

# Standardizing outpatient total hip arthroplasty and empowering Canadian perioperative nursing practice

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## Abstract

*Decreased hospital length of stay in total hip arthroplasty procedures across Canadian hospitals and surgical facilities has led to the development of outpatient total hip arthroplasty (THA) programs. However, standardizing outpatient THA clinical guidelines with infused perioperative nursing input has not been comprehensively studied in Canadian hospitals and surgical centres. Therefore, this paper explores the current evidence, clinical standards, pathways, and organizational practices related to patient selection criteria, home environment support aspects, and healthcare team dynamics for existing outpatient THA in Canadian surgical facilities, as well as the level of perioperative nursing influence within these programs to date. Analyzing the existing literature on outpatient THA and related pathways in Canadian hospitals and surgical suites identifies key findings and areas for further development and standardization, as well as those challenges and barriers associated with implementation across Canadian healthcare systems.*

**Keywords:** perioperative nursing, outpatient, surgery, hip arthroplasty

**I**ncreased post-pandemic demands on hospital resources has pressured Canadian surgical facilities to optimize joint arthroplasty procedures. Developing outpatient surgical joint programs have specifically optimized total hip arthroplasties (THAs). This approach improves patient-centred outcomes by reducing hospital stays and recovery time while lowering healthcare costs (Bodrogi et al., 2020; Pulkkinen et al., 2020). However, the lack of standardization among Canadian outpatient THA programs without the input and empowerment of perioperative nursing support remains a challenge in implementation and ensured success (Banerjee & Wright, 2020).

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This paper explores the variability present in Canadian outpatient THA programs, highlighting the need for both a formalized framework and perioperative nursing involvement to improve both patient outcomes and healthcare system efficacy. A literature review on outpatient THA programs in Canadian surgical facilities, specific to patient selection criteria, home supports, and treatment pathways infused with perioperative nursing perspective, is required to identify key opportunities for standardization.

## Background

Osteoarthritis (OA) in hip and knee joints is the leading cause of pain, disability, and healthcare use among Canadian adults (Foerster, 2017). “Outpatient” surgery will be defined in this review as those procedures completed on patients who are discharged on the day of surgery (Vehmeijer et al., 2018). As health systems have increasingly struggled to manage inpatient bed availability and surgical backlogs, Canadian surgical facilities began developing outpatient THA programs. In 2021–2022, more than 58,635 THAs were performed in Canada, with 6,918 being outpatient THAs (Canadian Institute of Health Information [CIHI], 2023). Outpatient THA programs continue to gain popularity. However, they also require prudent safety and efficacy considerations. As a result, interdisciplinary collaboration is required from all healthcare team members to ensure outpatient THAs’ optimal patient outcomes and organizational efficacy.

An instrumental member of these patients’ care is the perioperative nurse. This role has been defined as managing surgical momentum: time, work, and patient flow are vital aspects for success while simultaneously maintaining safety (McGarry et al., 2018). Balancing efficiency and harm reduction describes the perioperative nurse’s role: providing safe patient care while supporting the surgical team. Outpatient THAs require advanced orthopedic knowledge, technical skills, and precise coordination within a rigid surgical schedule; therefore, the perioperative nurse is a critical asset to the success of these procedures. Currently, there is little evidence of perioperative nursing contributions supporting a standardized, national approach to existing

outpatient THA programs (Banerjee & Wright, 2020; McGarry et al., 2018), creating a unique opportunity for empowerment and further contribution. As perioperative nurses are patient safety champions, as well as surgical resource stewards, their feedback around standardized practice guidelines is paramount to ensure validity of the frameworks to be created.

## Methods

A literature search was conducted on key resources including MEDLINE, the Cochrane Library, the websites of Canadian and major international health technology agencies, along with a focused internet search. A combination of subject headings was searched, including “outpatient”, “total joint arthroplasty”, “hip arthroplasty”, “outpatient”, “same-day discharge”, “day surgery”, “length of stay”, “ambulatory”, “rapid recovery protocol”, “short stay”, “day-case”, “patient selection criteria”, “perioperative nurse”, and “operating room nurse”. The search was limited to Canadian articles written in English. Duplicate publications or those published prior to 2015 were excluded from the search. Reference lists of selected articles were reviewed for additional, relevant studies. Clinical trials, meta-analyses, prognostic studies, observational studies, and retrospective studies were included in the scope of the review.

