

Introduction

Overview

- Pain affects more people than diabetes, heart disease, and cancer combined. An estimated 76.5 million people state they have had a problem with pain that has lasted more than 24 hours.¹
- The total annual direct and indirect cost of health care due to pain ranges from \$560 billion to \$635 billion (in 2010 dollars) in the United States.²
- Specifically, an estimated 70% of those with cancer experience significant pain during their illness, yet fewer than half receive adequate treatment for their pain.³

Institutional Overview

- The Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) survey was the first national, standardized, publicly reported survey of patients' perspectives of hospital care. Pain management is one of the eight key topics focused on by the survey.
 - In 2001, the Joint Commission declared pain as the fifth vial sign.
- Beyond the ethical responsibility to manage pain, proper management now impacts the financial bottom line in the hospital setting, since Centers for Medicare and Medicaid Services eventually intends to use the HCAHPS patient experience data to determine the level of funds it reimburses hospitals for services they provide to their Medicare patients.

Patient Controlled Analgesia Pumps

- Patient-controlled analgesia (PCA) provides several benefits including improved pain control or relief and superior patient satisfaction. 4,5
- PCA pumps are a valuable method for administering opiate analgesia to patients for pain relief and decrease the amount of time required for a nurse to repeatedly administer medications. Also, their appropriate use can ensure that the patient manages his or her own pain control effectively.⁶

Safety of PCA Pumps

- Opiates represent one of the four drug categories that cause more than 60% of inpatient serious adverse events in the United states. Nearly 50% of the errors involving opiates were related to PCA.⁴
- When used as intended, PCA pumps reduce the risk of over-sedation, respiratory depression, and allow the patient to control their own analgesia. According to MEDMARX however, when PCA pumps are involved, the chance of patient harm increases from approximately 2% to more than 3.5 times the norm.

Hospital Specific Need for Evaluation

- According to hospital-specific policies and order forms, patients should be assessed for pain prior to the initiation of the PCA pump. Once the order is initiated, patients' vital signs, pain scores, and sedation scores should be monitored every 15 minutes x 2, every 2 hours x 4, then every 4 hours.
- A cursory chart review had previously been conducted and identified that documentation was an issue that must be addressed. The preliminary chart review showed that 88% of patients were being assessed for pain before the PCA order was initiated and only 3% of patients were being assessed after 15 minutes. Follow up assessments were less than 34%.

Objectives

Primary:

To assess the documentation of key criteria in order to determine adherence to the PCA order set and overall, to determine the effectiveness of pain management.

Secondary:

Improve compliance with the documentation criteria of: vital signs, pain scores, and sedation scores to optimize pain relief.

Methods

Study Design:

- All adult patients who received a PCA in the oncology unit ranging from January till June 2011 were included in the study. The medical records of thirty -three patients receiving pain control via PCA pumps were retrospectively analyzed. Data was collected for the documentation of:
 - Computer physician order entry for completeness
 - Pain assessment prior to the initiation of PCA pumps
 - Vital signs, pain scores, and sedation scores every 15 minutes x 2, then every 2 hours x 4, followed by every 4 hours thereafter
 - Adverse events (sedation, pruritis, and respiratory depression)
 - Treatment of adverse events
- The study was approved by the Institutional Review Board at Mount Sinai Hospital.

Adherence of Patient-Controlled Analgesia Order Form on an Oncology Unit Tejal N. Patel, PharmD; Zahra Khudeira, PharmD, MA; Anna Liza Rodriguez, MSN, MHA, RN, OCN

Results

Demographics

- A total of 33 patients were identified by generating a pharmacy report on the use of PCAs. Patients on the oncology unit who male and 16 were female.
- 31 patients were African American, 1 was Hispanic, and 1 was Caucasian. • Most patients (40%) were being treated for pain related to a sickle cell crisis episode.

Parameter from standing order forn

Computer physician order entry

Documented pain assessment before PCA order initiated

Documented vital sign, pain score, sedation every 15 minutes x 2

Documented vital sign, pain score, sedation every two hours x 4

Documented vital sign, pain score, sedation every 4 hours

Adverse Event Documentation

Documentation of sedation scores

Documentation of respiratory depression

Documentation of pruritis

Documentation of treatment of adverse events

Discussion

- Analyzed data shows ineffective pain assessment by hospital staff.
- Data reveals only 45% documentation of pain scores for patients' prior to the initiation of the PCAs.
- Baseline data showed infrequent re-assessment during pain treatment via the pump. An adverse reaction (pruritis) was
- documented in one patient while diphenhydramine was administered in two patients.
- was 87.5%. The goal HCAHPS score for our hospital is to be at the 90th percentile.
- which was compromised of nurses and pharmacists.

Factors Leading to Poor Documentation



*Sinai Health Systems uses the Meditech software. The software has a hybrid computer physician order entry (CPOE). PCA's are currently entered into the meditech system using physician order management which is the software's system for CPOE.

Sinai Health System - Chicago, IL

received pain treatment though the use of PCA pumps were identified as participants of the chart review. Of these, 17 were

n	Percentage
	100%
	45%
	0%
	0%
	0%
	# of patients reported
	1
	1
	1
	1

• Of the patients evaluated, documentation at 15 minutes x 2, every 2 hours x 4, then every 4 hours thereafter was at 0%.

HCAHPS scores also demonstrated the need for improved pain management. The pain management score for the oncology unit

• There are many factors contributing to improper and suboptimal documentation for patients who are receiving PCA as detailed in the diagram below. These factors were delineated during multi-disciplinary meetings with the professional practice council,

Proposed Changes to Meditech Documentation ***PCA *** PCA Dose 1 Hour Lock Out Basal Rate Note: Total 24 hr amount autocalc on VSF ***Vital Signs*** T Source P Source B/P Source (i.e. 2L, RA- room air) Flowrate ***Pain Assessment*** Was Pain relief acceptable? Y/N Y/N What interventions was provided? Drop Down: 1. N/A 2. Nausea 2. Naloxone 3. Itching 3. Diphenhydramine 4. Sedation 5. Other (allow free text) 4. Ondansetron

MSH PCA Pain Assessment MSH Vital Signs PCA Pop-Up/PCA Flowsheet Pain Assessment Medication Syringe # Lock out Interval: Amount Infused since last assessment: # Demands since last assessment # Delivered since last assessment Temp Pulse Resp B/P SpO2 Sedation Score: Post treatment Pain Intensity (0= None, 10= Worst) If pain is not controlled, did you administer PCA Bolus Dose per Protocol? If yes- dose given: Side Effect: Drop Down: 1. None

• Our work is still in progress.

- Hyattsville, MD: 68-71.

- Practices: 2006; 1-12.
- 43(12); 960-964.

Tejal Patel: Nothing to disclose



Conclusions

• Preliminarily, we conclude that systematic plans for improvement will best involve broad and multifaceted changes in our approach to managing patients who receive PCA. The improvements utilized should incorporate the hospital information system, order form, policy, and staff education.

Future Plan

 Currently a multi-disciplinary effort involving nursing, information systems, physicians, and pharmacists is being implemented to address the gaps identified and effectively execute a collaborative plan to improve the delivery of PCA to patient, including the increase in documentation.

• Further plans include enhancements of the PCA order form, the documentation form (above), future electronic medical record changes, education for prescribers, nurses and pharmacists.

• A post implementation analysis will be performed to determine if the gaps were corrected.

References

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Disclosures

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