

Factors Influencing Discharge Readiness After Total Knee Replacement

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Total knee replacement (TKR) surgery has been found to achieve positive outcomes for many patients such as reduced pain and increased function. However, some patients experience suboptimal outcomes including falls, readmission to hospital, and reduced functional performance. Preparation for discharge after TKR surgery is often defined related to pain control, walking, knee function, and ability to climb stairs. These measures may not fully encompass aspects of recovery that impact patients' readiness for discharge after surgery. The purpose of this article is to review discharge readiness following TKR surgery and discuss factors that are known to impact preparedness for discharge.

Currently, more than 750,000 total knee replacement (TKR) surgical procedures are performed each year in the United States, and this number is expected to increase to more than 1,375,574 by the year 2020 (American Academy of Orthopedic Surgeons, 2014; Kurtz, Ong, Lau, & Bozic, 2014). Total knee replacement has been found to provide many intermediate- and long-term benefits such as improvements in function, quality of life, and reduced knee pain (Shan, Shan, Suzuki, Nouh, & Saxena, 2015). While the majority of patients achieve positive outcomes following TKR, others experience suboptimal results. Approximately 81% of patients report satisfaction overall with their outcomes following surgery; however, a remaining 19% are not satisfied with their overall results after TKR: 14%–28% of patients have reported being unsatisfied with pain relief after TKR, and dissatisfaction with specific activities of daily living has varied from 16% to 30% (Bourne, Chesworth, Davis, Mahomed, & Charron, 2010). Poor pain relief and decreased activities of daily living (ADL) performance, among other factors, may indicate reduced preparation for life at home after surgery.

Patients may not be fully prepared for the decreased independence they experience after TKR. Many patients anticipate returning to full functional performance quickly after surgery and have demonstrated substantial discrepancies between their expectations and actual functional abilities following TKR (Levinger et al., 2016). Some patients also have complications after surgery such as infection and falls that may lead to hospital readmission and further functional declines. Reports of

readmission rates in the literature for the months following TKR range from 5% to 8% (Belmont et al., 2016; Schairer, Vail, & Bozic, 2014; Welsh et al., 2017). To reduce the incidence of complications after surgery and increase preparation for returning home, it is necessary to identify and address components of discharge readiness following knee replacement. The purpose of this article is to provide healthcare providers with essential information regarding readiness for discharge following TKR surgery including common complications and other factors that influence preparation for returning home after surgery. Recommendations to address these factors are also discussed.

Complications Following Total Knee Replacement

FALL INCIDENCE

Falls in the hospital are not uncommon, and these costly adverse events have serious ramifications for patient function and quality of life. In addition, significant economic and legal consequences can result from in-hospital falls. Incidence of hospital falls in the United States has been reported to be 3.56 falls per 1,000 patient-days (Bouldin et al., 2013). Short-term costs to healthcare services in the aftermath of a fall in the hospital have been reported to be as high as \$14,591 on average, excluding any costs of potential litigation (Haines et al., 2013). Patients who experience falls in the hospital can

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incur serious harm, with approximately 30% of all falls resulting in injury (Hill et al., 2010). Falls in hospital may also lead to longer lengths of stay (LOSs) and increased healthcare utilization. Potential for falling in the hospital after knee replacement is a significant concern because this may lead to other injuries and complications that could negatively impact patient outcomes following TKR.

Patients are at increased risk of falling in the acute phase after TKR and other orthopaedic surgical procedures due to mobility limitations in the early postoperative period (Memtsoudis et al., 2012). Memtsoudis et al. (2012) found that incidence of inpatient falls after TKR and total hip replacement (THR) increased from 0.4% to 1.3% from 1998 to 2007, with an average fall prevalence of 0.8% or 2.1 falls per 1,000 inpatient-days. Older patients, those with more comorbidities, males, and those who underwent surgery at smaller or more rural hospitals were found to have a higher risk for sustaining a fall in the hospital. This creates the potential for trauma from possible wound dehiscence at the surgical site or prosthesis dislocation upon impact, among other injuries. Falls in the months after TKR occur in up to 11.8% of this population (Swinkels, Newman, & Allain, 2009). Although the surgical site itself would typically be healed in the months following surgery, patients are still at risk for other injuries caused by falling such as fracture or head injury. In a study that prospectively examined fall incidence for TKR patients, approximately 45% of patients who had a history of falling prior to surgery fell again in the year following their TKR surgery (Swinkels et al., 2009). Because of the ramifications for patient health, functional performance, and cost (Haines et al., 2013; Hill et al., 2010), any reduction in fall incidence for TKR patients both in the hospital and after discharge may be clinically significant. Patients often have high expectations regarding function following TKR, and experiencing a fall would further reduce functional performance in the postoperative phase.

