Optimizing outpatient total hip arthroplasty: perspectives of key stakeholders

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Background: Advances in surgical techniques combined with multimodal analgesia and early rehabilitation have potentiated early mobilization in patients undergoing total hip arthroplasty (THA). Given an increasing push from patients to accelerate recovery and health care budgetary limitations, there has been growing interest in the implementation of outpatient THA in selected patients. Understanding the patient and primary caregiver experience of outpatient THA is important to optimize care. We aimed to gain insight into patient and caregiver perspectives regarding the perceived advantages and disadvantages of same-day discharge to identify areas of care that can be improved.

Method: Using a qualitative descriptive approach, we conducted in-depth semistructured interviews with patient–primary caregiver dyads who experienced same-day discharge or standard care after primary THA with the direct anterior approach in 2016–2017. Two members of the research team coded the data independently, implementing a thematic and content analysis.

Results: Twenty-eight participants (16 same-day discharge, 12 standard care) were included. Both groups experienced high levels of satisfaction with their care pathway. Concerns and challenges identified in both groups pertained to mobility, pain, self-care and caregiver support. Challenges and concerns unique to same-day discharge were identified regarding expectations for recovery, medications and their impact on mobility, the timing of postoperative education and the availability of formal care.

Conclusion: Outpatient THA can be implemented with high patient and caregiver satisfaction. Preoperative education, clarification of recovery processes and expectations, and proactively addressing concerns related to caregiving are important.

Contexte : Les progrès des techniques chirurgicales, alliés à l'analgésie multimodale et à la réadaptation hâtive, ont potentialisé la mobilisation précoce des patients soumis à une intervention pour prothèse totale de la hanche (PTH). Compte tenu de la pression croissante venant des patients pour accélérer leur rétablissement et des contraintes budgétaires en santé, on s'intéresse de plus en plus à la PTH effectuée en externe chez certains patients. Pour optimiser les soins, il est important de comprendre l'expérience des patients et de leurs proches aidants relativement à la PTH effectuée en externe. Nous avons voulu cerner les points de vue des patients et des proches aidants au sujet des avantages et inconvénients perçus du congé le jour même, afin de déterminer quels éléments des soins gagneraient à être améliorés.

Méthodes : À l'aide d'une approche qualitative descriptive, nous avons procédé à des entrevues semi-structurées approfondies avec des paires patients–proches aidants à qui on a offert soit le congé le jour même, soit les soins standards après une PTH primaire par approche antérieure directe en 2016–2017. Deux membres de l'équipe de recherche ont codé les données indépendamment, en procédant à une analyse par thèmes et par contenu.

Résultats : Vingt-huit participants (16 ayant reçu leur congé le jour même et 12 soumis aux soins standards) ont été inclus. Les 2 groupes ont exprimé un degré élevé de satisfaction à l'endroit du déroulement de leurs soins. Les problèmes et les difficultés identifiés dans les 2 groupes concernaient la mobilité, la douleur, les soins personnels et le soutien aux proches aidants. Les difficultés ou problèmes particuliers aux cas de congé le jour même ont été associés aux attentes concernant le rétablissement, les médicaments et leur impact sur la mobilité, le moment de l'enseignement postopératoire et la disponibilité des soins standards.

Conclusion : La PTH en externe peut être offerte et générer beaucoup de satisfaction chez les patients et leurs aidants. Il est important d'offrir un enseignement préopératoire, de clarifier le processus de rétablissement et les attentes et de répondre de manière proactive aux préoccupations exprimées relativement aux soins.

Total hip arthroplasty (THA) is one of the most common and most successful orthopedic procedures.[1] With a rapidly aging population, the demand for THA and its economic burden are projected to grow considerably in the next decade.[2,3] In the past, the length of stay following primary THA has been a week or more; however, advances in surgical techniques and novel clinical pathways have allowed for faster recovery times and shorter length of stay.[4] In recent years, advances in surgical techniques combined with multimodal analgesia and early rehabilitation have reduced length of stay to an average of 2–4 days, even allowing for same-day discharge in selected patients.[4,5] The direct anterior approach to THA has become more popular in the last decade.[6] This approach offers several advantages over the traditional lateral or posterolateral approach, including decreased postoperative pain, quicker recovery time, shorter length of stay and decreased dislocation rate.[6–8]

Reducing costs and increasing the number of available beds are among the major priorities for hospitals. A considerable proportion of the cost of THA is associated with an overnight hospital stay.[9] Outpatient THA can be safe and effective in appropriate patients and may result in substantial cost savings.[10,11] Same-day discharge may also improve patient satisfaction, allowing patients to recover in a private, comfortable home environment and achieve independence as early as possible.

