



心臟衰竭病人之護理指導 (英文)

The nursing instruction for patients with heart failure



♥ **Definition:** Commonly known as heart weakness, due to impaired heart function, unable to produce enough blood to meet Body and tissue metabolism needs.

♥ **Symptoms:** tiredness, poor exercise tolerance, cough, dyspnea, paroxysmal nocturnal breathing, sitting breaths, jugular vein distension, poor appetite, cold limbs, decreased urine, general or limb edema, pulmonary edema, Hypertrophy of the heart and liver, frequent urination at night.

♥ **The New York Heart Association (NYHA)** is divided into four levels:

| level | Symptoms |
|-------|--|
| I | Without physical activity restrictions, daily activities are asymptomatic. |
| II | Physical activity is lightly restricted and comfortable at rest, but when engaged in daily activities (such as climbing stairs), you may feel difficulty breathing and fatigue, chest tightness, palpitations, or symptoms of angina pectoris. |
| III | Physical activity is obviously limited and relieved at rest. However, when doing minor activities (such as brushing teeth), fatigue, heart palpitations, difficulty in breathing, chest tightness or angina pectoris will appear. |
| IV | Unable to comfortably perform any activity, breathing difficulties, fatigue, chest tightness, or angina pectoris may occur while resting. |

♥ **Notes for daily life:**

1、**Record of weight, pulse and blood pressure:** Get up every morning, fix your clothes, measure the weight, pulse and blood pressure after going to the toilet and before meals, and check whether your feet are edema with your thumb, and record

it in detail and bring it to the clinic doctor.

2 、 Moisture control: It is recommended that the total moisture content of solid foods in a day is 1000 ~ 1500 cc and dispersed in three meals (do not drink water before going to bed). The average meal is 333 ~ 500 cc. Try to eat foods with less water content such as dry rice and steamed buns. The water content of food is as follows:

| | |
|------------|--|
| 50% water | dry rice, vegetables, fish, eggs, meat, steamed buns |
| 80% water | porridge, steamed eggs, fruit, ice cream, pudding, beancurd, yogurt, jelly |
| 100% water | milk, tea, soup |

3 、 “Salt and sodium reduction” diet:

| |
|---|
| 5-6 g salt (2000-2400 sodium) for general healthy people |
| Sodium restriction in patients with heart failure <5 g of salt (<2000 sodium) |
| The deterioration of heart failure symptoms, edema <3 g of salt (<1200 sodium) |

- ✓ Limit sodium intake to reduce the retention of water from excess sodium ions.
- ✓ Add more natural and fresh ingredients to make food more delicious, instead of processed products, such as: shallots, ginger, garlic, onions, cilantro, celery, lemon, pineapple, apple, star anise, cinnamon, rosemary, pasiri, black Pepper, wolfberry, etc.
- ✓ Do not eat vegetable juice, gravy, pickled, smoked, braised meat, dry meat, pickled cucumbers, canned food, pickles, do not drink soup, a bowl of 300 ml Kanto soup contains 615 mg sodium.
- ✓ Avoid large amounts of foods high in sodium, such as: seaweed, kelp, kelp sprouts, seawater seafood, cheese, etc.



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- ✓ It's not salt that makes sodium. The toast may seem tasteless, but it has 300 milligrams of sodium per slice. "The more butter there is in bread, the more salt there is. " Chocolate bread, polo bread, puff pastry, etc. There are also 200 to 240 mg of sodium; chocolate sandwich biscuits have 500 mg of sodium; a can of sports drink contains 252 mg of sodium.

- ✓ Do not add seasonings to semi-finished dishes, and reduce their use, such as: sweet and spicy stir-fried vegetables, fried peppers with tribute balls, steamed fish with bean drum.
- ✓ Condiments have " sodium ", and less sodium-containing sauces such as salt, monosodium glutamate, soy sauce, oyster sauce, black vinegar, curry cubes, miso etc. are used less; the conversion of various types of seasonings and table salt sodium is shown in the table:

