Conflict of Interest Disclosure

Conflicts of Interest for all listed contributors: NONE

Any views or opinions in this presentation are solely those of the author/presenter and do not necessarily represent the views or opinions of the American Society for Pain Management Nursing®.

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Today’s Presenters

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Learning Objectives

• State elements of the Evidence-Based Nursing Process.
• Identify triggers that prompted development of this project.
• Describe examples of the practice change elements resulting from the literature review.
• List two examples of positive outcomes resulting from the implemented practice guidelines.
How It All Began ...

- Hawaii State Center for Nursing.
- Over 50 teams mentored for an 18 month internship.
- EBP projects completed using the Iowa Model as a guide.
- Knowledge disseminated via presentations and publishing.

The Big Why
Observations by Kaiser Hawaii Pain and Nursing Services

- By 2030, it is projected more than 4,000,000 hip and knee replacements will be performed annually in the United States.
- Opioid-tolerant patients experienced poor pain management with longer recovery times, decreased satisfaction and increased cost of care.
- Organizational priority to implement best practices for pain management, provide consistency in practice, and enhance the quality of care.
Background

- Americans are 4.6% of the global population and are consuming 80% of the opioid supply.
- 85% of opioids are dispensed to patients with chronic pain.
- At least 8 million Americans fall asleep at night under the influence of an opioid.
- Every morning, 40 of them do not wake up.

Prescription Drugs in Hawaii

Significance

- The number of opioid-tolerant patients is increasing along with their need for surgical procedures.
- Pain management is challenging in these patients because regular opioid intake is associated with mechanisms of tolerance and dependence.
Financial Impact of Chronic Pain

Health Spending as Percentage of GDP

<table>
<thead>
<tr>
<th>Country</th>
<th>Percentage of GDP</th>
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<tbody>
<tr>
<td>Spain</td>
<td>9%</td>
</tr>
<tr>
<td>Germany</td>
<td>11%</td>
</tr>
<tr>
<td>United States</td>
<td>17%</td>
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</tbody>
</table>

Health Cost Projections

20 Year Health Care Expenditure Projections
The “Boomers” – 1945 - 1963

Each day, nearly 9,400 people in America turn 65.

77.5 MILLION “Boomers” will be age 65 by 2030.

Total Joint Replacement Projections
The Iowa Model

- The Iowa Model of Evidence-Based Practice to Promote Quality Care.

P.I.C.O. Model for Clinical Questions

Problem: Patients taking chronic opioid medications prior to surgery often have unsatisfactory postoperative pain management. This frequently delays their recovery and rehabilitation and results in poor patient satisfaction with their hospital course.

- P (Population): Patients undergoing elective Orthopedic Joint Surgery and taking chronic opioids (defined as >3 months of daily use).
- I (Intervention): EBP Guideline to include use of a tool for better identification of the opioid-tolerant patient, development of a comprehensive plan of care for pain management by the Pain Service MD, enhanced communication through hospital transitions, and changes in patient and staff education.

Problem: Patients taking chronic opioid medications prior to surgery often have unsatisfactory postoperative pain management. This frequently delays their recovery and rehabilitation and results in poor patient satisfaction with their hospital course.

- C (Comparison): 20 opioid-tolerant patients undergoing Joint Replacement Surgery prior to implementation of the Guideline would be compared to 20 opioid-tolerant patients after Guideline implementation.
- O (Outcome): Improved identification of opioid-tolerant patients resulting in a comprehensive plan of care for pain management, better pain management, shorter time in the PACU and in the overall hospital length of stay (LOS).
Is it an Organizational Priority?

- Increase best practices for pain management in orthopedic surgical joint patients with opioid tolerance.
- Improve patient satisfaction, decrease hospital length of stay, and overall financial cost.
- Provide consistency in practice and pain management to enhance quality of care.
- Increase utilization of Evidence-Based Practice (EBP) to improve nursing knowledge and performance.

Team Membership: Considerations

- Opinion leader(s)
- APRN – clinical expert
- Nurse Manager
- Users of the EBP
- Unit change champions
- Core group
- Physician colleagues
- Other disciplines
Building a Successful Team

Rosanne Shimoda, RN – Pre Operative Evaluation and Education Center
Gregory Gibbons, BSN, CCRN, CPAN, CAPA – Post Anesthesia Care Unit
Kathleen Doi, APRN – Pain Service
Cecilia Gue, APRN, NP, CNS – Pain Service
Louisa Jim, RN – Orthopedic Surgery Clinic
Tami Maruyama, RN, BSN – Clinical Decision Unit
Terri Tymn, RN – Pediatrics
Rayna Garner, RN – Pediatrics
Veronica Antoine, MD – Pain Services
Michael Reyes, MD – Orthopedics

Finding the Evidence

- Search was done using PubMed/MEDLINE, CINAHL, OVID and the Kaiser Permanente National Librarian.
- Search terms included: Arthroplasty, opioids, pre-emptive medication, multimodal analgesia, preoperative assessment, and total knee and hip replacement.
- A total of 63 articles were critiqued by the team and 31 were found to be relevant.