REDUCED FUNCTION

Most patients anticipate achieving full functional recovery within 3 months after TKR surgery, with some expecting these improvements by 6 weeks postsurgery (de Achaval et al., 2016). Patients who had less preoperative knee pain, had fewer limitations in work or other daily activities, felt more positively about their health, and had less anxiety before surgery were more likely to anticipate a short-term recovery (de Achaval et al., 2016). However, Hamel, Toth, Legedza, and Rosen (2008) studied clinical outcomes following both THR and TKR and found that patients needed approximately 49 days to return to independence with housework and 60 days to complete shopping without assistance; only 30% of participants were independent with outdoor occupations such as gardening by 6 months after surgery. Even after 6 months of recovery following TKR, patients have difficulty bending and stooping, which are required movements for completing many higher level tasks. White, Stockwell, Hartnell, Hennessy, and Mullan (2016) found that at 12 months after knee replacement, 28% of patients still perceived that they were not able to complete kneeling on their surgical lower extremity. Persons

undergoing total joint replacement surgery have reported having unrealistic expectations about how well they would function after their surgery and were unprepared for the functional limitations they experienced in the postoperative phase (Showalter, Burger, & Salyer, 2000; Westby & Backman, 2010). Patients reported that they did not receive realistic information from health-care providers to guide their perceptions for the post-surgical phase and that some topics were not addressed by providers at all, leaving patients to develop inaccurate expectations (Westby & Backman, 2010). Many patients demonstrate large discrepancies between their expectations and perception of their actual abilities postsurgery (Levinger et al., 2016). Patients may experience other negative outcomes following TKR that are associated with reduced independence, such as deep vein thrombosis (DVT), which can lead to hospital readmission and further complications.

HOSPITAL READMISSION

The main causes of readmission after TKR are infection, DVT, and arthrofibrosis (Belmont et al., 2016; Schairer et al., 2014; Welsh et al., 2017). See Table 1 for a summary of factors that increase risk for readmission after TKR surgery. Although infection rates postsurgery following TKR are relatively low at 0.65% in the hospital and 0.41% after discharge, postsurgical and posttraumatic infections are among the top causes for readmission to hospital after TKR (Poultides, Triantafyllopoulos, Sakellariou, Memtsoudis, & Sculco, 2017; Welsh et al., 2017). Rates of DVT among patients after TKR surgery have been reported to be approximately 0.45%. Although this percentage may appear low, those who do develop DVT have significantly higher rates of mortality at 0.4% for TKR and 1.7% for THR, as well as an LOS that is almost twice as long as those who do not develop DVT (Dua, Desai, Lee, & Heller, 2017). Rates of arthrofibrosis have been reported to range from 1% to as high as 13% following TKR, which reduces functional performance after surgery (Cheuy et al., 2017). Risk for readmission is increased for patients who have a history of transient ischemic attack or cerebrovascular accident, patients who are undergoing a revision TKR, those who had a

TABLE 1. FACTORS THAT INCREASE READMISSION RISK AFTER TKR SURGERY

Infection
Deep vein thrombosis
Arthrofibrosis
History of transient ischemic attack
History of cerebrovascular accident
Revision TKR
Female sex
Longer hospital stay
Discharge to inpatient rehabilitation or skilled nursing facility after acute care

Note. Data from Belmont et al. (2016); Schairer et al. (2014); Welsh et al. (2017). TKR = total knee replacement.

longer hospital stay, and those who are female (Belmont et al., 2016; Schairer et al., 2014). Patients who discharge to inpatient rehabilitation or a skilled nursing facility after leaving the acute care setting have more than 40% higher odds to be readmitted to hospital in the months following TKR surgery (Welsh et al., 2017). The largest increases for readmittance to hospital were found in the first 30 days after surgery, indicating that patients are at the greatest risk for being readmitted to hospital in the early phase postsurgery (Welsh et al., 2017). Because hospital readmission may lead to other negative consequences, such as increased costs, exposure to bacteria that could cause hospital-acquired infections, and further functional declines, a 5%–8% readmission rate for patients after TKR that is reported in the literature is concerning (Belmont et al., 2016; Schairer et al., 2014; Welsh et al., 2017). Hospital readmission may be an indication that patients were not thoroughly prepared for discharge home following surgery and that they may not have fully understood discharge instructions and guidelines for the postoperative phase that could have supported better postsurgical outcomes.

