



HeartRescue Global

———— Policy Brief ————

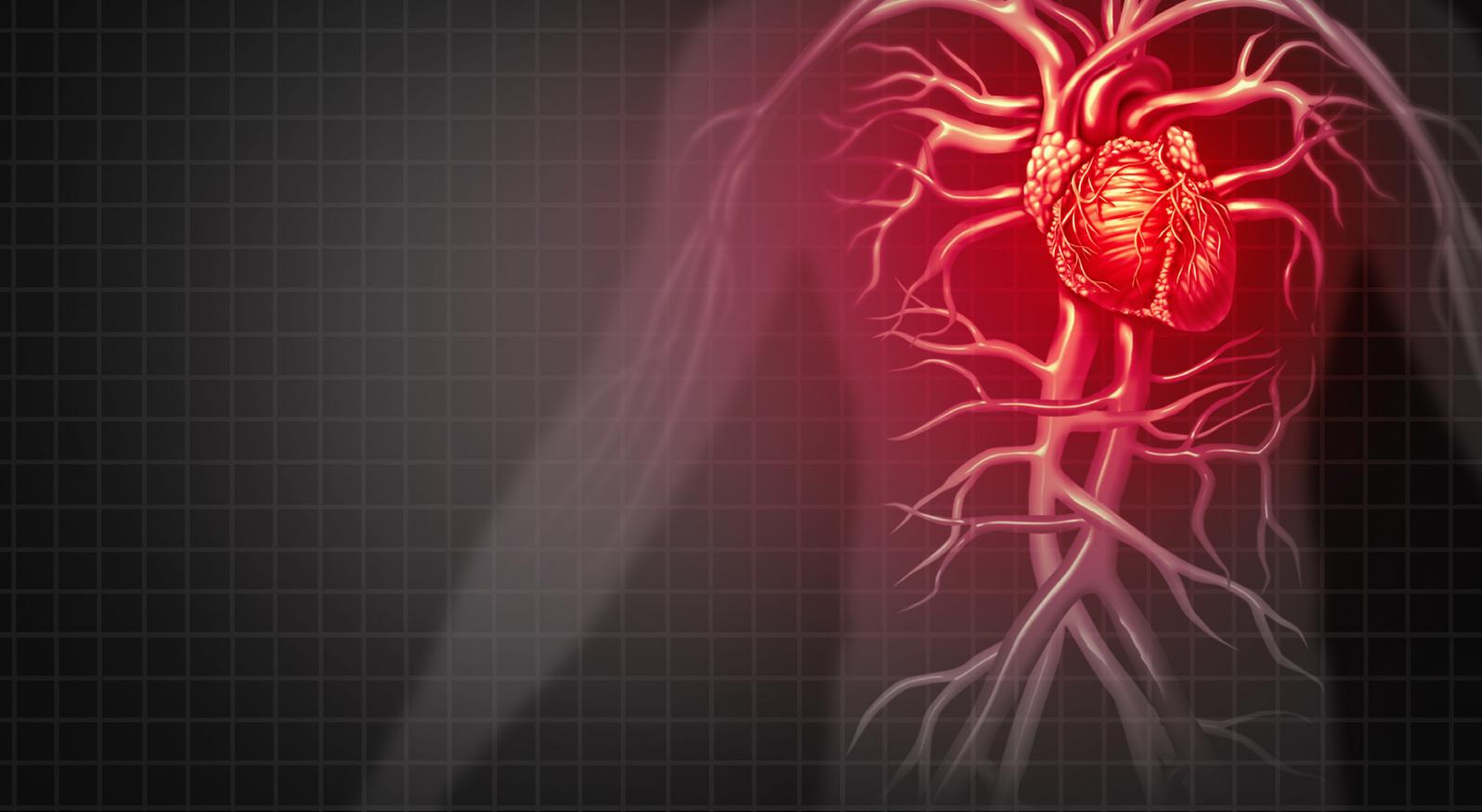
7

Improving Preventive Care During
Hospital Care and Following Hospital
Discharge for Acute Cardiovascular
Disease (CVD) Events



ACKNOWLEDGEMENTS

This analysis was produced by RTI International in partnership with the Medtronic Foundation. For over 50 years, RTI has been committed to improving the human condition by turning knowledge into practice. The Medtronic Foundation focuses on expanding access to quality health care among underserved populations worldwide, as well as supporting health initiatives in communities where Medtronic employees live and give.