From the Evidence

- Levels of Evidence: I (6), II (11), III (3), IV (13), VI (10), VII (20).
- Early patient identification process will translate into improved outcomes.
- Preemptive strategies for pain management are helpful with opioid-tolerant patients.
- Multimodal pain strategies are especially effective for chronic pain patients.
- Optimal education includes mutual goal setting between patient and caregivers as well as keeping goals realistic.
Project Interventions: Three Strategic Phases

**Preoperative**
- Pain screening tool.
- Early identification of patients with chronic opioid use.
- Screening for preoperative fall risk.
- Design a pain service referral process.
- Enhance patient and family education.
- Increase use of interdisciplinary approach.

**Intraoperative**
- Pain intervention developed by Pain Service.
- Pain management in obstetrics.
- Swabbing outpatient patient for surgical wounds.
- Surgical wound flags for surgical care.
- Teaching preoperative education materials on surgical conditions and use of an interventional spine device.

**Postoperative**
- Nonopioid management for earlier pain intervention.
- Use of multimodal pain management.
- Early mobilization with physical therapy.
- Patient and staff education.
- Discharge follow-up phone calls.

Preoperative Phase
- Pain Screening Tool.
Multidisciplinary Approach

Pain Service plan of care communication

- Pain Service, Surgery, Anesthesia and Nursing departments.
- Plan of Care communicated across all surgical phases.
- Electronic medical record, visual reminder and verbal handoffs.

Baseline Data Collection
Sorting through all the data!

Pre Operative Phase

Intra Operative Phase
PACU Utilization and Estimated Cost Savings

Mean time in PACU reduced by 30 minutes. (27%)

Estimated PACU costs:
$234. labor
+ $9. supplies
= $243. total/hour
X 30 minutes = $121. savings
Estimated Hospital Cost Savings

Mean Hospital Length of Stay reduced 3 days. (44%)
Estimated Hospital costs:
$470. labor
+$40. supplies
= $510. total/day
X 3 days = $1530. savings

Estimated Financial Savings of Guideline

<table>
<thead>
<tr>
<th>Patient Savings</th>
<th>Project Savings</th>
<th>Annual Savings</th>
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</thead>
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<tr>
<td>$1651.00</td>
<td>$33,000.00</td>
<td>$100,000.00</td>
</tr>
<tr>
<td>Per patient</td>
<td>4 months</td>
<td>One year</td>
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We’re All Getting Older…
I'm the winner?!?

Case Study

- Patient history
- Pain management Plan of Care
- Surgical and hospital course
- Pain management outcomes
- Patient satisfaction and feedback

Additional Qualitative Findings

- Pain tool demonstrated that it could capture pain patients not identified by MD.
- No "rescue" calls to Pain Service from PACU staff.
- Improved PACU throughput - also decreases OR delays and OT.
- Better use of medication strategies.
  (Examples: gabapentin in preop and oxymorphone in PACU)
- Ortho Clinic noted fewer patient phone calls and MD visits needed from the post-guideline group.
Project Conclusions

- Improved identification of opioid-tolerant patients resulted in a comprehensive Plan Of Care for pain management.
- Patients tolerated their postoperative rehabilitation better and became more active participants in their care.
- Outcomes included better pain management, shorter time in PACU, and decreased overall hospital LOS.
- A practice guideline for opioid-tolerant patients can result in cost savings and improved patient satisfaction, while maintaining a high level of patient safety.
Strategies for Success

- Interdisciplinary team approach.
- Lots of networking and checking in.
- Computer literacy and shared file access.
- Integration of care – all disciplines within the Kaiser system.
- Early involvement of key stakeholders, including MD champions.
- Nursing leadership support and promotion of the EBP process.

Sustainability

- 2010 – EBP Internship
- 2011 – Guideline Development
- 2012 – Pilot Study
- 2013 – Guideline Implementation
- 2014 – Guideline Implementation
- 2014 – Presentation / Publication

Professional Growth

- Hawaii State Center for Nursing
- Staff Nurse education
- University of Hawaii – writing class
- Poster and Podium presentations
- Mentoring for colleagues
Future Applications

- Validation of the Pain Screening Tool.
- Expand use of practice guideline for thoracic, abdominal, pelvic and additional orthopedic surgeries.
- Mentoring for future EBP team projects.
- Journal publication of project – September, 2014
  Nursing Clinics of North America.

References


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In addition to our team members:

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Claudia Bangert, LPN – Orthopedic Surgery Clinic
Dick Yee, RN – Computer support
Lisa Vahrosta-Germer, APRN, CNS-BC – Pain Service
John Pang – Media Services

Mahalo! ... Questions/Comments?

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