



# Heart Failure Treatment Guidelines

The American College of Cardiology and the American Heart Association have developed standards for treating patients with heart failure. They apply to most patients, but also give your doctor the flexibility to tailor treatment to your specific clinical needs. Below is a summary of key information and recommendations.

## The Initial Evaluation

In order to get a clear understanding about what caused your heart failure and how severe it is your doctor may:

- Ask detailed questions about your other health problems, such as high blood pressure, high cholesterol, diabetes, or heart murmurs. Your doctor will also ask about whether you've had cancer treatment in the past, either chemotherapy or radiation.
- Review the history of heart disease in your family, including whether any of your relatives have experienced sudden cardiac death. In addition, if you have idiopathic dilated cardiomyopathy—a condition in which the heart becomes enlarged for no apparent reason—your doctor will go back three generations to see whether other members of your family have had the same problem, as it may be an inherited condition. Your family may also be referred for screening and counseling by a doctor who specializes in genetic diseases.
- Ask about personal habits that can harm your heart, such as smoking, drinking too much alcohol, or using illegal drugs, such as cocaine or amphetamines.
- Evaluate your ability to participate in everyday activities, such as taking a bath or shower, doing household chores, climbing stairs, or playing sports. Be prepared to tell your doctor about any activities that you would like to do but no longer can because of your shortness of breath or fatigue.
- Assess how much extra fluid you are holding in your body by weighing you, checking your blood pressure and the size of your neck veins, and looking for signs of swelling in your body.
- Run lab tests, possibly including biomarkers. These are proteins in the blood that go by the short-hand names of BNP and NT-proBNP, among others. They are helpful for diagnosing heart failure, determining how severe it is, and predicting your future health. Biomarkers may also help your doctor decide which treatments are most effective for you.
- Order an electrocardiogram (ECG or EKG) and a chest X-ray.
- Check your heart's size and shape, the function of your heart valves, and how well the heart is pumping. These tests are usually done using echocardiography (ultrasound for the heart), but might also be done with a nuclear scan called ventriculography or by magnetic resonance imaging (MRI). Information from these tests will help your doctor determine not only how severe your heart failure is, but also what type of heart failure you have. In the most common type, the heart is weak, often enlarged, and cannot squeeze hard enough to pump blood effectively. In the other type, the walls of the heart are very muscular and have strong pumping action, but they don't relax enough when



the heart is at rest, so the heart doesn't fill with enough blood to meet the body's needs. Knowing the type of heart failure you have will help your doctor select the best treatment for you.

- Refer you to an invasive cardiologist for cardiac catheterization (angiography), if you are experiencing chest pain. In this test, dye is injected into the arteries of your heart so that blockages can be seen on X-rays.
- Order a stress test to see how your heart responds when it is beating rapidly. The stress test will help determine whether your heart is being deprived of oxygen-rich blood because of blockages in your arteries.

## **Treatment Plan**

Medications to improve your heart's function and prevent complications, including:

- Beta blockers.
- Angiotensin-converting-enzyme (ACE) inhibitors, or angiotensin-receptor blockers (ARBs).
- Diuretics (water pills), if you are holding extra fluid in your body.
- Digoxin (for some patients).
- Nitrates and hydralazine in combination (particularly for some African American patients).
- Aldosterone antagonists (for some patients).
- Anticoagulants (blood thinners) or other types of anti-clotting medications, if you also have a common heart rhythm abnormality known as atrial fibrillation.
- Medications to control high cholesterol, high blood pressure, atrial fibrillation, and diabetes, if you have these health problems.

Healthy lifestyle habits, including:

- Maintaining a healthy body weight.
- Limiting alcoholic drinks, including beer and wine, to no more than one drink a day.
- Eating a heart-healthy diet, particularly limiting intake of salty foods and other sources of sodium.
- Exercising to strengthen your heart and muscles.
- Avoiding or limiting your use of non-steroidal anti-inflammatory drugs (NSAIDs), particularly COX-2 anti-arthritis drugs.

Use of a CPAP (continuous positive airway pressure) machine to breathe at night, if you have sleep apnea.

Participation in a cardiac rehabilitation program, where you will learn more about your heart failure and get support in making healthy lifestyle changes, managing medications, recognizing and responding to signs of worsening heart failure, and participating in an exercise training program.



A procedure to insert an implantable cardioverter-defibrillator (ICD), which can prevent sudden death, or a special type of pacemaker called a cardiac resynchronization pacemaker (CRT), which can help the heart pump more efficiently. Whether either of these devices is right for you will depend on your heart's pumping efficiency, your symptoms, and other factors that your doctor will discuss with you.

Surgery or catheter-based procedures to open cholesterol-clogged arteries in your heart, or to repair or replace leaky heart valves, if your doctor believes these problems are contributing to your heart failure.

## **Follow-Up Visits**

During follow-up appointments your doctor will:

- Weigh you.
- Check your blood pressure.
- Check how much fluid you are holding in your body.
- Ask about your ability to perform everyday activities.
- Discuss how well you're doing with your diet, exercise, and efforts to avoid unhealthy habits, such as alcohol use and smoking.
- Continue helping you and your family learn about your heart failure and how your condition is likely to progress. This knowledge will enable you to play an active role, together with your doctor, in making decisions about your care. While you are feeling well, it is important to think about what treatments you would want if your heart failure were to worsen in the future. For example, would you consider using a mechanical heart pump to help your weakened heart circulate blood? Would you want to be considered for a heart transplant? If your heart failure was very severe, would you want to deactivate your ICD to avoid receiving a shock in case of a life-threatening rhythm abnormality? At what point would you want to transition to comfort care or receive hospice services? Although it can be uncomfortable to face such difficult questions, it is important to discuss these matters with your family, and prepare a living will and/or advanced healthcare directive. Your doctor can guide you in making these important decisions.