

Heart Valve Infections

Heat valves allow one-way flow of blood through the heart. Damaged heart valves that do not open completely (called **stenosis**) or close completely (called **regurgitation**) are susceptible to infection because they cause abnormal blood flow through the valve. Infections of heart valves (known as **endocarditis**) are serious and can be life-threatening. The most common heart infections are caused by bacteria, though fungal infections can also occur. **Prosthetic** (replaced) or repaired heart valves are prone to infection. Growths of infectious tissue on heart valves are called **vegetations** and can lead to strokes due to pieces of tissue breaking off (called **emboli**) and blocking blood vessels in the brain. The March 28, 2007, issue of *JAMA* includes an article on infections of prosthetic heart valves.

RISK FACTORS

- Damaged or abnormal heart valves
- Prosthetic heart valves
- Intravenous illegal drug use causing heart valve damage from foreign substances and infectious agents injected into the bloodstream
- Indwelling medical equipment such as intravascular catheters, pacemakers, and defibrillators serving as an entry point for bacteria

SIGNS AND SYMPTOMS

- Fever
- Back, joint, or muscle aches
- Shortness of breath
- Fatigue
- Unusual rash or spots on skin

DIAGNOSIS AND TESTING

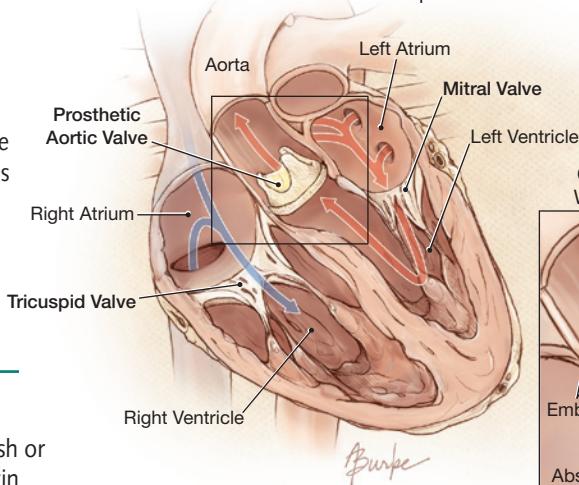
In addition to asking questions about your history and doing a physical examination, your doctor may order blood tests looking for anemia or an increased white blood cell count, which indicates infection. Blood may be sampled and cultured, looking for bacteria in the bloodstream. An **echocardiogram** (an ultrasound examination of the heart) can show abnormal blood flow through the heart or damage to the valves or heart chambers. Echocardiograms are also useful to diagnose serious complications of endocarditis, such as an **abscess** (a pocket of infection) and regurgitation.

TREATMENT

- Antibiotics are selected based on what type of bacteria or fungus grows in laboratory studies. Because heart valve infection is serious, treatment with intravenous antibiotics for a prolonged period of time (usually 4 to 6 weeks) may be necessary.
- Surgery may be needed to repair or replace the damaged valve.

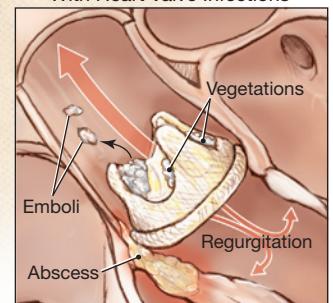
If you have an abnormal or prosthetic heart valve, your doctor may recommend antibiotic therapy before dental procedures or other invasive treatments to prevent bloodstream infections.

Cross Section of Heart With Valve Replacement



Blood Flow
 ■ Deoxygenated Blood
 ■ Oxygenated Blood

Complications Associated With Heart Valve Infections



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 endocarditis was published in the July 3, 2002, issue.

Sources: National Heart, Lung, and Blood Institute; American Heart Association; Centers for Disease Control and Prevention

Janet M. Torpy, MD, Writer

Alison E. Burke, MA, Illustrator

Richard M. Glass, MD, Editor

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