Opioids in Orthopaedic Surgery

- Education and awareness
- Opioid-sparing approaches

- Research
- Legislation and policy
# Opioids in Orthopaedic Surgery

AOC Annual Conference, Nashville TN  
October 2-4, 2018

## Opioid Project Working Groups

<table>
<thead>
<tr>
<th>Education and Awareness</th>
<th>Opioid-Sparing Approaches</th>
<th>Research</th>
<th>Legislation/Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kathy Rees</td>
<td>Bonnie Hewson</td>
<td>Brian Thomas</td>
<td>Ann Juengermann</td>
</tr>
<tr>
<td>Rothman</td>
<td>Columbia University</td>
<td>Cleveland Clinic</td>
<td>University of Missouri</td>
</tr>
<tr>
<td>Orthopaedic Institute</td>
<td>Team Lead</td>
<td>Team Lead</td>
<td>Team Lead</td>
</tr>
<tr>
<td><strong>Richard Capra</strong></td>
<td><strong>Stan Dysart</strong></td>
<td><strong>Mike O’Brien</strong></td>
<td><strong>Mike Sheerin</strong></td>
</tr>
<tr>
<td><strong>UCSF</strong></td>
<td>Wellstar Health System</td>
<td>The Ohio State University</td>
<td>Rothman Orthopaedic Institute</td>
</tr>
<tr>
<td><strong>Jackie Lu</strong></td>
<td>Pacira Pharmaceuticals</td>
<td><strong>Farzana Meyers, PA-C</strong></td>
<td><strong>Amber Sears</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Cleveland Clinic</td>
<td>Pacira Pharmaceuticals</td>
</tr>
<tr>
<td><strong>Carol Harding</strong></td>
<td></td>
<td><strong>Richard Scranton</strong></td>
<td><strong>Laurie Snyder</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pacira Pharmaceuticals</td>
<td>Johnson &amp; Johnson</td>
</tr>
</tbody>
</table>

---

*Note: The list above represents the individuals involved in the Opioid Project Working Groups.*
Leading the Opioid Conversation
THE OPIOID EPIDEMIC BY THE NUMBERS

IN 2016...

116
People died every day from opioid-related drug overdoses

11.5 m
People misused prescription opioids

42,249
People died from overdosing on opioids

2.1 million
People had an opioid use disorder

948,000
People used heroin

170,000
People used heroin for the first time

2.1 million
People misused prescription opioids for the first time

17,087
Deaths attributed to overdosing on commonly prescribed opioids

19,413
Deaths attributed to overdosing on synthetic opioids other than methadone

15,469
Deaths attributed to overdosing on heroin

504 billion
In economic costs

Sources: 1 2016 National Survey on Drug Use and Health, 2 Mortality in the United States, 2016 NCHS Data Brief No. 293, December 2017, 2 CEA Report: The underestimated cost of the opioid crisis, 2017
Together, we will face this challenge as a national family with conviction, with unity, and with a commitment to love and support our neighbors in times of dire need. Working together, we will defeat this opioid epidemic.”

President Donald J. Trump
Developing a “Safe” Opioid Program

• Select a committee to include Quality, Compliance, Marketing, Clinical and Physicians

• Meet monthly to discuss educating staff and patients, best practice to access and monitor patient’s opioid use.

• Develop Opioid Agreements for Minors and Adults

• Discuss ways to be involved in community

• Pamphlets identify where to go for help- community locations for drop off of unused medication.
Rothman Institute Education for Staff

- All Physician Assistant, Registered Nurse, and Certified Medical Assistants receive training through electronic education modules created by Rothman Institute. New hires receive one on one training in addition to modules.

