# Effect Observation of Persistent Family Rehabilitation Guidance for the Elderly after Hip Re-fracture Surgery

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## ABSTRACT

**Objective:** To explore effect of persistent family rehabilitation guidance on the elderly after hip re-fracture surgery.

**Methods:** Conclude specific methods of persistent family rehabilitation guidance for elderly patients with hip re-fracture, observe patients' hip joint function score, understanding towards rehabilitation knowledge and other indicators.

**Result:** Provide family rehabilitation guidance from creation of safe environment, functional exercise and guidance and other aspects, and then Harris score, knowledge awareness level and other indicators can be significantly improved, with exact effect.

**Conclusion:** Extending rehabilitation guidance to the period after discharge enjoys such advantages as improving hip joint function, improving daily living skills, etc., and thus can be used as an effective measure for rehabilitation functional exercise for hip re-fracture surgery.

**Keywords:** Harris score, persistent family, rehabilitation guidance

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## INTRODUCTION

In recent years, due to aging of population, number of elderly hip fracture incidence gradually increases, with an average growth rate of 1% to 3% per year, resulting in a serious impact on health of the elderly (1). Meanwhile, statistics show that number of hip fractures in all regions worldwide significantly increases, with annual number of hip fracture people over 1.6 million (2). Thus, it is true that elderly hip fracture patients gradually increase in number, while incidence of hip re-fracture shows increase trend.

At this stage, this kind of fracture may be dealt with surgery and non-surgical treatment, in which the latter is mainly used for severe organ disease, poor health, stability and other types of patients, but this method often leads to cardiovascular, infection, pneumonia, and other serious complications, endangering lives and health of patients. Thus, patients more and more tend to be treated with surgery in clinics (3). For patients with hip re-fracture, surgery tends to be chosen in clinics (4). However, after surgery, patients' hip function, self-care capacity is still low. Hence, it is very important to explore effective measures to extend persistent guidance to patients' families. In this way, patients can have timely referral, functional exercises for the sake of speedy recovery. This paper summarizes specific methods of family guidance, extends rehabilitation guidance to the period after discharge, with a view to improving hip function score of elderly patients.

## SUBJECTS AND METHODS

Broadly speaking, hip fracture refers to fracture of tissues near human hip joints, such as

femoral head, acetabulum, pelvis and other dislocations. In narrow sense, hip fracture refers to fracture of femoral trochanter as well as part of femoral neck. This kind of fracture is common among the elderly, with relatively high mortality and morbidity, an important cause for the elderly action barrier which greatly reduces life quality of the elderly. Studies have shown that the higher the age, the greater probability of occurrence of hip fracture. According to reports, hip fractures mostly occur in the range of 65-75 years age group. Currently, surgical treatment is usually provided for patients in clinics in order to achieve the purpose of reducing incidence of complications. The sketch of hip re-fracture is shown as Figure 1. The X-ray of hip re-fracture is shown as Figure 2.

This research method is to apply persistent family rehabilitation guidance in postoperative care process of patients after hip re-fracture surgery, including rehabilitation guidance on the aspects of family environment, functional exercise, and psychology, etc. After discharge, hospital should arrange a physician to follow up patients, ensure four monthly telephone follow-ups and 1 on-site follow-up. After two months, conduct 1 on-site follow-up while telephone follow-up times can be reduced to 2 times. During follow-up, physicians should have a comprehensive analysis of patients' rehabilitation, timely change misconduct and provide guidance by considering patients' rehabilitation, with specific contents as follows:

First, during follow-up, physicians instruct family members to create a safe living environment for patients. For example: (1) Special personal care: Patients lack of self-care ability need special personal care, guide patients to have off-bed activity as much as possible; (2) Living room setting: Install handrails on chairs, place sofa with suitable height, set

lighting switch home environment with dual control; (3) Channels and ground: Do not raise small animals, set anti-skid floor, do not pile up sundries within the scope of aisle, keep carpets flat; (4) Bathroom setting: Toiletries should be readily desirable, place skid mats, install handrails; (5) Kitchen setting: Install communication tools in the kitchen to improve ventilation. In addition, physicians should also inform family members of importance of psychological intervention, suggest that family members should comfort the elderly, provide family warmth and create a harmonious atmosphere so that they maintain a pleasant mood (5).

Second, provide exercise guidance. From sitting position, ankle exercise to straight leg raise, walking, step by step, see specific situation in Table 1. After patients' hip function has been significantly improved, physicians can guide training from sitting to positioning, and from positioning to walking (6). Wherein, the former means that patients move the affected limb to the bedside with the rear healthy leg down to the ground, the affected leg touching the ground without load, upper affected limb leans on a crutch, gradually stand with supporting force formed by the healthy leg and hands. The latter means that the affected leg with crutch gradual transits from no weight-bearing to partial weight-bearing, gradually transit to full weight bearing, walk in the room if there is no pain, three times a day with walk steps controlled in 15 steps, and then slowly lengthen the distance (7). It is worth noting that physicians should instruct patients not to perform heavy manual labor and some vigorous exercise, and avoid crossing legs (8).