| Salt (heavy) | Salt (spoon) | Sodium | Black vinegar | Soy sauce | Ketchup | Sweet sauce |
|--------------|--------------|---------|--------------------|----------------------|----------------------|-----------------------|
| 1 gram | 1/4 teaspoon | 400 mg | 1 teaspoon (5ml) | 1.2 teaspoons (6ml) | 2.5 teaspoons (12ml) | 4.4 teaspoons (22ml) |
| 3 gram | 1/2 teaspoon | 1200 mg | 3 teaspoons (15ml) | 3.6 teaspoons (18ml) | 7.5 teaspoons (36ml) | 13.2 teaspoons (66ml) |
| 5 gram | 1 teaspoon | 2000 mg | 5 teaspoons (25ml) | 6 teaspoons (30ml) | 14 teaspoons (70ml) | 22 teaspoons (110ml) |

- ✓ For a small amount of salt, prepare a graduated container, pour 3 grams of salt into it, dissolve it in 50 ml of water, and use only this salt water to flavor cooking throughout the day.

- ✓ Reduce external food, only choose cooking dishes, external food over hot water minus salt or dilute with water.
- ✓ Look carefully at the nutrition facts label and choose low-sodium foods that contain less than 200 milligrams per 100 grams.



4 、 Maintain ideal weight BMI 18.5-24:

$$BMI = [weight / height (meters)^2]$$

- ✓ Example: weight 56 kg, height 160 cm (1.6 m) BMI = $56 \div 1.6 \div 1.6 = 22$
- ✓ Eat a full diet and exercise for at least 30 minutes a day to maintain a consistent exercise habit.

5 、 **Activity is good for your heart:** moderate aerobic activity or stretching is recommended at least four times a week, gradually lengthening the duration of activity, such as: Walk 10 minutes, 30 minutes, 1 hour, to "activities also can say out the words of" the level of activity for load, activities to keep the heart in the [220 - age] x 50% ~ 70%; Suggestions to the rehabilitation department outpatient cardiac rehabilitation training arrangement, gradually increase the workout, training of cardiac function.



6 、 Instructed by the physician to take medicine on time:

Studies have shown that regular medication can reduce damage to other organs and reduce hospitalization rates.

- ✓ **ACEI, Angiotensin Converting Enzyme Inhibitor** (Ceporin, Synbot, Tanatril, Tritace): Vasodilation, lowering blood pressure, reducing heart load, side effects include dizziness, dry cough, blood Increased potassium.

- ✓ **ARB, Angiotensin II Receptor Blockers** (Aprovel, Cozaar, Doivan, Edarbi, Olmetec): Lower blood pressure, reduce heart load, side effects: lethargy, Headache, diarrhea, etc.
- ✓ **ARNI, Angiotensin Receptor-Neprilysin Inhibitor** (Entresto): Inhibits renin, angiotensin system, inhibits vasoconstriction, lowers blood pressure, reduces aldosterone, delays cardiac hypertrophy, side effects: hypotension, hyperkalemia.
- ✓ **BETA blocker** (Betalog, Concor, Dilatrend, Nebilet): slows the heartbeat, lowers blood pressure and reduces the burden on the heart.
- ✓ **SGLT₂ inhibitor, Sodium-Glucose Cotransporter 2 Inhibitors** (Forxiga, Jardiance, Qtern, Glyxambi, Xigduo): Acting as diuretics, blood glucose and blood pressure lowering agent to increase the excretion of glucose and sodium and thus reduce the burden of the heart. Pay extra attention to prevent urinary tract infection.
- ✓ **MRA, Aldosterone receptor antagonist** (Aldactone, Inspra): To slow down cardiac hypertrophy. Side effects: Elevated blood potassium level.
- ✓ **Diuretics** (Lasix, Burinex, Fluitran, Natrilix): To excrete excessive fluid in vivo to relieve heart failure symptoms.
- ✓ **Digitalis (Digoxin)**: To increase myocardial contractility, improve heart failure symptoms. Regular blood tests for pharmacovigilance are required due to weak safety profiles. Symptoms of overdose include poor appetite, drowsiness, xanthopsia, nausea, vomiting, diarrhea, arrhythmia,

bradycardia. Heart rate monitoring is required prior to dosing and frequent bradycardia should be reported to the doctor. Prompt medical assistance is required once developed the above symptoms or perceived discomfort.