Readiness for Discharge After Total Knee Replacement

PATIENT PERCEPTIONS OF DISCHARGE READINESS

Qualitative research regarding patient perceptions of readiness for discharge after TKR is sparse in the literature. Causey-Upton and Howell (2017) examined four patients' experiences of preparing for discharge after TKR surgery and found that patients overall felt prepared for surgery and the postoperative phase before leaving the acute care setting. However, patients did report being unprepared for the amount of pain they experienced after surgery, which may indicate a need for further education in this area preoperatively. Participants had experiences related to wanting to feel safe in the hospital and after returning home, feeling confident in their abilities and the expertise of healthcare staff, and overcoming difficult aspects of the recovery process (Causey-Upton & Howell, 2017). Specht, Kjaergaard-Andersen, and Pederson (2016) examined patient experiences of recovery prior to discharge following fast-track TKR and THR surgery. Patients overall did feel prepared for discharge, but at times lacked confidence because they received inadequate or conflicting information from healthcare providers. Heine, Koch, and Goldie (2004) examined patients' experiences of readiness for discharge after THR. Participants had similar experiences as the two prior studies, with patients wanting to feel safe at home and in the hospital, as well as finding that patients had increased confidence when they had family and friends at home to assist after surgery. Having knowledgeable staff and feeling safe also increased feelings of readiness for discharge home for the study's participants. Research regarding patients' perceptions of discharge readiness following TKR surgery is very limited, and more research is needed to explore preparation for returning home from the perspectives of patients in addition to examining quantitative factors such as pain control and mobility.

FACTORS INFLUENCING DISCHARGE READINESS

Discharge readiness following TKR is typically defined with criteria including independence from needing intravenous pain medication, having pain that is well controlled, achieving 90° of knee flexion, accomplishing a specified walking distance, increasing independence with ambulation, being able to complete stair climbing, and having a shorter LOS in the hospital (Chan, Teo, Assam, & Fransen, 2014; Ilfeld et al., 2010; Wegener et al., 2011). However, these criteria may not fully encompass all aspects that can impact readiness for discharge. Several factors such as education, rehabilitation, social support, individual patient factors, and analgesia approach have been examined in the literature and were found to impact discharge preparation. These factors may both support and hinder discharge preparation for patients following TKR surgery.

Education

Preoperative education programs are common for patients undergoing TKR and other joint replacement surgical procedures, but evidence regarding the effectiveness of these programs on discharge readiness is mixed. McDonald, Page, Beringer, Wasiak, and Sprowson (2014) conducted a systematic review regarding the effectiveness of preoperative education on a variety of outcomes for patients undergoing TKR and THR. The authors found limited support for the effectiveness of preoperative education compared with usual care except for minor improvements in postoperative anxiety and pain. Louw, Diender, Butler, and Puentedura (2013) found limited impact as well in their systematic review examining the content and delivery methods of preoperative education that specifically addressed pain after total joint replacement. Other research studies outside of systematic reviews and randomized controlled trials (RCTs) have found that preoperative education has been associated with increased preparation for surgery, decreased anxiety, improved pain control postoperatively, and reduced LOS, among other positive outcomes (Chen, Chen, & Lin, 2014; Jones, Alnaib, Wilkinson, St. Clair Gibson, & Kader, 2011; Kearney, Jennrich, Lyons, Robinson, & Berger, 2011; Spalding, 2003). Clarke, Timm, Goldberg, and Hatstrup (2012) have also linked preoperative education to reducing fall incidence in the hospital after TKR.

