



# Reducing Hip and Knee Replacement Wait Times: An Expanded Role for Physiotherapists in Orthopedic Surgical Clinics

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**T**he Ministry of Health and Long-Term Care officially announced Ontario's Wait Time Strategy on November 17, 2004, to address timely healthcare access to five key areas: cancer surgery, cataract surgery, hip and knee joint replacement surgery, cardiac procedures and magnetic resonance imaging (MRI) and computed tomography scans (Trypuc et al. 2006). The goal of the Wait Time Strategy was to reduce the time patients wait for these five identified services by December 2006 by funding new innovative evidence-based strategies to help transform the current healthcare system into a more efficient and accountable model with an increasing degree of transparency (Hudson 2006).

### **The increased demand for hip and knee joint replacement procedures, along with a shortage of orthopedic surgeons and other healthcare professionals, has contributed to progressively longer wait times in the system.**

Hip and knee replacement surgery demands increased by 51% and 114%, respectively, between 1993–1994 and 2003–2004 for Ontarians 20 years of age and older (Canadian Institute for Health Information 2006). This increased demand, along with a shortage of orthopedic surgeons and other healthcare professionals, has contributed to progressively longer wait times in the system for hip and knee joint replacement procedures. The concern of the public and healthcare providers regarding the length of time to access hip and knee replacement surgery, along with the growing demand for these procedures, has been the driving force for finding strategies to decrease the wait times in this area.

In order to address wait list issues, many institutions have begun to examine interdisciplinary collaborative models of care. One important aspect of collaborative care is ensuring that the most appropriate healthcare provider is assuming responsibility for care within the domain of his or her discipline – that is, making sure that the right care is provided by the right person at the right time and place (Bryant-Lukosius et al. 2004). These providers work collaboratively with physicians to provide the necessary care for the patients, incorporating their own unique skill set into the provision of care to maximize effectiveness of the system and ultimately to provide better care (Cooper 2001).

Jibuike and colleagues (2003) assessed the effect of using a physiotherapist who had been trained with an extended scope of practice in orthopedics to manage acute, soft tissue knee injuries in an emergency department. The extended-scope physiotherapist was able to correctly identify the need for advanced screening tests such as MRIs and to effectively manage the patients, such

that 59% required no follow-up after their initial visit. The researchers concluded that the physiotherapist was a valuable addition to the emergency department, that medical time was saved and that the quality of care of acute knee injuries was improved (Jibuike et al. 2003).

In order to expand on the idea of using a physiotherapist in a model of collaborative care to help reduce wait times and to make this model relevant for hip and knee replacement surgery, the Hotel Dieu Hospital in Kingston, Ontario, a tertiary care academic health science centre, was granted one-time funding from the Innovation Fund from the Ontario Ministry of Health and Long-Term Care to develop an expanded role for physiotherapists in orthopedic (hip and knee) surgical clinics. This initiative was in keeping with the ministry's mandate for "a patient care access management process for Ontario that promotes best practices and results in improved quality of care for our patients." The purpose of the proposal was to examine the effectiveness of expanding the role of the physiotherapist in the outpatient orthopedic clinics to provide pre- and post-operative consultation to patients with hip and knee complaints; the goals were to save the surgeon's time and improve patient throughput, thereby reducing wait times.

### **The Study and Findings**

Subjects in the arthroplasty post-operative outpatient orthopedic clinics were each assessed by a physiotherapist and an orthopedic surgeon to determine the similarity in the clinical impressions of the two health professionals with respect to the course of action to be taken. This is a necessary step to ensure that patients receive similar care, regardless of the health professional seen, and to ensure a model of collaborative care that meets the needs of the patients.

The primary measure used to assess the patients who had undergone knee arthroplasty was the Knee Society Score (KSS). The KSS has two separate scores: (1) a knee score, which pertains to pain and activities of daily living, and (2) a function score, which pertains to mobility. Both are scored out of 100, with a higher score being more favourable. For both, the score goes up and down in units of five, so it was felt that scores within 10 points would be similar enough to indicate that the physiotherapist and the orthopedic surgeon had the same opinion about a subject's status.

Forty subjects were assessed after knee arthroplasty by both a physiotherapist and an orthopedic surgeon. Of these subjects, 36 had useable data. On the knee score portion of the KSS, 29 (81%) of the totals were within 10 points. On the function score, 28 (78%) were within 10 points. In every case in which the professionals did not agree, the physiotherapist gave the subject a lower score than did the surgeon, which indicates that the subject would have received the appropriate level of attention in all cases.

