American Heart Association Guidelines

Evidence Based Guidelines for Cardiovascular Disease Prevention in Women

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AHA Guidelines for Women and CHD

Classification of Evidence

- Classification
  - Class Ia — Intervention is useful and effective
  - Class IIa — Weight of evidence is in favor of efficacy
  - Class IIb — Efficacy is less well established
  - Class III — Intervention is not useful and may be harmful

Mosca, L. et al. Circulation 2004;109:672-693

AHA Guidelines for Women and CHD

Level of Evidence

- Level
  - A — Sufficient evidence from multiple randomized trials
  - B — Limited evidence from a single randomized trial
  - C — Based on expert opinion, case studies or standard of care

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AHA Guidelines for Women and CHD

Generalizability Index

- Index
  - 1 Very likely that results generalize to women
  - 2 Somewhat likely that results generalize to women
  - 3 Unlikely that results generalize to women
  - 0 Unable to project whether results project to women

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AHA Guidelines for Women and CHD

CVD Statistics

- CVD remains the leading cause of death in women
- > 500,000 women a year die
  - One death every minute
- Coronary Heart Disease accounts for the majority of CVD deaths
- 2/3 of women who die suddenly have no warning symptoms

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CVD Prevention Strategies for Clinical Practice

- Assess and stratify women into high, intermediate, lower or optimal risk categories
- Lifestyle approaches (cigarette cessation, regular exercise, weight management, and heart healthy diet) to prevent CVD are Class I recommendations for all women and a **top priority** in clinical practice

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CVD Prevention Strategies for Clinical Practice

- Other CVD risk-reducing interventions should be prioritized on the basis of the strength of recommendation (Level I >IIa >IIb) and within each class on the basis of the evidence, with the exception of lifestyle which is a top priority for all women (A>B>C)

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CVD Prevention Strategies for Clinical Practice

- Highest priority for risk intervention in clinical practice is based on risk stratification with
  - High > intermediate > Low > optimal
- **Avoid interventions** designated as Class III

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Spectrum of CVD Risk in Women

Framingham Global Risk > 20%

- Established CHD
- Cerebrovascular disease
- Peripheral vascular disease
- Abdominal aortic aneurysm
- Diabetes mellitus
- Chronic kidney disease
- Subclinical CVD with > 20% Framingham risk

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Spectrum of CVD Risk in Women

Framingham Global Risk > 20%

- Cerebrovascular disease may not confer CHD risk if the disease is above the carotids
- As chronic kidney disease deteriorates, CHD risk rises substantially
- Most women with a single, severe risk factor have a CVD risk < 10% per decade

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Spectrum of CVD Risk in Women

Framingham Global Risk > 10 - 20%

- Subclinical CVD (+ coronary calcification)
- Metabolic Syndrome
- Multiple risk factors
- Markedly elevated levels of a single risk factor
- First degree relatives with early onset atherosclerosis (< 55 in men and 65 in women)

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Spectrum of CVD Risk in Women

Framingham Global Risk < 10 %

- May include women with multiple risk factors, metabolic syndrome or one or no risk factors

Framingham Global Risk < 10 %

- Optimal levels of risk factors and heart healthy lifestyle

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AHA Guidelines for Women and CHD

Clinical Recommendations

Lifestyle Interventions

- Cigarette Smoking (Class I, Level B, GI 1)
  - Encourage cessation
- Physical Activity (Class I, Level B, GI 1)
  - Minimum of 30 minutes moderate intensity activity seven days a week
- Cardiac Rehabilitation (Class I, Level B, GI 2
  - Comprehensive risk reduction setting for women after ACS, coronary intervention or new onset or chronic angina)

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Clinical Recommendations

Lifestyle Interventions

- **Heart Healthy Diet** (Class I, Level B, GI 1)
  - Encourage fruits, vegetables, whole grains, low-fat or non-fat dairy, fish, legumes and sources of protein low in saturated fat
  - Limit fat intake to less than 10% of total calories
  - Limit cholesterol intake to < 300 mg/day
  - Limit intake of trans-fats
- **Weight maintenance or reduction** (Class I, Level B, GI 1)
  - Maintain BMI between 18.5 & 25 Waist < 35”

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Clinical Recommendations

Lifestyle Interventions

- **Psychosocial Factors** (Class IIa, Level B, GI 2)
  - Women with CVD should be evaluated for depression and treated or referred if present
- **Omega-3 Fatty Acids** (Class IIb, Level B, GI 2)
  - As an adjunct to diet, omega-3 FA may be considered in high-risk women
- **Folic Acid** (Class IIb, Level B, GI2)
  - As an adjunct to diet folic acid supplementation may be considered in high risk women (except after revascularization) if a higher than normal level of homocysteine has been detected

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Clinical Recommendations

Major Risk Factor Interventions

- **Blood Pressure: Lifestyle** (Class I, Level B, GI 1)
  - Encourage a BP of < 120/80 through lifestyle approaches
- **Blood Pressure: Drugs** (Class I, Level A, GI 1)
  - Indicated when BP ≥ 140/90 or even lower in evidence of target organ damage or diabetes. Thiazide diuretics should be part of the regimen for most patients unless contraindicated