Given that outpatient THA precludes patient monitoring during the immediate postoperative period, concerns have been raised about patient safety and hospital readmission among patients who experience a difficult recovery.[4,9] However, studies have found no difference in complication rates between inpatient and outpatient THA.[10,12] Moreover, a recent systematic review assessing the safety and feasibility of outpatient THA showed that outcomes and complication rates were similar between outpatient and inpatient groups.[13] The review also showed that outpatient THA is an economically favourable procedure.

As the demand for THA increases, it is crucial to optimize the allocation of health care resources and minimize costs without compromising patient safety. Fundamental components of successful THA include pain relief, functional recovery and patient satisfaction.[14] This requires a comprehensive clinical pathway consisting of pre-, intra- and postoperative care. The entire health care team, including surgeons, anesthesiologists, nurses, and physical and occupational therapists, must be involved in patient education.

Despite increasing interest in outpatient THA, little research on patient and caregiver perspectives has been conducted. Gaining an in-depth understanding of patient and caregiver experiences of same-day discharge can further enhance this care pathway. The aim of the present study was to gain insight into patient and caregiver perspectives regarding the advantages and disadvantages of outpatient THA to identify areas of care that can be improved.

Methods

Study design

We conducted semistructured interviews with patients who had had inpatient (standard of care; discharge 1–2 d postoperatively) or outpatient (same-day discharge) THA and their primary caregivers. We used an iterative qualitative thematic approach to content analysis combining inductive and research-question–driven coding, category formation and theme identification.[15] The study was approved by the Health Sciences Research Ethics Board at Western University, London, Ontario.

Sampling and recruitment

Potential participants included all patients who had undergone THA with the direct anterior approach at University Hospital, London Health Sciences Centre, London, Ontario and were present at their 6-week or 3-month postoperative follow-up visit with their primary caregiver. Two surgeons (B.L. and J.H.) approached consecutive patients and their caregivers at their follow-up appointment and obtained consent for study participation. Patients were included if they were able to provide informed consent, had their caregiver present during their follow-up appointment, were able to participate in an interview in English and agreed to be audiorecorded. Given that patients were recruited at 3 and 6 months postoperatively, pain management was not a barrier to participation. To avoid selection bias, we called potential patient participants in advance and encouraged them to bring their caregiver to their appointment. Caregivers were included if they reported providing support to the patient during surgery and recovery (e.g., with transportation, self-care, meals) and were able to participate in an interview in English.

Data collection

We conducted in-depth semistructured interviews from Dec. 15, 2016, to Mar. 28, 2017, to capture individual experiences and perspectives following an interview guide consisting of open-ended questions meant to elicit rich information about patient and caregiver experiences of discharge home. Questions addressed whether they felt informed, whether they encountered challenging issues, types of assistance required, and overall perspectives on what worked well and did not work well in the transition process (Appendix 1, available at canjsurg.ca/016117-a1). Interviews were conducted by an orthopedic resident (N.P.) or a graduate student in orthopedics (M.P.) in a private, quiet room. To maximize the accuracy of data collection and trustworthiness of the study, all interviews were digitally recorded and transcribed verbatim by a professional transcriptionist. Consistent with the postpositivist descriptive design,[16] we

stopped recruitment at the point of saturation, when no new issues or categories emerged. To ensure patient confidentiality, all identifiers were replaced with pseudonyms before data storage or transfer.

