

ANNUAL DIVISION QUALITY COMMITTEE REPORT

DIVISION: Orthopaedic Surgery

DIVISION HEAD: Dr. Paul E. Beaulé, MD, FRCSC

Please describe your divisional performance over the last 12 months as it contributed to support the hospital in achieving its strategy. Where possible incorporate objective corporate performance measures to justify your answer (500 words)

The strategic plan for the Division of Orthopaedic Surgery is still in place, and is being followed step-by-step. The Division introduced a number of initiatives in 2017 which resulted in strong performance metrics. Specifically, in relation to the hospital's five strategic directions:

1. Quality

1a. Enhanced patient experience efforts included a Surgical Patient Notepad placed at the bedside, wherein patient questions can be recorded and followed-up directly with physicians, leading to an improvement in the overall quality of patient care.

- Formal review of this Notepad is occurring through a TOHAMO grant
- Bedside compliance with the Notepad has been continually examined, and changes have been made prospectively as required
- The Division has been paying for 100% patient sampling for the Canadian Patient Experience Survey (CPES) since March 1st, 2017

1b. Surgeon empathy was measured via the Consultation and Relational Empathy (CARE) measure in the Orthopaedic Clinics (Civic and General).

- The CARE measure was validated in the orthopaedic setting, as indicated by a normal distribution of surgeons' scores
- Consistency of scores for each surgeon was also demonstrated
- A TOHAMO Quality and Patient Safety grant has been secured to evaluate the association between the CARE measure and CPES results

1c. The incidence of post-operative urinary retention (POUR) in males ≥ 50 years old undergoing elective total hip and knee arthroplasty was determined via a retrospective chart review.

- Males ≥ 60 years old were shown to be at highest risk
- An active intervention involving the screening of this group using the International Prostate Symptom Score (IPSS) is currently underway
- Males with abnormal scores are being treated pre-emptively with Tamsulosin in an effort to reduce POUR

1d. We continue to prospectively monitor adverse events (AEs), with a directive to physicians that compliance in reporting of less than 80% will affect AFP fund distribution

- Continual refining of the recording process has taken place, culminating in the provision of a new online electronic AE reporting tool (<http://bit.ly/2iV1wDu>).
- This new tool has facilitated an uptick in the recording of AEs in 2017 (in particular Grade 1 + Grade 2 AEs) by residents and surgeons.

1e. Antibiotic Stewardship: An Infectious Disease (ID) specialist and a pharmacologist attend rounds weekly with the comprehensive orthopaedic service (COS) at the General Campus to review antibiotic use (i.e. indication, choice of antibiotic, length of course, etc).

- The intention of this initiative is to improve both resident and surgeon education with regards to antibiotics and improve overall patient care

2. People

2a. The role of physician assistants (PAs) at the Civic and General continues to be refined clinically, and in-synch with quality improvement initiatives. Some of their new responsibilities include:

- On-call coverage during resident education activities
- Assisting in the completion and reporting of AEs
- Improved efficiencies on the ward, in the clinic and in the operating room in order to help to spread the residents' clinical workload

2b. The Comprehensive Orthopaedic Service (COS) has been in place at the Civic Campus since July 2016 and the General campus since September 2017

- All urgent patients are admitted under one Most Responsible Physician (MRP) for the week, during which time the designated MRP has minimal elective activity to enable improved inpatient care in a reduced stress environment

2c. Dr. Mazen Younes (a hospitalist at the General Campus) was provided privileges to assist with the conduct of the COS, and now acts as the primary caregiver for hip fracture patients.

- Dr. Younes' role in research is expanding, wherein he is assisting with the streamlining of the hip fracture referral process to geriatric rehabilitation at Bruyere Hospital

3. Academics

3a. Our recent success and proficiency highlighted during accreditation speaks to the quality of our academic program. In total, for 2017, \$494,947.00 was awarded to our clinician scientists in the form of research grants, and 47 peer-reviewed papers were published.

3b. The Division's plans to embark on Peer-to-Peer continuing professional development (CPD) – wherein surgeons will be paired together to observe one another, discuss/critique procedures and strive for continuous improvement – has progressed to the point where ethics approval has been secured and recruitment will begin in January 2018. Furthermore, a grant application with the Royal College of Physicians and Surgeons of Canada (RCPSC) has been successful to the second stage, and notification as to its success will come through in February 2018.

4. Community

4a. The Rattle Me Bones fun-run for bone cancer research and malignancies that affect mobility raised a total of \$32,975.00 in 2017 (<http://rattlemebones.ca/home/>). The organizers moved the event to a new venue centred around the Aviation Parkway.

5. Finance

5a. The Division's Research Chair in Regenerative Orthopaedic Surgery was established with a commitment of \$1 million from Division members. To date, it has reached approximately two thirds of its goal: \$2,191,905). Applications for the Chair have been received, and suitable candidates have been shortlisted.

