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Acute Coronary Syndromes Fact Sheet

In the United States, nearly 80 million Americans, or one in three adults, have one or more types of cardiovascular disease (CVD).¹ According to the American Heart Association, nearly 2,400 Americans die of CVD each day, an average of one death every 37 seconds.²

One of the most common forms of CVD is acute coronary syndromes (ACS), which is an umbrella term that includes conditions resulting from sudden insufficient blood supply to the heart.³ These conditions include unstable angina and heart attack. Unstable angina is characterized by a new or changed pattern of chest pain, frequently at rest. A heart attack (myocardial infarction) occurs when the blood supply to a portion of the heart is cut off by blockage of a coronary artery causing heart muscle to die.^{4,5}

Prevalence of ACS: An estimated 1,413,000 Americans were discharged from the hospital with a diagnosis of ACS in 2005,⁶ many of which were managed with an artery-opening procedure known as percutaneous coronary intervention (PCI).

It is estimated that 920,000 people in the United States will experience a heart attack. Among these individuals, the number experiencing a first time attack versus a recurrent attack is 600,000 versus 320,000, respectively.⁷

In 2004, unstable angina accounted for the discharge diagnosis in approximately 89,000 patients.⁸

1 American Heart Association. Heart Disease and Stroke Statistics - 2008 Update. Dallas, TX. American Heart Association. (Pg. 6)

2 American Heart Association. Heart Disease and Stroke Statistics - 2008 Update. Dallas, TX. American Heart Association. (Pg. 7)

3 American Heart Association. Association Between Hospital Process Performance and Outcomes Among Patients with Acute Coronary Syndromes. American Heart Association. Dallas, TX. April 26, 2006.

4 National Institutes of Health. Medline Plus. Medical Encyclopedia. Unstable Angina. Last Updated April 27, 2004.

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6 American Heart Association. Heart Disease and Stroke Statistics – 2008 Update. Dallas, TX. American Heart Association. (Pg. 14)

7 American Heart Association. Heart Disease and Stroke Statistics – 2008 Update. Dallas, TX. American Heart Association. (Pg. 12)

Morbidity/Mortality: In the United States during 2004, nearly 200,000 people died of a heart attack.⁹ One out of three women and one out of four men die within one year of having a heart attack.¹⁰

Causes & Risk Factors: Coronary artery disease (CAD) occurs when the heart's arteries become narrowed or clogged by cholesterol and fat deposits and cannot supply enough blood to the heart muscle. In some cases a blood clot may partially or totally block the blood supply to the heart resulting in ACS.¹¹ The primary risk factors include diabetes, smoking, hypertension, advanced age, male gender, high cholesterol, obesity and lack of physical activity.¹²

Diagnosis: ACS is diagnosed through obtaining the patient's history and physical exam, electrocardiogram (ECG or EKG). A blood test to detect special proteins is used to confirm if there has been damage to the heart muscle. To determine the severity of coronary artery disease, which caused the ACS event, patients may undergo imaging exams such as a cardiac catheterization or angiogram (specialized x-rays) to identify if the arteries are blocked or narrowed.¹³

Interventional Treatments: If imaging exams reveal that a patient has a blockage in an artery, percutaneous coronary intervention (PCI) or coronary artery bypass grafting (CABG) may be recommended.¹⁴ In a PCI, a balloon is inserted into the blocked artery then expanded to compress plaque to the sides of the blocked artery to allow for greater blood flow.¹⁵ In addition, a small, hollow mesh tube called a stent may be inserted into the artery to keep the coronary artery open. An estimated 1,265,000 PCI procedures were performed in the United States in 2005.¹⁶ In a CABG procedure, a portion of healthy blood vessel from the body is grafted to an area of the coronary artery beyond the blockage. This allows for increased blood and oxygen flow to the heart by rerouting blood around a clogged artery.¹⁷

Medical Treatments: The American Heart Association and the American College of Cardiology recommend the use of lipid and blood pressure treatments, in combination with beta blockers, ACE inhibitors and antiplatelet agents, for the secondary prevention of cardiac events.^{18, 19}

Treatment guidelines specific to PCI recommend the use of antiplatelet

8 American Heart Association. Heart Disease and Stroke Statistics – 2008 Update. Dallas, TX. American Heart Association (Pg. 14)

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13 National Heart Lung and Blood Institute. How is Coronary Artery Disease Diagnosed? May 2008.

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agents during the procedure and as maintenance therapy following the procedure to inhibit platelet aggregation that occurs in diseased arteries and in response to invasive procedures.²⁰ Antiplatelet agents prevent platelets from clumping together (platelet aggregation), which can cause the formation of blood clots and possibly lead to heart attack or stroke.²¹

Utilization and Adherence:

Data indicate under-utilization of heart medications that are strongly recommended in current guidelines for patients with ACS.²² One study found that only 36 percent of 13,731 patients with ACS (both who were being medically managed or had a PCI) were taking prescription antiplatelet therapy after hospital discharge.²³ When antiplatelet therapy is used, risk of future cardiac events is reduced significantly.

Health Economics:

The index hospitalization cost for ACS cases at one large health maintenance organization was \$6,802. The total median cost from discharge through one year was \$20,743, and 6.2% (\$1,286) of this was attributed to the cost of follow-up medication for ACS care.²⁴ Another study found that 7 percent of ACS costs are attributed to pharmacy expenses, while 93 percent are primarily medical utilization (i.e., hospitalizations, office outpatient visits, lab services, etc.).²⁵

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