Data analysis

Two graduate students studying measurement and methods (L.C. and Y.L.) independently analyzed the data using Quirkos software (version 1.4.1), encompassing open, axial and selective coding.[15] First, they reviewed hard-copy transcripts and labelled relevant fragments (open coding). Second, they coded the data and generated categories (axial coding). Third, they identified relations between categories and established core themes (selective coding). In addition to an iterative, multilevel coding approach, the process incorporated several key aspects — particularly data and analyst triangulation, and peer debriefing — that optimize trustworthiness by minimizing the potential for biased reported of experiences, coding or quote selection.[16] Data triangulation involves collecting and comparing data from different sources (e.g., patients and caregivers).[17] Analyst triangulation involves independent analysis of the same data by different analysts (L.C. and Y.L.), followed by a comparative process with oversight by a senior researcher (D.L.R.).[18] Moreover, dependability and confirmability of the data were optimized through the use of ongoing reflexive note-taking by the analysts as well as regular debriefing with the senior researcher and the researchers involved in data collection and analysis, which involved reviewing coding and presentation of data to confirm interpretive decisions regarding themes. Given space constraints, only selected quotes are integrated into the article; further, confirming quotes are provided in Appendix 2 (available at canjsurg.ca/016117-a2).

Results

Twenty-eight participants completed interviews ranging in length from 30 to 45 minutes. Eight patient–caregiver dyads who experienced same-day discharge and 6 patient–caregiver dyads who experienced standard care were included. The participants' age and sex are presented in Table 1.

Both care groups expressed a high level of satisfaction with their overall care process and the care pathway to which they were assigned. Several similar supporting factors and challenges were identified in the 2 groups regarding pain, mobility and caregiver support. In addition, concerns unique to same-day discharge were identified.

In this analysis, participant experiences are organized into 3 main themes: 1) supporting the transition home, 2) challenges for transitioning home and 3) unique considerations for same-day discharge. Within these themes, prominent categories were explored further.

Supporting the transition home

Among the supporting factors, participants cited pain management via oral analgesic treatment, mobility as a form of physical therapy, effective mobility messages, a support network for both patients and caregivers, and a connection to previous experience as essential.

Pain

Patients in both groups used orally administered analgesics as a primary means of postoperative pain relief at home, without major concerns. There were differences between the inpatients and outpatients, however, regarding their approach to managing pain at home. One inpatient described taking the pain medication exactly as prescribed:

> I took the prescribed long-term hydromorphone drugs. I probably could have been off them earlier, but I was on them for, I think, about 13 days. [Participant L, inpatient]

In contrast, many of the outpatients and their caregivers cited an ability to cope without medication or to tailor the dosing based on how the patient was feeling:

> [I] didn't use them on a daily basis, but on the days [when] I felt I needed them to help me through the day, if I was doing something extra, a physical exercise or shovelling snow or moving furniture, it helped taking pain medication. [Participant H, outpatient]

Mobility

Mobility as a form of physical therapy: Although patients and caregivers in both groups agreed that pain medication was a part of recovery, there were differences in their approaches to managing pain. One inpatient caregiver discussed a more passive approach to recovery:

> Probably the first 2 weeks, it was mostly just him taking it easy, getting a lot of rest. I think the pain medications really helped him sleep a lot, so [he] just took it easy the first couple of weeks. [Participant K caregiver, inpatient]

Table 1. Age and sex of patients who underwent total hip arthroplasty as standard of care (inpatient) or same-day surgery (outpatient) and their caregivers

	Inpatient *n* = 12		Outpatient *n* = 16	
Characteristic	Patients *n* = 6	Caregivers *n* = 6	Patients *n* = 8	Caregivers *n* = 8
Age, yr				
Mean ± SD	69 ± 12	59 ± 15	63 ± 5	62 ± 7
Median (range)	72 (66–79)	64 (37–76)	63 (56–70)	63 (52–68)
Female sex, no. (%)	1 (17)	6 (100)	3 (38)	5 (62)

SD = standard deviation.

