# MyPractice

## Orthopaedic Surgery

*A tailored report for quality care*



Release: MAY 2025

Version Release: 3.1

Dr. Sample Surgeon

Reporting Period: Sept 30, 2024

Ontario Health

# Table of Contents

# Report Overview

## Background

The *MyPractice:* Orthopaedic Surgery Report is intended to help you with your quality improvement efforts.

**This report DOES:**

- Provide an overview of prescribing patterns
- Provide comparator data
- Provide evidence-based tools and ideas for quality improvement

**This report DOES NOT:**

- Provide details about specific patients
- Provide specific instructions for clinical care
- Replace clinical judgement
- Tell you what targets are best for your practice

## This report was developed by

Ontario Health and supported by ICES in consultation with a Scientific Committee with membership representing the following organizations: Ontario Drug Policy Research Network; Women's College Hospital; Toronto General Hospital; Queensway Carleton Hospital; Sunnybrook Health Sciences; and St. Michael's Hospital. This report was piloted and tested by practicing orthopaedic surgeons across Ontario.

## Additional information

- For more information about the *MyPractice:* Orthopaedic Surgery Reports, email us at PracticeReport@ontariohealth.ca
- For information on indicator calculation, limitations, and data sources please refer to the method notes on Page 14
- For more technical details about the indicators, please refer to the Technical Appendix

Post-operative opioid prescribing is challenging. Many of our patients need opioids to help manage pain after surgery, but there are risks associated with these drugs. Over prescribing opioids can contribute to opioid use disorder or may increase the risk that the pills are used for nonmedical purposes.

This report allows you to see your opioid prescribing patterns for patients who have been discharged from hospital following hip or knee replacement surgery in both inpatient and same day surgery settings. Comparative data allows you to rank your prescribing patterns against those of your peers.

# Opioid Dispensing Summary Within 14 Days Postsurgery

**Period: Apr 01, 2024 - Sep 30, 2024**

Includes all opioids dispensed to your patients (i.e., prescribed by you and/or other providers).

| | HIP REPLACEMENT | | KNEE REPLACEMENT | |
|---|---|---|---|---|
| | With Pre-Operative Opioid Dispensed* (case volume = 3) | No Pre-Operative Opioid Dispensed (case volume = 25) | With Pre-Operative Opioid Dispensed* (case volume = 0) | No Pre-Operative Opioid Dispensed (case volume = 34) |
| **Median opioid dose dispensed** | **130** 1 mg pills of HYDROMORPHONE** **(500 mg MEQ)** | **72** 1 mg pills of HYDROMORPHONE** **(400 mg MEQ)** | **120** 1 mg pills of HYDROMORPHONE** **(600 mg MEQ)** | **147** 1 mg pills of HYDROMORPHONE** **(735 mg MEQ)** |
| **How does prescribing for my patients compare to my peers' patients?** *(surgeons who perform hip or knee replacement)* | This is lower than at least 75 percent of my peers | This is similar to many of my peers (between the 25th & 60th percentile) | This is similar to many of my peers (between the 25th & 60th percentile) | This is similar to many of my peers (between the 25th & 60th percentile) |

**How can I improve my pain management and opioid prescribing practices for my patients after hip or knee replacement? (Please see page 10)**

**Pre-operative opioid dispensation is defined as having an opioid dispensation with days supplied overlapping the surgical admission date.*

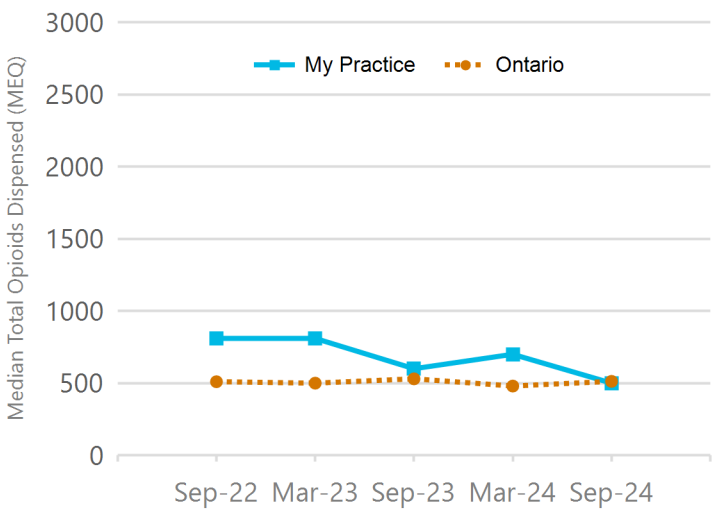
***Your prescription has been converted from the total MEQ (morphine equivalents) dispensed to the most commonly dispensed opioid by you.*