Although individual studies in the literature have supported benefits of preoperative education, some patients have reported that preoperative education was not adequate and that it did not fully prepare them for what to expect after surgery (Goldsmith et al., 2017; Westby & Backman, 2010). Some patients have also received contradicting educational instructions from various healthcare providers, decreasing their preparation for discharge as they were unsure which instructions were best to follow at home (Goldsmith et al., 2017; Specht et al., 2015). Ingadottir et al. (2014) examined patients' knowledge expectations prior to TKR and found that these expectations exceeded the knowledge that participants gained by attending preoperative education. Patients have also reported that they did not fully understand the amount of pain they would

TABLE 2. IMPORTANT TOPICS TO INCLUDE IN PREOPERATIVE EDUCATION FOR TOTAL KNEE REPLACEMENT

Preparing for surgery
What to expect while in the hospital
The recovery process
Realistic information regarding pain after surgery
Expected functional levels in the postsurgical phase
When to resume normal activities at home
Adaptive equipment and techniques for daily tasks, such as self-care and home management activities
Functional mobility
Home safety
Precautions
Caregiver training
Exercise before and after surgery
Anatomy of the knee joint

Note. Data from Causey-Upton, Howell, Kitzman, Custer, and Dressler (2018).

experience after surgery and that the education they received regarding pain was inadequate to prepare them for this aspect of TKR (Chan, Blyth, Nairn, & Fransen, 2013; Goldsmith et al., 2017). Healthcare providers should encourage patients to attend preoperative education before TKR surgery to learn as much as possible regarding what to expect to better prepare themselves for surgery and the postsurgical phase. See Table 2 for a summary of some important topics to include in preoperative education for patients undergoing TKR. Existing educational programs may need alterations to address areas that are currently lacking, such as pain education and realistic expectations regarding function after surgery, as well as ensuring consistency among providers regarding patient instructions.

There is limited information in the current literature regarding the structure of preoperative education for TKR in the United States. Individual studies that have examined preoperative education as an intervention have described the components of these programs for a single setting. Some systematic reviews have described the content, delivery methods, and staff involved in preoperative education for the limited number of randomized studies that met inclusion for these reviews (Louw et al., 2013; McDonald et al., 2014). The programs described in both individual studies and broader systematic reviews are indicative of only a small number of programs in the United States and are not representative of national practice for preoperative education. The literature demonstrates a need to describe the current design of preoperative education as a baseline to determine the best content, delivery methods, and interprofessional involvement of healthcare providers to support best practice for improved outcomes. Components of preoperative education may need to be addressed by multiple disciplines, such as nursing, physical therapy, and occupational therapy, to fully prepare patients for what to expect postsurgery including planned rehabilitation procedures.

Prerehabilitation and Rehabilitation

Exercise before surgery has been found to improve functional readiness at discharge and increase the likelihood of discharge to home (Evgeniadis, Beneka, Malliou, Mavromoustakos, & Godolias, 2008; Robbins et al., 2010). It has also been shown to improve joint motion after TKR, an important factor as range of motion (ROM) before surgery is the strongest predictor of ROM after surgery (Matassi, Duerinckx, Vandenneucker, & Bellemans, 2014). Preoperative quadriceps exercise has been found to reduce pain and improve quadriceps strength for patients after TKR compared with those who do not complete these exercises prior to surgery (Tungtrongjit, Weingum, & Saunkool, 2012). This improved strength would assist with aspects of discharge readiness, such as walking and stair climbing, among other functional tasks. Coudeyre et al. (2007) recommend multidisciplinary prerehabilitation that includes physical and occupational therapy services as well as education, particularly for fragile patients, to achieve optimal outcomes. In addition to prerehabilitation, postoperative rehabilitation including physical and occupational therapy has been found to increase functional performance for discharge home.

Early mobilization after TKR, defined as mobilization within the first 24 hours postoperatively, and beginning physical therapy within 24 hours after surgery have been associated with reduced LOS, improvements in ROM, increased muscle strength, enhanced quality of life, and reduced pain (Guerra, Singh, & Taylor, 2015; Labraca et al., 2011). Patients who receive physical therapy services twice daily rather than once daily may have better functional outcomes with increased preparation for discharge from the acute care setting (Lawson, 2009), although a previous RCT did not find differences in outcomes based on the number of daily therapy sessions (Lissen et al., 2006). A recent systematic review found that occupational therapy included in perioperative care for TKR resulted in reduced LOS and increased health-related quality-of-life scores (Dorsey & Bradshaw, 2016). An evidence-based occupational therapy program that included education and training related to higher level tasks, such as caring for pets and meal preparation, found that patients who participated felt more prepared to complete these activities at home after TKR and THR surgery than those who did not receive this training (Crum, 2011). Participation in rehabilitation before and after surgery including occupational and physical therapy has been found to increase preparation for discharge home following TKR. In addition to support from members of the healthcare team such as rehabilitation providers, having support from family and other individuals from a social network system can influence discharge readiness following TKR.