The main measure used to assess the patients who had undergone hip arthroplasty was the modified Harris Hip Score (HHS). The modified HHS combines functional and pain measures; it is scored out of 80 points, with a higher score indicating higher functioning. Since the scores go up in increments of one, two, five and 10, it was felt that scores within five points between the physiotherapist and the orthopedic surgeon would indicate similar findings.

**Physiotherapists could effectively manage post-operative patients for orthopedic surgeons; they make similar assessments of the patients' status and offer the appropriate conservative management strategies to the patients.**

Again, 40 subjects were assessed after hip arthroplasty; data were useable for all 40. Of these, 36 (90%) were within five points on the HHS, again indicating that the subjects were assessed similarly by both the surgeon and the physiotherapist.

For the last 20 patients seen by one of the participating orthopedic surgeons, he indicated whether he needed to see the patients or the physiotherapist could have seen them alone. In six (30%) of the cases, the surgeon felt it was appropriate for him to have seen the patient. The physiotherapist agreed that these patients were appropriate for surgical consultation. In 14 (70%) of the cases, both the orthopedic surgeon and the physiotherapist felt that the physiotherapist would have been fine managing the patients post-operatively on his own.

For all subjects, the surgeons and the physiotherapist completed a checklist indicating their recommendations for treatment options for the subjects. The categories included education, exercise prescription, medications, further diagnostic testing, discharge, referral to another specialist, a re-check and no recommendations. The most common recommendations for all subjects were education and exercise prescription. These were made for 100% of the subjects by the physiotherapist and for 71% (54/76) by the surgeons. *Education* refers to any information regarding the cause or origin of a patient's symptoms and any advice regarding the management of the condition. *Exercise prescription* refers to specific exercises given to a patient to assist in improving the patient's condition. The findings in this study indicate that more patients will receive conservative treatment options post-operatively if they are assessed by a physiotherapist. For the 76 patients who had undergone hip and knee arthroplasty, the physiotherapist made a total of 134 recommendations and the surgeon made 99; the extra recommendations by the physiotherapist in all cases were for education and exercise.

Unless there is an identifiable reason why a post-operative patient requires further surgery, the course of action is rehabilitation. Therefore, the physiotherapist is the health professional most qualified to provide follow-up services.

All subjects who participated in the study were asked to complete a patient satisfaction survey regarding the services provided by the physiotherapist and the orthopedic surgeon. Of the 76 subjects seen, 60 (79%) returned their questionnaires. There was no significant difference in the satisfaction scores that pertained to the physiotherapist and to the orthopedic surgeon. The subjects were equally satisfied with both health professionals, in all cases indicating "very satisfied" or "satisfied" with the quality of care they received. The only point of dissatisfaction for patients was the wait times to receive surgery – 15 of 76 (20%) subjects indicated that they were dissatisfied with the length of wait. These findings indicate that patients are dissatisfied with wait times but equally satisfied with seeing either a physiotherapist or an orthopedic surgeon in post-operative outpatient clinics.

The findings of this study indicate that physiotherapists and orthopedic surgeons make similar conclusions about the functional status of patients post-operatively, and that the majority of the patients can be managed appropriately by the physiotherapist alone. Patients receive more options for conservative management when seen post-operatively by a physiotherapist, and patient satisfaction remains high regardless of the health professional seen. The use of a physiotherapist in a model of collaborative care in post-operative arthroplasty clinics may present a time savings to the surgeons, allowing them to spend more time in the operating room or assessing new patients. This will potentially decrease wait lists.

### Recommendations

Routinely, patients are seen six weeks, three months, six months and one year post-operatively and then followed up either annually or biannually indefinitely, returning to clinic for a radiographic evaluation of the prosthesis and/or disease progression of other joints. Physiotherapists could effectively manage these patients for orthopedic surgeons; they make similar assessments of the patients' status and offer the appropriate conservative management strategies to the patients. Reducing the post-operative clinical caseload of the surgeon allows the surgeon to book and assess more new patients and spend more time performing surgery – thereby decreasing the length of wait lists for all arthroplasty patients. This model of care was selected by the ministry for highlighting and trial adoption into interested Ontario hospitals. **HQ**

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