

Grant, S., St John, W., & Patterson, E. (2009). Recovery from total hip replacement surgery: "It's not just physical." *Qualitative Health Research*, 19(11), 1612-1620.

### **Abstract**

In this grounded theory study we explored the process of recovery following total hip replacement (THR) surgery, from the perspective of the older adult. In-depth interviews were conducted with ten patients aged more than 65 years who had been discharged from hospital for 4-6 months following THR surgery. Findings showed that three distinct, but interrelated, processes constitute the physical, psychological and social recovery process: Reclaiming physical ability, Re-establishing roles and relationships and Refocusing self. Intervening conditions affecting the recovery process include co-morbid conditions, the personal outlook of the patient, their relationships, and social support. The recovery process can lead to changes in personal and social functioning that patients might not anticipate. Awareness of potential changes will inform patient education and enable clinicians to develop strategies that facilitate THR patients' return to health.

**Keywords:** - aging; arthritis; chronic illness; discharge planning; grounded theory; healing; post-discharge care; psychosocial issues; rehabilitation

The focus in this study was older adults' perspective on the process of recovery following total hip replacement (THR) surgery. Grounded theory study methodology was employed, using in-depth face-to-face semi-structured interviews with ten patients aged more than 65 years, 4-6 months following THR surgery at a major regional hospital in Southeast Queensland, Australia.

## **Background**

Between July 2001 and June 2002, 26,686 THR operations were performed in Australia (Graves et al., 2004), with 176 people aged 65 years or older undergoing THR at the hospital study site in the period 1st July 2007 - 30th June 2008 (Gold Coast Health Services District, Decision Support Unit, 2008). The Australian Bureau of Statistics (1999) identified that 91% of those more than 65 years return home to private dwellings to be cared for by family members following a THR. Pathology leading to THR surgery includes debilitating pain associated with degeneration of the hip joint from osteoarthritis. The Australian Institute of Health and Welfare (AIHW) (2008) reported that in 2004-2005 around 3 million Australians (15% of the population) suffered from arthritis, 1.6 million of whom had osteoarthritis. The percentage of the population suffering from arthritis is similar to that of the United States (18%), Canada (16%), and the United Kingdom and Europe (14%) (Access Economics, 2001, pp. 6-7). Osteoarthritis is more prevalent in individuals aged more than 65 years and is often associated with other diseases of ageing, such as cardiac disease and diabetes, which might also affect the ability to mobilize. The prevalence of arthritis, associated co-morbidities and the need for THR surgery is expected to increase in the future as the Australian population is ageing (AIHW, 2008).

People with osteoarthritis of the large joints experience varying degrees of pain and disability which can dominate their lives. Pain associated with osteoarthritis of the hip impacts on the lives of affected individuals, resulting in depression and a reduced quality of life (QoL) and subsequent changes to their roles and social life (Baird, 2003; Dickson & Kim, 2003; Koyama et al., 2007; Morgan, 2006; Sjöling, Ågren, Olofsson, Hellzén, & Asplund, 2004; Tak & Laffrey, 2003; Taqui et al., 2006). Studies have shown that the pain of osteoarthritis creates stress (Dickson & Kim, 2003) and has an impact on everyday activities of daily living (ADL) such as climbing up and down stairs, cutting toenails and putting on shoes, due to poor range of motion (Koyama et al., 2007). Pain in the affected hip and ADL restrictions become a

central focus in patients' lives, making them reliant on family and friends to help with everyday activities and affecting their ability to socialize (Montin, Suominen, & Leino-Kilpi, 2002) and result in feelings of being a burden on others (James, Miller, Brown, & Weaver, 2005; Koyama et al., 2007; Taqui et al., 2006). Compounding the disability and reduced QoL is the extended time some patients in many countries are required to wait for surgery. Sjöling et al. (2004) found that every aspect of daily life was affected by an indefinite wait for surgery and related pain and disability. Their participants expressed feelings of a loss of dignity, powerlessness, depression and frustration.

