

Clinical Practice Guidelines

Coronary Artery Disease

Objective

The purpose is to guide the appropriate diagnosis and management of Coronary Artery Disease.

Guideline

These are only guidelines, and are based on the best available information at the time. These may not be “all inclusive” as new medications and treatments are ever-evolving. These guidelines are updated by MDwise at least biannually as national guidelines are updated.

MDwise supports coronary artery disease recommendations from the American Heart Association and American College of Cardiologists:

AHA/ACC Guidelines for Secondary Prevention for Patients with Coronary and Other Atherosclerotic Vascular Disease: 2011 Update

Guidelines are included in the MDwise Provider Manual and posted on the MDwise Web site. They are available individually as requested.

Assessment & Diagnosis

DIAGNOSIS:

- A physician will diagnose CAD based on a patient's medical and family histories, risk factors, a physical exam, and the results from tests and procedures

RISK ASSESSMENT

- Framingham Risk Assessment (10-year risk of Hard Coronary Heart Disease, i.e. MI or coronary death)

LAB EVALUATION:

- EKG
- Stress Test
- Echocardiography
- Chest X-Ray
- Blood Tests

TESTS OPTIONAL WHEN INDICATED:

- Electron-Beam Computed Tomography (heart scan)
- Coronary Angiography and Cardiac Catheterization
- Single-photon Emission Computed Tomography (SPECT)

Treatment

Treatment is based on diagnosis, comorbidities, and prevention and treatment of complications and cardiovascular disease.

Smoking Goal: Complete cessation. No exposure to environmental tobacco smoke	<ul style="list-style-type: none"> - Ask about tobacco status at every visit - Advise every tobacco user to quit - Assess the tobacco user's willingness to quit - Assist by counseling and developing a plan for quitting - Arrange follow-up, referral to special programs, or - Urge avoidance of exposure to environmental tobacco smoke at work, home and public places
Blood Pressure Goal: <130/80 mmHg	For all patients <ul style="list-style-type: none"> - Initiate or maintain lifestyle modification: weight control; increased physical activity; alcohol moderation; sodium reduction; and emphasis on increased consumption of fresh fruits, vegetable, and low-fat dairy products for patient with blood pressure \geq120/80 mmHg - For those for whom lifestyle modifications have been ineffective and have an SBP \geq140 or DBP \geq90 and an estimated 10-year risk of CAD is \geq10% add blood pressure medication, treating initially with Beta-blockers and/or ACE inhibitors, with addition of other drugs as needed to achieve goal blood pressure.
Lipid Management Goal: LDL-C <100 mg/dL; If triglycerides are \geq 200 mg/dL, non- HDL-C should be <130 mg/dL	For all patients <ul style="list-style-type: none"> - Start dietary therapy. Reduce intake of saturated fats (to <7% of total calories), fatty acids, and cholesterol (to <200mg/d) - Adding statin therapy in the absence of contraindications or documented adverse effects - Promote daily physical activity and weight management - An adequate dose of statin should be used that reduces LDL-C < 100 mg/dl AND achieves at least a 30% lowering of LDL-C - With triglycerides > 500 mg/dl should be started on fibrate therapy in addition to statin therapy to prevent acute pancreatitis - If treatment with a statin (including trials of higher-dose statins and higher-potency statins) does not achieve the goal for a patient, intensification of LDL-C-lowering drug therapy with a bile acid sequestrant or niacin should be added - LDL-C-lowering therapy with bile acid sequestrants and/or niacin is reasonable when statins cannot be tolerated - Very high-risk patients should be on statin therapy to lower LDL-C to <70 mg/dL - Treat very high-risk patients and those who have triglycerides \geq 200 mg/dL, a non-HDL-C goal of <100 mg/dL - Consider ezetimibe for patients who do not tolerate or achieve target LDL-C with statins, bile acids sequestrants, and/or niacin. - Reasonable to use niacin or fibrate therapy or fish oil if patient continues to have an elevated non-HDL-C while on statin - Encourage increased consumption of omega-3 fatty acids in the form of fish or in capsule form for risk reduction.

Physical Activity Goal: 30 minutes, 7 days per week (minimum 5 days per week)	<ul style="list-style-type: none"> - For all patients, assess risk with physical activity history and/or an exercise test, to guide prescription - For all patients, encourage 30 to 60 minutes of moderate-intensity aerobic activity, such as brisk walking, on most, preferably all, days of the week, supplemented by an increase in daily lifestyle activities (e.g. walking, breaks at work, gardening, household work) - Encourage resistance training 2 days per week - Advise medically supervised programs for high-risk patients (e.g. recent acute coronary syndrome or revascularization, heart failure)
Weight Management Goal: Body mass index: 18.5 to 24.9 kg/m ² Waist circumference: men <40 inches, women <35	<ul style="list-style-type: none"> - Assess body mass index and/or waist circumference on each visit and consistently encourage weight maintenance/reduction through an appropriate balance of physical activity, caloric intake, and formal behavioral programs when indicated to maintain/achieve a body mass index between 18.5 and 24.9 kg/m² - If waist circumference (measured horizontally at the iliac crest) is ≥35 inches in women and ≥40 inches in men, initiate lifestyle changes and consider treatment strategies for metabolic syndrome as indicated - The initial goal of weight loss therapy should be to reduce body weight by approximately 10% from baseline. With success, further weight loss can be attempted if indicated through further assessment
Antiplatelet Agents/ Anticoagulants	<ul style="list-style-type: none"> - Initiate lifestyle and pharmacotherapy to achieve near-normal HbA1c - Begin vigorous modification of other risk factors (e.g. physical activity, weight management, blood pressure control, and cholesterol management as recommended above) - Coordinate diabetic care with patient's primary care physician or endocrinologist - Use metformin if not contraindicated - Individualize the intensity of blood sugar-lowering interventions based on the individual patient's risk of hypoglycemia during treatment - Initiate pharmacotherapy interventions to achieve target HbA1c - A target HbA1c of less than or equal to 7% should be considered - Less stringent HbA1c goals should be considered for patients with a history of severe hypoglycemia, limited life expectancy, advanced microvascular or macrovascular complications, or extensive comorbidities.

References

AHA/ACC Guidelines for Secondary Prevention for Patients with Coronary and Other Atherosclerotic Vascular Disease: 2011 Update

National Heart, Lung and Blood Institute: How is Coronary Heart Disease Diagnosed? <http://www.nhlbi.nih.gov/health/health-topics/topics/cad/diagnosis>

Centers for Disease Control and Prevention: Coronary Artery Disease. http://www.cdc.gov/heartdisease/coronary_ad.htm

[Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults, Journal of the American College of Cardiology \(2017\), doi: 10.1016/j.jacc.2017.11.006.](#)

[2016 ACC/AHA Guideline Focused Update on Duration of Dual Antiplatelet Therapy in Patients with Coronary Artery Disease](#)

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