

Cardiogenic Shock

Cardiogenic shock occurs when the heart is unable to pump blood and maintain an adequate blood supply for other vital organs. Cardiogenic shock has a death rate of about 60% and is the major cause of death in patients hospitalized for a heart attack. Getting immediate medical treatment for a heart attack is important in preventing the development of cardiogenic shock. The June 7, 2006, issue of *JAMA* includes an article about improving long-term survival for patients who have had cardiogenic shock.

CAUSES OF CARIOGENIC SHOCK

- **Myocardial Infarction** (heart attack)
- **Myocarditis**—a condition in which the heart does not pump properly because the heart muscle is inflamed and diseased
- **Valvular Heart Disease**—damage to heart valves interrupts blood flow
- **Cardiac Arrhythmias**—severe irregular heart rhythms cause uncoordinated blood flow through the heart
- **Obstruction**—certain conditions apply pressure or compress the heart, not allowing it to function as a pump. **Pericardial tamponade** (collection of blood or fluid around the heart within the heart sac [**pericardium**] that causes the heart to be compressed) is one such example.

SIGNS AND SYMPTOMS

- **Hypotension** (low blood pressure)
- Cold, clammy skin
- Low urine output
- Confusion or changes in alertness or unresponsiveness

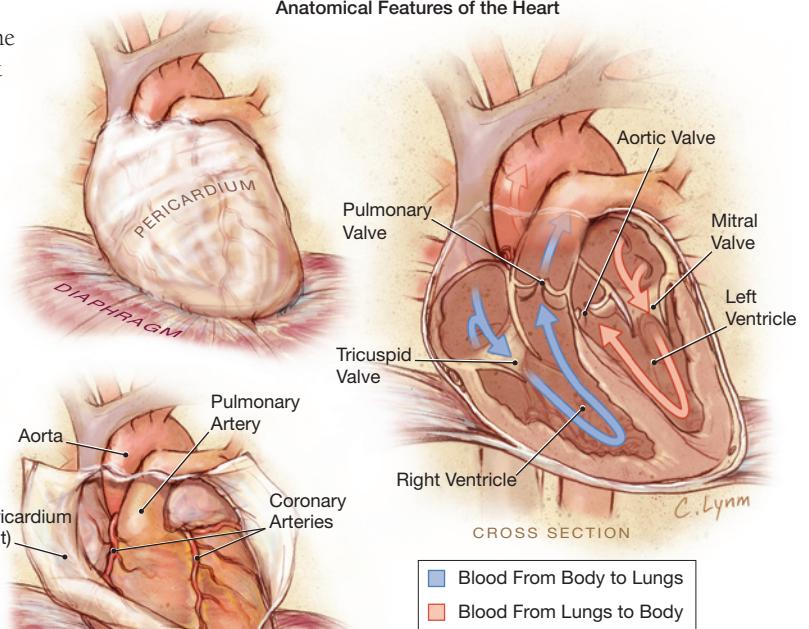
DIAGNOSIS

The history and physical examination, blood tests, **electrocardiogram** (a recording of the electrical activity of the heart), chest x-ray, and **echocardiogram** (an ultrasound picture of the heart, its structures, and blood flow through the heart) can help doctors determine why the heart is failing to pump blood.

TREATMENT

Careful monitoring in an intensive care unit is necessary. Further treatment depends on the cause. Fluids and medications given **intravenously** (through a vein directly into the bloodstream) are used to maintain blood flow. **Mechanical ventilation** (a breathing machine) may be necessary to support the lungs and breathing. **Percutaneous coronary intervention** (a procedure that opens blocked blood vessels [**coronary arteries**] of the heart) or **coronary artery bypass graft surgery** (surgery in which veins, taken from the legs or arms, are bridged over blockages in the heart) may restore blood flow after a myocardial infarction. Other devices may be helpful, such as an **intra-aortic balloon pump**, which inflates and deflates a balloon placed in the **aorta** (large artery coming from the heart) to help the heart circulate blood.

Anatomical Features of the Heart



FOR MORE INFORMATION

- American Heart Association
800/242-8721
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 link on JAMA's Web site at www.jama.com. A Patient Page on percutaneous coronary intervention was published in the February 11, 2004, issue; and one on electrocardiograms in the April 23/30, 2003, issue.

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

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