## Results

Existing outpatient hip arthroplasty programs in Canadian surgical facilities varied in their operational processes, patient selection criteria, home environment support requirements, and perioperative practices (Banerjee & Wright, 2020; Zomar et al., 2020). There were also little to no standardized policy or guidelines from Canadian organizations specific to outpatient THA, as well as no patient selection criteria or home supports identified (Banerjee & Wright, 2020). Outpatient THA programs also revealed no specific, cultural considerations for Canadian Indigenous patient populations (Zomar et al., 2020). Variable organizational approaches and pilot projects were identified as having inconsistent integration, as well as gaps in knowledge across various Canadian outpatient THA programs (Zomar et al., 2020). No standardized change-management frameworks were identified (Harrison et al., 2021), and there was no perioperative nursing input into any clinical guidelines. Variations within existing outpatient THA programs’ safety and efficacy considerations, as well as improved patient outcomes, patient selection criteria, home support analyses, and perioperative pathways lacking perioperative nursing input, will be discussed further.

## Discussion

### Safety Considerations and Improved Patient Outcomes

As outpatient THA programs have increased in popularity across Canadian hospitals and surgical facilities, patient safety has been questioned. Readmission rates and related complications were extensively studied and compared with those from inpatient

THA procedures, to discern safety considerations and patient outcomes (Banerjee & Wright, 2020; Sniderman et al., 2025). Specific complications that required readmission on an outpatient or inpatient basis included wound complications, transfusions, and urinary tract infections, as well as periprosthetic joint infections and dislocation requiring open or closed reduction (Diaz-Dilernia et al., 2024). Overall, approximately 8% of surgery patients required readmission or outpatient treatment within 30 days (CIHI, 2023). In 2021–2022, fewer than 2% of outpatient THA patients returned to the hospital within 30 days, compared with 2019–2020 statistics of more than 2%. Therefore, the increased incidence in outpatient THAs being performed may suggest an acknowledgement to patient safety and positive outcomes. In 2021–2022, 18.0% of hip replacements for OA treatment were performed as day surgeries, compared with 10.1% in 2020–2021 and 2.9% in 2019–2020 (CIHI, 2023). The increased incidence of rural patients’ outpatient THA surgeries has also increased: 17.9% in 2021–2022 as compared with 13.3% in 2015–2016 (CIHI, 2023). These statistics also suggest an increased incidence in the level of perioperative nursing involvement, namely, managing surgical momentum within the theatres while promoting patient safety. Therefore, an increased uptake of outpatient THA programs, due to improved patient outcomes, suggests the growing need for perioperative nursing involvement as surgical quality champions in standardizing THA care.

### Healthcare Resource Optimization

Outpatient THA programs improve inpatient bed management through reduced hospital stays (Kort et al., 2017; Pollock et al., 2016), shorter recovery times (Zomar et al., 2020), and conserved resources (Banerjee & Wright, 2020; Zomar et al., 2022). Outpatient THA programs were also found to decrease spending related to inpatient visits. Zomar et al. (2022) completed a preliminary analysis of outpatient THA procedures as part of a larger randomized controlled trial, among patients who underwent primary THA through a direct anterior approach, with a total of 115 participants, 49 allocated to the outpatient group. Results indicated that the inpatient THA was more costly than outpatient THA. Sniderman et al. (2025) also completed an aggregate, retrospective population-based analysis, and found a significant difference in healthcare dollars spent. Specifically, the outpatient THA cost resulted in approximately \$5,490 CA as compared with \$7,296 CA for an inpatient THA. This suggests organizational cost savings and should, therefore, encourage further development and scalability.

### Patient Selection, Home Supports, & Discharge Criteria

Varying patient selection criteria exists throughout Canadian outpatient THA programs (Banerjee & Wright, 2020; Kort et al., 2017). Baseline inclusion criteria were noted, including patients who agreed to participate, possessed a low American Society of Anesthesiologists (ASA) classification (<III), were undergoing primary hip arthroplasty, were less than 80 years

old, and had 'significant' home supports following discharge (Bodrogi et al., 2020; Kort et al., 2017). However, variations within these inclusion criteria existed, specifically patient age, comorbidities, ASA score, and overall functional status. Exclusion criteria were also present and variable, reoccurring as patients who possessed a high ASA classification (>II), suffered from bleeding disorders, had poorly controlled and/or severe cardiac or pulmonary comorbidities, suffered from significant neurological or cognitive impairments, suffered from renal disease, or who had dependent functional status without adequate home supports (Bodrogi et al., 2020; Kort et al., 2017). It is, therefore, evident that Canada still lacks standardized patient selection criteria with perioperative nursing input, meaning there is much work to be done in standardizing outpatient THA selection criteria.

Outpatient THA programs' home support analyses also varied widely across patient populations (Zomar et al., 2020). Specifically, bathing, dressing, toileting, meals, wound care, and medication administration, require varying levels of support that may already exist in the home, or may need to be acquired on a temporary basis. Mobilization activities, such as driving, transfers, and exercise are also highly variant for patients recovering from a THA, and especially those completed on an outpatient basis (Churchill et al., 2018). As well, Canada's diverse population requires culturally sensitive approaches to addressing home support requirements; patients from various cultural backgrounds may perceive home supports differently and have varying access to home-care equipment and resource programs. Therefore, developing standardized home support requirements for the outpatient THA program is essential for positive patient outcomes and long-term success. Therefore, encouraging nursing input to the Canadian patient's home environment analyses is essential in the safety, efficacy, and culturally sensitive aspects of a standardized, outpatient THA program.

