A Quick Guide to the 2013 ACC/AHA Prevention Guidelines

New guidelines recently released by the American College of Cardiology (ACC) and the American Heart Association (AHA) focus on four new cardiac prevention guidelines, including (1) Assessment of Cardiovascular Risk (PDF | Full Work Group Report); (2) Treatment of Blood Cholesterol to Reduce Atherosclerotic Cardiovascular Risk in Adults (PDF | Full Work Group Report); (3) Management of Overweight and Obesity in Adults (PDF | Full Work Group Report); (4) Lifestyle Management to Reduce Cardiovascular Risk (PDF | Full Work Group Report).

Here are the main highlights:

- **Assessment of Cardiovascular Risk & Treatment of Blood Cholesterol**: Moves away from achieving target cholesterol levels, and instead, assesses cardiovascular risk factors. The ACC/AHA have published an online calculator to help determine cardiac and stroke risk. The guidelines set thresholds for the 10-year risk of heart disease and stroke at 7.5 percent or higher, and recommend a tiered system of statins therapy to reduce risk.

- **Management of Overweight and Obesity in Adults**: Provides evidence-based lifestyle management guidelines targeting cardiovascular risk reduction, including dietary and physical activity recommendations specific to reducing LDL-C and blood pressure in targeted subgroups (gender, race/ethnic, adults, and children).

- **Lifestyle Management to Reduce Cardiovascular Risk**: Focuses on establishing a weight loss maintenance plan for overweight and obese patients with cardiovascular risk factors through the use of prescribed caloric-restricted diets and physical activity regimens, high intensity comprehensive weight loss interventions via individual or group by a trained interventionist, and bariatric surgery for select groups.

An excellent review and summary of these reports for providers and patients, compiled by the ACC, can be found on the ACC In Touch Blog (click here, or see below).

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**ACC’s “10 Points to Remember” about the 2013 ACC/AHA Prevention Guidelines**

1. The 2013 ACC/AHA Expert Work Group endorsed the existing and widely employed paradigm of matching the intensity of preventive efforts with the individual’s absolute risk. The group also recognized that none of the risk assessment tools or novel risk markers examined or recommended has been formally evaluated in randomized controlled trials of screening strategies with clinical events as outcomes (click here for online calculator).

2. New Pooled Cohort Equations were established for estimating the 10-year risk of developing atherosclerotic cardiovascular disease (ASCVD). Ten-year risk was defined as the risk of a first ASCVD event including nonfatal myocardial infarction or coronary heart disease death, or fatal or nonfatal stroke among people free from ASCVD at the beginning of the period. Equations were developed from sex- and race-specific proportional hazards models that included the covariates of age, treated or untreated systolic blood pressure level, total cholesterol and high-density lipoprotein cholesterol (HDL-C) levels, current smoking status (Y/N), and history of diabetes (Y/N). Case example: a 55-year-old White man with total cholesterol 213 mg/dl, HDL-C 50 mg/dl, untreated systolic blood pressure 120 mm Hg, nonsmoker, and without diabetes has a 10-year risk of 5.3%, and women with similar data, a 2.1% risk.

3. Risk estimation is based on group averages that are then applied to individual patients in practice. The approach balances an understanding of an individual’s absolute risk for CVD and potential treatment benefits against the potential absolute risks for harm from therapy. Using this framework, treatment can be targeted to those most likely to benefit without undue risk for harm, in the context of a “risk discussion.”
4. A risk discussion could include the assessment of the patient’s risk for ASCVD, and potential benefits, negative aspects, risks, and patient preferences regarding initiation of relevant preventive therapies. Only a small fraction of trial participants have events, and only a fraction of these events are prevented by therapy. Using either approach, the clinician must apply the average results obtained from groups of patients to the individual patient in practice.

5. The race- and sex-specific Pooled Cohort Equations to predict 10-year risk for a first hard ASCVD event should be used in non-Hispanic African Americans and non-Hispanic Whites, 40-79 years of age. Use of the sex-specific Pooled Cohort Equations for non-Hispanic Whites may be considered when estimating risk in patients from populations other than African Americans and non-Hispanic Whites.

6. If, after quantitative risk assessment, a risk-based treatment decision is uncertain, assessment of one or more of the following—family history, high-sensitivity C-reactive protein, coronary artery calcium score, or ankle-brachial index—may be considered to inform treatment decision making.

7. The contribution to risk assessment for a first ASCVD event using apolipoprotein B, chronic kidney disease, albuminuria, and cardiorespiratory fitness is uncertain at present.

8. Carotid intima-media thickness is not recommended for routine measurement in clinical practice for risk assessment for a first ASCVD event.