- Education includes explaining how to properly set patient expectations for:
  - Patient Opioid Agreement prior to Surgery
  - Post Op Pain
  - Prescribed Medication (dosage and frequency)

- All MD’s, PA’s, and their delegates must register with PDMP
Controlled Substance Clinical Workflow

- Assess patient’s current status
- Alleviate fears
- Set expectations
- Prevent polypharmacy affects
- Educate patient
- Opioid Agreements
- PDMP Database
- Documentation in EMR
- Follow-up/ post-operative calls
- Barriers to care
Controlled Substance Clinical Workflow

- **Assess patient**’s current status- medical and surgical history, current medical and social risk scores, social support system, current medications, history of mental illness

- **Alleviate fears**-surgery often leaves patients experiencing some type of pain as they are healing, assure patients their surgeon is committed to caring for them through their recovery

- **Set expectations:** being completely “pain free” may not be a realistic goal. Pain can be the body’s way of telling you something is wrong, or give you cues during your recovery. Teach the patient how to take and taper from medication. Advise ahead of time if there is a limit to refills MD is comfortable providing. In accordance with AAOS guidelines, restrict pre-operative opioids.
Controlled Substance Clinical Workflow

- **Prevent poly-pharmacy affects** - assess active medications, educate patient or notify MD if patient is on other narcotics, benzodiazepines, or psychotropic drugs that may have interactions with narcotics.

- **Educate patient** - on the intended use, side effects, addictive components of narcotics.
Controlled Substance Clinical Workflow

• **PDMP Database**- it is required of all prescribers and their delegates to check the Prescription Drug Monitoring Program Database prior to prescribing or refilling a controlled substance. This is to assure the patient is not getting medication from multiple providers and that the amount of time between prescription refills is appropriate.

• **Documentation in EMR**- all medication prescriptions in PA are created in EMR and printed on specific controlled substance prescription paper. In NJ, prescriptions must be on script pads and scanned into patient’s record as well as documented in EMR as a current medication. Documenting in EMR also provides the ability to check for drug interactions with current medications.
Controlled Substance Clinical Workflow

• **Post operative calls**— all surgical support staff are responsible for calling patients within one week of their surgical date to check in, assess for s/s of infection, DVT, PE, etc. They also discuss the medication schedule patient is on, and work to create a plan to help patient taper from narcotic according to physician’s timeline.

• **Barriers to care**—insurance companies limiting quantity of Rx (ie 5 day supply), requiring prior authorizations that take 72 hours, certain pharmacies allow patients to pay cash while other do not, pharmacies with limited supply will fill a portion of the script and surrender the rest of the script.
2018 Joint Commission Standards

Highlights Post-Revision:

• Establish clinical leadership team
• Engage medical staff and hospital leadership in improving pain assessment and management, including strategies to decrease opioid use and minimize risks
• Provide at least one non-pharmacological pain treatment modality
• Facilitate access to PDMP
• Improve pain assessment by concentrating more on how pain is affecting patient’s physical function
• Engage patients in treatment decisions about their pain management
• Address patient education and engagement, including storage and disposal of opioids to prevent these medications from being stolen or misused by others
• Facilitate referral of patients addicted to opioids to treatment programs
CDC Recommendations when Prescribing Opioids

1. Assess Pain and Function
2. Consider if Non-Opioid Therapies are appropriate
3. Talk to patients about their treatment plan
4. Evaluate risk of harm or misuse
5. When you prescribe- start slow and go low
6. After initiation- Assess, Tailor and Taper
“Medicare is the single largest buyer of prescription opioids in the country. One out of three people enrolled in Medicare’s prescription drug benefit plan received one of the pills in 2016, according to the U.S. Department of Health and Human Services.” – PA U.S. Senator Pat Toomey
References

- https://www.hhs.gov/opioids
- www.jointcommission.org
- www.aaos.org
- www.whitehouse.gov
- www.cdc.gov
AOC - OPIOID PROJECT
CURRENT OPIOID SPARING EFFORTS/RESEARCH

Richard Scranton MD, MPH
Chief Medical Officer
Pacira Pharmaceuticals, Inc
Impact of Opioids on Surgical Patients

As many as
70 MILLION SURGICAL PATIENTS
are prescribed an opioid in the United States annually¹

ORTHOPEDIC SURGEONS were the 4th LARGEST
PRESCRIBERS of opioids among physicians²

90% of O&ST patients
are concerned about side effects, addiction, or dependence³
79% of O&ST patients prefer a non-opioid pain management option¹
Over 10% of patients prescribed an opioid will go on to long-term use or abuse³

Overdose Deaths⁵

There is a significant unmet need in postsurgical pain management, requiring a paradigm shift to address the clinical, societal, and economic burdens associated with opioid use