However, several of the outpatients consistently used mobility as a means of rehabilitation and cited engaging in such activity at home early on in the recovery period:

I was out in the bush clearing trees about 5 or 6 days after this [surgery] was done because for me that was therapy, so I had the cane in one hand and the snips in the other. [Participant C, outpatient]

Effective mobility messages: Patients in both groups described their self-perceptions of abilities, such as being in "good shape" or "healthy," and the desire to return to leisure activities that were meaningful to them (e.g., biking, hiking, curling) as motivation to remain active throughout their recovery. Patients' accounts highlighted their understanding and capacity to grade their mobility throughout their recovery, weaning off their gait aids as appropriate and testing the limits to determine optimal activity levels:

Within a very short period of time, I didn't use the walker, say, after about 2 days, I went to the crutches and then very quickly went to a single crutch and then to a cane, so the whole process moved along quite well. [Participant L, inpatient]

Caregiver support

Many patients described the support they received from their primary caregiver as essential to their recovery and supporting their transition home. Participants in both groups described caregiving duties, including help with self-care (bathing, dressing, toileting, meals, wound care, medications) and mobility (transfers, driving, exercise), as extensive. However, several participants described the patient's ability to participate in some of these tasks, seeking help from the caregiver to fill in the gaps when assistance was needed.

In addition, caregivers noted that having their own support network from family, friends and allied health care professionals enhanced their confidence in their ability to help care for the patient. Family and friends helped relieve them of their caregiving duties so they could have a break or attend to things outside of the home. Allied health care professionals such as community care access centre nurses and physiotherapists helped consolidate information that they received in hospital, supporting their ability to manage wound care, transfers and exercise programs. In regard to community care access centre nursing care, 1 caregiver expressed that this visit was absolutely essential:

Yes, it was, that [visit] really clarified [the information] for me; the first time through, I thought I had picked it all up, but just checking off the list again was really good. [Participant E caregiver, outpatient]

Caregivers also discussed factors that supported their ability to balance work and caregiving roles. They noted that having a job with flexible hours and in close proximity to their home allowed them to juggle these roles with ease. Caregivers described going to work early and having the ability to come home for a few hours to "check up" on the patient as beneficial, especially in the first week of recovery at home.

Similarly, caregivers in both groups described connections to previous experience with surgery or having access to people with previous experience as supportive to the recovery process. Participants' connections to previous experiences included having had THA, receiving advice from friends or family who had experienced joint replacement or were health care workers, and being familiar with the hospital system because of previous illness.

Challenges for transitioning home

All patients expressed a high level of satisfaction with their surgery. However, on reflecting on things that could be improved about their recovery, participants in the 2 groups noted similar concerns and challenge, including determining optimal activity levels, concerns with medication, managing initial transfers, the challenge of dual caregiving roles, and dealing with unexpected symptoms or adverse effects.

Pain

Most patients felt they were able to determine optimal levels of activity through a trial-and-error approach, which posed challenges regarding pain as they learned the limits of their tolerance to activity during recovery. A few patients described feelings of "overdoing it" and subsequent pain as a result, which affected their mobility:

I pushed myself, my muscles were inflamed, and there were nights I didn't sleep as well because I was doing too much. [Participant F, inpatient]

Patients and their caregivers expressed a desire for more information on acceptable levels of activity postoperatively, for safety reasons and to ensure that patients did not exceed what was appropriate based on their stage of recovery.

In addition, some participants mentioned concerns with medications, including dissatisfaction administering blood thinner injections, unexpected adverse effects (e.g., nausea) of medication, fears of overmedicating and a preference for an alternative to morphine. Some patients expressed a need for clearer instructions regarding medication and dosing to ensure that they could manage their pain in the immediate postoperative period:

The meds, too ... no one told us to make sure we take [them]. ... He thought, "Oh, I'm feeling really great," because they really loaded him full of meds [in hospital], and when he got home after the first day, he thought "Well, maybe I can cut back a little, I shouldn't take these ones as much" ... and he got really in hot water doing that, so the pain came back full force, and it took longer to get it down again. [Participant H caregiver, outpatient]

Yes, you wanted to have the pain controlled, but you didn't want him to be so dopey that he was at risk of falling. So I found that was sort of ... a seesaw, but ... I gave it as it was necessary. [Participant D caregiver, outpatient]

Mobility

The main mobility challenge cited by patients and their caregivers in the transition home was difficulty or lack of confidence managing initial transfers. However, these concerns diminished after the first few days at home:

I was worrying ... "Am I going to have to help him in and out of bed?" because he is so much taller, and I know I could do it, but no one has ever taught me how to do it, so I don't know how to do it, so that was one of the things that I had ... concerns [about] ... but he was a superstar. [Participant G caregiver, outpatient]