*Oral opioid conversion examples: 10 mg MEQ = 2 mg Hydromorphone = 6.7mg Oxycodone. For the full conversion table, please see the Technical Appendix.*

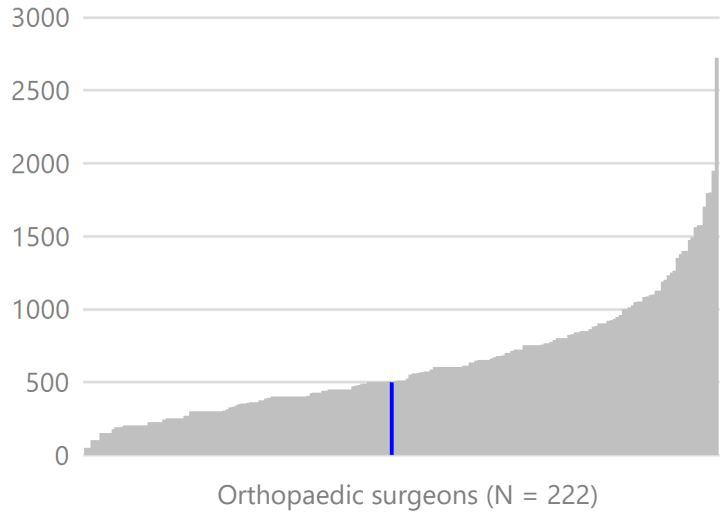
# Hip Replacement, *With Pre-Operative Opioid Dispensed*

## Total Opioids Dispensed within 14 Days Postsurgery

### My Practice Over Time




### How Do I Compare to My Peers




As of September 30, 2024:

- My median mg MEQ is **500** for patients with pre-operative opioids
- My dispensing is **lower than** the Ontario median of 513 mg MEQ

As of September 30, 2024:

- My prescribing is at the **27th percentile** compared to all Ontario orthopaedic surgeons

| Of patients who were dispensed opioids | My Patients | Ontario |
|---|---|---|
| Percent having long-acting opioid dispensed within 14 days postsurgery | † | **26.6%** |
| Percent who received repeat opioid dispensations within 14 days postsurgery | **0%** | **51.5%** |
| Percent having more opioids dispensed between 3-6 weeks postsurgery | † | **59.7%** |

Period: Apr 01, 2024 - Sep 30, 2024

† Data suppressed as per OH privacy policy (e.g. number of cases is between 1 and 5), additional suppression may be applied to prevent calculation of suppressed data.

**PRE-OPERATIVE PAIN MANAGEMENT TIP**

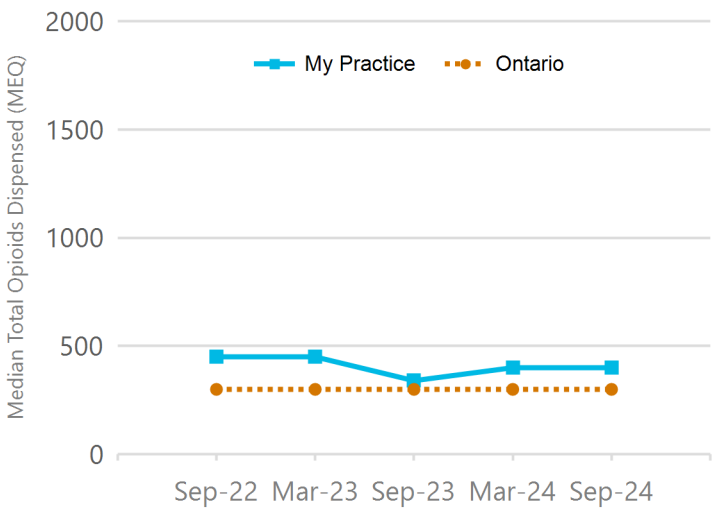
To help manage patients' perioperative experiences with pain, visit the Orthopedic Perioperative Pain Management Pathways developed by Ontario's Anesthesiologists. Patients can also be referred to your local Rapid Access Clinic.

For more information, please see the change ideas beginning on page 10.