Cardiovascular disease (CVD) is a major cause of early death and disability around the world. CVD also adds significantly to the rapidly mounting costs of health care. The root cause of CVD is “hardening of the arteries,” also known as atherosclerosis. This involves the buildup of fatty, waxy deposits within the walls of the blood vessels, reducing blood flow. This process is the leading cause of heart attack, stroke, and circulation problems. Hardening of the arteries develops over time and is usually advanced by the time a person experiences symptoms, often in middle age.

Acute CVD includes myocardial infarction, commonly known as a heart attack, which occurs when a heart artery is totally blocked with a blood clot producing an ST-elevation myocardial infarction (STEMI), or when a heart artery is narrowed so much that it reduces blood flow to the heart muscle, but it is not completely blocked, a non-ST-elevation myocardial infarction (NSTEMI).

STEMI may occur suddenly and requires fast treatment to limit the amount of heart damage. In some instances, out-of-hospital cardiac arrest (OHCA) also occurs, when the heart completely stops pumping blood, and requires resuscitation before the STEMI or NSTEMI can be treated.

Responding to acute CVD events, including STEMI and OHCA, in a rapid way to increase the possibility of patient survival requires a cohesive system of care, including education for the general public, patients and their family members, trained emergency rescuers, and hospital professionals.

Interventions to prevent further hardening of the arteries are also an important part of this CVD system of care. This preventive care includes lifestyle modification and chronic disease management and reduces the burden of CVD and improves patient outcomes for CVD. Prevention should be viewed as an intervention itself.

TYPES OF CVD PREVENTION

There are three basic types of CVD prevention: primary, secondary, and tertiary prevention.



- Primary prevention aims to prevent the development of CVD before symptoms or an acute event occurs by
 - Promoting lifestyle changes, such as a healthy diet, regular exercise, avoiding smoking, and maintaining a normal body weight
 - Treating specific risk factors such as diabetes and hypertension or high blood pressure



- Secondary prevention aims to reduce the impact of CVD that is already present by
 - Detecting CVD as soon as possible to halt or slow its progress
 - Starting lifestyle and medical treatment interventions as early as possible, such as taking low-dose aspirin each day, statins for high cholesterol, and blood pressure medication
 - Encouraging personal behavior change to prevent recurrence, such as counseling or treatment to stop smoking



- Tertiary prevention aims to reduce the impact of ongoing CVD after a heart attack or stroke to help prevent a second event after one has occurred by
 - Patients participating in cardiac rehabilitation programs
 - Doctors prescribing the right CVD medications and promoting patient adherence to taking their medications as prescribed
 - Patients having regular follow-up visits with their doctors after hospital discharge
 - Patients participating in chronic disease management programs for CVD and related diseases such as diabetes



PREVENTIVE CARE DURING HOSPITALIZATION FOR ACUTE CVD

Patients hospitalized for heart attacks (STEMI or NSTEMI) should receive several preventive care interventions prior to hospital discharge. This can help prevent having a second heart attack, a situation that occurs much too often in many countries.

Also, patients are often more open to engaging in CVD prevention while they are in the hospital. And patients are more likely to take preventive medications regularly when in the hospital because they know their diseases are serious.

Acute CVD patients should receive several medications while in the hospital and be discharged with the medications, including:

- a beta blocker
- an ACE or ARB (angiotensin converting enzyme inhibitor or angiotensin receptor blocker)
- low-dose aspirin
- a statin and/or another lipid lowering medication

Further, acute CVD patients who use tobacco should receive smoking cessation counseling while in the hospital.

And, acute CVD patients should have a follow-up appointment with a doctor set up for after their discharge from the hospital.



PREVENTIVE CARE FOLLOWING HOSPITAL CARE FOR ACUTE CVD

Regular follow-up doctor visits are important to make sure that patients have a good recovery from acute CVD events and are effectively managing their health and wellness.

Serious and often fatal CVD is usually seen in middle-aged or elderly men and women. However, hardening of the arteries starts early in life and advances progressively through adolescence and early adulthood.

Improving diet and exercise and taking appropriate medications will reduce the risk of acute CVD events in people with a high risk of CVD. However, many people are unaware that they are at risk and ongoing testing after hospital discharge is important for monitoring risk factors such as increasing body weight or body mass index (BMI), high blood pressure, abnormal blood lipids (the fatty substances found in the blood), and raised blood glucose.