O=orthopedic; ST=soft tissue.
Impact of Opioids on Surgical Patients (cont’d)

Percent of Newly Persistent\(^a\) Opioid Patients

<table>
<thead>
<tr>
<th>Surgery</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colectomy</td>
<td>17.6%</td>
</tr>
<tr>
<td>Total knee</td>
<td>16.7%</td>
</tr>
<tr>
<td>Rotator cuff</td>
<td>10.2%</td>
</tr>
<tr>
<td>Total hip</td>
<td>9.9%</td>
</tr>
<tr>
<td>Sleeve gastrectomy</td>
<td>8.5%</td>
</tr>
<tr>
<td>Hysterectomy</td>
<td>7.5%</td>
</tr>
<tr>
<td>Hernia repair</td>
<td>7.2%</td>
</tr>
<tr>
<td><strong>OVERALL</strong></td>
<td><strong>9.5%</strong></td>
</tr>
</tbody>
</table>

Surgery-related overprescribing results in 3.3 BILLION unused pills available for misuse

\(\text{A 10\% reduction in surgery-related opioid prescribing could:}\)

- Make 332 million fewer pills available for misuse
- Reduce the annual number of patients who go on to persistent opioid use after surgery
- Save $830 million annual in drug costs alone

\(^a\)Newly persistent defined as patients with initial exposure after surgery and using an opioid far beyond (3–6 months) the postsurgical recovery period.

Economic Impact: Healthcare Systems Are Looking for Solutions to Ease the Patient Burden and Reduce Costs

- The efficacy of opioids is limited by *opioid-induced safety concerns & adverse drug events*\(^1-6\)
- Prescription *opioid-related deaths* are one of the nation’s leading preventable public health problems\(^1\)
- Reducing postsurgical opioid use can aid in recovery
- *Faster return to Activities of Daily Living*\(^3,6\)
- *Prevent unplanned readmissions and ER visits*\(^3,6\)
- Extensive reliance on opioid medication results in *perisurgical complications* and much *more costly treatment*\(^6\)
- >$500B economic burden on our US healthcare system\(^7\)

---

FDA November 15, 2018: Meeting of the Anesthetic and Analgesic Drug Products Advisory Committee Meeting Announcement

Agenda
The committee will discuss the assessment of opioid analgesic sparing outcomes in clinical trials of acute pain. The committee will be asked to comment on the trial design and endpoints of these studies and how to determine the clinical relevance of the results.

Meeting Materials
Background material will be made publicly available at the location of the advisory committee meeting, and the background material will be posted on FDA’s web site after the meeting. Background material is available at https://www.fda.gov/AdvisoryCommittees/CommitteesMeetingMaterials/Drugs/AnestheticAndAnalgesicDrugProductsAdvisoryCommittee/ucm591101.htm
Opioid Sparing in the Acute Pain Model: The Impact of Reduced Opioid Use in the Context of Adequate Analgesia is Multifactorial

- Nausea/vomiting
- Constipation
- Urinary retention
- Pruritus
- Respiratory depression
- Delirium

Reduced Opioid Use

Adequate Pain Control

Improved Physical Function

Wellbeing/Persistent Use

- Sleep
- Ambulation/movement
- GI function
- Activities of daily living
- Return to work/baseline function

- Satisfaction with analgesic therapy
- Global assessment of recovery/pain
- Avoidance of opioids
  - Surrogate duration ~ 7 days
Opioid Legislation Update: Summary of sections of the SUPPORT act relevant to non-opioids

• CMS must provide Medicare beneficiaries with educational resources regarding opioid use and pain management, as well as descriptions of covered alternative (non-opioid) pain-management treatments (Sec. 6022).

• The Medicare Payment Advisory Commission must report on Medicare payment for opioid and non-opioid pain management treatments, current incentives for prescribing opioid and non-opioid treatments, and how opioid use is currently tracked and monitored (Sec. 6072).
Summary of sections of the SUPPORT act relevant to non-opioids (cont.)

- CMS must review payments under Medicare for opioid and non-opioid pain-management procedures, specifically with respect to ambulatory outpatient surgical procedures and hospital outpatient department services. CMS must ensure that there are no payment incentives for using opioids instead of non-opioid alternatives and must make revisions accordingly (Sec 6082).