Patient discharge criteria variations exist within Canadian surgical programs. Foerster (2017) conducted a systematic review with seven subsequent studies supporting the safety and efficacy of outpatient THA. Foerster concluded that discharge criteria involve a multidisciplinary approach using careful patient selection, comprehensive education techniques, high-quality anesthesia and analgesia interventions, advanced surgical techniques with minimal muscle damage and blood loss, early mobilization, rigorous physical therapy, and strong home support systems (Foerster, 2017). Therefore, appropriately assessing patient discharge readiness is multifactorial and comprehensive, requiring a significant investment of the healthcare team's time and resources to ensure optimal patient outcomes. Examples of these outcomes include mobilization rates, wound status assessments, urinary retention, and pain management scores (Churchill et al., 2018; Foerster, 2017; Kostamo et al., 2025), and variation has been found within each of these. As

perioperative nurses possess a deep foundation of knowledge about their surgical patients' readiness-to-discharge, their input is critical in developing standardized, outpatient THA discharge guidelines to optimize patient outcomes.

### Variations Among Perioperative Pathways

Pressures to reduce healthcare costs, optimize inpatient bed management, and improve surgical technique and perioperative care, motivated many Canadian surgical facilities to focus on outpatient pathway standardization and implementation. However, these have been developed with varying, localized considerations and with limited perioperative nursing input. Canadian perioperative pathways derive original inspiration from the Enhanced Recovery After Surgery (ERAS) protocol (Sivaloganathan et al., 2022), which aims to improve pain control, reduce bleeding, provide nutrition support, encourage early mobilization, maintain gastrointestinal function, and reduce the incidence of adverse events. On the converse, barriers that prevent patient discharge – failing to meet ERAS goals – include pain, nausea, dizziness, orthostatic hypotension, wound discharge, urinary retention, and loss of muscle function (Sivaloganathan et al., 2022). As such, this is the framework in which outpatient THA pathways have been created. However, parameters in which the criteria, measurements, and thresholds vary, were used to create locally accepted pathways—none of which have been nationally standardized. Surgical approach, anesthetic protocols, patient education delivery methods, and related cultural considerations are examples within these pathways and will be discussed further.

Variances in perioperative aspects have been identified within existing outpatient THA programs, including procedural surgical approach to optimize exposure, reduce bleeding, and minimize damage to muscle and tissue (den Hartog et al., 2016; Kort et al., 2017; Lovasz et al., 2021; Sniderman et al., 2025; Zomar et al., 2020). Typically, the less invasive, anterior surgical approach for the outpatient THA, is often scheduled as the first or second case of the day. This approach is found to be considered the safer option, reducing length of stay, decreasing post-operative pain, and improving functional rehabilitation (den Hartog et al., 2016). However, this approach requires a costly, dedicated operating table to facilitate exposure and imaging (den Hartog et al., 2016; Foerster, 2017). As this approach requires specific considerations, resources, equipment, and skillsets, slower uptake in rural communities has been noted. This suggests that there is opportunity for improvement in adopting the anterior approach as the standardized surgical technique for outpatient THA programs across Canada, and perioperative nursing will be a vital member in advocating for this.

Other variances found within Canadian outpatient THA programs include anesthetic protocols, specifically in using multimodal approaches, as well as motor-sparing peripheral nerve blocks (Kostamo et al., 2025). These interventions have been shown to improve overall patient outcomes. However, the lack

of standardized clinical management guidelines around perioperative pain management, intraoperative considerations, and anesthesia techniques (Foerster, 2017), is still present. As perioperative nurses advocate for the patients' pain management and anesthesia requirements, input and feedback on these protocols are vital for the long-term success and standardization of Canadian outpatient THA programs.

Foerster (2017) describes the lack of standardized patient education in Canadian outpatient THA programs. Education delivery varies and, without perioperative nursing design, often fails to reflect the unique considerations for Canadian minority and Indigenous populations (Foerster, 2017; Zomar et al., 2020). As education delivery is highly personalized and tailored to each patient's level of comprehension and understanding, challenges associated with standardizing remain. Teaching factors to consider would include access to healthcare services, potential language barriers, and distinct cultural beliefs around surgical procedures, postoperative care, and alternative pain management strategies. Therefore, standardizing a culturally sensitive set of outpatient THA resources for teaching patients, which reflect Canada's unique patient populations, requires multidisciplinary collaboration, including perioperative nursing input.

