Secondary Prevention of a Cardiovascular Event in Patients with Atherosclerotic Cardiovascular Disease

MVP Health Care®, as part of its continuing Quality Improvement Program, has adopted the Clinician Guide to the ABCs of Primary and Secondary Prevention of Atherosclerotic Cardiovascular Disease (2018 Update). Available: https://www.acc.org/latest-in-cardiology/articles/2018/03/30/18/34/clinician-guide-to-the-abcs

Statistics, Morbidity & Mortality

- Heart disease is the leading cause of death in the United States for both men and women. Approximately 840,768 individuals in the U.S. died from heart disease in 2016.
- From 2006 to 2016, the US death rate from CVD decreased by 18.6% and from coronary heart disease by 31.8%
- The annual total cost of CVD in the United States was estimated at $351.2 billion in 2014-2015, with $213.8 billion in direct cost, including 46% for inpatient care
- Approximately every 40 seconds, an American will have a myocardial infarction. The average age of first myocardial infarction is 65.6 years old for men and 72.0 years old for women
- In the United States in 2019, coronary events are expected to occur in about 1,055,000 individuals, including 720,000 new and 335,000 recurrent coronary events
- In 2017, emergency medical services-assessed out-of-hospital cardiac arrest occurred in an estimated 356,461 Americans; emergency medical services treatment was initiated in 52%. The initial recorded cardiac rhythm was ventricular fibrillation, ventricular tachycardia, or shockable by automated external defibrillator in only 18.7%. Adult survival to hospital discharge was 10.4%; 8.4% had good functional status at discharge.
- About 6.2 million American adults had heart failure (HF) in 2013-2016. Patients who were newly hospitalized for HF were almost evenly divided by those with reduced ejection fraction and those with preserved ejection fraction. HF prevalence continues to rise. As of April 27, 2018, 3,994 Americans were on a waiting list for heart transplant, and 55 were waiting for heart and lung transplant.
- Every 40 seconds on average, an American will have a stroke. About 795,000 Americans have a new or recurrent stroke annually. About 90% of stroke risk is due to modifiable risk factors; 74% is due to behavioral risk factors.
- Approximately 5.3 million Americans have atrial fibrillation. In 2014, atrial fibrillation or flutter was the principal diagnosis in approximately 454,000 US hospitalizations.
- Admissions for intravenous drug-related endocarditis have increased in parallel with the opioid drug crisis.
- In 2014, pulmonary embolism was principal diagnosis in 178,000 US hospitalizations.

- Prevalence of congenital cardiovascular defects is relatively stable, with a trend toward improved outcomes. Pulse oximetry screening for critical congenital heart disease in neonates has been implemented in almost all states since 2011. Kawasaki disease is the most common cause of acquired heart disease in US children.
- Hospital readmission reduction programs are associated with reduced 30-day and 1-year hospitalization rates but increased 30-day and 1-year mortality.
- Modifiable risk factors are the primary driver for first cardiovascular event, and risk factor modification has been a significant driver for reduction of cardiovascular death in certain populations in recent decades.
- According to registry-based studies, 40-60% of patients with cardiovascular risk factors are non-adherent to at least one key component of primary prevention.3
- Among those with established atherothrombotic disease, up to 90% are taking antiplatelet, lipid-lowering or anti-hypertensive therapy.

Fewer than 50% are fully adherent to all medications with a class 1 indication in secondary prevention, which is associated with marked increase in risk for recurrent events and death *Source: Clinician Guide to the ABCs of Primary and Secondary Prevention of Atherosclerotic Cardiovascular Disease*. Available: https://www.acc.org/latest-in-cardiology/ten-points-to-remember/2019/02/15/14/39/aha-2019-heart-disease-and-stroke-statistics

Key Guideline Messages

Antiplatelet Therapy

SECONDARY PREVENTION

Aspirin 81-162 mg/day indefinitely [Class I].

Clopidogrel, prasugrel, or ticagrelor (i.e., P2Y12 inhibitor) in addition to aspirin after PCI [Class I].