# Hip Replacement, *No Pre-Operative Opioid Dispensed*

## Total Opioids Dispensed within 14 Days Postsurgery

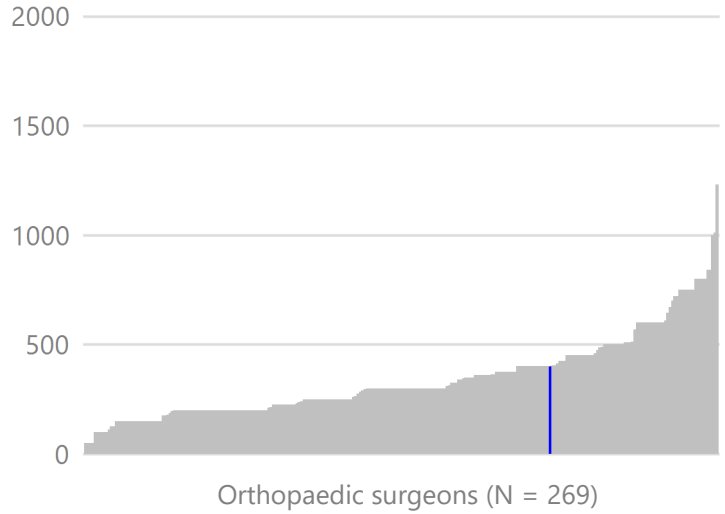
### My Practice Over Time




As of September 30, 2024:

- My median mg MEQ is **400** for patients without pre-operative opioids
- My dispensing is **higher than** the Ontario median of 300 mg MEQ

### How Do I Compare to My Peers




As of September 30, 2024:

- My prescribing is at the **17th percentile** compared to all Ontario orthopaedic surgeons

| Of patients who were dispensed opioids | My Patients | Ontario |
|---|---|---|
| Percent having long-acting opioid dispensed within 14 days postsurgery | **0%** | **13.8%** |
| Percent who received repeat opioid dispensations within 14 days postsurgery | † | **18.0%** |
| Percent having more opioids dispensed between 3-6 weeks postsurgery | † | **10.5%** |

Period: Apr 01, 2024 - Sep 30, 2024

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**PRESCRIBING TIP**

When prescribing opioids at discharge:

Prescribe for the shortest duration necessary. **A duration of >7 days is rarely indicated**, and if warranted should not exceed 14 days.

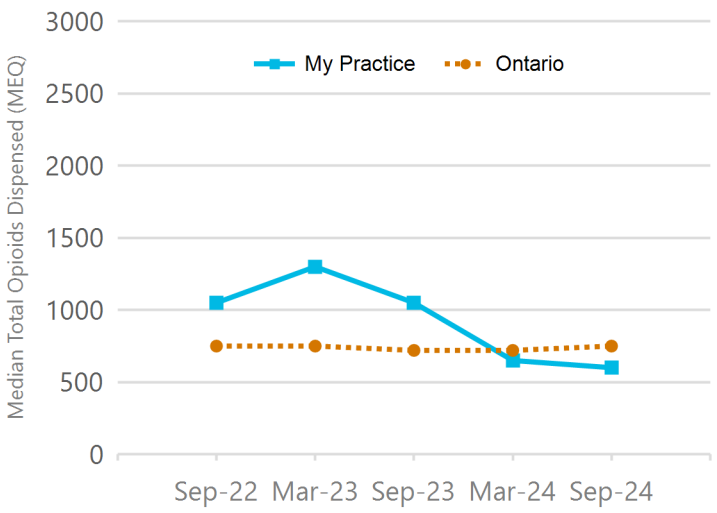
A 14-day Rx should indicate partial refills.

For more ways to adjust your prescribing patterns, please see the change ideas beginning on page 10.

# Knee Replacement, *With Pre-Operative Opioid Dispensed*

## Total Opioids Dispensed within 14 Days Postsurgery

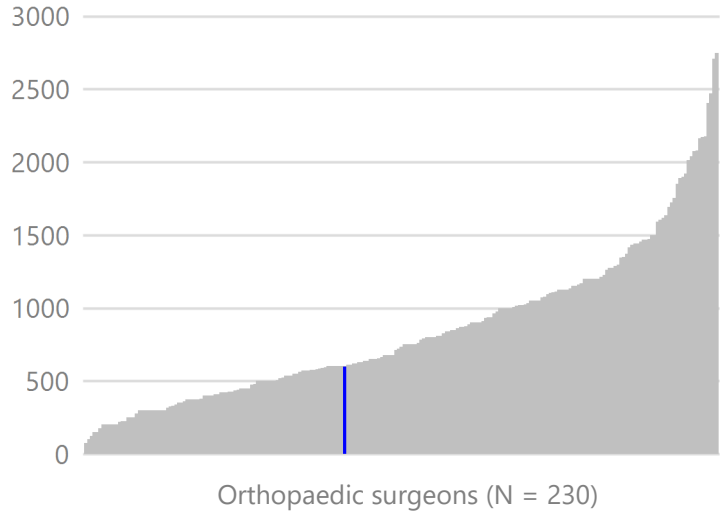
### My Practice Over Time




As of September 30, 2024:

