

## **ANNUAL DIVISION QUALITY COMMITTEE REPORT 2025-26**

**DIVISION:** ORTHOPAEDIC SURGERY

**DIVISION HEAD:**

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**PREPARED BY:**

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LAPNER

Please describe your Divisional performance over the last 12 months as it contributed to support the hospital in achieving its strategy. Please include a high-level description of the work that your department did to support on-going quality activities and initiatives you are leading. Where possible incorporate objective corporate performance measurements. (500 words).

The Division of Orthopaedic Surgery continues to strive to improve the quality of patient care by leading with a strong focus on Patient Safety and Quality Improvement. According to Qualtrics data, our overall patient rating of care received for day surgery was 90.5% for the 2024/2025 fiscal year, and 89.8% for the latter half of 2025. The overall patient rating of care received for inpatients was 67.7% for the 2024/2025 fiscal year, and 58.0% for the latter half of 2025. We hold ourselves to a high standard, and look to these values to find ways we can improve, in order to provide the best patient experience and world-class care. Below are some examples of how we do this.

### **Performance Scorecards**

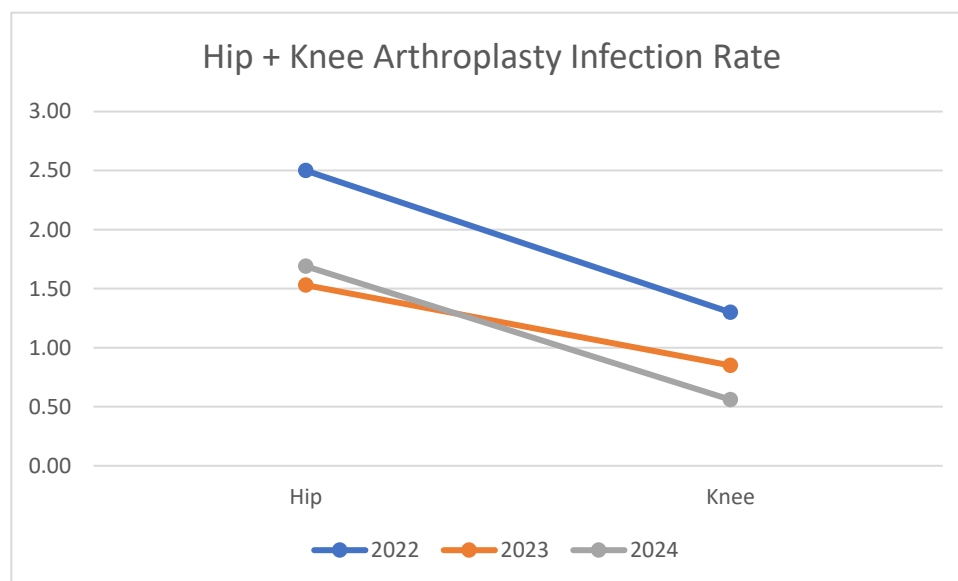
During the 2025 year, we continued to build on the previous years' initiatives. As per the previous 2 years, we continue to provide the surgeons in each Clinical Practice Unit (CPU) within the Division with individual performance metrics via scorecards. Scorecards are comprised of information relating to primary elective procedures at the inpatient campuses and satellite sites including Kemptville District Hospital (KDH) and Hawkesbury General Hospital (HGH). To accomplish, patient data was extracted from our Divisional Quality Database (ConEHR) and linked with data obtained from Health Records and the Data Warehouse at The Ottawa Hospital (TOH), and satellite sites. We have initiated doing the same for our trauma group, to be able to include non-elective procedures, but the coding and analysis to accomplish this are still underway. These annual performance metrics are carefully monitored as a means of identifying potential at-risk areas.

The following variables were provided to each surgeon for all primary cases:

- 7-day post-operative Emergency Department visits
- 30- and 90-day post-operative readmission rates
- Superficial and deep infection rates
- Revision and reoperation rates

To highlight our largest CPU, the hip and knee arthroplasty group, see table/figure for a comparison over the past 3 years since initiating performance metric results. The incidence of joint infection rates in the hip and knee arthroplasty at TOH are decreasing but remain higher than expected means at peer

institutions. Given the higher-than-expected infection rate in this particular CPU, we initiated a twice-annual analysis and reporting of results, aimed to evaluate more closely the effectiveness of initiatives aimed to mitigate infection, in addition to other initiatives noted below.



### Surgical Site Infection

#### *Pre-Admission Unit Initiative*

In 2023, a root-cause analysis identified a number of patient factors that were associated with infection including poor glycemic control and high BMI. Other known modifiable risk factors for prosthetic joint infection (PJI) include anemia and malnutrition. Until May 2023, the mean time of a pre-operative assessment unit (PAU) visit at TOH was 7 days prior to surgery, leaving insufficient time for patient optimization.