Most literature on the impact of THR surgery focuses on pain, mobility and QoL. Successful recovery from THR surgery is generally evaluated by comparing physical activity prior to and after surgery (Perron, Malouin, & Moffet, 2003; Weaver et al., 2003), mostly from the health professionals' perspective (Berger et al., 2004; Bischoff-Ferrari et al., 2004; Dorr, Maheshwari, Long, Wan, & Sirianni, 2007; Folden & Tappen, 2007; Majewski, Bischoff-Ferrari, Grüeneberg, Dick, & Allum, 2005). Others have evaluated the effectiveness of patient education programs and discharge planning on the recovery process (van den Akker-Sheek et al., 2007; Giraudet-Le Quintrec et al., 2003; MacDonald, Arthur, & Parent, 2005; McDonald, Green, & Hetrick, 2004; Yeh, Chen, & Liu, 2005) or investigated QoL following surgery (McMurray, Grant, Griffiths, Letford, & Wilson, 2005; Salmon, Hall, Peerbhoy, Shenkin, & Parker, 2001; Siggeirsdottir et al., 2005).

Surgeons, nursing staff and allied health professionals, such as physiotherapists, spend considerable time and effort assisting post-operative THR patients to adjust to the physical changes brought about by the operation. Some studies have investigated the patients' perspective, including the importance of assistance and support from health professionals, family and friends (Heine, Koch, & Goldie, 2004; Loft, McWilliam, & Ward-Griffin, 2003; Showalter, Burger, & Salyer, 2000); the contribution of mobility aids to confidence and independence (Heaton, McMurray, Sloper, & Nettleton, 2000), and a desire to become independent (Loft et al., 2003; Montin et al., 2002) and fulfill their social role (Taqi et al., 2006). Fielden, Scott and Horne (2003) reported that some were unsure about when to resume certain activities. However, little consideration has been given to understanding patients' perceptions of the recovery process. It is important that nurses and health care professionals consider best evidence from the patients' perspective to enable them to promote successful and seamless recovery from THR

surgery. This study sought to investigate the processes of recovery from the patient's perspective and to provide information about those aspects that impact on their recovery. As health care professionals assist patients through their recovery period, it is important that we understand the process, so that potential to recover can be facilitated and maximized.

## **Methodology**

A grounded theory approach based on a symbolic interactionist theoretical framework (Blumer, 1969) was taken to investigate the processes of recovery following THR surgery. Patients' perceptions of reality and symbolic meanings that words, gestures, activities and experiences as they interacted with health professionals, family, friends and others were explored. This project was approved by the human ethics committees of the University and the participating health district. Members of the research team had experience nursing THR patients.

This study was a component of a larger multi-method study, the THR Surgery Project (THRSP), the results of which are reported elsewhere (McMurray et al., 2005). The THRSP study involved patients completing a QoL questionnaire during the first three months following surgery. Ten participants from the THRSP study were invited to participate in this study. Inclusion criteria included being more than 65 years, having undergone a primary THR for osteoarthritis four to six months previously, an ability to speak English and a willingness to share ideas. Purposive sampling was used to select participants with a range of personal characteristics related to marital status, living situation, social support and co-morbid conditions such as arthritis, hypertension and diabetes. Interviews were conducted with six women and four men aged between 65 and 84. Five (2 men, 3 women) were married and five (2 men, 3 women) lived alone.

Audio-taped interviews of approximately one hour were conducted to explore participants' personal perspectives on their recovery process. In-depth interviews using open-ended questions asking 'how' and 'what', with 'why' probes enabled exploration of meanings and interpretations that participants gave to the recovery process. An interview guide (Table 1) focusing on topics related to recovery was employed and revised during the research process, as analysis of the early transcripts suggested that rewording of questions might elicit more pertinent responses; to gather data on issues raised by participants that had not

been considered in earlier interviews; and to gather data relevant to theoretical concepts emerging from analysis. An example of changes made to the interview guide as the study progressed included questions exploring psycho-social changes. Field notes were written immediately before and after the interviews. Interview data were collected until no new information was being identified in interviews with participants and concepts in the developing theory becoming well developed.