In terms of corporate performance measures that align with the hospital's 'Triple Aims' of "Better patient experience, better quality at less cost, healthier populations", we performed the following:

Patient Experience

Partners Meetings (leadership)

- Regular meetings with the Emergency Department (ED) have led to a better understanding of wait time targets, which has enabled the Division to reduce time to consult as well as time to disposition. This closed the loop of communication on patient care, and sped up admission for fractured hips.
- Regular meetings with the Department of Anaesthesiology led to a better understanding of operating room protocols along with shared concerns.
- Review of difficult cases continues to facilitate the discussion of contentious issues

Patient Recovery

- To improve patient recovery and minimize length of stay (LOS) after joint replacement, we have established guidelines and screening tools to identify pre-op patients at risk for prolonged stay using Timed Up and Go (TUG) over 11 seconds preoperatively (<https://www.ncbi.nlm.nih.gov/pubmed/26336897>) (Fig 1).

Summary of LOS Greater than 2 Days

	Apr 1 - October 31, 2017		Apr 1, 2016 - Feb 28, 2017	
	n	%	n	%
Total Hips and Knees	751		981	
Hip and Knee LOS Greater than 2 Days	159	21.17	285	29.05
Hip LOS Greater than 2 Days	63	8.39	135	13.76
Knee LOS Greater than 2 Days	96	12.78	150	15.29

Site Summary of Arthroplasties Apr 1 - Oct 30, 2017

Site	HIP							KNEE						
	LOS	sd(LOS)	BMI	sd(BMI)	ASA	sd(ASA)	n	LOS	sd(LOS)	BMI	sd(BMI)	ASA	sd(ASA)	n
CIVIC	1.6	1.2	29.36	6.52	2.7	0.6	66	2.6	1.8	33.03	7.19	2.9	0.4	53
GENERAL	1.7	2.0	28.77	5.70	2.3	0.7	334	2.1	2.1	32.28	6.57	2.5	0.6	298
Apr 1, 2016 - Feb 28, 2017 (Civic & General)	2.1	2.8	28.88	5.72	2.4	0.6	564	2.5	2.3	31.99	6.41	2.6	0.6	417

Fig 1. LOS summary.

A TOHAMO funded study is currently underway to assess the efficacy of a pre-operative muscle training program (“prehab”) on post-operative recovery and function in patients undergoing total hip and knee arthroplasty.

OBIEE Dashboard

- Division members’ use of the OBIEE dashboards continues, facilitating awareness of their individual performance metrics and thereby allowing for individual goals to be developed to improve the overall experience. This particular initiative has been enacted hospital-wide, and has been made part of the re-credentialing process.
- Members of the Division of Orthopaedic Surgery access their OBIEE dashboards more than any other physician group at TOH.

Reduced Costs

- We continue to refine performance metrics to ensure operating room efficiency for performing four joints in a day at the Civic and General campuses.

Patient health

- AE recording by independent medical reviewers via the OrthoSAVES tool in comparison to institutional discharge abstract coders highlighted significant discrepancies that provide further impetus towards using our online AE reporting tool. Results from this analysis will be presented at the 2018 AAOS meeting.
- Participating in the antibiotic stewardship program aims to reduce the risk of development of MRSA and antibiotic resistance in the long term.

Please identify the major threats to patient safety for the patients you treat based on your interpretation of information arising from routinely collected performance data and incidents reported within the Patient Safety Learning System, Serious Incident Reviews, and Morbidity and Mortality rounds, where available (500 words)

Based upon our interpretation of the available information, the major threats to our patient's safety in the Division are reported below. In all instances, data was collated and fed back to the Division and its members for discussion.

PSLS

A review of approximately 77 PSLs events was carried out between January 2017 and December 2017. Themes were identified, with the most common being:

- a. Inadvertent patient injury (at the time of surgery; during dressing changes)
- b. Medication errors (incorrect; not ordered; records not completed)
- c. Positioning issues (excess pressure over time; sudden loss of support), occasionally leading to patient injury

Adverse Events

Courtesy of our online electronic reporting of AEs, we uncovered that the most recurring complications were:

- a. AE #16: Cardiac-MI/failure/arrhythmia (Grades 1-5: n=43)
- b. AE #22: Fall (Grades 1-3b: n=24)
- c. AE #20: Delirium/altered mental status (Grades 1-2: n=23)

In total, from 1 January 2017 to 31 December 2017, n=439 AEs were reported in n=330 patients, with n=310 AEs recorded as \geq Grade 2. There were n=140 Grade 1 and n=170 Grade 2 AEs. A total of n=21 Grade 5 AEs were recorded. Note: Grade 1: Does not require treatment and has no adverse effect; Grade 2: Requires simple or minor invasive treatment and has no long term effect on patient outcome; Grade 5: Death.

