**Table 1** Personalized cardiac rehabilitation program.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Level | Level 1 | Level 2 | Level 3 | Level 4 | Level 5 | Level 6 | Level 7 |
| Assessment | unconscious | unconscious | conscious | conscious | conscious | conscious | conscious | conscious |
|  | muscle strength | upper limb muscle strength＜3 level | upper limb muscle strength≥3 level | limb muscle strength≥3 level | limb muscle strength≥4 level | limb muscle strength≥4 level | lower limbs muscle strength 5 level | lower limbs muscle strength 5 level |
|  | NYHA classification | III-IV | III-IV | III | II-III | II-III | II-III | II-III |
| Rehabilitation plans and programs | Breath training | / | / | progressive breathing muscle training | progressive breathing muscle training | progressive breathing muscle training | progressive breathing muscle training | progressive breathing muscle training |
|  | Range Of Motion (ROM) | passive ROM once per day | active/passive ROM once per day | active ROM once per day | active ROM once per day | active ROM once per day | active ROM once per day | active ROM once per day |
|  | Treadmill training | passive bed treadmill training for 10-20 min | passive bed treadmill training for 10-20 min | bed treadmill training for 10-20 min | bedside treadmill training for 10-20 min | bedside treadmill training for 10-20 min | bedside treadmill training for 10-20 min | bedside treadmill training for 10-20 min |
|  | Resistance training | / | / | progressive resistance training 15 times per group (elbow flexion and extension movements), 3 groups, rest for 2 minutes between each group | progressive resistance training 15 times per group (elbow flexion and extension movements for 3 groups and abdominal crunch for 1 group and hip bridge for 1 group), rest for 2 minutes between each group | progressive resistance training 15 times per group (elbow flexion and extension movements for 3 groups and abdominal crunch for 1 group and hip bridge for 1 group), rest for 2 minutes between each group | progressive resistance training 15 times per group (elbow flexion and extension movements for 3 groups and abdominal crunch for 1 group and hip bridge for 1 group), rest for 2 minutes between each group | progressive resistance training 15 times per group (elbow flexion and extension movements for 3 groups and abdominal crunch for 1 group and hip bridge for 1 group), rest for 2 minutes between each group |
|  | sitting in bed (bed head elevation＞45°) | / | sitting in bed 5 min，2 times per day | sitting in bed 5 min，2 times per day | sitting in bed 5 min，2 times per day | sitting in bed 5 min，2 times per day | sitting in bed 5 min，2 times per day | sitting in bed 5 min，2 times per day |
|  | sitting at the edge of the bed | / | / | sitting at the edge of the bed 5 min，2 times per day | sitting at the edge of the bed 5 min，2 times per day | sitting at the edge of the bed 5 min，2 times per day | sitting at the edge of the bed 5 min，2 times per day | sitting at the edge of the bed 5 min，2 times per day |
|  | standing and stepping | / | / | / | standing/stepping for 2 min | standing/stepping for 2 min | standing/stepping for 5 min | standing/stepping for 5 min |
|  | Bed to Chair Transfer | / | / | / | sitting in chair 5min per day，2 times per day | sitting in chair 5min per day，2 times per day | sitting in chair 5min per day，2 times per day | sitting in chair 5min per day，2 times per day |
|  | walkingbedside bed | / | / | / | / | walking training by supported by walker for 2min | walking training beside bed for 2 min | walking training for 2 min |
| Goal | Heart rate response (compared with resting heart rate) | increase 5-15 beats per minute | increase 5-15 beats per minute | increase 20-30 beats per minute | increase 20-30 beats per minute | increase 20-30 beats per minute | increase 20-30 beats per minute | increase 20-30 beats per minute |
|  | Borg scale score |  | ＜12 | 12-13 | 12-13 | 12-13 | 12-13 | 12-13 |
|  | Perme score | / | sitting up on bed for a score of 3 | meditation balance for a score of 3 | sit-to-stand transfer or standing balance for a score of 3 | bed to chair transfer for a score of 3 | walking training for a score of 3 | / |

**Table 2** The follow-up schedule.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Baseline | 1 month | 3 months | 6 months |
| Smoking | X |  |  |  |
| Sports | X |  |  |  |
| Participate in phase II cardiac rehabilitation |  |  |  |  |
| Psychological assessment | X |  | X | X |
| Nutritional assessment | X | X |  | X |
| Rehospitalization |  |  |  |  |
| Cardio-cerebrovascular events |  |  |  |  |
| 36-item short-form (SF-36) | X | X | X |  |