

Chronic Stress and the Heart

Emotional and physical stresses have a negative impact on the heart and the vascular system. Acute stress happens all at once; chronic stress occurs over a longer time period. Stress hormones (**catecholamines**, including **epinephrine**, which is also known as adrenaline) have damaging effects if the heart is exposed to elevated catecholamine levels for a long time. Stress can cause increased oxygen demand on the body, spasm of the **coronary** (heart) blood vessels, and electrical instability in the heart's conduction system.

Chronic stress has been shown to increase the heart rate and blood pressure, making the heart work harder to produce the blood flow needed for bodily functions. Long-term elevations in blood pressure, also seen with **essential hypertension** (high blood pressure not related to stress), are harmful and can lead to **myocardial infarction** (heart attack), heart failure, abnormal heart rhythms, and stroke.

The October 10, 2007, issue of *JAMA* contains an article about the effects of chronic job stress on the heart and the cardiovascular system.

COMMON TYPES OF CHRONIC STRESSES

- Family and marriage difficulties
- Financial problems
- Job stress
- Physical or mental illnesses
- Shift work or nighttime work hours
- School stress, especially when combined with work and family obligations
- Substance abuse, including tobacco and alcohol
- Care of aging parents, often combined with raising one's own children
- Loneliness

HEART-RELATED EFFECTS OF CHRONIC STRESS

- Increased heart rate
- High blood pressure
- Abnormal heart rhythms
- Increased oxygen demand
- Chest pain
- Difficulty breathing

PREVENTING AND MANAGING STRESS

- Incorporate some type of exercise into each day.
- Eat a healthful diet rich in fruits, vegetables, and whole grains.
- Do not smoke.
- Use alcohol only in moderation.
- Quiet time, meditation, prayer, reading, yoga, and relaxation techniques including biofeedback can help in stress management.
- Family, friends, and fellow workers can provide needed support. Talking about problems can help to express feelings and reduce conflict.
- If you have heart disease, your doctor may prescribe medication to help lower the heart rate and control abnormal heart rhythms.

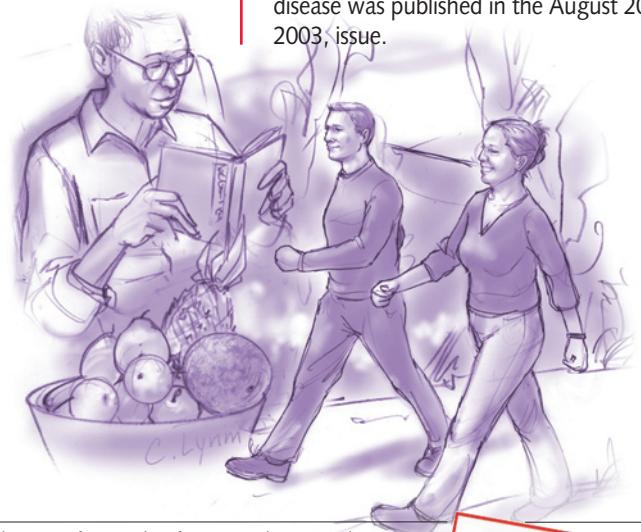
Sources: National Heart, Lung, and Blood Institute; American Heart Association

FOR MORE INFORMATION

- American Heart Association
www.americanheart.org
- National Heart, Lung, and Blood Institute
www.nhlbi.nih.gov

INFORM YOURSELF

To find this and previous *JAMA* Patient Pages, go to the Patient Page Index on *JAMA*'s Web site at www.jama.com. Many are available in English and Spanish. A Patient Page on acute emotional stress and the heart was published in the July 18, 2007, issue; and one on risk factors for heart disease was published in the August 20, 2003, issue.



Janet M. Torpy, MD, Writer

Cassio Lynn, MA, Illustrator

Richard M. Glass, MD, Editor

The *JAMA* Patient Page is a public service of *JAMA*. The information and recommendations appearing on this page are appropriate in most instances, but they are not a substitute for medical diagnosis. For specific information concerning your personal medical condition, *JAMA* suggests that you consult your physician. This page may be photocopied noncommercially by physicians and other health care professionals to share with patients. To purchase bulk reprints, call 203/259-8724.

JAMA
COPY FOR
YOUR PATIENTS