If bare-metal stent, P2Y12 inhibitors should be taken for ≥1 month [Class I].

If drug-eluting stent, P2Y12 inhibitors for ≥1 year [Class I].

If on dual antiplatelet therapy (DAPT), use aspirin 81 mg/day [Class I].

If no PCI was performed after an ACS event, either clopidogrel or ticagrelor should be used.

Do not use prasugrel if history of stroke or TIA [Class III]. Caution in those over 70 years of age.

Aspirin 81 to 325 mg/day or clopidogrel for all patients following a non-cardioembolic ischemic stroke [Class I].

A: Atrial Fibrillation

SECONDARY PREVENTION

Warfarin or direct oral anticoagulant for CHA2DS2-VASC ≥2.

Consider Aspirin if CHA2DS2-VASC ≤1.

Consider rhythm control if patient remains symptomatic with rate control

B: Blood Pressure

PRIMARY AND SECONDARY PREVENTION

Lifestyle interventions (weight management, exercise, sodium restriction) [Class I]; at least yearly BP checks.

BP goal is <130/80.

Pharmacotherapy may be started with lifestyle changes, depending on hypertension stage and ASCVD risk estimate.

Can focus longer on lifestyle changes alone if ASCVD risk estimate is <10%.

Choose fresh foods; if canned foods use those marked reduced, low or no sodium.

Use spices and herbs to add flavor to food which can reduce need for salt.

Reduce the "salty six:" breads/rolls, canned soups, cold cuts/cured meats, pizza, poultry with added sodium such as pre-seasoned fillets and chicken nuggets, and burgers from fast-food restaurants.

Increase fruits, vegetables, whole grains and nuts [Class I].

Limit alcohol; no more than two drinks per day for men and one for women.

C: Cholesterol

SECONDARY PREVENTION

Lifestyle interventions [Class I].

Moderate to high-intensity statin [Class I].

If LDL-C ≥70, non-HDL-C ≥100, and high risk for another ASCVD event (e.g., TIMI risk score for secondary prevention >3)5 after trial of highest tolerated dose of a high-intensity statin, add ezetimibe [Class IIa] and/or PCSK9 inhibitors [Class IIb].

If triglycerides >500 mg/dL, then fibrates [Class I] and/or high-dose omega 3.

C: Cigarette/Tobacco Cessation

Education.

Assessment of triggers, counseling, pharmacotherapy (nicotine patches, gum, inhalers, varenicline, bupropion, etc.).

5As: Ask, Advise, Assess, Assist, Arrange (follow-up).

Ask about tobacco use at every visit.

Advise to quit at every visit.

Assess willingness to quit at every visit.

Assist in quitting through counseling/prescriptions.

Arrange follow-up first week after quit date.

Counsel to avoid exposure to environment to tobacco smoke (e.g., work environment, second-hand exposure) [Class I].

D: Diet/Weight Management

PRIMARY PREVENTION AND SECONDARY PREVENTION

If overweight, aim for loss of 3-10% of body weight by caloric restriction and increased physical activity as part of comprehensive lifestyle program with focus on weight loss [Class I].

Goal BMI is 18.5-24.9 kg/m2; measure at least annually [Class I].

Diet should eliminate trans fats and decrease saturated fats, sodium, sugar-sweetened beverages, sugary foods, bread products and red meat [Class I].

Increase fruits, vegetables, whole grains, nuts, poultry and fish as part of an overall low-calorie diet appropriate for height, weight, and comorbid medical conditions [Class I]. Goal of ~25 grams of fiber/day.

Goal waist circumference (measured at the level of the iliac crest) is <40" (94 cm) for men and <35" (80 cm) for women [Class I]; smaller waist circumference targets for South Asians, Chinese, Japanese would be appropriate.

D: Diabetes (Type 2) Prevention and Treatment

SECONDARY PREVENTION

Goal A1C <7% if this can be achieved safely [Class IIb].