- My median mg MEQ is **600** for patients with pre-operative opioids
- My dispensing is **lower than** the Ontario median of 750 mg MEQ

### How Do I Compare to My Peers




As of September 30, 2024:

- My prescribing is at the **45th percentile** compared to all Ontario orthopaedic surgeons

| Of patients who were dispensed opioids | My Patients | Ontario |
|---|---|---|
| Percent having long-acting opioid dispensed within 14 days postsurgery | † | **29.1%** |
| Percent who received repeat opioid dispensations within 14 days postsurgery | **0%** | **64.5%** |
| Percent having more opioids dispensed between 3-6 weeks postsurgery | † | **76.3%** |

Period: Apr 01, 2024 - Sep 30, 2024

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## PRESCRIBING TIPS

**Is your patient taking high doses of opioids perioperatively?**

Work with the **patient, anaesthesiologist and the patient's primary care provider** to ensure that any short-term increase in opioids is accompanied by a plan to taper to the previous dose or to a lower dose if appropriate.

**Does your patient have an opioid use disorder (OUD)?**

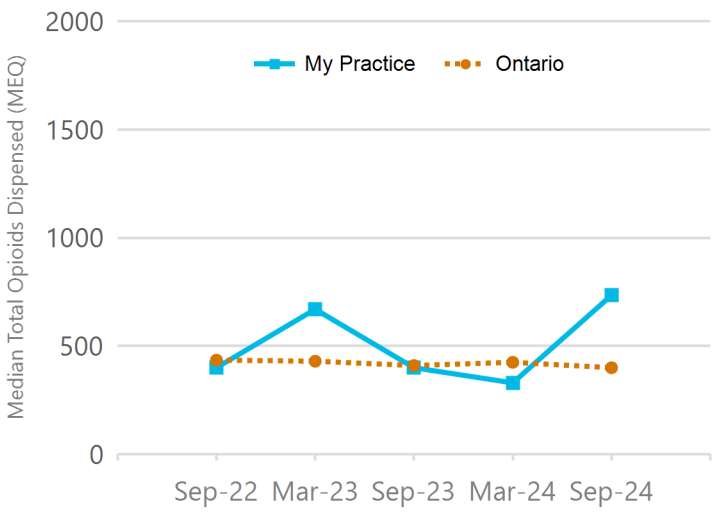
Ensure that patients taking buprenorphine/naloxone or methadone for the treatment of OUD continue their medication perioperatively.

For more information, please see the change ideas beginning on page 10.

# Knee Replacement, *No Pre-Operative Opioid Dispensed*

## Total Opioids Dispensed within 14 Days Postsurgery

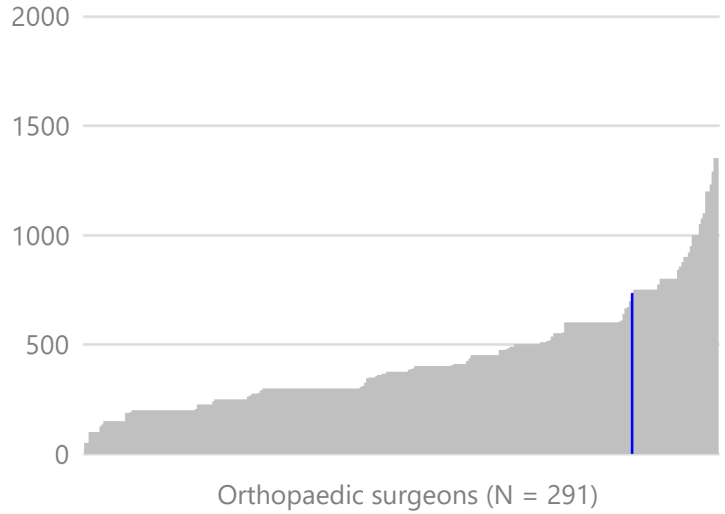
### My Practice Over Time




As of September 30, 2024:

