Development of a Comprehensive Opioid Management Program in Rural Orthopaedics

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Discussion

- Discuss current opioid statistics and their impact on health care.
- Describe how to develop and implement a standardized opioid protocol in your practice.
- Discuss the change in opioid prescribing volumes at CRMC after implementation of the protocol.
- Discuss what was learned in terms of patient behavior related to opioid usage after joint replacement.

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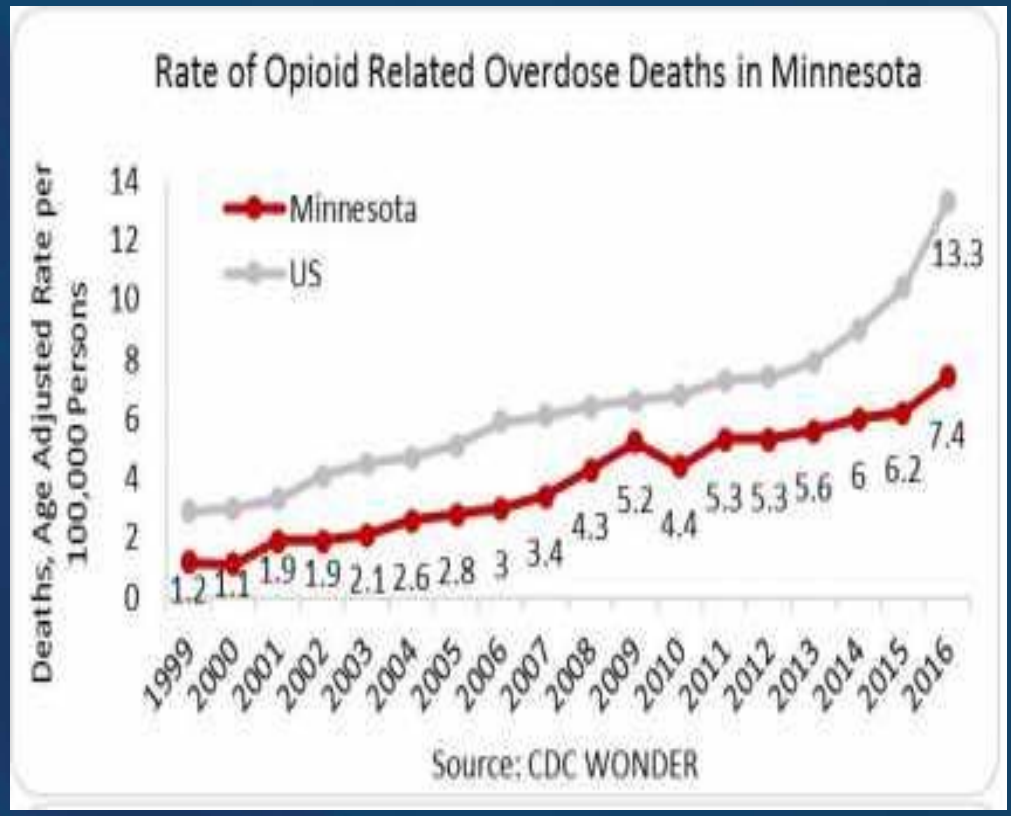
Opioid Deaths in MN and US

- In 2015, Minnesota providers wrote 54.2 opioid prescriptions per 100 persons (3.0 million prescriptions). In the same year, the average U.S. rate was 70 opioid prescriptions per 100 persons (IMS Health, 2016).

- Orthopaedics in the United States wrote 7.7% of the opioid prescriptions.



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Who is Leading the Change?

- January 2018-Pharmacies begin prescribing opioids based on maximum allowed morphine milliequivalents.
- Prescribers, unaware of the pharmacy guidelines continue opioid prescribing practices unchanged.
- Patients are caught in the middle as prescribers write for something that pharmacy fills differently.
- Patients are upset at providers postoperatively because they are being told different things as far as pain management.

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Development of Orthopaedic Protocol

- American Academy of Orthopaedic clinical guidelines published on opioid management.