Caregiver support

Caregivers in both groups described challenges surrounding managing dual caregiving roles. Some caregivers had to manage looking after their family while meeting the needs of their parent who had undergone surgery, whereas others had to juggle responsibilities of young children while also caring for their spouse who had undergone surgery. These dual roles posed unique challenges for caregivers:

For us, it's just because we have kids, we shared these chores, now I have to take over all of his ... normally he would get the kids to school in the morning, now I have to stop work in the morning, because I start at 7 in the morning, get the kids to school, that sort of thing. [Participant K caregiver, inpatient]

Unique considerations for same-day discharge

Patients expressed their preference to go home the same day after their surgery and were satisfied with this pathway. Influential factors included previous negative experiences in the hospital, fear of hospital-acquired illnesses and the preference to recover in the comfort and privacy of their own home.

Caregivers tended to be more cautious regarding this surgical pathway, as they expressed concerns regarding the availability of formal care. However, caregivers indicated that these concerns diminished substantially by the first or second postoperative day as pain management issues and activity limitations decreased:

I guess being able to have the surgery one day and then go home did work well, even though I was nervous about the whole thing; it did go well, it was a benefit, I think it was much better he was able to get home. [Participant F caregiver, outpatient]

Although all of the participants who experienced outpatient THA were satisfied with the overall experience of same-day discharge, some unique considerations for this pathway emerged regarding the timing of education in hospital on the day of surgery, managing expectations for recovery at home, and the effects of anesthesia during the discharge process and transition home.

Timing of education

Most patients and their caregivers highlighted the importance of optimal timing of postoperative education and the associated stress and confusion when this was not achieved. Caregivers noted that they were not always present when patient education was delivered before discharge, and this posed a unique barrier, as patients were receiving education under the influence of operative anesthesia and were often unable to relay key information to their caregiver. This translated to gaps in understanding regarding medications, physical therapy and wound care:

I wasn't there when [the physiotherapist was] there. ... When we got home, he's in his walker, there was a bit of confusion ... like, put this leg first, well, what did [the physiotherapist] say? [Participant A caregiver, outpatient]

Expectations for recovery

Many patients and their caregivers who experienced outpatient THA described a period of navigating their recovery and determining tolerable levels of pain, activity and rest throughout the first few weeks after surgery. Several participants noted an initial period of adjusting their expectations for recovery, as pain or activity limitation was more pronounced than initially expected:

It was good to be in our own home. … If we had to do it again, no qualms about it at all, it was just the expectation, we didn't know what to expect with the anesthetic, and I wasn't quite sure; yes, my hip pain was gone, but I still had surgery pain. [Participant F, outpatient]

The accounts of participants who described a lack of clear expectations for recovery reflected that their expectations regarding surgery pain might have been underestimated by knowledge of the muscle-sparing surgical approach and the possibility for early mobility:

Yeah, [the pain] was a little bit more ... than I thought, because everyone said "Oh, the surgery is perfect, it goes great, you will be up and at 'em in no time flat," but it's still surgery, so it wasn't that ... the surgery fixed everything. [Participant F caregiver, outpatient]

Everyone was, like, "Ah, this is a great thing to do, we don't go through the muscle, it's quicker healing, it's quicker, quicker, quicker," but that's one thing [surgery pain] they don't tell you. [Participant A caregiver, outpatient]

Most of the patients and their caregivers were able to problem solve and decide on the best way to manage

unexpected symptoms or mobility limitations that arose in the first few days after surgery. However, some patients and their caregivers struggled to understand the appropriate course of action when unexpected situations occurred. One patient and his caregiver described episodes of syncope on the day of surgery and the following day that became a source of stress and uncertainty, despite the availability of support 24 hours a day via telephone:

> The first [episode] was that night and [the second one] the next morning, so I was not prepared for that at all, it scared both of us. I would have, I did not know what to do, they said to call the hospital, but you still don't know, because I hadn't read anything about fainting, nothing. [Participant F, outpatient]