9. It is reasonable to assess traditional ASCVD risk factors every 4-6 years in adults 20-79 years of age who are free from ASCVD, and to estimate 10-year ASCVD risk every 4-6 years in adults 40-79 years of age without ASCVD.

10. Assessing 30-year or lifetime ASCVD risk based on traditional risk factors may be considered in adults 20-59 years of age without ASCVD, and who are not at high short-term risk.

***For patient education materials on guideline, see ACC’s CardioSmart Summary for Patients (click here).
maintenance of a healthy weight) remains a critical component of health promotion and ASCVD risk reduction, both prior to and in concert with the use of cholesterol-lowering drug therapies.

5. There is no evidence to support continued use of specific LDL-C and/or non–high-density lipoprotein cholesterol (non–HDL-C) treatment targets. The appropriate intensity of statin therapy should be used to reduce risk in those most likely to benefit. Nonstatin therapies, whether alone or in addition to statins, do not provide acceptable ASCVD risk reduction benefits compared to their potential for adverse effects in the routine prevention of ASCVD.

6. This guideline recommends use of the new Pooled Cohort Equations to estimate 10-year ASCVD risk in both white and black men and women. By more accurately identifying higher risk individuals for statin therapy, the guideline focuses statin therapy on those most likely to benefit. It also indicates, based on RCT data, those high-risk groups that may not benefit.

7. No recommendations are made to inform treatment decisions in selected individuals who are not included in the four statin benefit groups. In these individuals whose 10-year risk is <7.5% or when the decision is unclear, other factors including family history of premature ASCVD, LDL-C >160 mg/dl, high-sensitivity C-reactive protein ≥2 mg/dl, coronary calcium score ≥300 Agatston units or ≥75th percentile for age, sex, ethnicity, and ankle-brachial index <0.9, or elevated lifetime risk of ASCVD may be used to enhance the treatment decision making.

8. High-intensity statin therapy is defined as a daily dose that lowers LDL-C by ≥50% and moderate-intensity by 30% to <50%. All patients with ASCVD who are age ≤75 years, as well as patients >75 years, should receive high-intensity statin therapy; or if not a candidate for high-intensity, should receive moderate-intensity statin therapy.

9. Those with an LDL-C ≥190 mg/dl should receive high-intensity or moderate-intensity statin therapy, if not a candidate for high-intensity statin therapy. Addition of other cholesterol-lowering agents can be considered to further lower LDL-C. Diabetics with a 10-year ASCVD ≥7.5% should receive high-intensity statins and <7.5% moderate-intensity statin therapy. Persons 40-75 years with a ≥7.5% 10-year ASCVD risk should receive moderate- to high-intensity statin therapy.

10. The following are no longer considered appropriate strategies: treat to target, lower is best, treat to level of ASCVD risk, and based upon lifetime risk of ASCVD. The guidelines provided no recommendations for initiating or discontinuing statins in NYHA class II-IV ischemic systolic heart failure patients or those on maintenance hemodialysis.

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3. Waist circumference should be measured at annual visits or more frequently in overweight and obese adults. Cut points for increased waist circumference defined by the National Institutes of Health or World Health Organization can be used. Patients who have an increased waist circumference should be counseled that their BMI level places them at increased risk for CVD, type 2 diabetes, and all-cause mortality.

4. Overweight and obese adults with CVD risk factors (including elevated blood pressure, hyperlipidemia, and hyperglycemia) should be counseled that even modest weight loss (3-5% of body weight) can result in clinically meaningful benefits for triglycerides, blood glucose, glycated hemoglobin, and development of diabetes (type 2). Greater weight loss (>5%) can further reduce blood pressure, improve lipids (both low-density lipoprotein and high-density lipoprotein cholesterol), and reduce need of medications to control blood pressure, blood glucose, and lipids.

5. A diet prescribed for weight loss is recommended to be part of a comprehensive lifestyle intervention, a component of which includes a plan to achieve reduced caloric intake. Any one of the following methods can be used to reduce food and calorie intake:
   i. Prescribe 1,200-1,500 kcal/day for women and 1,500-1,800 kcal/day for men (kcal levels are usually adjusted for the individual’s body weight);
   ii. Prescribe a 500 kcal/day or 750 kcal/day energy deficit; or
   iii. Prescribe one of the evidence-based diets that restricts certain food types (such as high-carbohydrate foods, low-fiber foods, or high-fat foods) in order to create an energy deficit by reduced food intake.

6. Prescribing a calorie-restricted diet should be based on the patient’s preferences, health status, and preferably with a referral to a nutrition professional for counseling.

