

Heart Failure Rehabilitation Exercise Guidance during Hospitalization

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■ Purpose

To provide guidelines for rehabilitation exercise for heart failure patients during hospitalization. The main objectives of cardiac rehabilitation during hospitalization are :

- Stabilizing the patient's condition, preventing or treating complications.
- Reducing the detrimental effects of inactivity, such as muscle weakness, venous thrombosis, orthostatic hypotension, etc.
- Assisting patients in understanding their prognosis to reduce anxiety.
- Enhancing the patient's activity level before discharge to improve daily life functionality.

■ Content

After evaluation by a cardiologist and confirming stable conditions, the physical therapist will assist in the first stage (hospitalization stage) of rehabilitation exercise. The following are relevant exercise principles and precautions. If you have any questions, please immediately inform your physical therapist.

■ In the Intensive Care Unit (ICU) :

- ◆ Limb joint movements in bed (exercise method determined by the physical therapist based on clinical conditions), with emphasis on ankle movement.
- ◆ Semi-sitting exercises in bed, practicing breathing exercises and pursed-lip breathing. Practice whenever possible, and if there is phlegm or sputum, cough it out; the physical therapist will assess the need for chest percussion.
- ◆ Start each limb movement with 5 repetitions. Increase by 1-2 repetitions for each movement daily (adjusting based on the absence of discomfort

symptoms). Perform 2-3 times a day (adjust frequency according to the clinical conditions; do not force it).

■ In the Regular Ward :

- ◆ Activities in the ward, such as going to the bathroom, grooming, sitting in a chair, etc., are encouraged.
- ◆ Limb joint exercises and stretching exercises (exercise method determined by the physical therapist based on your condition), walking (initially not exceeding 20 meters, mainly within the ward; gradually increase distance if walking condition is good, and focus on outside the ward).
- ◆ Use the Rating of Perceived Exertion (RPE): If the perceived exertion during rest is 6, and at maximum effort is 20, maintain the RPE during exercise below 13.
- ◆ Under the supervision of a physical therapist or nursing staff, progressively increase exercise intensity based on overall recovery (sitting up in bed → sitting on the edge of the bed → standing →

step exercises → walking exercises → stairs climbing). The first walking exercise and stairs climbing (depending on the clinical conditions) should be done under the supervision of a physical therapist or nursing staff. After confirming there are no issues, you may practice independently.

- ◆ Ideal single exercise duration is greater than 10 minutes (adjust based on personal tolerance, with the RPE maintained below 13 and without causing discomfort).

If you experience chest pain, difficulty breathing, dizziness, nausea, fatigue, palpitations, rapid or slow heartbeat during exercise, stop the activity immediately, and inform healthcare providers.

■ Precautions

- Do not lift heavy objects or hold your breath without the evaluation of the attending physician.

- If dizziness, difficulty breathing, confusion, unsteady gait, angina, or a decrease in heart rate occurs during exercise, stop the exercise immediately and seek prompt medical attention.
- If you feel unwell on the same day or if vital signs such as body temperature, pulse, and respiration are unstable, do not exercise forcefully to prevent accidents.

■ Home Activity Plan

- Perform limb joint exercises at least once a day, exercise 2-3 times a week.
- In the presence of concurrent chronic obstructive pulmonary disease or continues to have phlegm, perform chest percussion and postural drainage after waking up and before going to bed.
- Maintain the RPE during exercise below 13.
- Do not lift heavy objects or hold your breath.
- Daily activities should not be too intense; refer to the table for Metabolic Equivalent of Task (MET) values.

Start with activities with lower MET values and gradually increase.

■ This home activity plan is suitable for heart failure patients within 4 weeks after discharge. After stabilizing the condition, there may be a need for the second stage of cardiac rehabilitation; please inquire about the details during follow-up appointments.

Comparison Table of Daily Activities and their Oxygen Consumption (METs/Hr)

Activity Intensity	METs/Hr	Activity
Very Light	1.3	Standing.
	1.5	Reading or talking on the phone.
	1.8	Sitting in class, studying, or taking notes.
Light	2.0	Slow walking (1.6 - 3.2 km/h), playing a musical instrument, arranging flowers, light office work, using light hand tools, standing light work (bartending, cashier, electronic assembly, filing).
Light to Moderate	2.5	Walking downstairs, cooking, light house cleaning, shopping, pushing a stroller.
	2.5 - 3	Normal walking (3.2 - 4 km/h), slow-paced dancing, golf (riding a cart), bowling, fishing.
	3.0	Standing work involving some effort (assembly or repair of heavy parts, welding, car repair,

		packing, etc.), caring for patients (nursing work), driving a bus or truck, car washing, window washing, mopping the floor with a mop, playing moderately intense games with children, cleaning the appearance of the house, vacuuming the floor, picking fruits or vegetables, scrubbing the floor.
Moderate to Vigorous	3.5	Fast walking (5 km/h), weightlifting, water aerobics (recreational swimming), golf (without carrying clubs), canoeing or rafting (without carrying heavy loads or constant movement at a speed not exceeding 5 km/h).

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

If you have any questions, please contact

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