- My median mg MEQ is **735** for patients without pre-operative opioids
- My dispensing is **higher than** the Ontario median of 400 mg MEQ

### How Do I Compare to My Peers




As of September 30, 2024:

- My prescribing is at the **56th percentile** compared to all Ontario orthopaedic surgeons

| Of patients who were dispensed opioids | My Patients | Ontario |
|---|---|---|
| Percent having long-acting opioid dispensed within 14 days postsurgery | **0%** | **18.2%** |
| Percent who received repeat opioid dispensations within 14 days postsurgery | **†** | **33.9%** |
| Percent having more opioids dispensed between 3-6 weeks postsurgery | **†** | **26.8%** |

Period: Apr 01, 2024 - Sep 30, 2024

† Data suppressed as per OH privacy policy (e.g. number of cases is between 1 and 5), additional suppression may be applied to prevent calculation of suppressed data.

**PAIN MANAGEMENT TIP**

Ensure patients follow a **multimodal pain management plan** that includes:

- ✓ Multimodal analgesia
- ✓ Nonpharmacological strategies

For more information on multimodal pain management strategies, see the change ideas beginning on page 10.

# Percent of All Opioids Dispensed to My Patients Within 3-6 weeks Postsurgery, by Provider Type*

| *Period: Apr 01, 2024 - Sep 30, 2024* | Hip Replacement | | Knee Replacement | |
|---|---|---|---|---|
| | Percent of opioids dispensed within 3-6 weeks postsurgery | | | |
| **Prescriber** | **My Patients** | **Ontario** | **My Patients** | **Ontario** |
| **By Me (assigned surgeon)** | **0%** | **29.6%** | **0%** | **43.1%** |
| By Family Physicians** | † | 54.2% | † | 43.1% |
| By Other Providers** | † | 16.2% | † | 13.8% |

* of those who have opioids dispensed in the first two weeks.
** Family physicians include any physicians who are registered as family physicians in the database. Other providers include any providers other than the assigned surgeon or family physicians, for example, other surgeons or residents.

# Who Are My Patients?

| *Period: Apr 01, 2024 - Sep 30, 2024* | Hip Replacement | | Knee Replacement | |
|---|---|---|---|---|
| | **My Patients** | **Ontario** | **My Patients** | **Ontario** |
| Average Age (years) | 65 | 68 | 67 | 70 |
| Sex (% female) | 63.4% | 55.0% | 63.4% | 61.1% |
| Percent Revision Surgery (%) | 0% | 3.6% | 0% | 4.0% |

† Data suppressed as per OH privacy policy (e.g. number of cases is between 1 and 5), additional suppression may be applied to prevent calculation of suppressed data.

# Change Ideas: Steps you can take to improve your opioid prescribing patterns

## 1: Develop a common protocol for prescribing opioids at discharge.

| TYPE | DURATION |
|---|---|
| **One immediate-release opioid** | **The shortest duration necessary*** <br> **A duration of >7 days is rarely indicated, and if warranted should not exceed 14 days. A 14-day Rx should indicate partial refills* |

| DOSE | TAPER |
|---|---|
| **Lowest effective dose of opioid for moderate to severe pain*** <br> *For inpatients, review their use within the last 24 hours of their inpatient stay to guide selection* | **Taper opioids as quickly as possible while continuing nonopioid analgesics** |

**Example Prescription (Clarke et al., 2020):**

**Example of postoperative prescription for pain medication at discharge from an elective surgery such as a knee replacement. Use clinical judgment when prescribing opioids for individual patients*

Rx

1. **Acetaminophen** 1g PO TID for 14 days then PRN
2. **Ibuprofen** 400mg PO QID for 6 days then PRN
3. **Hydromorphone** 1mg tabs. Take 1-2 tabs PO q4h PRN for a maximum of 30 days for severe pain. Maximum 4 tablets/day. Dispense interval: dispense 30 tablets now and 30 in 7 days.
   Prescription expires 30 days after date of issue.

**If patients experience moderate to severe pain beyond 2 weeks:**

- ✓ Contact the patient's primary care provider to discuss the patient's ongoing pain management plan
- ✓ Book an early postoperative follow-up appointment (virtual or in person) to reassess that recovery is progressing without complications and to adjust the pain management plan

## 2: Conduct a comprehensive pain assessment. Include questions about active opioid use.

When opioids are prescribed **check prescription history** to avoid duplicate prescriptions, potentially harmful medication interactions, and diversions.

