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Heart of a Woman: 2011 Guidelines for CVD Prevention



Medical myths die hard, and one of the biggest is that heart disease mostly affects men. That's not even remotely true. In many countries, including the U.S., more women than men die of cardiovascular disease (CVD). For example, 34 million U.S. women have CVD, about 34% - one out of every three! Despite significant progress in the awareness, treatment and prevention of CVD in women, in 2007 CVD still caused approximately one death/minute among U.S. women. Women's heart disease is still greatly under-recognized and under-treated. This *Heartbeat* will review the highlights of the recently released American Heart Association (AHA) 2011 Guidelines for CVD prevention in women.¹

Most CVD in women is preventable. This 2011 update provides the most current clinical recommendations for the prevention of CVD in women based on an extensive review of the literature. In the 2011 update the authors widened their focus to include data on effectiveness (observed clinical benefits and risks) as well as on efficacy (results of controlled trials).

Consequently, the revision incorporates several new strategies for the prevention of CV events in women. These guidelines update the algorithm for the prevention of CVD and present a new scheme for classification of risk in women. Gone are the terms "low risk" and "intermediate risk"; women now either have *ideal cardiovascular health* or are *at risk* or *high risk* for cardiovascular events. The guidelines also set the most aggressive intervention targets to date and highlight the need for sustained population-level initiatives.

High Risk:

Women with a 10-year predicted risk for cardiovascular disease of $\geq 10\%$ (as opposed to a 10-year risk for coronary heart disease of $\geq 20\%$) ***are now considered at high risk.*** There are two main reasons for this. First, the primary risk assessment tools that are used tend to underestimate risk in women (Framingham and Reynold's risk scores).² Secondly, the ratio of stroke to heart attacks is always higher in women than in men and this guideline encompasses that in the risk assessment. The recommended goal LDL-C is $< 70\text{mg/dL}$ but the non-HDL-C goal is kept at $< 130\text{ mg/dL}$ instead of as one would expect $< 100\text{ mg/dL}$ (as per NCEP ATP-III). Most lipidologists now agree that non-HDL-C is a much better surrogate than LDL-C for

lipid risk especially in those with high triglycerides and low HDL-Cs.

At Risk

In the at-risk category, hypertension and hypercholesterolemia are specifically defined, and evidence of subclinical atherosclerosis now includes carotid plaque as well as coronary calcification. In addition, *systemic autoimmune collagen-vascular disease* and *history of any pregnancy complications* (preeclampsia, gestational diabetes, pregnancy-induced hypertension, and/or birth of a pre-term infant or an infant who is small for their gestational age or bleeding in the third trimester) *are included as risk factors* in this category and these women are at increased risk of CVD.

Ideal CV Health:

A new concept in the 2011 guidelines is *Ideal CV health* which is defined as absence of clinical CVD and the presence of all ideal levels of total cholesterol, blood pressure, and fasting blood glucose, as well as adherence to healthy behaviors—meeting *all* of the following criteria:

- Non-HDL level <130 mg/dL (untreated)
- Blood pressure <120/80 mm Hg (untreated)
- Fasting blood glucose level <100 mg/dL (untreated)
- Body-mass index <25 kg/m²
- Abstinence from smoking
- Physical activity at goal for adults aged >20
- A diet similar to Dietary Approaches to Stop Hypertension (DASH)

Lifestyle interventions

Stronger recommendations are made for increased exercise. Providers are advised to

consistently encourage women to accumulate at least 150 minutes of moderate or 75 minutes of vigorous exercise per week (for additional benefit, 300 minutes of moderate or 150 minutes of vigorous exercise per week are recommended), and to sustain aerobic activities for at least 10 minutes per episode. In addition, women should be encouraged to perform strengthening exercises involving all major muscle groups at least 2 days per week.

Diet recommendations are more stringent and prescriptive than in previous guidelines:

- Fruits and vegetables, ≥4.5 cups per day
- Fiber, 30 g per day (1.1 g fiber/10.0 g carbohydrate)
- Whole grains, 3 servings per day
- Sugar, ≤5 servings (1 T.) per week
- Nuts, ≥4 servings per week
- Saturated fat, <7% of total energy intake
- Cholesterol, <150 mg per day
- Sodium, <1500 mg (1 teaspoon) per day

The guidelines continue to emphasize avoidance of therapies without demonstrated benefit or with risks that outweigh their benefits (Class III interventions):

- non-contraceptive hormone therapy outside of indications for menopausal symptoms
- Antioxidant vitamin supplements
- Folic acid supplements, except during childbearing years to prevent neural tube defects in offspring
- Routine use of aspirin in healthy women aged <65

Thresholds softened

ASA: The data on the benefits for aspirin in diabetics and balancing the risks are not as strong as they are for women with CVD. The recommendations for use of aspirin in

primary prevention for patients with diabetes should incorporate risk stratification. First off, for secondary prevention (post diagnosis of CAD or other vascular disease) ASA is CLEARLY indicated and recommended. This statement is about primary prevention. Previously, it was assumed that diabetes is bad and a "CAD risk equivalent" - and as such should be treated with the same level of intensity. However, several new studies have found that (fortunately) patients with DM without CAD are actually lower risk than those with CAD. So - what about ASA? Well - two studies have recently failed to show benefit - so people have wondered if there is any benefit. What is then seen is that there is benefit if the patients risk is high. So the recommendations say - do a risk assessment. If it is >10% - treat with ASA, If 5-10% CONSIDER using ASA and <5% DON'T use ASA. These same recommendations would 'fit' for goals of lipid-lowering therapy.

HbA1c: The recommendation for glycemic control in diabetes (HbA1c < 7%) is also softened because there may be adverse effects of too aggressive control in some women.

Statins: Another new but soft recommendation is for the use of statins in primary prevention in women without raised cholesterol but who have an elevated cardio CRP—the Jupiter type population.

Dr Lori Mosca (Columbia University, New York, NY), lead author of the manuscript: "The rationale for this is that the absolute benefit is very small, even though the proportional risk reduction is very high. We want doctors to recognize that the long-term side effects and cost [of statins] might outweigh the benefits. We give it a softer recommendation than we might have

because of our shift toward 'real-world' issues." *Another viewpoint is that statins have been proven very safe and that most of the benefit seen in Jupiter could be attained with a generic statin making that cost to benefit ratio more optimal.*

And finally, she says, "We really make a call to action that future research should publish both efficacy and adverse drug reactions by gender. While doctors are getting better at publishing sex-specific efficacy analyses, it's very rare to see side-effect data by gender, and that's important," she concludes.

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¹Mosca L et al. Effectiveness-based guidelines for the prevention of cardiovascular disease in women — 2011 update: A guideline from the American Heart Association. *Circulation* 2011 Feb 16 [e-pub ahead of print]. (<http://dx.doi.org/10.1161/CIR.0b013e31820faaf8>).

²Maiese ML. Highlights of the 2010 ACC/AHA Guidelines for the Assessment of CV Risk. *Heartbeat* February 2011; #147. www.sjhg.org. Heartbeats.