- ✓ **Inhibitor (Coralan):** To reduce heart rate, increase coronary flow reserve, improve heart failure symptoms. Side effects: Bradycardia, arrhythmia, phosphene.



♥ Warm little exhort:

- ✓ Dryness of the mouth: water with a small amount of lemon, mouthwash, ice cubes, throat sugar, and no MSG.
- ✓ Proper rest, keep a regular life, early to bed and early to rise, avoid heavy work, avoid overwork stress, increase the burden of the heart.
- ✓ Avoid increasing the heart load: coffee, alcohol, strong tea and other foods cause tachycardia; Smoking and second-hand smoke, nicotine causes vasoconstriction; Avoid temperature difference is too big not wash three warm, pay attention to keep warm in winter.
- ✓ Avoid infection anemia cardiovascular obstruction hypertension hyperglycemia immune or endocrine disease control poor factors that may worsen heart failure; frequently wash hands with foam, pay attention to whether there is melena, eat less high-cholesterol food, take medication regularly, and return.
- ✓ Avoid forceful defecation, should adopt high fiber diet or soft stool medicine according to doctor's advice.

- ✓ Take the medicine regularly, if you forget to take it as soon as possible, do not take it twice next time.
- ✓ Do not go to the pharmacy to buy proprietary drugs or unknown packages of drugs, especially do not take steroids or non-steroidal anti-inflammatory painkillers NSAIDs, or folk medicine and herbal medicine, not only unclear efficacy, more likely to accelerate the deterioration of your liver and kidney function.
- ✓ If body weight day increased by more than 1 kg, one week increased more than 2 kg, is acute hydrocephalus the signs, should strictly control the salt and water, and early clinic.
- ✓ Foot or foot dorsum foot edema or shortness of breath, side-by-side breathing, cough, salt and water should be strictly controlled, and the clinic should be early.
- ✓ The symptoms of acute deterioration should go to the emergency department for medical treatment.

Referensi:

- Dębska-Kozłowska, A., Książczyk, M., & Lelonek, M. (2021). Where are we in 2021 with heart failure with reduced ejection fraction?—current outlook and expectations from new promising clinical trials. *Heart Failure Reviews*, 1-12. <https://doi.org/10.1007/s10741-021-10120-x>
- Maddox, T. M., Januzzi Jr, J. L., Allen, L. A., Breathett, K., Butler, J., Davis, L. L., ... & Youmans, Q. R. (2021). 2021 update to the 2017 ACC expert consensus decision pathway for optimization of heart failure treatment: answers to 10 pivotal issues about heart failure with reduced ejection fraction: a report of the American College of Cardiology Solution Set Oversight Committee. *Journal of the American College of Cardiology*, 77(6), 772-810. <https://doi.org/10.1016/j.jacc.2020.11.022>
- McDonagh, T. A., Metra, M., Adamo, M., Gardner, R. S., Baumbach, A., Böhm, M., ... & Kathrine Skibelund, A. (2021). 2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure: Developed by the Task Force for the diagnosis and treatment of acute and chronic heart failure of the European Society of Cardiology (ESC) With the special contribution of the Heart Failure Association (HFA) of the ESC. *European heart journal*, 42(36), 3599-3726.

<https://doi.org/10.1093/eurheartj/ehab368>

Ponikowski, P., Voors, A. A., Anker, S. D., Bueno, H., Cleland, J. G., Coats, A. J., ... & Jessup, M. (2016). 2016 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure: The Task Force for the diagnosis and treatment of acute and chronic heart failure of the European Society of Cardiology (ESC). Developed with the special contribution of the Heart Failure Association (HFA) of the ESC. *European journal of heart failure*, 18(8), 891-975. <https://doi.org/10.1093/eurheartj/ehw128>

Yancy, C. W., Jessup, M., Bozkurt, B., Butler, J., Casey, D. E., Colvin, M. M., ... & Hollenberg, S. M. (2017). 2017 ACC/AHA/HFSA focused update of the 2013 ACCF/AHA guideline for the management of heart failure: a report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines and the Heart Failure Society of America. *Journal of the American College of Cardiology*, 70(6), 776-803. https://doi.org/10.1016/j.jacc.2017.04.025?_ga=

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