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AHA Guidelines for Women and CHD

Clinical Recommendations

Major Risk Factor Interventions

- Lipids - Lipoproteins: (Class I, Level B, GI 1)
  - Optimal levels of lipids and lipoproteins in women:
    - LDL-C < 100 mg/dL
    - HDL-C > 50 mg/dL
    - TG < 150 mg/dL
    - Non HDL-C < 130 mg/dL
  - Should be encouraged through lifestyle approaches

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Clinical Recommendations

Major Risk Factor Interventions

- Lipids: Lifestyle (Class I, Level B, GI 1)
  - In high risk women when LDL-C is elevated, saturated fat intake should be limited to < 7% of calories, cholesterol to < 200 mg/day and trans-fatty acid intake should be reduced

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Clinical Recommendations

Major Risk Factor Interventions

- Lipids: Pharmacotherapy - High risk (Class I, Level A, GI 1)
  - Initiate LDL-C lowering therapy (preferably a statin) simultaneously with lifestyle therapy in women with an LDL-C ≥ 100 mg/dL
  - Initiate statin therapy in high risk women with an LDL-C < 100 mg/dL unless contraindicated (Class I, Level B, G1)

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Clinical Recommendations

Major Risk Factor Interventions

- Lipids: Pharmacotherapy - High risk (Class I, Level B, GI 1)
  - Initiate niacin or fibrate therapy when HDL-C is low or non HDL-C elevated
  - Dietary supplement niacin must not be used as a substitute for prescription niacin and OTC niacin should only be used if approved & monitored by a physician

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Clinical Recommendations

Major Risk Factor Interventions

- Lipids: Pharmacotherapy - Intermediate risk
  - Initiate LDL-C lowering therapy (preferably a statin) if LDL-C ≥ 130 mg/dL on lifestyle therapy (Class I, Level A, GI 1)
  - Initiate **niacin or fibrates** when HDL-C is low or non HDL-C is elevated **after** LDL-C goal is reached (Class I, Level B, GI 1)

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Clinical Recommendations

Major Risk Factor Interventions

- Lipids: Pharmacotherapy – Lower Risk
  (Class IIa, Level B, GI 1)
  - Consider LDL-C lowering therapy in low risk women with 0 or 1 risk factor if LDL-C is > 190 mg/dL or if multiple risk factors are present and LDL-C > 160 mg/dL
  - Consider **niacin or fibrate therapy** when HDL-C is low or non HDL-C is elevated **after** LDL-C goal is reached

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Clinical Recommendations

Major Risk Factor Interventions

- Diabetes (Class I, Level B, GI 1)
  - Lifestyle and pharmacotherapy should be used to achieve near normal $HgbA_{1C}$ (<7%) in women with diabetes

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Clinical Recommendations

Preventive Drug Interventions

- **Aspirin – High Risk** (Class I, Level A, GI 1)
  - ASA therapy (81–162 mg) **or** clopidogrel if the patient is intolerant to ASA should be used unless contraindicated
- **Aspirin – Intermediate risk** (Class IIa, Level B, GI 2)
  - Consider ASA therapy as long as BP is controlled and benefit is likely to outweigh the risk of GI side effects

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Clinical Recommendations

Preventive Drug Interventions

- **Beta-blockers** (Class I, Level A, GI 1)
  - Should be used indefinitely in all high risk women who have had an MI or have chronic ischemic syndromes unless contraindicated
- **ACE Inhibitors** (Class I, Level A, GI 1)
  - Should be used in high risk women unless contraindicated
  - Consider ASA therapy as long as BP is controlled and benefit is likely to outweigh the risk of GI side effects
- **ARBs** (Class I, Level B, GI 1)
  - Should be used in high risk women with clinical evidence of heart failure or an ejection fraction < 40% who are intolerant of ACEI

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Clinical Recommendations

Class III Interventions

- Hormone Therapy (Class III, Level A)
  - Combined estrogen plus progestogen therapy **should not be initiated** to prevent CVD in postmenopausal women
  - Combined E+P should not be 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 pending results from ongoing trials (Class III Level C)

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Clinical Recommendations

Class III Interventions

- Antioxidant Supplements (Class III, Level A, G1)
  - Should not be used to prevent CVD pending the results of ongoing trials
- Aspirin – (Class III, Level A, G1)
  - Use of low dose ASA is not recommended pending the results of ongoing trials

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Clinical Recommendations

Atrial Fibrillation/Stroke Prevention

- Warfarin Atrial Fibrillation (Class I, Level A, G1)
  - Among women with chronic or paroxysmal atrial fibrillation warfarin should be used to maintain the INR at 2.0 – 3.0 unless they are considered to be at low risk of stroke (<1% a year) or high risk of bleeding
- Aspirin – (Class I, Level A, G1)
  - Should be used in women with chronic or paroxysmal atrial fibrillation with a contraindication to warfarin or at low risk for stroke (<1% a year)

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