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Implementing a Tiered Pain Protocol in the Total Knee Arthroplasty Patient

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Plan

Giving total knee arthroplasty patients opioids for post-operative pain management occurs on a daily basis with goals of improved patient pain satisfaction, safety, and outcomes. A review of practice noted inconsistency with regards to opioid type, route, dose and frequency of usage; physician preference and nursing administration; including "dose stacking" which can contribute to adverse effects. A pain protocol was created using individual patient opiate experience and classification as opiate naïve or tolerant.

Objective:
Address the culture of pain management with physicians and nurses utilizing a tiered pain protocol in conjunction with non-pharmacological approaches to achieve improvement in pain satisfaction to a tolerable level

Do

Communication was at the forefront of the implementation process:

- Education presented to providers to determine patient classification as opioid naïve or opioid tolerant using FDA definitions.
- Staff from CSC, POH, OR, PACU, PT/OT, Patient Care Support, Bone & Joint, and Anesthesia received education on protocol details.
- Specific education included: protocol details, non-pharmacological pain interventions, pain reassessment, and documentation.
- Team members were available daily for questions or concerns.

Protocol Culture Change:

- Start medications at the lowest dose available
- Utilize non-opioid medications for pain management
- Clarify tolerable vs. non-tolerable pain levels with patient
- Educate patients - post-surgical pain is normal and expected
- Use non-pharmacological interventions if applicable (elevation, ice, distraction, relaxation, ambulation, etc)
- Do not 'dose stack'; wait the full hour before giving the next dose .

An audit tool was developed to examine:

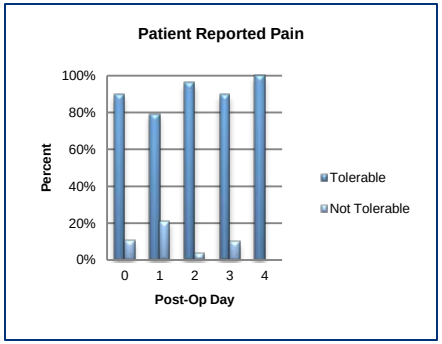
- patient history
- prior medication usage
- allergies
- pain goal
- pain medications administered from admission to discharge
- individual patient feedback – tolerable/not tolerable
- was the protocol followed as recommended
- was the provider contacted for additional pain medication
- what non-pharmacological interventions were used

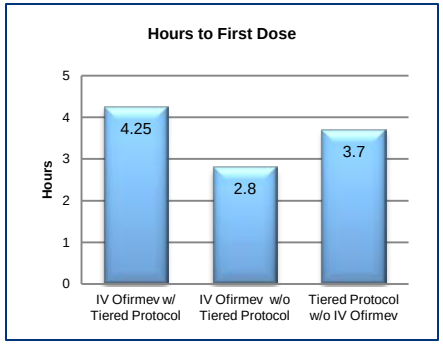
Check

During the implementation period, all total knee arthroplasty patients were evaluated with daily audits as described. For the study period, a sample of 29 patients were included.

The data showed:
Patients rated their pain as tolerable while on the tiered pain protocol with only a slight decrease in tolerability on post-operative day 1.

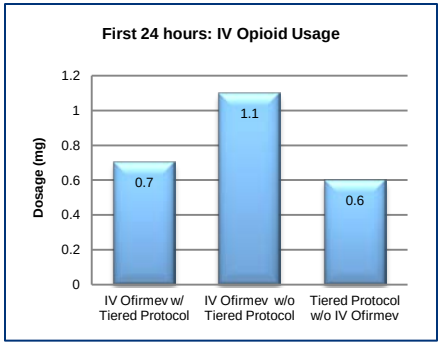
Patients that received IV Ofirmev with the tiered protocol had a longer time to first opioid dose (4.25 hours) than those that did not receive IV Ofirmev (3.7 hours) and those patients that received IV Ofirmev with no tiered protocol (2.8 hours).

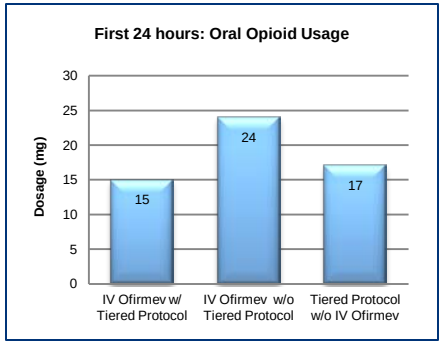




Total first 24 hour IV opioid usage with IV Ofirmev and a tiered protocol was almost the same (0.7 mg) if the patient did not receive IV Ofirmev (0.6 mg). Patients that received IV Ofirmev without the tiered protocol received almost twice the amount of IV opioids (1.1 mg). This suggests that the tiered protocol is beneficial.

Total first 24 hour oral opioid usage with IV Ofirmev and a tiered protocol received on average 10 mg less Oxycodone (15 mg) than those patients that did not have IV Ofirmev with a tiered protocol (24 mg). IV Ofirmev without the tiered protocol had the same amount of oral opioids as the IV Ofirmev and the tiered protocol (17 mg). This suggests IV Ofirmev assisted with decreasing oral opioid usage in the first 24 hours.





Act

Data will continue to be collected and evaluated to determine the effectiveness of the tiered pain protocol:

- Provide updates, results and education to staff
- Incorporate the pain protocol into the total hip arthroplasty order set
- Evaluate using the protocol for additional orthopedic patients
- Support culture changes for staff regarding pain management practices including patient assessments, expectations, and goals, administering opioids per protocol, and using non-pharmacological interventions for pain

Team Members

- Gina Anderson-Malum, BSN, RN, ONC, Total Joint Specialist
- Dr. Timothy Hiesterman, DO, Orthopedic Surgeon
- Dr. Chad Holien, MD, Orthopedic Surgeon
- Dr. Mitchell Kuhl, DO, Orthopedic Surgeon
- Heidi Meyer, BSN, RN, ONC, Staff Nurse
- Angela Moscho, MBA, BSN, RN, ONC, Unit Director
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- Kelen Sohre, BSN, RN, ONC, Orthopedic Trauma Specialist
- Jen Watson, RPH, Medication Safety Specialist
- Tamara Welle, BSN, RN, ONC, Staff Nurse

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