- Stratification of the opioid used, dosing, and duration dependent on operation performed (small, moderate, large).

AAOS Opioid Management Guidelines

- After small procedures (e.g. trigger finger, carpal tunnel release, simple laceration, etc.) patients will receive:
  - No more than 10 pills of 5mg hydrocodone/325 mg acetaminophen pills.
  - No refills.
- After fracture, laceration, other injuries
  - Most injuries are treated with non-opioid pain medication (e.g. ibuprofen, acetaminophen), splint, ice, elevation, and reassurance.
  - Some very unstable or complex fractures may, on occasion be treated with codeine or hydrocodone prior to surgery.
- Moderate procedures (e.g. open reduction internal fixation of a distal radius or humerus fracture; shoulder arthroscopy; etc.)
  - A single prescription for no more than 20 pills of 5mg oxycodone/325 mg acetaminophen.
  - The second and final prescription will be for hydrocodone.
- Large procedures (e.g. spinal fusion; ORIF acetabular fracture; etc.)
  - A single prescription for no more than 40 pills of 5mg oxycodone/325 mg acetaminophen.
  - The second and final prescription will be for hydrocodone.

CRMC/MCO Specific Protocol Development

- Report generated in EHR showing the most common ortho procedures/Injuries treated by providers.
- Classification of these procedures into small, moderate, and large.
- Week by week opioid ordering schedule developed and followed by any provider (hospitalist, PA, NP).
- Refills are given out in 1 week maximum quantities (feedback from law enforcement).

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Preoperative Patient Education

- Completed at the time the patient schedules the operation.
- “Episode of care” identified (2 weeks-6 weeks based on procedure).
- Ortho department only prescriber for patient during episode of care.
- Ortho responsible for weaning patient safely off the medication.
- If pain after “episode of care” is complete, referral to pain specialist for “weaning program” and to ensure pain is not from another area.

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Large Operations

Total Knee Arthroplasty	Total Hip Arthroplasty	Anatomical/Reverse Shoulder Arthroplasty
Knee/Hip Arthroplasty Revision	Hemiarthroplasty-Hip	Arthroscopic Rotator Cuff Repair

1. Tylenol 500mg tablets: Take 2 tablets PO at breakfast, lunch, and dinner (TID) for 2 weeks, then as needed.
2. See table below for example of PRN schedule. **(Substitute hydromorphone (Dilaudid) or hydrocodone 5/325mg into schedule if using these medications)**.

Oxycodone 10mg tablets: 5-10mg every 3 hours PRN	Oxycodone 10mg tablets: 5-10mg every 4 hours PRN	Totals
Hospital Discharge: Oxycodone (Directions per Hospitalist)	Hospital Discharge: Oxycodone (directions per Hospitalist)	
Week #1: Take ½-1 tablets every 3 hours as needed for pain.	Week #1: Take ½-1 tablets every 4 hours as needed for pain.	56/42
Week #2: Take ½-1 tablets every 4 hours as needed for pain.	Week #2: Take ½-1 tablets every 6 hours as needed for pain.	42/28
Week #3: Take ½-1 tablets every 6 hours as needed for pain.	Week #3: Take ½-1 tablets every 8 hours as needed for pain.	28/21
Week #4: Take ½-1 tablets every 8 hours as needed for pain.	Week #4: Take ½-1 tablets every 12 hours as needed for pain.	21/14
Week #5: Take ½-1 tablets every 12 hours as needed for pain.	Week #5: Take ½-1 tablet daily as needed for pain.	14/7
Week #6: Off opioid pain medication or referral to Pain clinic.	Week #6: Off opioid pain medication or referral to Pain clinic.	
Total # of tablets (max): 161	Total # of tablets (max): 112	

Moderate Operations/Fracture Care

Open Reduction Internal Fixation	**Arthroscopic ACL Repair**	**Knee Arthroscopy**
Tendon/Ligament Repair	**CMC Arthroplasty**	**Fracture Care**
Wrist Arthroscopy	**TFCC Repair**	

1. Tylenol 500mg tablets: Take 2 tablets by mouth at breakfast, lunch and dinner for two weeks (if not prescribing Tylenol products)
2. See table below for example of PRN schedule.