Effects of anesthesia

Most patients who undergo outpatient THA are discharged home while under the influence of the operative anesthesia (regional nerve block or general anesthetic). Most participants mentioned only minimal issues for the patient, such as being "a bit groggy," while transitioning home and felt that the benefits of getting home early outweighed these issues. However, 1 patient and his caregiver expressed needing more information regarding the effects of anesthesia and what to expect:

> I was just worried that it was so soon and [about] the effects of the anesthetic and [are] there any side effects? Am I going to be in a crisis at home with him? The first 24 hours, I didn't know what to look for. Because I think it's pretty broad, what they say, they just say "If you have any issues, just call," but what kind of issues? We don't want to bother people just for little piddly issues that maybe could be explained. [Participant H caregiver, outpatient]

In contrast, other participants viewed postoperative anesthesia as essential to facilitating the transition home. One caregiver reported this as a unique benefit of outpatient THA, as the regional nerve block helped to manage pain during initial transfers:

> The next day it would have been harder for him to get into the house, because he wouldn't have had as much pain medication in him, and they froze [his hip], so that was still frozen until 10 at night. So if they had sent him home the next day, he wouldn't have had those things, and I think he would have had a lot more problems just getting up the stairs and into the house ... and in and out of the car. [Participant G caregiver, outpatient]

Discussion

We found that the experience of THA and subsequent recovery is complex and multidimensional, affecting the patient and caregiver alike. Previous quantitative studies showed that outpatient THA poses no greater risk for perioperative complications, including 30-day adverse events, readmission, infections, death and thromboembolic events, than inpatient THA.[10,13,19] Although it is important to monitor these outcomes, they are rare in THA and offer minimal insight into optimizing the care pathway, and the caregiver is not considered. The present research has allowed for a deeper level of understanding, capturing unique considerations from multiple perspectives.

For example, we identified considerations unique to same-day discharge that may optimize this clinical pathway. Specifically, our results emphasize the importance of the caregiver in the discharge process and the need to ensure that education is delivered when both patient and caregiver are present. Determining the best method to educate within this compressed timeline is key and may include more detailed written information, accessibility of information (including Web-based education modules) 24 hours a day, and coordinated discharge planning among the health care team, the patient and the caregiver.

In addition, we found that outpatients had higher expectations than inpatients regarding the ease of recovery at home. Whereas outpatients may be surprised that they were sent home in the circumstances they find themselves in, inpatients see, feel and experience exactly what they can and cannot do while in hospital, have had more time to recover from the anesthesia and surgery, and have learned some coping strategies by the time they are discharged. In a recent randomized controlled trial comparing outpatient and inpatient THA, outpatients had higher pain scores on a visual analogue scale on postoperative day 1 than patients who had stayed in hospital overnight.[20] The authors suggested that this finding reflects a need for more counselling on pain management and is potentially linked to outpatients' increased activity level at home compared to inpatients. Our findings suggest that a lack of clear expectations regarding surgical pain may influence patients' pain reporting. More detailed education regarding what to expect may serve to temper outpatients' seemingly heightened expectations associated with same-day discharge. It may also be useful to provide patients and caregivers with detailed decision-making algorithms, including a comprehensive list of potential issues and clear directions on how to proceed if these issues arise.

Limitations

A limitation of the present study is that our results are generalizable only to selected centres, as outpatient THA is typically offered only in specialized centres and has not yet been widely adopted in orthopedic practice. In addition, the interviews were conducted in English, which may have limited the cultural diversity of the sample.

Conclusion

Both inpatients and outpatients and their caregivers expressed high levels of satisfaction with the care process and their recovery pathway. Oral analgesic treatment, a support network for patients and caregivers, and a connection to previous experiences were cited as essential in supporting the transition home. Similar concerns and challenges were identified by the 2 groups regarding pain, mobility and caregiver support. Patients with same-day discharge felt that their expectations regarding the speed of recovery may have been too high; this may have been linked to their fast-tracked discharge pathway or the surgical approach. This suggests a need for further education to manage expectations in this group. Last, ensuring optimal timing of postoperative education to include both the patient and the caregiver, and developing decision-making algorithms for patients while they recover at home may help ease patients' transition home and improve patients' and caregivers' experience with outpatient THA.

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