Heart Failure

Heart failure develops when the heart as a pump malfunctions. **Systolic heart failure** is the inability of the heart to squeeze enough blood from the _ventricles_ (heart chambers) to supply the body's needs. **Diastolic heart failure** results from the inability of the heart muscle to relax between heartbeats, causing a backup of blood in the heart's chambers and in the blood vessels. Both systolic and diastolic heart failure can cause **edema** (fluid) to build up in the lungs and the rest of the body. The heart tries to make up for this malfunction by **dilating** (enlarging the heart chambers) or becoming **hypertrophic** (thickening of the heart walls). For individuals older than 65 years, heart failure is the most common cause of hospitalization. The May 13, 2009, issue of _JAMA_ contains an article about heart failure.

**SIGNS AND SYMPTOMS**

- Fatigue or weakness
- Shortness of breath during physical activity
- Difficulty breathing when lying in a flat position
- Waking at night feeling short of breath
- Swollen neck (jugular) veins
- Abdominal swelling (ascites) from excess fluid
- Lower leg or foot swelling (pedal edema)
- Palpitations (sensation of fast or irregular heartbeat)

**DIAGNOSIS AND TESTING**

A detailed medical history and physical examination often reveal whether a person has heart failure. Testing may include a chest x-ray to look for **cardiomegaly** (an enlarged heart), **pulmonary edema** (fluid in the lungs), or **pleural effusion** (collection of fluid around the lungs). Other tests commonly include an **electrocardiogram** (tracing of the heart rhythm) and an **echocardiogram** (ultrasound examination showing the heart structures and function of heart valves).

**TREATMENT**

Treating heart failure depends on the reasons why heart failure developed. It is important to work with your doctor to find the best treatment plan, including an exercise program.

- A low-sodium diet is prescribed to decrease fluid retention.
- Medications used to treat heart failure often include **beta-blockers** that allow the heart to work better, **ACE inhibitors** that lower blood pressure, making the heart pump against less pressure, and **diuretics** to remove excess fluid.
- Pacemakers and implantable defibrillators may be useful to help the heart contract in a coordinated way and monitor for irregular, life-threatening heart rhythm.
- Surgery may be recommended for heart valve disease or congenital heart disease.
- For persons who have severe advanced heart failure, medications called **inotropes** may be used to help the heart beat more strongly. Use of these drugs often requires an indwelling intravenous catheter. Mechanical devices may be required, such as intra-aortic balloon pumps; left, right, or biventricular assist devices; or the rare use of a mechanical heart pump.
- Heart transplantation may be the final option considered when severe heart failure does not respond to the usual treatments.