7. Overweight and obese adults who would benefit from weight loss are recommended to participate in at least 6 months of a comprehensive lifestyle program, which assists participants to adhere to a lower calorie diet and to increase physical activity. Such programs are recommended to include high-intensity (i.e., ≥14 sessions in 6 months), comprehensive weight loss interventions provided in individual or group sessions by a trained interventionist. Electronically delivered weight loss programs (including by telephone) that include personalized feedback from a trained interventionist can be prescribed for weight loss, but may result in smaller weight loss than face-to-face interventions. Some commercial-based programs that provide a comprehensive lifestyle intervention can be prescribed as an option for weight loss, provided there is peer-reviewed published evidence of their safety and efficacy.

8. It is recommended that very low-calorie diets (defined as <800 kcal/day) be used only when medical monitoring and trained providers are available, and only as part of a high-intensity lifestyle intervention.

9. Weight loss maintenance is recommended to be a component of patients’ overall weight loss plan. Participation in a long-term (≥1 year) comprehensive weight loss maintenance program is strongly recommended. Programs should include regular contact with trained personnel, face-to-face or telephone-delivered, to encourage high levels of physical activity (200-300 minutes/week), monitor body weight (at least weekly), and adhere to a reduced-calorie diet (needed to maintain lower body weight).

10. Among adults with a BMI ≥40 or BMI ≥35 with obesity-related comorbid conditions, who have not responded to behavioral treatments with or without pharmacotherapy, bariatric surgery may be an appropriate option. For individuals with a BMI <35, there is insufficient evidence to recommend for or against undergoing bariatric surgical procedures.

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Lifestyle Management to Reduce Cardiovascular Risk (PDF | Full Work Group Report)

1. The 2013 ACC/AHA Expert Work Group’s intent was to evaluate evidence that particular dietary patterns, nutrient intake, and levels and types of physical activity can play a major role in cardiovascular disease (CVD) prevention and treatment through effects on modifiable CVD risk factors. The evidence statements and recommendations are presented by critical
questions and grouped by topic. **Three primary critical questions** were addressed:

i. Among adults, what is the effect of dietary patterns and/or macronutrient composition on CVD risk factors, when compared to no treatment or to other types of interventions?

ii. Among adults, what is the effect of dietary intake of sodium and potassium on CVD risk factors and outcomes, when compared to no treatment or to other types of interventions?

iii. Among adults, what is the effect of physical activity on blood pressure and lipids when compared to no treatment, or to other types of interventions?

2. Dietary recommendations to lower low-density lipoprotein cholesterol (LDL-C) include consumption of a diet high in vegetables, fruits, and whole grains. Dairy products should be low-fat. Fish, legumes, and poultry are recommended sources of protein. Vegetable oils and nuts provide healthy type oils. Limitation of sugar-sweetened beverages and red meats is recommended. There is insufficient evidence to determine whether low-glycemic diets versus high-glycemic diets affect lipids or blood pressure for adults without diabetes mellitus. The evidence for this relationship in adults with diabetes mellitus was not reviewed.

3. Additional recommendations to lower LDL-C include a dietary pattern that achieves 5-6% of calories from saturated fat. Reduction in trans-fat was also recommended.

4. This dietary pattern should be adapted for the appropriate calorie requirements, personal and cultural food preferences, and nutrition therapy for other medical conditions. This dietary pattern can be achieved by following the DASH dietary pattern, the USDA Food Pattern, or the AHA Diet.

5. Dietary recommendations to lower blood pressure are similar to those for LDL-C lowering, with added recommendations for sodium intake. Consumption of no more than 2,400 mg of sodium/day is recommended. Further reduction of sodium intake to 1,500 mg/day is associated with even greater reduction in blood pressure, and is recommended if achievable by the patients.

6. For blood pressure lowering, if recommended goals for sodium are not attainable, reducing sodium intake by at least 1,000 mg/day lowers blood pressure. A reduction in sodium intake of approximately 1,000 mg/day reduces CVD events by approximately 30%.

7. Combining the DASH dietary pattern with lower sodium intake is recommended for lowering blood pressure.

8. Recommendations to improve lipids with physical activity were also provided. These include regular aerobic physical activity, 3-4 sessions a week, lasting on average 40 minutes per session, and involving moderate- to vigorous-intensity physical activity. This level of physical activity can reduce both LDL-C and non–high-density lipoprotein cholesterol.

9. Recommendations to improve blood pressure include the same level and duration of physical activity. Again, this includes aerobic activity, 3-4 sessions a week, lasting on average 40 minutes per session, and involving moderate- to vigorous-intensity physical activity.

10. The DASH dietary pattern is beneficial for a wide range of subgroups, including women and men; African American and non–African American adults; older and younger adults; and hypertensive and nonhypertensive in lowering blood pressure. A similar pattern is observed for LDL-C lowering for African American and non–African American adults, and hypertensive and nonhypertensive adults.

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