**Available supports:**

Connect with your hospital pharmacist

Log on to the Digital Health Drug Repository via your organization's clinical viewer (email connecting.ontario@ehealthontario.on.ca for more information)

## 3: Create a multimodal pain management plan.

### MULTIMODAL ANALGESIA

Use opioids only when necessary to provide adequate pain relief.

Use nonopioid medications (e.g., acetaminophen, NSAIDs as appropriate).

*Consider prescribing the nonopioid medications to reinforce the continued use of nonopioid analgesics for post-discharge pain management*

### NONPHARMACOLOGICAL STRATEGIES

Physical interventions, such as physiotherapy, rest, ice, and positioning.

Psychological interventions, such as relaxation techniques.

*Encourage patients' participation in some or all of these strategies if possible and as appropriate*

## 4: Inform and educate the patient and caregivers about pain management.

As you prescribe opioid medications, **discuss the following with your patients and their caregivers**:

**The expected outcomes/milestones with respect to pain management:** The goal is a tolerable level of pain (patient can function)

**The benefits and harms of opioid use**

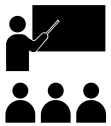
**A written transition plan that includes appropriate use of opioids when transitioning from hospital to home**

**The safe storage of unused opioids.**
**The safe disposal of unused opioids to any pharmacy:** Find drop-off locations for returning unused medications.

**A plan for tapering/discontinuing opioid medication**

## Ideas for organizational change

- ✓ **Embed the quality standard** *Opioid Prescribing for Acute Pain* into existing digital health tools
- ✓ Implement the **total hip and knee replacement postoperative care digital order sets** developed by the Provincial Digital Quality-Based Procedures Order Sets Program.



**Provide Ongoing Education**

Academic centres should provide education to medical students, residents, and fellows on multimodal pain management therapies, including multimodal analgesia and your organization's protocol for prescribing opioids at discharge.

**Idea for organizational change:**
**Participate in the Ontario Surgical Quality Improvement Network yearly campaign.**
Enhanced Recovery After Surgery (ERAS) is an evidence-based, best practice care model that standardizes care before, during and after surgery, reducing surgical complications and shortening hospital stays. This year, the Cut the Carbon campaign has a combined focus on waste reduction, carbon emission reduction, and ERAS. Operating rooms generate up to a third of total hospital waste with items such as single use devices, medical waste, anesthetic gas use, and disposable materials. This waste has a negative environmental impact. Find out how you can get started, and download resources here.

# Resources

## Quality Improvement

- CDC: The Clinical Practice Guideline for Prescribing Opioids for Pain (2022) provides recommendations for clinicians providing pain care. toolkit.
- Ontario Health: *Getting Started Guide: Putting Quality Standards into Practice* (2018)
- Ontario Health: *Recommendations for Adoption: Opioid Prescribing for Acute Pain* (2018)

## Supports for Patients

- CDC: Helpful Materials for Patients information for patients
- Choosing Wisely Canada: "Opioid Wisely" campaign: information for providers and patients that support informed conversations about safe options for managing pain
- Institute for Safe Medication Practices (ISMP): Opioids for pain after surgery: Your questions answered and Safe Storage and disposal information card
- Ontario Health: *Patient Reference Guide – Opioid Prescribing for Acute Pain* (2018)
- Find a drop off location to return unused medication: https://healthsteward.ca/find-a-collection-location/

## Guidelines, Standards and Position Statements

- American Academy of Orthopaedic Surgeons: Safe and Effective Alleviation of Pain and Optimal Opioid Stewardship
- Best Practice in Surgery: Prescription of Pain Medication at Discharge after Elective Surgery (2020)
- CDC: *Guideline for Prescribing Opioids for Chronic Pain* (2022)
- Canadian Orthopedic Association Position Statement: "Opioids and Orthopaedic Surgical Practice" (2018)
- Ontario Health: *Opioid Prescribing for Acute Pain* (2018); *Transitions from hospital to home* (2020)
- The Coalition for Safe and Effective Pain Management: *Reducing the Role of Opioids in Pain Management* (2019)

## Resources for Prescribers

- Solving Pain: A Project by Ontario's Anesthesiologists (2022)
- Best Practice in Surgery: Prescription of Pain Medication at Discharge after Elective Surgery. Consensus Statement for the Prescription of Pain Medication at Discharge after Elective Adult Surgery. Examples of surgical procedures and their expected recovery times (2020)
- Michigan Opioid Prescribing Engagement Network (OPEN): Prescribing Recommendations (2020)
- OpenLab: Patient Oriented Discharge Summary (PODS)
- Same-Day Discharge Vs Inpatient Total Hip Arthroplasty (2020)

# Methods

***Data sources***

Administrative databases that were used to generate this report include: The Discharge Abstract Database (DAD) for hospitalization records; the Ontario Health Insurance Plan (OHIP) database for physician claims data; the Registered Persons Database (RPDB) for patient demographic information; the Narcotics Monitoring System (NMS) for dispensing data.