Transcripts, field summaries and notes were managed with the assistance of Microsoft Word. The constant comparative technique of data analysis (Corbin & Strauss, 2008) was employed to develop a conceptual understanding of the recovery process. As data collection progressed, constant comparison and theoretical sampling were used to generate theory based on emerging concepts. As the study progressed, data were coded, compared with previously collected data, and informed data collection in subsequent interviews. More than 60 conceptual categories were identified during the analysis. The research team reflected on data, noted emergent themes, developed and compared codes, and reviewed and refined conceptual categories as data analysis and collection progressed. As concepts and relationships among concepts were developed, the three major processes of Reclaiming physical ability, Refocusing of self and Re-establishing roles and relationships were provisionally tested by returning to data in a cyclical manner, with ongoing analysis of these categories resulting in development of a theoretical explanation of recovery.

## **Findings**

The grounded theory that was developed from this study is an interactive model of the recovery process after THR surgery. Recovery consists of three inter-related processes encompassing the physical, psychological and social domains: Reclaiming physical ability, Re-establishing roles and relationships and Re-focusing of self.

[Insert Figure 1 here]

As shown in Figure 1, the concepts were grouped into categories and sub-categories that described the interactive components of the recovery process. Although the physical domain is initially the main focus of recovery for both patient and health professionals while in hospital, psychosocial issues

become more important as recovery progresses, particularly after discharge home. The pace of recovery varies for each individual, with the process affected by intervening conditions: co-morbid conditions; previous illness/surgery; personal outlook on life, expectations, and relationships and support. Although all participants considered that they had recovered after their THR surgery and most were delighted that they no longer experienced the debility of osteoarthritis, some did not recover to their pre-surgery expectations. This dissatisfaction was mainly due to exacerbation of pre-existing co-morbid conditions (such as hypertension, diabetes and congestive cardiac failure). Other intervening conditions affecting both the pace and extent of recovery were: personal outlook (such as positivity/negativity and religious faith), and relationships and support (such as assistance from a spouse or friends). In this study, co-morbidities appeared to influence recovery more so than age. Participants with the co-morbidities of heart disease, peripheral vascular disease, and those who lived alone tended to find recovery more difficult and protracted than those with a positive outlook and good social support. Although Leo, an 82 year old man with no co-morbidities recovered quickly following a four day stay in hospital, 67 year old Martin, a bachelor who had multiple co-morbid conditions and lived alone had a more protracted recovery. Furthermore, Gerry, a 74 year old man with non-insulin dependent diabetes and peripheral vascular disease (PVD) noted:

I'll be back to normal when I get rid of these problems with the base of my legs [PVD]. Because the rest of me is OK.

### **Reclaiming physical ability.**

Throughout the recovery process, participants employed both physical and mental activities to reclaim physical ability, which consists of two interrelated processes: Testing physical ability and Confirming physical ability. Physical ability is tested by patients Pacing themselves as they undertake physical activities, Using mobility aids, Accepting assistance and maintaining an Awareness of risk of injury. In conjunction with testing physical ability, patients also confirm their physical ability by Challenging themselves, Making Judgments and, finally, Accepting the ability to mobilize. Olive, a 79 year old divorcee who lived alone in rented accommodation illustrates the interrelated components of reclaiming physical

ability in relation to use of mobility aids and accepting assistance from a health professional as she judges how she is coping and simultaneously challenges herself to try other mobility aids, even though still expressing concerns about her safety:

Well, I walked with a[n upright walking] frame, the one with the wheels, you know? That was one day. And, the next day I didn't like that, so I asked the physio if I could walk with a [Zimmer] frame [the next type of frame that is usually used]. And then she was going to put me on crutches, I said, "I don't want those, darling." Because I've been on crutches before, and I can fall with them.