Finally, observe effect of family rehabilitation guidance. After completion of the above rehabilitation guidance, evaluate hip joint function, rehabilitation knowledge

awareness, daily living ability of elderly patients, specifically: (1) Hip joint function evaluation: in clinics, Harris score is usually applied to evaluate from the aspects of hip joint mobility, deformity, pain, etc. The total score is 100 points divided into four levels. See the specific situation in Table 2. Wherein, scoring 70 points or less is evaluated as poor; scores in the 70-79 points range is evaluated as medium; scores in the 80-89 points range is evaluated as good; scores in the 90-100 points range is evaluated as excellent. (2) Health knowledge awareness: investigate the patients with health education questionnaire to assess patients' awareness of health education. Investigation contents include clinical manifestations and harm of complications, dietary considerations, rehabilitation training methods, method and effect of wearing stretch socks. The total score is 100 points. See the specific situation in Table 3. (3) Daily living ability: Apply Barthel to evaluate patients' daily life situations, divided into poor (less than 40 points), medium (40-60 points), good (over 60 points).

## RESULTS

Table 2 shows that, when discharged, patients' Harris score, rehabilitation knowledge awareness, Barthel index score is (47.52 ± 0.12) points, (52.54 ± 3.21) points, (33.64 ± 0.28) points respectively; after family rehabilitation guidance is given, Harris score, rehabilitation knowledge awareness, Barthel index score is (85.24 ± 1.79) points, (89.87 ± 2.64) points, (77.84 ± 3.21) points respectively. It reveals that provision of family rehabilitation guidance for patients after hip re-fracture surgery can significantly improve daily living ability, hip function, etc. of elderly patients.

## DISCUSSION

Hip joint is an important joint for human activities, with the functions of walking and squatting. Hip re-fracture surgery can preserve moveable function, but needs systematic and professional rehabilitation guidance. Studies have shown that extension of rehabilitation guidance to home after discharge can effectively reduce incidence of complications, ensure operation effect and improve hip joint function score. Obviously, this can also effectively improve self-help ability of patients.

After hip re-fracture surgery, patients' living ability significantly decreases as elderly patients have multiple diseases, take prolonged bed rest, etc. At discharge, the majority of elderly patients cannot independently walk up and down stairs, relieve oneself nor conduct other daily activities. In addition, some patients excessively fear that they will fall over, and thus have serious fear towards independent daily activities. In this study, after administration of family rehabilitation guidance, Barthel index significantly improves. Furthermore, to raise rehabilitation knowledge awareness is also an important part of rehabilitation guidance. Rehabilitation knowledge education in this study contains dietary considerations, complications prevention, rehabilitation training methods, etc. During on-site follow-up, the author found that even rehabilitation knowledge publicity is conducted among the elderly, the effect is not significant as they are difficult to quickly grasp. Therefore, relevant rehabilitation knowledge needs to be often explained in everyday life (9). It can be known that, in order to improve rehabilitation knowledge awareness of elderly patients, physicians should strengthen health education for family members, guide them to explain to elderly patients in daily life, and thereby achieve the purpose of improving knowledge awareness of

patients. In this study, after administration of family rehabilitation guidance, knowledge awareness of elderly patients improves significantly.

## CONCLUSION

In summary, after discharge, physicians' family rehabilitation guidance for hip re-fracture patients can effectively improve daily living ability of elderly patients and improve their hip function. With relatively high value, it can provide new ideas for postoperative rehabilitation nursing.

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Table 1: Rehabilitation training content

| Time | Content | Intensity |
|---|---|---|
| | Stay in good posture | |
| | When at semireclining posture, ensure that hip flexion is less than 45 ° | |
| The first day after discharge | Have isometric contraction exercise of the quadriceps muscle | Perform 15-20 times each group, three groups / d |
| | Actively conduct ankle flexion and extension exercises | Perform 15-20 times each group, three groups / d |
| | Exercise deep breathing | Perform 10 times each group, three groups / d |
| | Repeat the above exercises | |
| The second day after discharge | Isometric contraction exercise of gluteus maximus | Perform 15-20 times each group, three groups / d |
| | Flexion and extension exercises of knee, hip joint | Perform 15-20 times each group, three groups / d |
| | Isometric contraction exercise of iliopsoas | Perform 15-20 times each group, three groups / d |
| | Repeat the exercise of the previous day | |
| The third day after discharge | Isometric contraction exercise of adductor | Perform 15-20 times each group, three groups / d |
| | Isometric contraction exercise of gluteus medius | Perform 15-20 times each group, three groups / d |
| | For patients with total hip replacement , conduct sitting exercise | |
| The fourth day after discharge | Repeat exercise of the previous day | |
| | Sitting exercise | Perform 15-20 times each |

| | | |
|---|---|---|
| | | group, three groups / d |
| | For patients with internal fixation surgery, the fourth-day exercise can be repeated. | |
| The fifth day after discharge | Standing ear protraction exercise | Perform 15-20 times each group, three groups / d |
| | Straight leg raise exercise | Perform 15-20 times each group, three groups / d |
| | Hip abduction exercise | Perform 15-20 times each group, three groups / d |
| The second week after discharge | Repeat the above exercises | |

Table 2: Observation of patients' self-help ability, knowledge awareness, etc.

| | **Harris score** | **Rehabilitation knowledge awareness** | **Barthel** |
|---|---|---|---|
| When discharged | 47.52±0.12 | 52.54±3.21 | 33.64±0.28 |
| Three months after family rehabilitation guidance | 85.24±1.79 | 89.87±2.64 | 77.84±3.21 |

Fig. 1: The sketch of hip re-fracture.

Fig. 2: The X-ray of hip re-fracture (where the arrow directs).