***Identifying your patients***

To identify the patients you have cared for, your College of Physicians and Surgeons of Ontario (CPSO) number was used to link to health care administrative databases housed at Ontario Health. The hip and knee replacement records were extracted from DAD and NACRS by using intervention (CCI) codes. Then a set of hip/knee replacement fee codes and the associated fee suffix code from OHIP were used to link with patients' hospitalization data to identify the surgeon who performed the procedure.

***Stratifying patients based on their pre-operative opioid dispensation history***

After your patients were identified, they were stratified based on their pre-operative opioid dispensation history. Patients were classified as "With pre-operative opioid dispensed" if they had an opioid dispensation with day supplies overlapping their surgical admission date. Otherwise, they were classified as "No pre-operative opioid dispensed."

Same Day Surgical cases are included in the "No pre-operative opioid dispensed" stratification for both hip and knee replacement. This accounts for the shift in same day surgical volumes over the pandemic. Same day surgery cases are not included for the 'With pre-operative opioids dispensed' stratification. This is because there was no significant increase in case volume or MEQ dispensing between inpatient and same day surgery settings over the pandemic.

***Measuring opioid dispensation within two time frames***

Opioid dispensations are measured within the following two time frames: a) admission to 14 days postsurgery and b) 3 to 6 weeks postsurgery. The total opioids patients received during the first 14 days postsurgery is the main indicator featured in the report. The Scientific Committee suggested that most patients will not require opioids after 14 days postsurgery (Scientific Committee meeting, August 22, 2018). Measures of dispensing patterns between 3 to 6 weeks postsurgery will provide surgeons additional data to help understand patients' needs and guide quality improvement activities.

***Indicator calculation***

Patients' opioid dispensing data were linked to their hip/knee replacement procedure if the opioid dispensing date(s) fell between the surgical admission date to 14 days postsurgery. All dispensations the patient received during the first 14-day postsurgery were analyzed and converted to the morphine equivalents (MEQ) to facilitate comparison. The total MEQ was then translated to the number of pills of *the most commonly dispensed opioid by you* for easy interpretation.

For a complete list of databases used, details about cohort inclusions/exclusions and stratifications, and how each indicator is calculated, please refer to the Technical Appendix.

# Data Interpretation Considerations

***Data suppression***

Data are suppressed or additionally suppressed as per Ontario Health's privacy policy for the following reasons: (a) Counts or summary statistics are between 1 and 5; or (b) To prevent residual disclosure of suppressed values.

***Not all data are shown on the graphs***

Due to scale limitations, median total MEQ values over 2,000 mg for the "No Pre-Operative Opioid Dispensed" stratification, or over 3,000 mg for the "With Pre-Operative Opioid Dispensed" stratification are not shown on the graphs. In some cases, those high values may be due to infrequent data entry errors, while in other cases, those may reflect real values. With no access to additional information, we are not able to make any corrections on the data.

***Opioid dispensation data from NMS***

The opioid data are derived from the NMS which contains dispensing related information. Opioids administered during hospitalization are not captured in NMS. Patients who receive opioid prescriptions from their health providers, but do not have the prescription filled are not captured in NMS. Also, NMS data capture dispensing but not administration of opioid or the appropriateness/reasons for the dispensing.

**Drug DIN list notification**

 Developed in part using DIN Number obtained from Ontario's Ministry of Health (MOH) (https://www.ontario.ca/page/narcotics-monitoring-system) licensed under the Open Government Licence – Ontario (https://www.ontario.ca/page/open-government-licence-ontario ). The terms of the MOH licence are important, and if you fail to comply with any of them, the rights granted to you under the MOH licence, or any similar licence granted by ICES, will end automatically. Developed with funding support from Ontario's Ministry of Health and input from the Ontario Drug Policy Research Network (ODPRN). No endorsement by the funding sources or data sources is intended or should be inferred.