When testing physical ability participants described how they would perform a physical activity, alone or aided by a health professional, with or without a mobility aid. A successful attempt would confirm their ability, encouraging them to continue to test by engaging in other physical activities. The rate at which activities were resumed varied considerably, influenced by the presence of co-morbidities. Sixty-five year old Mary described how, while still in hospital, she had both challenged and paced herself when she first began to mobilize: "I guess I was a bit weak to start with, and I had the walking frame to walk on. I used to walk back [to her bed] and walk to the toilet and the bathroom, and back again." At home patients have greater control over how much or how little physical activity they do and, for most, the familiarity of their environment increases confidence in their abilities. With increasing confidence, use of mobility aids is gradually relinquished. For example, Leo stated "I came out of hospital and I was using crutches for about three or four days, that's all and I used the walking stick for one day and after that I was walking around (unaided)." However, several months after surgery the possibility of falling still influences decisions to use mobility aids and seek support in certain situations: As 67 year old Elaine, who was married and enjoyed gardening and traveling, stated "Oh, if I was going somewhere I was not very sure about I would take my walking stick, I would, yes, particularly if I was on my own," and Gwen, an 84 year old widow noted that:

Even now I still walk and say, "Lord help me to be wise and careful," as I'm going any odd place. I never had a slip at all. And I don't want one. (Gwen)

Being free from pain contributes to physical and, in time, to psychosocial recovery. Post-operative pain is experienced as having different characteristics from the chronic pain of osteoarthritis suffered pre-operatively. Recognition that the pain from osteoarthritis that had previously dominated their lives is gone enhances the recovery process. For Olive, being pain free was an exhilarating experience:

I just thank God that I was out of all that pain. It's wonderful. You've no idea. I couldn't thank the doctors and nurses enough. I could have kissed and loved everyone.

### **Re-establishing roles and relationships.**

Re-establishing roles and relationships comes to the fore when patients are discharged from hospital. Prior to surgery, the ability to socialize and undertake physical work and housework depends on the amount of pain and disability experienced. Pain and immobility affected participants' capacity to undertake some independent activities of daily living, such as shopping, cleaning and cooking; and to engage in many social events and activities, including hobbies, such as gardening and golf. As Elaine explained:

Before the operation I didn't want to go out. I didn't want to socialize really with people. Mentally, I think it definitely affected me, and when I came out, after the op, I felt so different.

Prior to surgery, participants' roles and self concept as wife/husband, mother/father and friend had changed as they had gradually become reliant on family, friends and charity organizations to assist with basic activities of daily living. For example, 72 year old Marjorie depended on her husband to take over her normal roles: "my husband has done that [housework] for all of the time [leading up to her surgery]. He looked after me all of the time."

Without the restriction of pain, patients are less reliant on others for assistance with everyday activities, allowing them to Re-establish roles and relationships by Affirming their role and Expanding horizons. Roles are affirmed, and disability and dependence are challenged by Relinquishing dependence and Reclaiming territory. Relinquishing dependence on others was illustrated by Gerry, who could now



dress himself without assistance from his wife: “. . . she actually had to put my socks on, and shoes. But now of course I do all that myself,” and bachelor Martin who no longer needed to employ others to do household chores,: “. . . and I got . . . Meals on Wheels. But I got rid of that in [a] couple of days, 'cause I'm not a bad cook myself.”

Duncan, a single man who at 65 lived alone in his own home and whose sister and brother-in-law had moved in to look after his dog while he was in hospital and help him when he first arrived home from hospital, relinquished his dependence on them:

She [sister] was happy to go home. I got out of hospital on the Wednesday, and I'd say a week and a half later she was happy to go home knowing that I could handle everything myself. I could shower myself without any problems.

For some married participants, relinquishing dependence and reclaiming territory took a little longer. Seventy-three year old Nancy and her husband now shared the cooking, which he had previously done:

H. [husband] would do the vegetables and I'd get me chair over there and put everything on and just sit and watch it cook, and then H. would do the rest.

Patients reclaim territory as mobility and confidence improves, gradually taking back part or all the day-to-day tasks for which they were previously dependent on others.

Prior to surgery patients are disinclined to venture outside the environs of their home. Following surgery, as roles and relationships are re-established and horizons are expanded by Venturing out and Resuming activities abandoned prior to surgery. Without the pain and discomfort of a diseased hip patients resume, at an individual pace, many activities that they previously enjoyed. For some participants it was gardening, “Well, I like to be busy. I like to do the yard” (Nancy). Others looked forward to visiting restaurants and movies or socializing with friends: “And once we've got this organized we're going out to

enjoy life again, you know. We like wining and dining and, I'm going to start going back to the movies again." (Elaine)

### **Refocusing of self.**

The third interrelated recovery process is Refocusing of self as patients make a psychological transition from disability to ability by Recognizing recovery and Accepting change. Participants described life prior to surgery as a time of introspection and self-focus, concentrating on their pain, disability and ability to manage. An absence of pain and gradual improvement in mobility allows patients to move from an introverted concentration on pain, disability and limitations to refocus their sense of self.