- Medicare and MA prescription drug plan sponsors must annually disclose information to enrollees about the risks of prolonged opioid use, as well as coverage of nonpharmacological therapies, devices, and non-opioid medications (Section 6112).

- The bill prohibits inclusion of pain-management questions in certain health care system surveys, unless the questions address the risks of opioid use and the availability of non-opioid alternatives (Sec. 6114).
CMS OPPS Final Rule Summary: Relevant to EXPAREL in the ASC

CMS believes that separate payment is appropriate for EXPAREL in Ambulatory Surgery Center:

- CMS is finalizing the policy to unpackage and pay separately at ASP+6 percent for the cost of non-opioid pain management drugs that function as surgical supplies when they are furnished in the ASC setting for CY 2019 as proposed.

- CMS will finalize changes to 42 CFR 416.164(a)(4) to exclude non-opioid pain management drugs that function as a supply when used in a surgical procedure from our policy to package payment for drugs and biologicals for which separate payment is not allowed under the OPPS into the ASC payment for the covered surgical procedure.

- CMS will finalize changes to 42 CFR 416.171(b)(1) to exclude non-opioid pain management drugs that function as a supply when used in a surgical procedure from our policy to pay for ASC covered ancillary services an amount derived from the payment rate for the equivalent item or service set under the OPPS.
Effective January 1, 2019:
CMS has unbundled the c-code (C9290) for reimbursement of liposomal bupivacaine in Ambulatory Surgery Centers (ASCs)
Current Efforts/Research to Reduce Post-surgical Opioid Use
<table>
<thead>
<tr>
<th>Product/Process</th>
<th>Description</th>
<th>Timing/When Administered</th>
<th>Reported Benefits*</th>
<th>Potential Risks</th>
<th>Costs</th>
<th>Patient Satisfaction</th>
<th>Provider Acceptance/Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXPAREL</td>
<td>bupivacaine liposome injectable suspension</td>
<td>Intra-operatively</td>
<td>• 78% fewer opioids 0-48 hrs • 13.6% less pain 12-48 hrs</td>
<td>Allergic reactions Watch hepatic function</td>
<td>$300/dose</td>
<td>Pain well controlled through 48 hours Postoperatively</td>
<td>Decreased time to first ambulation due to less opioid use and pain control</td>
</tr>
<tr>
<td>IV Tylenol</td>
<td>acetaminophen</td>
<td>Post-surgical</td>
<td>• Reduced post-op pain • Reduced opioid use • Decreased LOS</td>
<td>Watch hepatic function</td>
<td>$35/1gm vial ($80/episode)</td>
<td>Overall hospitalization costs decreased</td>
<td>Early discharge vs. unimodal therapy of opioids Decrease of department costs</td>
</tr>
<tr>
<td>Iovera</td>
<td>cryoneurolytic block</td>
<td>Pre-surgical (7-14 days prior)</td>
<td>• Reduced opioid use by 45% over 12 weeks • Improved KOOS • Improved phys. rehab • Decreased LOS</td>
<td>Infection Injection/hole near the incision site Bruising/swelling</td>
<td>$1000/treatment (Insurance may not cover)</td>
<td>Well controlled pain</td>
<td>Surgeons quicker to discharge, LOS significantly decreased among study group vs control group</td>
</tr>
<tr>
<td>Multimodal Pain Regimens (MPRs)</td>
<td>Pregabalin PO Celecoxib PO Acetaminophen IV Ondansetron IV</td>
<td>Perioperatively</td>
<td>• 37% decrease in total opioid use • 8% decrease in length of stay • Increased mobility and return to functionality of limb</td>
<td>Allergies to meds Watch for Hepatic and Renal impairment</td>
<td>$250/treatment</td>
<td>Verbal reports from patients stating satisfaction of pain control</td>
<td>Physicians verbalizing satisfaction of transition to oral meds within 24 hours and lower risk of developing complications secondary to immobility after surgery</td>
</tr>
</tbody>
</table>

* Evidence-based and/or anecdotal
# Opioid Sparing Effect of Non-Opioid Analgesics in Orthopedic Surgery