***Factors that may impact the post-operative opioid prescribing***

Some pre-existing conditions/factors may have impacts on post-operative opioid prescribing. However, the current administrative databases do not have the full information to assess the appropriateness of opioid prescriptions. To facilitate a fair comparison, we have excluded patients with the following conditions from the analysis: palliative care patients; patients having Opioid Maintenance Treatment (OMT) within 30-days prior to the admission, and patients with the most responsible diagnosis (MRDX) as fracture or secondary malignant neoplasm.

***Data timeliness***

Data included in this report are not as current as would be preferred. However, they do provide a snapshot of your performance at a moment in time and a comparison to your peers for context. While Ontario Health and our partners are always looking for ways to provide more timely data, we encourage you to also use local data sources to track and measure your progress.

# Participation and Confidentiality

You are receiving this report because you have registered at Ontario Health's website. Your *MyPractice* report will only be sent to the hospital affiliated or validated email address you provided upon registration and will not be shared with others, including other agencies, the college, surgeon groups, or other members of your surgical team.

The recipient and/or viewer of these reports is not permitted to use the aggregate and/or de-identified information in the reports, either alone or with other information, to identify an individual. This includes attempting to decrypt information that is encrypted, attempting to identify an individual based on unencrypted information, and attempting to identify an individual based on prior knowledge.

***About Ontario Health***

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# References


1. American Academy of Orthopaedic Surgeons. Information statement: Safe and Effective Alleviation of Pain and Optimal Opioid Stewardship [Internet]. Washington: The Academy; 2020 [cited 2022 April 4]. Available from: https://aaos.org/globalassets/about/bylaws-library/information-statements/1045-safe-and-effective-alleviation-of-pain-and-optimal-opioid-stewardship--.pdf.
2. Canadian Orthopedic Association. COA position statement: opioids and orthopaedic surgical practice [Internet]. Westmount: The COA; 2018 [cited 2019 Feb 14]. Available from: https://coa-aco.org/fr/coa-position-statement-opioids-and-orthopaedic-surgical-practice-2018-june-eng-2/.
3. Chou R, Gordon DB, de Leon-Casasola OA, Rosenberg JM, Bickler S, Brennan T, et al. Management of postoperative pain: a clinical practice guideline from the American Pain Society, the American Society of Regional Anesthesia and Pain Medicine, and the American Society of Anesthesiologists' Committee on Regional Anesthesia, Executive Committee, and Administrative Council. J Pain [Internet]. 2016 [cited 2018 Dec];17(2):131-57. Available from: https://www.jpain.org/article/S1526-5900(15)00995-5/abstract.
4. Clarke HA, Manoo V, Pearsall EA, Goel A, Feinberg A, Weinrib A, et al. Consensus Statement for the Prescription of Pain Medications at Discharge after Elective Adult Surgery. Canadian Journal of Pain [Internet]. 2020 [cited 2020 August], 4(1): 67-85. Available from: https://www.tandfonline.com/doi/full/10.1080/24740527.2020.1724775.
5. Health Quality Ontario. Quality standard: opioid prescribing for acute pain. Toronto (ON): Queen's Printer for Ontario; 2018. Available from: https://www.hqontario.ca/evidence-to-improve-care/quality-standards/view-all-quality-standards/opioid-prescribing-for-acute-pain.
6. Hill MV, Stucke RS, Billmeier SE, Kelly JL, Barth RJ. Guideline for discharge opioid prescriptions after inpatient general surgical procedures. J Am Coll Surg [Internet]. 2017 [cited 2018 Dec];226(6):996–1003. Available from: https://journals.lww.com/journalacs/Abstract/2018/06000/Guideline_for_Discharge_Opioid_Prescriptions_after.12.aspx.
7. Memtsoudis SG, Poeran J, Zubizarreta N, Cozowicz C, Mörwald EE, Mariano ER, Mazumdar M. Association of multimodal pain management strategies with perioperative outcomes and resource utilization: a population-based study. Anesthesiology [Internet]. 2018 [cited 2018 Dec];128(5): 891-902. Available from: http://anesthesiology.pubs.asahq.org/article.aspx?articleid=2674296.
8. Scully R, Schoenfeld A, Jiang W, Lipsitz S, Ali M, Learn P, et al. Defining optimal length of opioid pain medication prescription after common surgical procedures. JAMA Surg [Internet]. 2018 [cited 2018 Dec];153(1):37-43. Available from: https://jamanetwork.com/journals/jamasurgery/fullarticle/2654949.