A quality improvement initiative was devised to optimize patients in these three main domains: anemia, poor glycemic control, and nutritional counselling for high BMI patients to address paradoxical malnutrition. Over the 2024 year, we worked closely with our surgical office staff, Anesthesia, and the PAU managers and PAU physician leaders to initiate earlier PAU visits (goal of 8 weeks prior to surgery), in addition to early screening at the time of surgical consultation, to allow adequate time for optimization of these factors. This initiative began on June 24<sup>th</sup> 2024 and continued through 2025. Preliminary results from conception to September 2025 indicate that the intervention has generally been successful in having earlier patient assessments, with a mean occurring 24.48 days before surgery. A large number of visits are still occurring within the 2 weeks prior to surgery (44.06%). Although this is still an improvement from previous. We were met with some challenges this year in terms of patients not being prioritized by booking staff, despite the capacity to do so. We continue to have meetings and provide educational informational sessions with administrators and booking clerks, to maintain



engagement. Our original aim was to decrease our infection rate by December 2025 from ~2% to ~1%. We will analyze the effectiveness in spring of 2026, as there is a 90-day waiting period for review of post-operative infection afterwards. In the meantime, we will continue to work with our colleagues in PAU and Anesthesia.

#### *OR Traffic Audit*

An additional initiative aimed at addressing the risk of PJI involves operating room traffic. Increased OR traffic volume (and specifically the number of times the OR door opens during a case) is associated with increased particulate matter on operating room instruments which in turn is thought to be a risk factor for PJI. To further evaluate this theory, we performed an audit of approximately 30 different cases, assessing OR traffic and airborne particle counts. Preliminary analysis of this information demonstrated that there does not appear to be a correlation between OR traffic and subsequent increased particle count. However, large spikes in particle counts do occur and are currently under investigation as their cause still remains unknown. We are investigating OR airflow/circulation and intra-operative cementation process as potential correlations. We anticipate final results within the first half of 2026.

#### Hip Fracture Care

Another aim in 2025 was to continue building on our previous goal of improving hip fracture care at TOH.

#### *Time-to-OR*

During the 2022 year, the Canadian Institute for Health Information published national rankings for a series of quality metrics, including timing of hip fracture care once admitted to hospital. TOH ranked last place (11/11) in Canada for getting hip fracture patients into the operating room (OR) within 48 hours from the time of admission. The national standard is 90% compliance. We developed a QI pilot to prioritize these cases as D-priority the morning after admission, in an effort to improve our outcomes. Conversions were initiated in May 2023, and due to the positive results, we have implemented this as standard care (now P1B-priority), and have subsequently improved our compliance to 89.1% +, with an average time from admission to surgery being 20 hours. A total of 1,686 patients were included and analyzed according to pre-conversion Group 1 (01May2022) and post-conversion Group 2 (03May2022-24Mar2025). Demographic variables including age and sex were similar between groups. ASA scores revealed higher acuity in group 2 ( $p<0.0001$ ). Compliance in group 1 was 77.2%, and 89.1% in group 2 ( $p<0.0001$ ). The multivariable regression model which controlled ASA score, age, and sex demonstrated that there was a significant association between mortality and the number of hours to surgery ( $p<0.0001$ ) which favoured faster time to OR, younger age, lower ASA score, and female sex. Increased time to OR was also associated with a higher incidence of delirium ( $p=0.001$ ), and a higher incidence of UTI ( $p<0.0001$ ). Among hip fracture patients, upgrading surgical booking in the morning following admission significantly improved access to OR time, and a decreased incidence in 180-day mortality, delirium and UTI.

We continue to monitor this on an annual basis.



### *Delirium*

Delirium rates in the hip fracture population were flagged through the National Surgical Quality Improvement Program (NSQIP) as an area for improvement. We performed a subsequent analysis of our hip fracture population and found the delirium rate to be ~20%, which is considered the high end of normal. We are collaborating with our nursing and geriatrics colleagues to improve care. Work-to-date includes identification of potential knowledge gaps and establishment of upcoming educational sessions. We have further reinforced the importance of baseline cognitive status documentation for early detection, consistent bCAM administration as per the SOP, and communication of positive results to initiate a delirium work-up as soon as possible. A pre-survey to evaluate the current state of knowledge is being performed. Finally, we have received funding support from the Nursing Professional Practice to support nurse champions across campuses, who have started to lead educational sessions, which will continue over the first quarter of 2026. We will perform a subsequent audit in the summer of 2026 to determine the effectiveness of our efforts.

### Venous Thromboembolism (VTE) Prophylaxis in Hip Fracture Patients

Inconsistent VTE prophylaxis dosing was identified as a possible risk factor for post-operative deep vein thrombosis (DVT) following hip fractures. We continued close collaborations with Pharmacy and Thrombosis, after creating a Divisional Standardized Operating Procedure (SOP) for VTE prophylaxis in hip fracture patients.