### **A Call for Standardization**

A significant need for a standardized organizational approach has been identified, one that can be integrated into treatment pathways, clinical guidelines, workflows, and organizational policies around outpatient THA across Canadian surgical facilities (Kort et al., 2017; Lovasz et al., 2021). Therefore, integrating nursing-driven, evidence-informed practices into standardized clinical guidelines and patient pathways, using King's goal attainment theory (Park, 2021) as a framework, is essential for scalability across both new and existing outpatient THA programs. Using this framework to empower perioperative nurse-driven input in standardizing outpatient THA program guidelines will produce positive patient and organizational outcomes. Also, it ensures standardizing is patient-centred and interventions are done in a culturally sensitive way, including patient selection criteria, education delivery materials and modes, home environment analyses, perioperative considerations, pain management, and discharge criteria. These aspects are essential to the Canadian outpatient THA program's overall success and set the foundation for nationally accepted outpatient THA clinical guidelines.

Incorporating perioperative nursing considerations into these standardized components of care will also represent Canada's diverse patient populations more accurately. Bodrogi et al. (2020) and Foerster (2017) stress that outpatient THA programs require multidisciplinary care protocols that appropriately reflect Canada's diverse patient populations. Therefore, healthcare systems must adopt a culturally sensitive approach

to develop a nationally recognized, standardized set of clinical guidelines and patient pathways (Foerster, 2017; Zomar et al., 2020) that reflect Canada's unique populations and social welfare considerations, including adequate minority and Indigenous cultural representation. Furthermore, perioperative nursing considerations must be included in the guidelines and pathways' development, to reflect the holistic perspective of the patient experience across the unique cultural considerations that embody Canadian healthcare.

### **Implementation Strategies**

Variations present within existing joint arthroplasty programs are associated with excessive healthcare costs and outcome variability, illustrating the need to improve the quality and consistency of joint replacement rehabilitation care in Canada (Westby et al., 2025). Therefore, outpatient THA programs require standardized guidelines across Canadian surgical facilities for quality assurance purposes (Banerjee & Wright, 2020). Referencing existing outpatient THA programs within Canada provides foundational knowledge around successes and challenges noted to date, as well as the lack of nursing representation in various pilots.

Kostamo et al. (2025) conducted a study at a Canadian community hospital to develop an outpatient THA pathway to improve at-home recovery opportunities and optimal patient outcomes. The team adopted the Model for Improvement framework to guide the work, which included four main standardization components: patient selection criteria and screening tool, focused procedural pathway automation, surgical and anesthesia interventional standardization, and patient education resources. As a result, standardized clinical pathways were successfully integrated into the program and procedural target volumes were surpassed. This pilot project suggests scalability potential across applicable Canadian surgical facilities. This study also highlights the lack of perioperative nursing presence within the working group, suggesting more specialized integration and further research are required through this perspective.

Similarly, Sniderman et al. (2025) highlighted the efficacy of an outpatient THA program in Ontario using an aggregate, retrospective analysis of patient data. Outpatient and inpatient cohorts were developed and analyzed using standardized patient selection criteria, education resources, surgical approach, anesthesia considerations, pain management, and postoperative care. Results indicated that the outpatient cohort's discharge, readmission, and infection rates were no higher than the inpatient cohort and were significant in efforts to standardize a Canadian outpatient THA program. However, the lack of perioperative nursing representation in the study design suggests more input is needed for an improved, holistic perspective and a formalized theory and framework to be

adopted (Park, 2021). Therefore, developing specialized working groups, collating relevant data and quality metrics, implementing pilot programs across Canadian surgical facilities, discussing scalability, and implementing quality improvement feedback platforms, are next steps. Stakeholder engagement should focus on those who have piloted similar programs, sharing successes and challenges encountered. Patient advocacy groups should also be included, representing Canada's unique populations and cultures, including various Indigenous communities. Finally, funding should shift to a cost-shared site model among provincial and territorial healthcare organizations, including all qualifying surgical facilities who currently, or are planning to, offer outpatient THA programs.

## Conclusion

Outpatient THA rates are increasing due to the rising incidence of OA, decreased inpatient capacity, and added pressures to improve overall efficacy throughout Canadian surgical facilities. Standardizing patient selection criteria, home support analysis, and clear treatment pathways is the focus for scalability and long-term success, requiring perioperative nursing expertise and senior leadership investment at the national level. Therefore, additional research and focus is required for developing a more fulsome, standardized framework, codesigned with a perioperative nursing perspective. Empowering Canadian perioperative nurses to guide the complex work of standardizing outpatient THA clinical guidelines ensures long-term program success and positive patient and organizational outcomes.

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## Conflicts of Interest

*The author declares that she has no conflicts of interest relevant to the content of this manuscript.*

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*I am the sole author responsible for the conceptualization, investigation, original draft, reviewing, and editing of this manuscript.*

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