Social Support

Social support is an important factor that impacts discharge readiness after TKR. Some patients have reported that meeting healthcare staff in advance, such as during preoperative education, has increased their confidence for surgery because they knew that they would be able to see familiar faces following their knee replacement

(Specht et al., 2015). Having appropriate support from knowledgeable healthcare professionals while in hospital has also been reported by some patients to increase their readiness for discharge (Causey-Upton & Howell, 2017; Goldsmith et al., 2017; Johnson, Horwood, & Gooberman-Hill, 2016). Overall, the support of family and friends was another factor that increased discharge preparation. Patients often rely heavily on social support networks in the early postoperative phase, such as for ADL assistance, grocery shopping, and travel to appointments. These more informal social systems provide support when assistance from healthcare providers diminishes after discharge home from the hospital.

Social support has been reflected as a theme in the qualitative literature that patients value before and during the postoperative phase (Causey-Upton & Howell, 2017; Cheng, Klainin-Yobas, Hegney, & Mackey, 2015; Johnson et al., 2016). Including the patient's support system in the preoperative and postoperative processes could be useful for optimizing discharge readiness, as this would ensure that both the patient and the individual who will support the patient after surgery would have knowledge of important instructions and guidelines to follow in the postsurgical phase. Exposing patients to another individual who has had or is currently undergoing TKR is another form of social support that may increase readiness for surgery and eventual discharge (Causey-Upton & Howell, 2017; Goldsmith et al., 2017; Specht et al., 2015). This could be accomplished by requesting that previous patients attend preoperative education classes to share their experiences with those who have planned TKR surgery.

Although having social support has been associated with discharge readiness, patients have identified that family members, particularly male partners or spouses, are at times not able to provide the social support that is needed after discharge for various reasons such as anxiety or feeling unskilled to provide this assistance (Goldsmith et al., 2017). Both family members and patients have expressed being uncomfortable and overwhelmed at times with changes in their social roles following total joint replacement (Johnson et al., 2016; Showalter et al., 2000). Family members need increased education and preparation to fulfill the caregiving role after TKR surgery. When patients do not have a strong support system, they are less prepared for discharge. Lack of social support at home has been identified as one of the main factors that delays discharge after total joint replacement (Napier et al., 2013). Social support should be assessed early (preoperatively if possible) by healthcare providers, and patients' support systems should be involved in the preoperative and postoperative processes for TKR. Nursing and rehabilitation staff should educate caregivers on important discharge instructions as well as how to support the patient best at home to ensure optimal outcomes. Individuals who do not have a caregiver living with them or nearby may be more likely to be discharged to a subacute rehabilitation setting rather than to home after TKR, which can negatively impact outcomes.

Rehabilitation Setting

Discharge disposition following TKR is both an indication of readiness to return home and a factor that influences future functional performance. Persons who re-

quire inpatient rehabilitation after TKR have significantly higher rates of hospital readmission than those who are discharged home from the acute care setting (Jørgenson, Richardson, Thomasson, Nelson, & Ibrahim, 2015). Patients who are discharged initially to an inpatient rehabilitation setting are also more likely to have lower levels of independence in ADL tasks even after adjusting for the initial level of assistance needed after surgery, with those who discharge from the hospital directly to home health still achieving the greatest discharge outcomes (Mallinson et al., 2011). For another lower extremity joint replacement surgery, THR, receiving home healthcare has been associated with reduced risk of mortality compared with no follow-up at home (Rahme et al., 2010). Patients who are discharged to another inpatient setting before returning home may need additional education and training to mitigate these risks for higher readmission and reduced functional performance. Occupational and physical therapists should encourage increased activity outside of therapy sessions with nursing staff while patients are in the hospital to maintain strength and mobility. Nurses can provide education regarding common causes of hospital readmission and how to avoid these, such as monitoring wound closure and maintaining proper nutrition to support healing structures after surgery. Healthcare disciplines can also address other factors that impact TKR outcomes across all rehabilitation settings such as expectations regarding pain following surgery.