Lifestyle interventions are the first line followed by antihyperglycemics [Class I].

Refer to a nutritionist.

Metformin is a reasonable first-line agent [Class IIa].

Newer antihyperglycemic agents (e.g., liraglutide and empagliflozin) reduce cardiovascular events and mortality and are next line when appropriate.

Other oral hypoglycemics and insulin can be used as needed to achieve goal.

ACEI or ARB is a good first line agent to treat hypertension in this population, especially if urine microalbumin to creatinine ratio is >30.

Treat elevated cholesterol and address weight loss as outlined above.

Ensure appropriate follow-up is in place for other end-organ damage from diabetes.

E: Exercise

PRIMARY AND SECONDARY PREVENTION

Moderate-vigorous aerobic exercise for a total of at least 150 minutes/week (e.g., 30 minutes, 5 sessions a week) [Class I].

Recommend addition of two days of resistance training [Class IIa].

Aim for >10,000 steps a day or other reasonable target based on baseline activity.

Reduce sitting/sedentary time.

Cardiac rehabilitation for patients who have had an ASCVD event or heart failure with reduced ejection fraction (LVEF ≤35%) [Class I].

F: Heart Failure

SECONDARY PREVENTION

Lifestyle interventions [Class I].

Adherence to medications that reduce morbidity and/or mortality in patients with HFrEF: ACEI or ARB, ARNI, beta blocker, aldosterone antagonist, ISDN/hydralazine (if African American and on optimal ACEI and beta blocker) [Class I].

Consideration of ICD/CRT-D (following ≥3 months of optimal medical therapy or at least 40 days following myocardial infarction) in appropriate patient [Class I].

Cardiac rehabilitation [Class I].

Diuretics for overall maintenance of fluid balance and symptom relief [Class I].

Blood pressure goal in HFrEF and HFpEF is a SBP <130 mmHg [Class I].

Cigarette cessation/cholesterol management/blood sugar control [Class I].

Guideline availability and other support

The American Heart Association is a national voluntary health agency to help reduce disability and death from cardiovascular diseases and stroke.

For additional support on heart health, practitioners are encouraged to visit Million Hearts™ website at http://millionhearts.hhs.gov/index.html. The Million Hearts™ campaign is co-led by the Centers for Disease Control and Prevention (CDC) and the Centers for Medicare and Medicaid Services (CMS) in partnership with multiple key public agencies and private organizations. The campaign sought to prevent one million heart attacks and strokes by year 2017 by focusing on the "ABCS" - Aspirin for those at highest risk, Blood pressure control, Cholesterol management and Smoking cessation. Million Hearts® 2022 Million Hearts® 2022 is a national initiative to prevent 1 million heart attacks and strokes within 5 years. It focuses on implementing a small set of evidence-based priorities and targets that can improve cardiovascular health for all. In addition to information on heart health and links to related resources, the Million Hearts™ website has interactive tools for patients to determine heart health and risk of dying from heart disease, as well as tips for how they can improve.

In conjunction with these guidelines, MVP Health Care offers a Condition Case Management program for our members who have recently experienced a cardiac event (Myocardial

Infarction, Angioplasty and/or stent placement). If you would like to refer one of your patients to this program, please call the Health Care Operations Department at **866-942-7966**. More information on this and MVP's other health programs may also be found on MVP's website: https://www.mvphealthcare.com/members/health-and-wellness/case-management/

This guideline is not intended to replace the role of clinical judgment by the physician in the management of this, or any other disease entity. It is an educational guideline to assist in the delivery of good medical care. All treatment decisions are ultimately up to the physician. Where medication recommendations are made, please refer to each health plan's formulary for coverage considerations.

MVP Health Care reviews its guidelines annually. The review process is also initiated when new scientific evidence or national standards are published. Practitioners are alerted via the web site and by written notices from the plan via fax or newsletter. A hard copy of the clinical guideline can be requested by calling the MVP Quality Improvement Department at **(800) 777-4793 extension 1-2247**.