<table>
<thead>
<tr>
<th>Medication</th>
<th>Opioid-Sparing Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetaminophen</td>
<td>20-30%</td>
</tr>
<tr>
<td>NSAIDs</td>
<td>30-40%</td>
</tr>
<tr>
<td>Gabapentin</td>
<td>20-62%</td>
</tr>
<tr>
<td>Pregabalin</td>
<td>25-30%</td>
</tr>
<tr>
<td>Ketamine</td>
<td>30-50%</td>
</tr>
<tr>
<td>Clonidine</td>
<td>25%</td>
</tr>
<tr>
<td>Dexmedetomidine</td>
<td>30%</td>
</tr>
<tr>
<td>Dexamethasone</td>
<td>10%</td>
</tr>
</tbody>
</table>

Research Challenges

• Challenges in post discharge data capture results in inconsistent reporting after surgery
• Administrative databases are limited, e.g. cannot determine opioids dispensed versus consumed
• The timing of the transition from acute to chronic opioid use has not been defined
• Limited use of validated measurement tools to capture risk factors and outcomes
Gap Analysis

What is missing from current efforts?
• Lack of quality evidence
• More randomized controlled trials (RCTs) needed
• More work on individualizing MPRs (age, comorbidities, pharmacokinetics)
• Expanding cost vs. benefit analysis

What is planned going forward to fill the gaps?
• Evidence is developing, much of it in the Anesthesia space
• Consider multi-site (AOC) cost vs. benefit study
AOC Center Survey Results
Primary Non-Opioid Alternatives
8 Centers Responding

Non-Opioid Alternatives are listed in order of the number of times mentioned from all responses

- NSAIDs (7)
- Local / Peri-articular Infiltration (2)
- Nerve blocks (2)
- Regional anesthesia (2)
- Tramadol (2)
- Anti-inflammatories, multimodal
- IV medications: ketamine
- Oral medications: pregablin, celecoxib
- Acupuncture
- Cognitive behavioral therapy (CBT)
- Elevation, Ice
- Exercise
- Physical Therapy
OPIOID SPARING APPROACHES

Presentation to Academic Orthopedic Consortium 2018 Annual Meeting

Bonnie Hewson, JD, Columbia Orthopedics
Richard Capra, MBA, UCSF Orthopedics
Stan Dysart, MD, Pacira, WellStar Health System
Jackie Lu, PharmD, MS, Pacira
Taking a system-level look at reducing opioids

• Objectives

  • Overview of opioid sparing framework

  • Guidance on development and implementation, as well as challenges encountered

  • Experience from Columbia/NYP
Interdisciplinary Collaboration is Key to The Development & Implementation of An Opioid-Sparing Program

Key steps to implementation according to the NQF

- Leadership Commitment and Culture
- Organizational Policies
- Clinical Knowledge, Expertise, and Practice
- Patient and Family Caregiver Education and Engagement
- Tracking, Monitoring, and Reporting
- Accountability
- Community Collaboration

Source: National Quality Forum
System Level Approach

- **Multidisciplinary**
- Executive administrative support
- Inclusion of appropriate stakeholders

<table>
<thead>
<tr>
<th>Clinical</th>
<th>Nonclinical</th>
</tr>
</thead>
<tbody>
<tr>
<td>✓ Physicians: Surgeons,</td>
<td>✓ Admin</td>
</tr>
<tr>
<td>Medical, Population</td>
<td>✓ IT</td>
</tr>
<tr>
<td>Health, Anesthesia</td>
<td>✓ Data and Analytics</td>
</tr>
<tr>
<td>✓ Nursing</td>
<td>✓ Public Relations</td>
</tr>
<tr>
<td>✓ Non-physician HCP’s</td>
<td>✓ Marketing and</td>
</tr>
<tr>
<td>✓ Behavioral Health</td>
<td>Education</td>
</tr>
</tbody>
</table>

- Must include a central decision making body
- Must have access to data
# System Level Evidence for Opioid Reduction

