

Congestive Heart Failure



Patient Booklet

What Is CHF ?

Congestive Heart Failure (CHF) is a condition where the heart is unable to supply the vital organs of the body with enough blood (carrying nutrition and oxygen) to meet the body's demands. It fails, in effect, to be an effective pump.

THE PUMPING ACTION OF THE HEART (Heart Cycle)

The pumping action of the heart produces a pumping (systolic) pressure and a resting (diastolic) pressure.

Heart Pumping



Example of normal values:

120 "over" 80

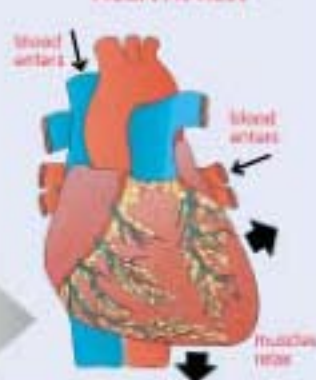
SYSTOLIC

120

80

DIASTOLIC

Heart At Rest



Recognizing the Symptoms

RIGHT-SIDED HEART FAILURE

This occurs when the right ventricle functions poorly. The volume of blood returning to the heart is decreased, causing swelling (edema) of the body. This fluid build-up is usually first noted in the ankles but can progress up the legs and into other parts of the body. Weight gain can also occur because of the extra water retained within the body.

LEFT-SIDED HEART FAILURE

This occurs when the left ventricle functions poorly. Water may build up within the lungs causing shortness of breath or coughing. The shortness of breath can occur during physical exertion (eg. as climbing a flight of stairs), while straining (eg. lifting a heavy object), or can happen when lying down. An individual may be awakened from sleep by this shortness of breath and start coughing. Feeling tired or weak can also occur.

What Causes CHF ?

Two common types of CHF are Systolic Dysfunction and Diastolic Dysfunction.

Systolic Dysfunction involves a weakness in the heart muscle resulting in an inability to squeeze (contract).

Diastolic Dysfunction involves the heart's inability to relax and rest after pumping blood out. Relaxation allows the heart to fill with blood.

Often, both Systolic and Diastolic dysfunction occur together. Changes in the blood vessels themselves may also contribute to the development of CHF.

Causes of Systolic Dysfunction:

- Coronary heart disease - diseased arteries that supply blood to the heart
- Myocardial infarction - a heart attack that previously caused permanent heart muscle damage
- Heart valve disease
- Hypertension - high blood pressure that is not decreased
- Long-time use of toxic substances (such as alcohol)
- Infection damaging the heart muscle
- Hypothyroidism - underactive thyroid gland

Causes of Diastolic Dysfunction:

- Hypertension - high blood pressure that is not decreased
- Diseases including amyloidosis, sarcoidosis, hemochromatosis
- Anemia - low red blood cell count
- Hyperthyroidism - overactive thyroid gland
- Hypertrophic cardiomyopathy - enlarged heart muscle without an obvious cause

Sometimes, even after many tests and exams have been done, the cause is still unknown.

Other conditions which can worsen CHF can either be treated or corrected include:

- Infections which put increased demands on the heart
- Pregnancy
- Pulmonary embolism - blood clot in the lungs
- High-salt diet
- Arrhythmia - irregular (or unusual) heartbeat
- Some medications (see Self Help section)

Diagnosing CHF

A healthcare provider will usually compile a medical history and perform a physical examination.

A number of tests will also be required which may include:

- Chest x-ray
- ECG - Electrocardiogram
- Blood oxygen test
- Heart ultrasound test - a form of x-ray
- Nuclear heart scan (eg, MUGA test)
- Heart catheterization - dye injected into the blood to trace its passage through the heart

You may be asked to walk on a treadmill (stress test) while having an ECG to see how far you can go before you experience any symptoms or to see if the ECG changes during exercise.

Self Help

Ask your healthcare provider about an exercise program to help you lose weight and strengthen your heart. Exercise may also give you more energy.

See a nutritionist to learn about a low-salt diet but do not use salt substitutes without your physician's approval. You may also have to decrease the amount of liquid you drink.

Monitor your progress closely and weigh yourself every day. Let your healthcare provider know immediately if either your weight increases significantly, or you experience more symptoms. You may need changes to your medication.

Emotional well-being and reducing stress are also important to reduce the strain on your heart.

Make sure to take your medicines on time. Forgetting to take them usually makes you feel worse. Missing doses may also cause more frequent visits to the hospital.

Always talk to your healthcare provider before taking any common pain relievers, as they may interfere with your CHF medication.

An annual flu vaccine and a pneumonia vaccine are also recommended.



Risk Factors

- Age - Risk becomes higher in the elderly
- Family history of heart disease
- Gender - Risk is higher in men than in women
- Smoking
- Obesity
- Diabetes
- Stress

STOP SMOKING



Treatment and Medications

The main goal of treatment is to improve length and quality of life. Any identified underlying cause will need to be treated, and factors known to worsen the condition should be removed to relieve the symptoms.

Rest, good nutrition (including a low-salt diet), and modified daily activities - combined with medication - can improve the patient's ability to undertake more exercise.

A healthcare provider will adjust the treatment program based upon the cause and severity of the condition.

All drugs can be grouped together by how they work (ie, their specific mode of action). The list below includes all the different types of drugs approved for use in the treatment of this condition at the time of publication. (Updated information is also available online at: www.diseases-explained.com.)

Always consult your healthcare provider if you have any questions or concerns about the medication you have been prescribed.

Drug Type

Effects

(In alphabetical order)

Aldosterone Antagonists	Inhibit the action of aldosterone in severe heart failure.
Angiotensin-Converting Enzyme Inhibitors (ACE-i)	Allow blood to flow more easily, making the heart's work easier. Also help to improve heart muscle recovery after a Heart Attack.
Beta-Blockers	Can slow the progression of CHF and reduce the need for hospitalization. Used in patients who have not had recent changes in medication.
Digitalis	Strengthens the pumping action of the heart.
Vasodilators (nitrates hydralazine)	Allow blood to flow more easily, making the heart's work easier. May also help (nitrates, to relax the blood vessels.

Other Drugs

Effects

Angiotensin II Receptor Antagonists	Used as an alternative to an ACE-i when side effects are a problem.
Dobutamine	Strengthens the pumping action of the heart. Only given by intravenous drip.
Natriuretic Peptide	May help remove fluid from the body. Only given by intravenous drip.
Phosphodiesterase Inhibitors	Improve the heart's pumping ability. Given the intravenous drip on a short term basis.

Other Treatment

Surgery

Surgical treatments might include a replacement of severely damaged valve or correction of Coronary Artery Disease by means of Angioplasty or a Coronary Artery Bypass.

In severe cases, a heart transplant may be recommended.

Excusive SA agent in:

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