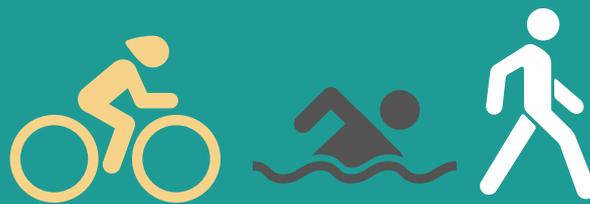
Altering CVD risk factors has been shown to reduce both disease and death. Monitoring patients' CVD risk factors should be done routinely. After hospital discharge represents a good opportunity for doctors and the health care system to help patients and their family members learn about and improve those CVD risk factors that can be modified to reduce the chances of an acute CVD event happening again and to improve patient outcomes.

WAYS TO IMPROVE RISK FACTORS FOR CVD

A number of things can be done to reduce the risk of CVD, including:



Lowering blood cholesterol by reducing fat, cholesterol and salt in the diet, and eating more fruits and vegetables.



Taking up sustained regular moderate physical activity, including less intense activities such as walking or gardening. This can significantly reduce the risk of CVD in middle or older age.

For Overall Cardiovascular Health Aim For:



OR



OR



At least 30 minutes of moderate-intensity aerobic activity at least 5 days per week, for a total of 150 minutes

At least 25 minutes of vigorous aerobic activity at least 3 days per week, for a total of 75 minutes;

A combination of moderate-intensity and vigorous intensity aerobic activity



AND

Moderate- to high-intensity muscle-strengthening activity at least 2 days per week for additional health benefits

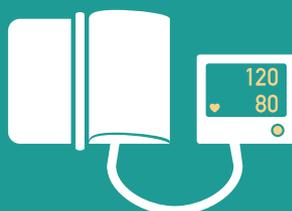
For Lowering Blood Pressure and Cholesterol, aim for:



An average of 40 minutes of moderate- to vigorous-intensity aerobic activity 3 or 4 times per week



Avoidance of cigarette smoking



Reducing blood pressure



Reducing blood glucose

WAYS TO IMPROVE RISK FACTORS FOR CVD



Reducing body weight for people who are overweight or obese because there is a relationship between being overweight or obese and death.

Obesity is also strongly associated with other major CVD risk factors, such as high blood pressure, glucose intolerance, type 2 diabetes, and elevated blood lipids.



Participating in weight loss programs because dietary, physical activity, and behavioral interventions can significantly decrease weight

among people with pre-diabetes, and lead to a significant decline in the number of cases of diabetes and the associated additional risk of CVD that results from diabetes.

Eat an overall healthy diet that emphasizes:



A variety of fruits and vegetables



Whole grains



Low-fat dairy products



Skinless poultry and fish



Nuts and legumes



Non-tropical vegetable oils



Limit saturated fat, trans fat, sodium, red meat, sweets and sugar-sweetened beverages.



If you choose to eat red meat, compare labels and select the leanest cuts available.

One of the diets that fits this pattern is the DASH (Dietary Approaches to Stop Hypertension) eating plan. Most healthy eating patterns can be adapted based on calorie requirements and personal and cultural food preferences.

An important first step is to provide education to increase awareness among all adults of the importance of CVD and its risk factors. All adults should know their CVD risk profile, including blood pressure, blood lipids, and glucose.

Also, doctors and patients should use CVD decision aids and discussions to help reduce risks and choose the best course of action to take for each individual patient, including:



Another blood thinner can be taken

if aspirin should not be taken by a patient due to contraindications, or there are side effects.



Taking statin drugs for patients who have CVD

or certain patients at high risk for CVD events.



Taking 75 mg of aspirin daily for life

for all people with elevated risk for CVD or known coronary disease or a circulatory condition in which narrowed blood vessels reduce blood flow to the limbs (known as peripheral atherosclerotic disease).

Authors:

Michael Trisolini, PhD, MBA
Bentley Bobrow, MD, FACEP
Kenneth A. LaBresh, MD, FAHA
Elizabeth Tant, MSc

May 2019

HeartRescue Global Project Partners



For more information contact

Elizabeth Tant
etant@rti.org
919-316-3995