Some participants were quickly aware that they were progressing, whereas others gradually recognized that they had recovered. Elaine observed her own recovery process:

Because, every week, almost every other day I was feeling better, brighter, and that's how it went on. Everyday I felt better. I could do more. I could get up out of the chairs, and I said to T. (Husband), "I can't believe this, I've got no pain, you know." . . . Yes, I really did make, I think, a fast recovery.

Recognizing that they had recovered enabled participants to accept that pain and disability no longer dominated their lives. For example Mary talked about how difficult things were before her surgery:

The pain. Well it just made me feel depressed. I didn't want to get up in the morning, because I knew that I was going to be limping around and in agony . . . it just takes the life out of you.

Having recovered from the operation she contrasted her feelings of depression with how she felt at the time of interview: "I'm so,happy I had it done. I've got more impetus to do things, you know."

Participants expressed wonder at the change in their lives and described doing many activities that previously they had dismissed as too difficult. Leo, who at 82 was still married to his wife of more than 50 years and enjoyed getting out and about, summed up how much his life had changed:

Because I'd slowed down a lot with the pain I thought I might stay that way even though, I was painless. But I've become so fit since, it's incredible. . . . and now we carry on like we did when I was fifty!

Reversal of their pre-surgical roles was confronting for some participants, because it required change. Acknowledging that they could now perform many activities meant accepting recovery and giving up dependency on others. As participants regained physical ability and resolved their role within family and society, the implications of their recovery were recognized and accepted.

And everybody's helping you and if you don't do your little bit for it, well, you could just sit down and think "oh I won't get up today." You've got to think about all the good work that has been done for you [to recover]. (Marjorie)

## **Discussion and Conclusion**

The findings of this study uncover aspects of the recovery process from total hip replacement that have not previously been identified in other studies in that while patients undergo physical recovery, they also experience changes to roles, relationships and the way they view themselves. The pain, physical disability and social limitations experienced before THR surgery and improvements in QoL after surgery are well documented in the literature (Fitzgerald, Orav, Lee, Marcantonio, Poss, Goldman, & Mangione, 2004; Koyama et al., 2007; Majewski et al., 2005; Montin et al., 2002; Salmon et al., 2001; Taqui et al. 2006; Wong, Wong, Brooks, & Yabsley et al., 1999), however, the results of this study describe recovery as a process in which the physical, psychological and social domains are interrelated. Other studies have identified that as people recovering from THR surgery recognize an improvement in their physical status, their psycho-social status improves (Fielden et al., 2003; Taqui et al., 2006). This study provides an explanation of the psycho-social processes of: making a change to the sense of self involving recognizing recovery and accepting change; negotiation of changes to roles and relationships; and taking up previously abandoned roles and activities by affirming roles and expanding horizons.

The findings of this study show the importance of considering the psychological needs of patients as they reclaim, challenge and test their physical abilities, and that their needs change over time. As described in the literature, patients might fear falling (Folden & Tappen, 2007; Heine et al., 2004; Taqui, et al., 2006) and balance problems (Majewski et al., 2005) as they cautiously face new and unpredictable situations. This study showed that patients want to be in control of their mobility and make their own judgments about their achievements as they recover, while still needing and accepting assistance from mobility aids, health care professionals, family and friends. Although mobility aids contribute to making patients feel safe, they want to make judgments about when and where they are used, and which ones they prefer.