In an effort to address the inconsistency and/or incorrectly administered medication, we have provided several grand rounds education sessions, which have included colleagues in both Pharmacy and Thrombosis, to provide guidance on appropriate medication ordering. We have also established regular QI meetings in collaboration with Pharmacy on a quarterly basis to ensure all issues are discussed and addressed in a timely manner. Further, we have also added a pharmacy education session in collaboration with Pharmacy to our resident education days at least once a year to review common errors, and how to mitigate. We are in the process of repeating an audit to see whether our compliance has improved in this area, and will continue to do so annually to monitor progress.

### Patient-Reported Outcome Measures (PROMs) + ConEHR

Orthopedics is unique amongst surgical specialties in that surgical outcomes can be assessed with validated patient-reported outcomes measures (PROMS). The Division closely tracks PROMS for the five most common condition groups in each CPU using a Quality database, ConEHR. In October 2024, we marked the first phase of integration of ConEHR with Epic, allowing surgical case bookings to be automatically linked with our database to minimize the need for manual case entry. The second phase of integration, which is not anticipated to begin for another 1+ year (according to the integration team), will link adverse events including reoperations with ConEHR. This will allow us to internally monitor our surgical outcomes in a more-timely fashion. We continue to use this platform to administer and track



PROMs in each CPU prospectively. Furthermore, it is a great resource for learning via retrospective review data mining.

### Final Notes

As previous, we continue to prioritize regular internal and multidisciplinary Patient Safety and Quality Improvement meetings, allowing for discussion and review of patient feedback, adverse events, and ongoing initiatives. We will continue to regularly review Patient Safety Learning Systems (PSLS) events and adverse events, and use these as educational tools to improve patient care. We have also newly established Quality Assurance (QA) rounds, which are done on an ad-hoc basis, for cases that would benefit from specialized further discussion. Finally, we continue to foster and build our multidisciplinary collaborations with members across the hospital, with a common goal of providing best patient care.

We continue strive to improve patient care through high-impact quality projects, in an effort of providing the best possible care for patients both now and in the future. This is done in conjunction with collaborative efforts in terms of policy development, process improvement, and improvements in communication.

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)

#### Patient Safety Learning System (PSLS)

The QI team has reviewed 172 orthopaedic surgery related incidents reported within the Patient Safety Learning System in the 2025 calendar year. With most of these incidents being a near miss where the effect did not reach the patient, or no harm was done. In addition, 32 adverse events have also been reviewed internally during our regular divisional Patient Safety and Quality Improvement meetings. These incidents were reviewed, and findings or change items were discussed with care team members, and at our quarterly multidisciplinary meetings.

Common themes reported among serious incidents are similar to previous years and include the following:

1. Medication ordering issues (incorrect or inappropriate order, missed order, delay in orders)
  - Discussion with division members on a case-by-case basis, in addition to two education sessions division-wide with Pharmacy on challenges, barriers, and solutions for ordering medication in EPIC.
  - SOP created for anticoagulation in hip fracture patients
2. Communication related incidents (missing or incomplete notes)
  - Discussion with members on the importance of clean on-call handovers (instituted regular meetings for discussion), regular communication with members of care team and patients/patient family members, and timely and complete notes entered in EPIC.
3. Operating room equipment-related malfunctions (broken drill-bits, timing of draping)
  - Moderate rate of occurrence, however typically associated with minimal to no harm
  - Instituted new process to ensure correct implants are being opened, including (1) Active surgeon oversight, (2) reviewing a 3-point checklist to ensure the correct implant: size, manufacturer, and system for specified case, (3) Nurses to review the whole stack of boxes.
  - Future steps: work with Epic to implement warning to flag when incompatible implants are scanned into Epic for a case.

In an effort to further provide education on medication-related issues and communication/handover related issues, both of which are largely preventable, we arranged for a member from the Canadian Medical Protective Association to present at a recent division wide grand rounds session. The goal of this session was to impress the importance of communication, handover, and medication review/ordering from a liability perspective.

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)

#### Morbidity + Mortality (M+M) Rounds

Minor and major serious adverse events are flagged for in-depth review and formal presentation at CPU-specific and Division-wide rounds. These presentations are delivered using the OM3 model, and involve a thorough analysis and discussion to provide opportunities to identify problems and improve future patient care.

During the 2025 calendar year, a total of 17 M+M rounds were completed within the division:

- 2 Division Wide
- 2 Trauma
- 2 Joint Reconstruction (hip + knee)
- 2 Upper Extremity (shoulder + elbow)
- 2 Foot + Ankle
- 1 Hand + Wrist
- 2 Oncology
- 2 Knee Preservation (sports/arthroscopy)
- 2 Spine

We also instituted Quality Assurance (QA) rounds, which are done on an ad-hoc basis for specialized or rare cases, that warrant a more thorough review and discussion. These rounds are held in collaboration with all team members involved in patient care (including collaborators outside of orthopaedics).

