal aortic aneurysm), not just those with high blood pressure or heart failure. Specific medications and dosages are covered in *Heartbeat 58 – ABC'S of Post-MI Treatment*<sup>2</sup>.

The guidelines also include recent recommendations from the National Heart, Lung, and Blood Institute (Adult Treatment Panel III [ATP III])<sup>3</sup>, which expanded the indications for drug treatment and recommended earlier initiation of therapy for dyslipidemia. If patients are hospitalized for an acute event, a complete lipid profile is recommended within 24 hours, and early initiation of statin treatment should be considered before discharge. (SJHG starts the statin

immediately, and all patients are discharged on a statin.) The primary goal of lipid management is an LDL-C of < 100mg/dL.

The relationship of high triglycerides (TG) to increased risk is now recognized. The secondary goal in a patient with a TG of > 200mg/dL is a non-HDL-C goal of < 130mg/dL. (For practical clinical application, this means that the TG goal is < 130mg/dL when TG are > 200mg/dL in patients being treated for secondary prevention.)

## **Butt Out, Get Moving, and Slim Down:**

As in 1995, the guidelines urge smoking cessation. In addition, they now caution patients to avoid secondhand smoke. To achieve this, they recommend counseling, pharmacological therapy, including nicotine replacement and bupropion, and smoking cessation programs.

The new guidelines place much more emphasis on exercise, recommending an exercise stress test to assess risk and guide prescription. Aerobic exercise for 30 to 60 minutes daily, a minimum 4x per week is encouraged. Physicians must really push these patients toward daily physical activity and an increase in daily lifestyle activities.

The guidelines also tackle the obesity epidemic. They recommend dieting and exercise for weight reduction to achieve a goal basal metabolic index (BMI) of 18.5 to 24.5 kg/m<sup>2</sup>. Calories eaten have to be less than calories “burned”. (Dr. William Castelli suggests there is a strong correlation between going to the “Golden Arches” and passing through the “Pearly Gates”.)

## AHA/ACC Secondary Prevention for Patients With Coronary and Other Vascular Disease: 2001 Update

Goals	Intervention Recommendations		
<b>Smoking:</b> <u>Goal</u> Complete cessation	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		
<b>BP control:</b> <u>Goal</u> <140/90 mm Hg or <130/85 mm Hg if heart failure or renal insufficiency. <130/80 mm Hg if diabetes	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).		
<b>Lipid management:</b>  <u>Primary goal</u> LDL <100 mg/dL	Start dietary therapy in all patients (<7% saturated fat and <200 mg/d 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 hr of hospitalization of those with an acute event. If patients are hospitalized, consider adding drug therapy on discharge. Add drug therapy according to the following guide:		
	LDL 100 mg/dL (baseline or on-treatment) Further LDL-lowering therapy not required Consider fibrate or niacin (if low HDL or high TG)	LDL 100–129 mg/dL (baseline or on-treatment) <u>Therapeutic options:</u> 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
<b>Lipid management:</b> <u>Secondary goal</u> If TG $\leq$ 200 mg/dL, then non-HDL <sup>†</sup> should be <130 mg/dL.	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 after LDL-lowering therapy* If TG $\geq$ 500 mg/dL: Consider fibrate or niacin before LDL-lowering therapy* Consider omega-3 fatty acids as adjunct for high TG		
<b>Physical activity:</b> <u>Minimum goal</u> 30 min. 3-4 days/week <u>Optimal</u> –daily	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.		
<b>Weight management:</b> <u>Goal:</u> BMI 18.5–24.9 kg/m <sup>2</sup>	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: 18.5–24.9 kg/m <sup>2</sup> When BMI $\geq$ 25 kg/m <sup>2</sup> , goal for waist circumference is $\leq$ 40 inches in men and $\leq$ 35 inches in women		
<b>Diabetes management:</b> <u>Goal:</u> HbA <sub>1c</sub> < 7%	Appropriate hypoglycemic therapy to achieve near-normal fasting plasma glucose, as indicated by HbA <sub>1c</sub> . Treatment of other risks (e.g., physical activity, weight management, blood pressure, and cholesterol management).		
<b>Anti-platelet agents/ anticoagulants:</b>	Start and continue indefinitely aspirin 75 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.		
<b>ACE inhibitors:</b>	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]). Consider chronic therapy for all other patients with coronary or other vascular disease unless contraindicated.		
<b>Beta-Blockers:</b>	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.		

BP indicates blood pressure; TG, triglycerides; BMI, body mass index; HbA<sub>1c</sub>, 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.

Dr. Castelli, one of the original Framingham investigators, recommends aggressive lifestyle changes and uses LDL-C and TG goals of 80 mg/dL and 120 mg/dL respectively (both < ATP III guidelines). He feels, based on his interpretation of the data, that many more events could be prevented, at lower cost. Outcomes data are pending.

## Get with it

The AHA and ACC recently launched a project called “Get With the Guidelines.” Its purpose is to provide teaching and training to hospitals in using these updated guidelines. The key to prevention and survival is to provide patients with immediate and thorough treatment before they leave the hospital. We must take advantage of that window of opportunity. Using the guidelines can make a significant difference. Tens of thousands of lives could be saved if these guidelines are used on a national basis.

## Conclusions:

Based on the evidence, aggressive risk-factor modification clearly improves patient survival; reduces recurrent MI, strokes, and the need for interventional procedures; and improves quality of life. Early treatment with an organized hospital program, as shown with Dr. Gregg Fonarow’s Cardiac Hospital Atherosclerosis Management Program (CHAMP)<sup>4</sup>, improves compliance with underused evidence-based therapy and lifestyle

changes, and results in significantly improved outcomes.

The interventional approach, which could be compared to the Mark Twain quote, “To a man with a hammer every nail looks like it needs driving”, is losing momentum. The intense use of evidence-based therapies and follow-up care is as important, and maybe more important, than revascularization procedures in driving differences in outcomes.

The new guidelines call for more vigorous blood sugar and blood pressure control, earlier and more aggressive lipid management, and wider use of ACE inhibitors and beta-blockade for secondary prevention of CHD events.

The authors urge that the updated recommendations be implemented in all medical care settings, and that physicians, “continuously assess the success achieved in providing all appropriate therapies to all of the patients who can benefit from them.”

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*Heartbeats* are available at  
[www.newsrounds.com](http://www.newsrounds.com) under “Cardiology”  
“Heartbeat Library”

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<sup>1</sup> Smith SC, et al. AHA/ACC Guidelines for Preventing Heart Attack and Death in Patients with Atherosclerotic Disease: 2001 Update. *Circulation* Sept 25 2001; 104 (13): 1577-79.

<sup>2</sup> Maiese ML. The ABC’S of Post-MI Treatment. *Heartbeat* May 2001; #58.  
<http://www.newsrounds.com/> under Cardiology –*Heartbeat Library*.

<sup>3</sup> Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults. Executive Summary of the Third Report of the National Cholesterol Educational Program (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel or ATP III). *JAMA* May 16 2001; 285:2486-97.

<sup>4</sup> Fonarow GC et al. Improved treatment of coronary heart disease by implementation of a Cardiac Hospitalization Atherosclerosis Management Program (CHAMP). *Am J Cardiol* April 2001; 87:819-21.