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# Anesthesia Care Team at the Holland Centre

## Objectives

The objective of this project was to implement an Anesthesia Care Team model that would facilitate transition of a Surgical Program to Regional Anesthesia. The model would be evidence-based, with an academic focus. The core team included the Anesthesiologists, Nurses in the regional block area, and Respiratory Therapist Anesthesia Assistants. The model is supported through strong links to a Preoperative Anesthesia Clinic and an Acute Pain Service.

The goal was to maximize available health human resources, improve pain management, surgical efficiency, length of stay, and patient satisfaction. Creative strategies were implemented to address misconceptions that had prevented this model from being successfully implemented in other centres.

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## Settings and Resources

Sunnybrook's Holland Orthopaedic and Arthritic Centre is an elective orthopaedic surgical facility with four operating rooms. It performs over 2100 hip and knee replacements annually - the largest Canadian centre for joint arthroplasty.

- 4 Operating Rooms
- 5 bay Post Anesthesia Care Unit
- 6 bay Admission Area
- 5 Anesthesiologists (OR and Pre-assessment)
- 40 Acute Care Beds
- 20 Short term Rehab Beds

## Vision

- Better patient care
- Decrease overtime and cancellations through increased efficiency
- Increase nursing satisfaction
- Increase volume of cases
- Increase Anesthesia recruitment and retention
- Improve pain management

## Anesthesia Care Team Model

- 1. Block Area**
  - 4 bays
  - Separate but adjacent to OR/PACU
- 2. Block Nurses**
  - 2 Registered Nurses
  - Check patients, prepare equipment, documentation
- 3. Anesthesia Assistants**
  - 2 Anesthesia Assistants
  - Monitor stable patients under regional anesthesia in OR while Anesthesiologist performs regional and blocks for next patient
- 4. Anesthesiologist**
  - Each Anesthesiologist does their own blocks
- 5. Anesthesia Residents and Fellows**
  - Elective anesthesia resident and Regional Fellow assigned to Block Area

## Change Process

- This significant change in practice was accomplished in a deliberately slow and stepwise fashion over a two year period. Specific goals were identified for preoperative, intraoperative and postoperative care. An Anesthesiologist was identified to champion the change
- Initial changes did not impact operating room practice but involved the establishment of the Acute Pain Service as well as the Preoperative Anesthesia Clinic which facilitated comprehensive patient assessments, a standardized approach to anesthesia care with emphasis on regional anesthesia, preoperative optimization and patient education
- The intraoperative phase began by working with a single surgeon who was supportive of the regional program, and then expanding to the rest of the group
- Relatively minor changes in physical facilities allowed for regional anesthesia to be started preoperatively, in a separate area outside but adjacent to the operating room, i.e. the "Block Area"

## Results

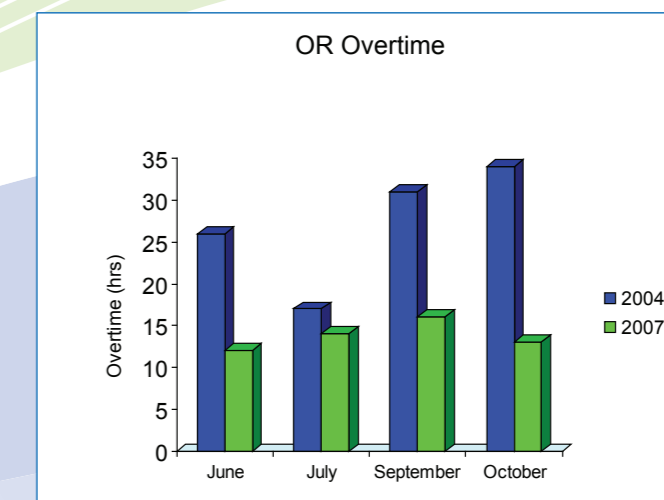
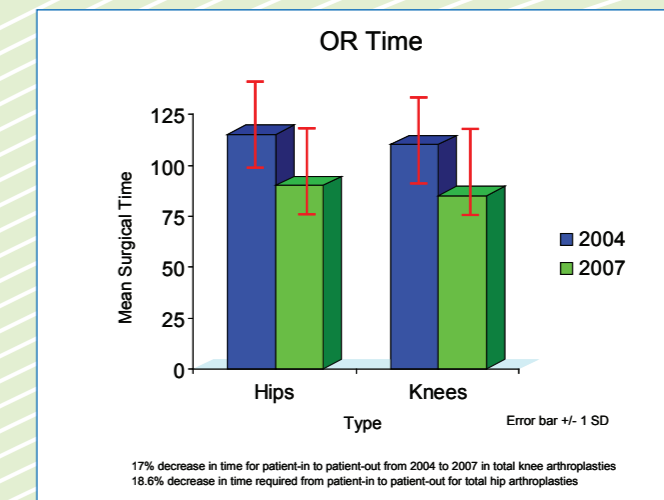
The Anesthesia Care Team Model and transition to regional anesthesia has garnered wide acceptance and support throughout the Centre. Early evaluation shows that regional anaesthesia is now being used in 85% of cases, and peripheral nerve blocks are used in 90% of patients undergoing total knee replacements. Multimodal analgesia is being commenced preoperatively and continued after surgery. There has been a 18% increase in OR efficiency, 50% reduction in OR overtime, and cancellations have been reduced significantly. Patient satisfaction scores associated with pain management are consistently high. Subjectively, Nursing Staff report improvements in patient recovery and pain management. The Physiotherapists find that patients are more alert and better able to participate in rehabilitation exercises. The surgeons are supportive of the program to the point where they now encourage their patients to have regional anesthesia. No additional anesthesia resources have been required to support this Program.

### 2004

- 1500 total joint arthroplasties
- 100% under General Anesthesia
- Limited use of femoral nerve blocks
- Post-op nurse-managed morphine PCA
- Average LOS 7 days
- In-patient rehab 10 days
- 20% to long term rehab 16 days
- Average 16/20 lists per month ran overtime
- Average overtime 30 hours/month
- Average 18 cancellations/month

### 2007

- 2100 total joint arthroplasties
- Neuraxial anesthesia in 85%
- Peripheral nerve blocks used in 90% of TKA
- Gradual increase in use of peripheral nerve block catheters for continuous infusions
- Multimodal analgesia commenced preoperatively



## Cancelled Cases

	2004	2007
June	27	4
July	14	5
September	21	3
October	11	8

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