



Progressive Mobilization Program for Patients With Acute Heart Failure Reduces Hospital Stay and Improves Clinical Outcome

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Supplementary Figure

Exercise program: Stage I

- Purpose:
 - To prevent contractures
- Programs:
 - Elevating the head of the bed
 - Passive ROM exercise (upper and lower extremity and trunk)



Exercise program: Stage II

- Purpose:
 - To improve muscle power output
 - To maintain trunk muscles strength and sitting balance
- Repetitions:
 - 3–5 repetitions
- Programs:
 - Manual resistance training of lower extremity (Eccentric contraction)
 - Active ROM exercise (Trunk flexion/extension, rotation, and lateral bending)



Exercise program: Stage III

- Purpose:
 - To increase muscle strength, flexibility, and balance for the passive transfer
- Intensity:
 - <30% of 1-RM, RPE <12
- Repetitions:
 - 5–10 repetitions
- Programs:
 - Calisthenic exercise (e.g., trunk exercise and reaching in the sitting position)
 - Keep standing position
 - Weight shift and stand up



Exercise program: Stage IV

- Purpose:
 - To improve standing balance and endurance
- Intensity:
 - 30–40% of 1-RM, RPE 12–13
- Repetitions:
 - 10–20 repetitions
- Programs:
 - Calisthenic exercise (e.g., squat, weight shift in the standing position, and stepping in the standing position [slow])
 - Endurance training (e.g., stepping in the sitting position [>30 sec])



Exercise program: Stage V

- Purpose:
 - To improve gait ability and to achieve walking endurance to the bathroom
- Intensity:
 - 30–40% of 1-RM, RPE 12–13
- Repetitions:
 - 10–20 repetitions
- Programs:
 - Calisthenic exercise (e.g., squat, bridge + stepping, and reaching in the standing position)
 - Endurance training (e.g., stepping in the standing position [>30 sec])



Exercise program: Stage VI, VII

- Purpose:
 - To increase muscle strength and exercise tolerance
 - To improve the physical function that is required for ADL post-discharge
- Programs:
 - Endurance training (e.g., ergometer, by walking)
>5 min, RPE <12
 - Resistance training using dumbbells and weight machines
40%–60% of 1-RM, RPE <15, 8–15 repetitions
 - Advanced training (e.g., one leg standing, one leg squat, side lunge, and one arm chest press)
30%–40% of 1-RM, RPE 12–13