Oxycodone 10mg tablets: 5mg-10mg PO every 4 hours PRN	**Hydrocodone 5/325mg tabs: 1-2 tabs PO every 4 hours PRN**	**Total**
Week #1-2: Take ½-1 tablets every 4 hours as needed.	Weeks #1-2: Take 1-2 tablets every 4 hours as needed.	42/84
Week #3: Take ½-1 tablets every 6 hours as needed.	Week #3: Take 1-2 tablets every 6 hours as needed.	28/56
Week #4: Take ½-1 tablets every 8 hours as needed.	Week #4: Take 1-2 tablets every 8 hours as needed.	21/42
Week #5: Take ½-1 tablets every 12 hours as needed.	Week #5: Take 1-2 tablets every 12 hours as needed.	14/28
Week #6: Off opioid medication or referral to Pain clinic.	Week #6: Off opioid pain medication or referral to Pain clinic.	
Total # of tabs (max): 105 tabs	Total # of tabs (max): 210 tabs	

Small Operations

Carpal Tunnel Release (endo or open)	**Trigger Finger Release**	**Irrigation/Debridement of Extremity/Finger**
Cyst Excision	**Dupuytren's Release**	**DeQuervains Release**
Hardware Removal	**Ulnar Nerve Transposition**	

1. Tylenol 500mg tabs: Take 2 tablets by mouth at breakfast, lunch, and dinner for 1 week and then as needed (avoid if using other acetaminophen).

- Hydrocodone 5/325mg tablets: Take 1-2 tablets by mouth every 4 hours as needed for pain x3 days, then 1-2 tabs every 6-8 hours as needed for 4 days.
- Oxycodone 5mg tablets: Take 1-2 tablets by mouth every 4 hours as needed for pain x3 days, then 1-2 tabs every 6-8 hours as needed for 4 days.

Total # of tabs (max): 68 tabs

Patients Taking <90MME/day of Opioid Medication Preoperatively

Patients that are taking opioid pain medication prior to an operation will have more pain postoperatively. For these patients, postoperatively their opioid medication will be increased to the next dosage of the medication. Examples of such are as follows:

1. Hydrocodone 5/325mg. The postoperative dose would increase to 7.5/325mg tablets
2. Oxycodone 5mg. Postoperative dose would increase to 10mg tablets.
3. Hydromorphone 2mg. Postoperative dose would increase to 4mg tablets.

The patient will then follow the same postoperative opioid directions with the increase in dosage in place for their episode of care.

Patients that Require Referral to Pain Management Clinic Preoperatively

1. Any patient that before surgery taking more than 90 morphine milliequivalents (MME)/daily.
2. Patients that are currently on Suboxone, Subutrex, buprenorphine, or Methadone.
3. Any patient that has struggled in the past with pain control/misuse after a previous surgery.