#### Patient Feedback Letters

We receive a number of patient feedback letters. A large proportion of our feedback letters are positive patient experiences which we pass along to the care team.

For patients that report a poor experience, we review their care and communicate with our team and other hospital areas (as appropriate) for future improvement. If the situation warrants, we also work with Patient Advocacy who assist with managing the situation, and will often communicate directly with the patient. Feedback may also be used to implement change by bringing our attention to challenges we may have otherwise been unaware of.

Negative patient experiences are commonly related to displeasure with prolonged and unknown wait times to surgery, or lack of communication at the bedside for inpatients waiting for urgent surgery. We continue to stress the importance of clear and transparent communication with patients in an effort to minimize potential negative experiences. We work closely with the patient relations office to improve our care wherever necessary.



### Satisfaction Surveys

We administer the Canadian Patient Experience Survey (CPES), using our divisional quality database platform 'ConEHR'. Our goal is a 70% completion rate. In addition to this, the hospital has initiated sending out the CPES to all surgical patients, and provide results for day surgery and ambulatory care through Qualtrics, for department of surgery, and the results appear to be comparable.

Across the division, approximately 80% of patients respond, with the average satisfaction level in the "excellent" category.

### Multidisciplinary Quarterly Meetings

We meet on a quarterly basis with colleagues from Diagnostic Imaging, Anesthesia, Emergency Department, and Pharmacy, to ensure we are promoting collaboration and communication for any outstanding items. We have also newly involved a member from the patient relations team to these meetings, to provide a patient perspective, which we find beneficial. Patient safety incidents, patient feedback, and ad hoc issues are discussed. Any outstanding items are brought to our divisional Patient Safety and Quality Improvement meetings for further discussion when necessary.

### The Elizabeth + Matthew Policy

The Elizabeth + Matthew policy was created in 2011 to improve communication between patients and health care providers, and is applied by members in our division on an ongoing basis. We encourage ongoing communication among healthcare team members and with patients and their families, as well as complete and accurate documentation of care plans in the patient chart.

Our Comprehensive Orthopaedic Service (COS) ensures that inpatients are assessed daily by a staff orthopedic surgeon. Through COS, urgent cases are admitted under a Most Responsible Physician (MRP), and this surgeon rounds on these patients on a daily basis. The responsible COS staff rotates each week and is in close contact with the site physician assistant and/or hospitalist and nurses to ensure optimal patient care.

Regular handover between staff is completed at minimum at the start and before the end of each shift to ensure consistent, communication amongst team members regarding care plans. In addition, team handover has been implemented via online (TEAMS) meetings at the beginning and end of each week between outgoing and incoming COS teams and on-call surgeons to ensure care plans are shared.

A dedicated prosthetic joint infection (PJI) service has been established to ensure optimal care of this complex patient population.

Data received via the PROMs, including the Canadian Patient Experience Survey are reviewed and used as a guide for patient experience in the hospital.



As previously noted, regular review at our divisional and collaborative Patient Safety and Quality Improvement meetings of patient feedback letters, patient safety incidents, and communication issues flagged and discussed, and corrective actions are taken.

Exceptionally complex cases are further discussed as a group via M+M rounds, which are held on a regular basis in each CPU.

Grand Rounds sessions are also held for larger scale education and discussion.



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)

Our divisional priorities for the 2026 calendar year include:

1. Hip Fracture Delirium Care
  - Continue to work with nursing and geriatrics to improve through education
  - Re-audit in the summer of 2026 to review effectiveness
2. Improve Prosthetic Joint Infection Care and Prevention
  - Continue evaluation of hip and knee arthroplasty PJIs
  - Early pre-operative optimization for patients to mitigate infection risk
    - Eventual goal of establishing a post-consult orthopaedic pre-optimization clinic for patients, prior to PAU appointment
    - Expand to investigate HbA1C involvement
  - OR traffic and air particle count evaluation and management – analyze final results, and other contributing factors
3. Improve Medication Administration, Review, and Ordering
  - Perform another audit to assess the impact of divisional education sessions, SOP
  - Ongoing communication with Pharmacy to manage EPIC errors and educate on solutions
  - Initiate a QI project with an aim to identify specific problem errors
4. Streamline Stable Non-Operative Pelvic Fractures to Rehabilitation
  - Continue to work with Bruyère to streamline patients via expedited referrals, to a rehabilitation program, similar to the previous PATH4HIP initiative
    - An order-set change request has already been submitted (unknown anticipated wait-time to completion) – in the meantime, we are actively adjusting manually on our end to ensure patients can leave sooner while getting the best care possible