- Of note, Urinary Tract Infections (UTIs) were a recurring complication noted in 2016. With increased vigilance on reducing the occurrence of UTIs, only n=14 UTI AEs were recorded in 2017.

Handover Email Template

Standardized resident handover email template has been developed and implemented. This will improve communication and patient safety around the handover period (transition).

Morbidity and Mortality Rounds

The Process of recording and circulating M&M rounds was refined

- The confidentiality slide was amended with TOH legal assistance to improve the protection of private information to protect all vested parties in case of legal proceedings (Fig 2).
- Semi-annual summary reports are circulated to the entire division

Please describe the extent to which your clinical services are meeting the expectations of your patients based on: (1) your interpretation of information arising from patient feedback (example patient concerns, Post Visit phone calls, surveys, focus groups), and (2) the requirements of the Elizabeth and Matthew Policy. (500 words)

Patient Feedback

1a. Patient Letters

- All patient letters/complaints through patient advocacy are reviewed by the Division Head and the clinical lead of the Patient Safety and Continuous Quality Improvement (PS+CQI) Committee, providing input/feedback for both the clinician involved as well as the patient and allied health professionals. Where appropriate, Just Culture principles are applied.
- Correspondence with the ED to streamline the orthopaedic admission process especially with regards to fractured hips is still ongoing

1b. Post visit phone calls/Patient Experience scores

- Implementation of a Surgical Patient Notepad to actively engage patients in collaboration with the surgeons to improve their hospital experience. In doing so, it encourages the patient to pose any questions that they would like answered and it prompts the patient to acquire all relevant information prior to discharge to diminish any misunderstandings.
- Regular review of post-discharge phone calls revealed that problems persist in terms of patients not understanding their discharge instructions. Use of the Notebook is directed to address this issue
- The Division of Orthopaedic Surgery has a member (Dr. Kathleen Gartke) on the newly formed TOH Post-Discharge Phone Call committee.

2. Elizabeth and Matthew (E&M) Policy

2a. Item 4.3 - Accessibility: An audit of all physicians' phones (messages, voicemails etc) in July 2017 showed 100% compliance with the E&M policy.

3. CPES survey

3a. Overall, the Division of Orthopaedic Surgery's experience results have increased almost 4% in 2017.

Describe and justify Divisional priorities for quality in the next 12 months based on your answer above. Please identify three priorities in descending order. (500 words)

All CQI activities are overseen by a multi-disciplinary Patient Safety and Continuous Quality Improvement (PS & CQI) committee, which meets on a monthly basis. This includes discussion of any serious incidents along with patient experience and concerns.

1. Establish a CQI program for all CPUs

Continuous quality improvement (CQI) is a systematic approach to making changes that lead to better patient outcomes and stronger health system performance. The Triple Aims of our CQI program are to improve overall health, improve the patient experience, and reduce per capita costs. By doing so, we will continually gather data that will be analyzed and adapted to provide healthcare that is effective, efficient, safe, timely, equitable, and most importantly, patient-centered. CQI is condition-specific, begins with the most prevalent condition within each CPU, and in the end is accomplished for every musculoskeletal condition in the Division. The goal of our CQI program is to track both patient reported outcomes and quality of care longitudinally along the clinical pathway with a view towards ultimately improving patient outcomes and the overall healthcare experience. Surgeon performance, which includes services provided and resources used, will also be recorded, analyzed and benchmarked in order to improve outcomes.

2. Improved communication with patients

The Division is working with TOH communication specialist Kathryn Young to revise the patient education “Cast care and crutch walking” pamphlet to improve its readability. This process is serving as a model for the population health education steering committee (part of patient, caregiver, and family education).

3. Minimize surgeon variability in DVT prophylaxis

Arthroplasty staff utilize a combination of Aspirin and Xarelto with varying durations. A standardized protocol for DVT prophylaxis is being implemented for all low risk hip and knee arthroplasty patients. The protocol is suggesting the administration of Xarelto for 5 days after surgery followed by 21 days of Aspirin. The protocol has been developed in collaboration with hematology and has been distributed to all surgeons. The aim of this initiative is to reduce prescription errors and facilitate better patient outcomes.

4. Initiative to Reduce Early Post-Operative Visits to ED

In order to reduce ED visits, the Arthroplasty group in the Division is commencing an initiative to divert qualifying patients to the Plaster Room (Module P) at the General for immediate assessment by an Arthroplasty surgeon. If patients present to the ER within 14 days of their hip or knee replacement at TOH, are not in distress, have normal vital signs, and can walk, they are to go to the Plaster Room the same day or the following day (depending on time of presentation to the ER). If patients call the administrative assistants with concerns regarding pain, fever, or their surgical wound, and do not wish to wait for an office call back, the administrative assistant is to notify them that they may present to the Plaster Room that day or the next day.

5. Improving Patient Experience scores

Through audit and feedback of the physician empathy scores via the CARE measure, self-awareness and self-driven improvement should contribute to improvements.