<table>
<thead>
<tr>
<th>Organization</th>
<th>Evidence</th>
</tr>
</thead>
</table>
| **Kaiser Permanente Southern California** | - 30% reduction in high dose opioid prescriptions  
- 98% reduction in prescriptions greater than 200 pills  
- 90% reduction in combination opioid/benzodiazepine  
- 72% reduction in prescriptions of long acting release opioids  
- No increase in methadone prescriptions |
| **Boston Medical Center**         | - Increase in standard adherent care  
- Greater proportion of patients had a reduction in MEDD from baseline  
- 40% greater likelihood of opioid discontinuation after 12 months |
| **Brigham and Women’s Hospital**  | - Decrease in number of opioid prescriptions $p<0.001$  
- Decrease in MME per prescription $p<0.001$  
- Decrease in unique patients receive an opioid $p<0.001$  
- Increase in prescriptions and providers for buprenorphine $p<0.001$ |
| **Wellstar Health System**        | - Decrease in Colorectal LOS and MME utilization  
- Decrease in Orthopaedic LOS  
- Decrease in system resource utilization |
Barriers to Implementation of Comprehensive Opioid Reduction Initiatives

- Knowledge deficits regarding principles of pain therapy
- Misunderstanding of principles of Multimodal analgesia
- Physician resistance
  - Problem to solve?
  - Change will be time consuming
  - Concern regarding negative personal implications-ratings
- Low Institutional priority for pain management
- System level lack of accountability for pain management
- Lack of central IT support
- Lack of central Data analytics and reporting
- “Silo” mentalities on the system level

Source: Advisory Board: Pharmacy Executive Forum; Surgical Pain Consortium
PRACTICAL IMPLEMENTATION: THE COLUMBIA/NYP EXPERIENCE

Bonnie Hewson
Columbia University
Practical Implementation: The Columbia/NYP experience

The goals of our Department’s opioid-sparing initiative have been to:

- Standardize prescribing practices within divisions/subspecialties
- Identify research which can help in setting standards for pain management in the opioid-sparing context
- Launch studies of actual usage of prescribed opioids in specific areas to improve our understanding of patient usage and enhance the effectiveness of our follow-up
Practical Implementation: The Columbia/NYP experience

• The Department would like to standardize the amount of opioids prescribed to each patient, based on
  o Type of procedure performed
  o Other analgesics prescribed (multimodal context)
  o Medical comorbidities, and
  o Psychosocial factors

• The goal is to make these evidence-based decisions

• In many cases, however, we find there is little or no research available at this time on which to base these decisions, just clinical experience
Practical Implementation: The Columbia/NYP experience

• To date we have launched three studies
  Following opioid use in selected patient populations undergoing
  o Hip & knee procedures
  o Shoulder, Elbow, Sports Medicine surgery
  o Hip arthroscopy
  • These studies track pain scores on a daily basis from discharge through the first post-operative appointment
  • In early returns, we see variation in consumption of 5mg Oxycodone pills ranging from 0 to 40 pills taken for specific hip & knee procedures
    o Expanding patient follow up to determine the timing and extent of pain and pain relief needs seems warranted
  • There is a Hawthorne effect possibility – changing either the actual usage or reporting of usage for patients followed personally
    o Another approach being tried is anonymous surveys given to all patients at discharge as part of the standard of care
Practical Implementation: The Columbia/NYP experience

• **Further observations:**
  - If a regional block is used, pain relief is critical at the point in time when the block wears off, and this should be considered in all protocols
    - Timing can be challenging on an inpatient basis in the transition from PACU to floor
    - And on an outpatient basis, in the middle of the night following discharge
    - Good management in hospital and good instructions to patients on before-bedtime pain medication can ease this transition
  - Managing patients’ expectations on level of pain and discussion with patients on use of opioids (if prescribed) is critical
  - New York State has limited facilities for disposal of unused opioids (police station collection only), and our standards should include clear instruction on this in post-discharge materials whenever opioids are prescribed
REDUCING OPIOIDS

Growing interest of developing a playbook on how to reduce opioids during and after surgery while focusing on improving patient outcomes.
Comprehensive Enhanced Recovery Program (ERP) Ensures Continuous Patient Engagement and Delivers Consistent Quality Throughout the Entire Process of Care…

One surgeon’s approach using the same ERP in Hospital Inpatient (Medicare) and ASC (Commercial)
Paragon Orthopedics/Grants Pass Surgery Center
Dr. James Van Horne (vanhorne.jamesmd@gmail.com)

