

# An Introduction to Heart Failure

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## ■ What is Heart Failure

Heart failure refers to the inadequate contraction of the heart, resulting in an insufficient output of blood to meet the needs of various organs and tissues in the body.

## ■ Classification of Heart Failure

Classified into four levels (New York Heart Association) based on the degree of impact on physical activity:

### ■ **Class I : No limitation of physical activity.**

Normal activities do not cause excessive fatigue, palpitations, shortness of breath, or angina.

### ■ **Class II : Slight limitation of physical activity.**

Can engage in daily activities; however, strenuous exercise may lead to shortness of breath, fatigue, palpitations, or angina.

■ **Class III : Noticeable limitation of physical activity.**

Mild activity results in fatigue, palpitations, shortness of breath, or angina, but symptoms ease with rest.

■ **Class IV : Discomfort with any physical activity.**

Shortness of breath, fatigue, palpitations, or angina occur even at rest or minimal exertion.

■ **Disease Causes**

- Coronary artery heart disease.
- Myocardial degeneration or pathology.
- Hypertension.
- Heart valve disease.
- Arrhythmia.
- Medication effects.
- Other (such as viral infection, alcohol, etc.).

■ **Symptoms**

- Shortness of breath, especially after physical activity.
- Difficulty breathing when lying flat, requiring sitting up or using elevated pillows.

- Waking up at night due to difficulty breathing after falling asleep.
- Weakness, fatigue.
- Swelling in the lower limbs.
- Rapid weight gain (several kilograms within a few days).
- Coughing, with pink-colored sputum.

## ■ Treatment

The treatment goals aim to improve heart contractile function and alleviate symptoms of heart failure. Treatment methods include medication and lifestyle changes.

- **Medication Therapy** : Various medications are used, including diuretics, angiotensin-converting enzyme inhibitors/angiotensin receptor blockers, beta-blockers, aldosterone antagonists, angiotensin receptor-neprilysin inhibitors, pacemaker current (If) inhibitors, digitalis, vasodilators, and other drugs. It is essential to adhere to medication instructions for medication and

daily record blood pressure, heart rate, and weight to assist the doctor in adjusting the treatment.

- **Oxygen Therapy** : Oxygen can be used (flow rate of 2-3 L/minute) during episodes of difficulty breathing to alleviate symptoms.
- **Rest** : Reduce physical activity to lighten the heart's burden. Elevating the head of the bed or using a bedside table for rest can be helpful.
- **Cardiac Rehabilitation** : Discuss with your doctor the possibility of joining a cardiac rehabilitation program to enhance cardiovascular endurance and improve quality of life.
- **Cardiac Resynchronization Therapy (CRT)** : This involves a device that stimulates both the left and right ventricles simultaneously, restoring synchronous and effective contractions, increasing cardiac output, and improving heart failure symptoms and quality of life.
- **Surgical Treatment** : For heart failure due to congenital heart disease or valvular heart disease, surgical intervention may be considered.

## ■ Dietary Guidelines

### ■ Limit Sodium Intake :

- ◆ Keep daily salt intake below 3-5 grams (about a teaspoon).
- ◆ Consider using salt substitutes, but be cautious about potassium-containing low-sodium salt substitutes for those with good kidney function.
- ◆ Choose fresh foods over canned and pickled foods.
- ◆ Limit consumption of high-sodium vegetables such as seaweed, kelp, and carrots.

■ **Limit Fluid Intake** : Restrict fluid intake to 1000-1500 ml/day to avoid increasing the heart's workload.

■ **Maintain Ideal Body Weight** : Follow a controlled diet and calorie intake to maintain ideal body weight.

- ◆ The formula for ideal weight :

$$(\text{Height in meters})^2 \times 22 \pm 10\%$$

■ **Easily Digestible Foods** : Choose easily digestible foods and opt for small, frequent meals.

## ■ Daily Life Considerations

- Minimize factors that increase heart load, such as avoiding colds, infections, keeping a pleasant mood, and reducing physiological and emotional stress.
- For mild heart failure, continuing work is possible but requires more rest and reduced physical activity. Strenuous work, such as driving or heavy lifting, should be avoided.
- Maintain a regular lifestyle, with adequate sleep, morning and afternoon rest, and sleep breaks.
- During bowel movements, avoid breath-holding and straining. Consume high-fiber foods and use appropriate stool softeners.
- Quit smoking and avoid secondhand smoke, as nicotine in cigarettes can increase heart load.

## ■ Monitoring and Follow-up

- Please adhere to the prescribed medication schedule.
- If a dose is missed, take it as soon as remembered; do not double the dose at the next scheduled time.

■ Seek medical attention for the following symptoms:

- ◆ Shortness of breath
- ◆ Difficulty breathing during activity
- ◆ Nocturnal dyspnea
- ◆ The need to breathe in a sitting position
- ◆ Persistent cough
- ◆ Sudden weight gain exceeding 2 kilograms
- ◆ Increased nocturnal urination

The information provided is for reference only. Please discuss your clinical status with your physician.

If you have any questions, please contact

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