An unanticipated finding was that participants, having reclaimed their physical ability, must also re-establish their role and relationships, and refocus their self-concept. Results showed that during the recovery process from THR surgery participants described a gradual return to activities that determined their role within the home and society in general. Participants relinquished their dependence on others and reclaimed roles within their environs. They also expand their horizons by resuming social activities. The type and extent of social change that occurred depended on the individual and the activities they participated in before pain and their deteriorating physical condition enforced restrictions. No longer reliant on other s to perform ADLs and able to enjoy activities such as shopping, driving and gardening, depression gives way to a more positive attitude, but also taking back responsibilities. THR patients no longer considered themselves disabled. As they accept the changes in their life and recognize the extent of recovery from surgery, their self-perception is refocused. Understandably, most literature focuses on adjustment to a life with a chronic illness. THR patients are unusual because they move from disability to ability and, although the changes experienced are positive and welcomed, there is still a psycho-social impact that requires adjustment.

The impact of intervening conditions identified in this study is consistent with much of the literature. Intervening conditions and factors such as co-morbid conditions (Godfrey & Townsend, 2008), age and personal outlook have been found to affect management of chronic conditions and recovery (de Pablo, Losina, Phillips, Fossel, Mahomed, Lingard, & Katz, 2004; Fitzgerald et al., 2004; Folden & Tappen, 2007; Majewski et al., 2005; Stamm, Lovelock, Stew, Nell, Smolen, Jonsson, Sadlo, & Machold,

2008), however, the results of this study showed that co-morbid conditions might be more important than age and that although the pace and extent of recovery might vary, a factor recognized by Godfrey and Townsend (2008), the Reclaiming, Refocusing and Re-establishing processes of recovery appear to be the same. Similarly to other studies (Fitzgerald et al., 2004; Folden & Tappen, 2007; Heine et al., 2004; MacDonald et al., 2005; Wong et al., 1999), the importance of relationships, social support and a positive attitude was identified (Maliski, Rivera, Connor, Lopez, & Litwin, 2008; Montin et al., 2002).

This study has opened a window on aspects of recovery from THR surgery that might be overlooked, because the recovery processes continue on discharge from hospital. Understanding patients' fears and their need to feel in control of their progress will assist practitioners in developing graded mobilization practices. Knowledge about the psycho-social aspects of recovery informs patient and family education, in-patient care and discharge planning in relation to: providing support and encouragement; discussion about expectations, fear of falling and balance, preferences, recovery, and ways to develop plans that are appropriate for different contexts; reviewing role changes as a result of recovery; and the importance of reinforcing achievements. Patients and their families may need counseling to prepare them for role changes or to deal with any difficulties that may arise. This study might also inform research into the process of recovery from other forms of reconstructive surgery by providing a framework for the recovery process. Future research could provide more development of theory related to recovery, particularly in patient cohorts whose recovery trajectory is more problematic.

This study was limited to participants who were recruited in southeast Queensland, Australia. It is possible that participants agreeing to participate in this study were different from those who did not participate, and that the processes and structures related to THR surgery might be different in other contexts. Furthermore, all participants in this study had returned home after surgery and achieved a level of recovery, although some recovered more quickly than others. Although most people do return home after THR surgery, not all recover and return home, with some requiring care. Thus, it would be interesting to explore recovery processes for patients taking alternative pathways. However, despite these limitations and although pace and extent of recovery varies, the processes were found to be similar for patients who recovered quickly and those who had more difficulty in their recovery.

The voices of older patients who have had THR surgery have described the recovery process as it is experienced within the social contexts of their daily lives. They have provided nurses and health care professionals with new knowledge that might inform strategies to assist older patients in their recovery from THR surgery.

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**Table 1: Questions in Interview Guide**

Question	Focus
Describe an average day for you before, during and after you had your operation	Mobility, pain, activities, activities of daily living (eg. bathing/hygiene; sleeping), preparing food, housework; hobbies, social activities, restrictions, etc.
Can you describe a really awful day?	
Can you describe a really good day?	
How did it make you feel?	
Did it get better/worse? How?	Progress of recovery
How did you cope?	
How did it make you feel?	
What /who helped?	Barriers and supports
What/who didn't help?	
How did you feel in hospital?	Transition from hospital to home
How did you feel after you left hospital	
When were the major changes in your progress?	Progress over time
Did you set yourself any short or long term goals?	Goal-setting and change
How did you feel when these were achieved?	
What was important to your recovery process?	Patient's perspective on recovery

**Figure 1: Recovery After Total Hip Replacement**