✓ Pre-Op - Patient Engagement
  ▪ Physical, Medical, & Social (“Joint Coach”) optimization
  ▪ Narcotic & Non-Narcotic Trials
  ▪ Early pre-habilitation
  ▪ Pre-Load non-narcotics

✓ Intra-Op
  ▪ MIS approach
  ▪ Careful wound/blood management
  ▪ Multimodal pain management

✓ Post-Op - No Home services
  ▪ “Joint Coach”
  ▪ Tailored Multimodal pain regimen
  ▪ Icing and elevation
  ▪ Sleep hygiene
  ▪ Self-rehab with limited outpatient PT

No “Cherry Picking”
  ▪ Criteria for surgery is “Inclusive” not “Exclusive”
  ▪ Hospital and ASC
  ▪ All Medicare, Medicaid and Commercial patients

Protocol and data courtesy of Dr. James Van Horne, Paragon Orthopedics, OR
Standardized Protocol Focused on Optimizing Pain Control, Promoting Early Recovery, and Reducing Postsurgical Complications

Minimize tissue trauma and blood loss
- TKA – subvastus approach with SIGMA®
- THA – anterior approach with CORAIL® and PINNACLE®

Minimize exposure to opioids and risk of PONV
- Spinal anesthesia
- ADB with short acting LA
- Local infiltration with EXPAREL®
- ATC non-opioids
- Shortest course of opioids as needed

Prevent wound infection and complications
- Wound closure with STRATAFIX suture and DERMABOND PRINEO

Protocol and data courtesy of Dr. James Van Horne, Paragon Orthopedics, OR
## 30-Day Postop Outcomes – Achieving the Triple Aim

<table>
<thead>
<tr>
<th></th>
<th>ASC (Commercial)</th>
<th>Hospital (Medicare)</th>
<th>NSQIP Data[^1] (Inpatient; Mixed payor)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>251</td>
<td>645</td>
<td>120,085</td>
</tr>
<tr>
<td>Avg. Age (year)</td>
<td>58</td>
<td>72</td>
<td>63</td>
</tr>
<tr>
<td>Avg. LOS (day)</td>
<td>0</td>
<td>0.2 (84% same day)</td>
<td>2.9</td>
</tr>
<tr>
<td>Minor AE</td>
<td>0.4%</td>
<td>0.5%</td>
<td>0.4%</td>
</tr>
<tr>
<td>Severe AE</td>
<td>2.0%</td>
<td>1.1%</td>
<td>1.8%</td>
</tr>
<tr>
<td>Unplanned Hospital Admission</td>
<td>3.2%</td>
<td>1.9%</td>
<td>2.8%</td>
</tr>
<tr>
<td>Medical Reasons</td>
<td>1.2%</td>
<td>1.7%</td>
<td>1.2%</td>
</tr>
<tr>
<td>Surgical Reasons</td>
<td>2.0%</td>
<td>0.2%</td>
<td>1.6%</td>
</tr>
<tr>
<td>No second opioid prescription</td>
<td>82%</td>
<td>84.2%</td>
<td>N/A</td>
</tr>
</tbody>
</table>

ERP provides **cost-efficient care with high patient satisfaction without sacrificing quality**


Protocol and data courtesy of Dr. James Van Horne, Paragon Orthopedics, OR.
Summary

• Programmatic/systematic approach allows for consistency and synergy to maximize opioid-reduction opportunities across all aspects of care delivery process

• Interdisciplinary collaboration (shifting from silo to system mindsets) is key to successful implementation

• Standardization, from the guidance of evidence-based medicine and clinical experience, can ensure consistent quality and outcomes of care delivered to patients
Part II

We would now like to start a second phase, in which we would like to implement, refine, and share outcomes of an Enhanced Recovery After Surgery (ERAS) protocol in orthopaedics.

This ERAS protocol will formulate within three areas: patient education, opioid-sparing analgesic regimen, and recovery pathway. This pilot will initially focus on the orthopedic procedures in Knee, Foot/Ankle, Spine, Total Shoulder, and/or Trauma for Hip Fracture repair.

Our Team is looking for AOC member sites that would volunteer to implement and review outcomes associated with one of these orthopaedic procedures and protocols.