Analgesia

Analgesia approaches have been studied thoroughly in relation to discharge readiness after TKR. Patients who have ambulatory nerve blocks have been found to achieve important discharge criteria (appropriate analgesia, independence from intravenous pain medication, and ambulation of >30 m) sooner than those who receive continuous femoral nerve blocks (cFNB) following TKR (Ilfeld et al., 2010). When cFNB was compared with a single-dose femoral nerve block (FNB), no statistically significant differences were found in outcomes such as walking or LOS (Chan et al., 2014). However, when cFNB and single-injection FNB combined with patient-controlled analgesia (PCA) were compared with PCA alone, patients who received either form of FNB had greater odds of achieving 90° of knee flexion on the surgical lower extremity than those who only received PCA (Chan et al., 2014). When local infiltration analgesia (LIA) was compared with cFNB, patients who received LIA achieved better outcomes including achieving greater average walking distance and shorter LOS that was statistically significant (Kirkness et al., 2016). Otten and Dunn (2018) also found that other approaches, such as LIA or adductor canal block (ACB), were more effective than FNB for pain control based on when and in what amount pain medication was requested by patients. This same study found that multimodal analgesia techniques, such as combining LIA and ACB, was most effective at managing postoperative pain following TKR surgery.

All healthcare providers, including nursing and rehabilitation staff, can provide realistic education preoperatively and postoperatively regarding pain that can be expected after surgery. In addition, providers should educate

patients on nonpharmacological pain control options that can complement analgesic approaches, such as using cryotherapy or relaxation techniques, to help manage pain following TKR. In addition to experiences with pain, other individual patient factors have been found to impact discharge readiness following TKR surgery.

Patient Characteristics

Several patient characteristics have been linked to level of readiness for discharge after TKR. Males and Caucasians are most likely to discharge home after TKR rather than to a nonhome setting after surgery (Schwarzkopf, Ho, Quinn, Snir, & Mukamel, 2016). Younger patients are also more likely to be discharge home rather than to inpatient rehabilitation or skilled nursing facilities (Jørgensen & Kehlet, 2013). Patients who have higher functional levels and lower pain scores before surgery have better postoperative outcomes for discharge (Judge et al., 2012). Personality has also been found to be related to recovery after TKR, with patients who are more extroverted achieving higher functional outcomes than those who are more introverted, particularly for those with a melancholic personality type (Gong & Dong, 2014). Individuals with a melancholic personality have traits such as being introverted, pessimistic, and anxious; these persons often respond negatively to setbacks such as pain or weakness during exercise after surgery (Gong & Dong, 2014). While some factors are linked to increased readiness for discharge, others are linked with reduced preparedness for leaving the hospital setting in a short time frame.

Older age has been found to be significantly associated with poorer outcomes following TKR; as age increases, so does the risk for experiencing longer LOSs, discharge to inpatient rehabilitation rather than to home, postoperative complications, and delayed functional recovery following surgery (Hoogetboom et al., 2015; Schwarzkopf et al., 2016; Yan & Pogoda, 2013). Persons with lower presurgical functional levels, including using a mobility aid prior to surgery, often have longer hospital stays and are more likely to experience readmission (Yan & Pagoda, 2013). In addition, females and those who are obese have been found to experience increased LOS and are slower to recover functionally following TKR (Hoogetboom et al., 2015). Postoperative medical and surgical complications, such as infection or the need for blood transfusion, have also been cited in the literature as delaying discharge following joint replacement surgery (Williams, 2010). In addition, patients who report having lower readiness for hospital discharge are at increased risk for problems at home and have higher risk for readmission (Weiss, Costa, Yakusheva, & Bobay, 2014). Patient characteristics should be assessed by the interprofessional healthcare team to determine those who may need increased preparation for discharge such as the elderly and persons who use a mobility aid prior to TKR. This assessment should be initiated as early as feasible, even beginning prior to surgery when possible, to increase discharge readiness.

Summary

While many persons experience positive outcomes following TKR, some individuals experience complications

and other negative results such as falls and hospital readmission. Readiness for discharge after TKR has been defined in the literature related to pain control, knee ROM, walking distance, and ability to climb stairs. This limited definition of discharge preparation following TKR may not capture all aspects of function and other factors that impact patient perceptions of readiness for discharge. Future research should continue to explore patients' perceptions of discharge readiness following TKR to support preoperative education and other interventions aimed at increasing preparedness for returning home following surgery. Preoperative education should also be explored to describe current program designs across the United States as a basis for better preparing patients for TKR surgery and the postoperative phase.

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