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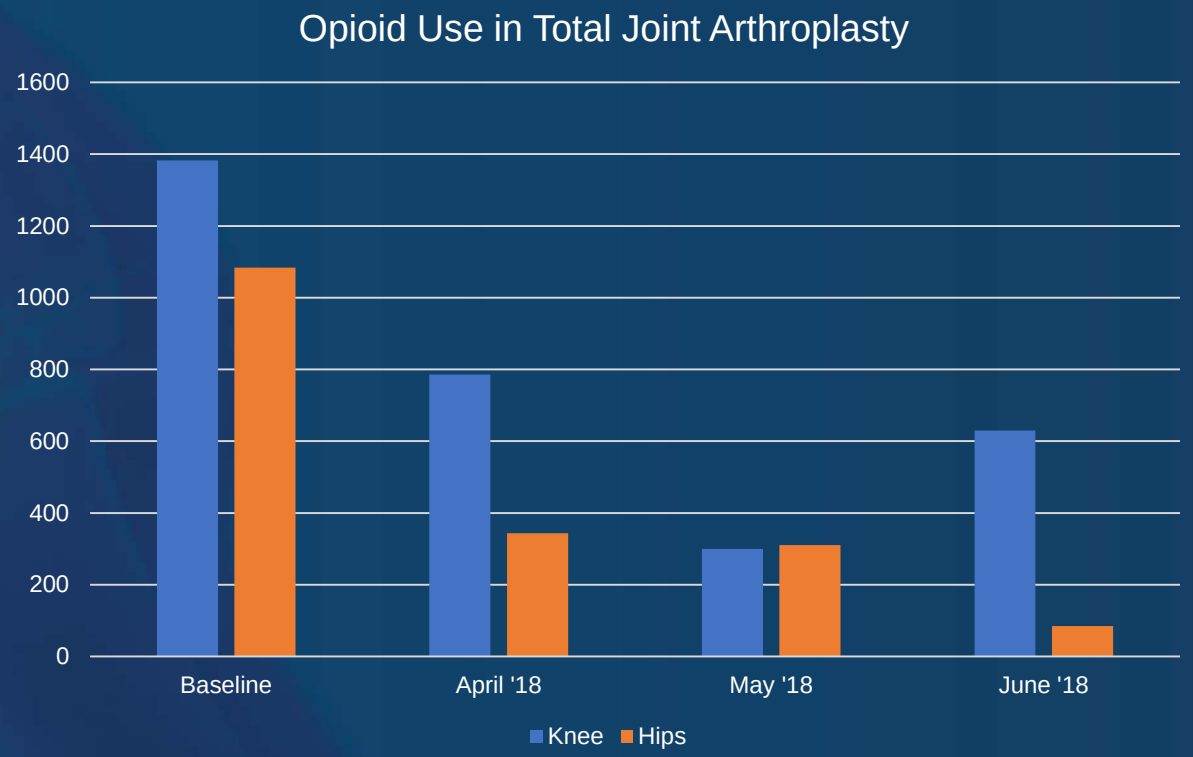
Determining Baseline Opioid Use (MME)

- Retrospective chart review of all total joints (knee and hips).
- Review the number of opioids prescribed in the episode of care.
- Questionnaire at 1 week, 2 week, and 6 week postop visits asking how many opioid meds the patient took and when they stopped taking it.

Oral Morphine Milligram Equivalent Conversion Factors	
Opioid (strength in mg except where noted)	**Oral MME Conversion Factor***
Buprenorphine, transdermal patch** (MCG/HR)	N/A
Buprenorphine, tablet and film	N/A
Buprenorphine, film*** (MCG)	N/A
Butorphanol	7
Codeine	0.15
Dihydrocodeine	0.25
Fentanyl, buccal/SL tabet or lozenge/troche (MCG)	0.13
Fentanyl, film or oral spray (MCG)	0.18
Fentanyl, nasal spray (MCG)	0.16
Fentanyl, transdermal patch (MCG/HR)	7.2
Hydrocodone	1
Hydromorphone	4
Levomethadyl acetate	8
Levorphanol tartrate	11
Meperidine	0.1
Methadone	3
Morphine	1
Opium	1
Oxycodone	1.5
Oxymorphone	3
Pentazocine	0.37
Tapentadol	0.4
Tramadol	0.1
*To be used in the formula: Strength per Unit X (Number of Units/ Days Supply) X MME conversion factor = MME/Day	
**Please see Documentation for additional information on buprenorphine products and conversion factors.	
***BELBUCA	

Opioid MME in Total Joint Replacement

- Baseline MME data collected on THA (1084) and TKA (1383).
- April 2018 (n=24) MME averages: TKA 785.9, THA 343.75 or a decrease of 597.1 (knees) and 740.25 (hips).
- May 2018 (n=26) MME averages: TKA 299.7 and THA 310.3
- June 2018 (n=36) MME averages: TKA 630 and THA 85.



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What Did We Learn About Patients and Opioids

- Patients don’t like to take them.
- Patients take much less than we thought they would after surgery.
- Preoperative education very important to discuss and set expectations.
- Sending the patient home with small quantities from the start is better than sending them home with a 2 week supply.

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Discussion/Questions

Thank you

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