

The Evidence Is In: Nurse Initiated Pain Management Protocols Improve Patient Outcomes and Patient Flow

Presented By:

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Objectives

At the conclusion of the presentation participants will understand:

- How an Evidenced Based Practice project can lead to greater nurse/ physician collaboration in the Emergency Department with requests for more.
- That nurses can improve patient outcomes through implementation of innovative, patient centered nurse initiated protocols.
- That nurse initiated protocols improve patient flow in the Emergency Department.



EBP Journey

- When? Started October 2008
- Why? Because it's the right thing to do for our patients
- Who? ED Team Christina, Chary, Ben, Cydne, Brenda
- Partially funded by an Evidence Based Practice grant from the Gordon and Betty Moore Foundation

Initial Research



- Conducted literature research
- Parameters:
 - Minor musculoskeletal injuries
 - Emergency Department setting
 - Non-narcotic pharmacological interventions
 - Triage initiated protocols
 - Randomized controlled trials (RCT's) & double-blind (preferred)

Research Synthesis

Study	Design/Method	Sample	IV & DV	Outcome
Cukiernik, Warren, Seabrook, Matsui, & Rieder (2007)	RCT Double-blind	<ul style="list-style-type: none"> ➤ 8-14 yoa ➤ 80 pts ➤ ankle injuries 	IV1: Tylenol (15mg/kg) IV2: Naproxen (5mg/kg)	1. Improved outcomes in both intervention groups but no significant difference in efficacy of pain control between IV groups
Institute for Clinical Systems Improvement (ICSI) (2008)	Systematic Reviews			<ol style="list-style-type: none"> 1. Non-opioids should be considered initially 2. Tylenol & NSAIDs have opioid sparing properties
Schwartz, Turturro, Istvan, & Larkin (2000)	RCT Double-blind	<ul style="list-style-type: none"> ➤ 18-70 yoa ➤ acute musculoskeletal injuries < 48 hours 	IV1: 800mg Ibuprofen PO or 60mg IM IV2: placebo PO or IM DV: Pain	No difference in PO vs IM efficacy of NSAID in pain reduction
Viallon, Marjollet, Guyomarch, Robert, Berger, Navez, et al. (2007)	Prospective study	<ul style="list-style-type: none"> ➤ 517 pts ➤ osteoarticular injury ➤ < 4hours ➤ VAS > 30mm 	IV1: Tylenol 1000mg IV2: Immobilization DV: Pain level	69% had VAS < 30mm @ 60 min post IV1
Wong, Chan, Rainer, & Ying (2007)	Pre/post test control group	<ul style="list-style-type: none"> ➤ >18 yoa; ➤ 295 patients; ➤ minor musculoskeletal injuries of a single limb 	IV1: Tylenol at triage DV1: Pain @ triage & DC DV2: Time to receive analgesic	<ol style="list-style-type: none"> 1. ↓ VAS by 20 mm @ 60 min & DC vs. 10 mm in non-Tylenol group 2. Average time to receive analgesic 9 min for Tylenol group vs. 93 min non-intervention group
Woo, Man, Lam, & Rainer (2005)	RCT Double blind	<ul style="list-style-type: none"> ➤ > 16 yoa ➤ 300 pts. ➤ Musculoskeletal injuries 	IV1: Tylenol 1000mg IV2: Diclofenac 25mg IV3: Indomethacin 25mg IV4: Tylenol + Diclofenac DV: Pain level	Non-steroidal anti-inflammatory drugs alone or in combination with Tylenol did not show a significant benefit over Tylenol alone



Pain in the ED

A review of the literature showed:

- Minor musculoskeletal injuries are:
 - the most common presenting complaint
 - affect all age-groups
- Patients experience:
 - longer wait times
 - insufficiently addressed pain

Research Results cont.

- Non-opiate analgesics are effective
- Type of meds: Ibuprofen & Acetaminophen
- Dosage for children & adults
- Inclusion & exclusion criteria



PICO QUESTION



- In ED patients 13 years and older with closed distal extremity injuries, will a nurse initiated non-narcotic medication pain protocol, compared to pain treatment deferred until seen by ED physicians decrease the patient's pain scale within 60 minutes of triage?



Standardized Procedure

- Revised Standardized Procedure for Musculoskeletal Injury Pain NIP
- Submitted to:
 - ED services
 - Critical Care Committee
 - Interdisciplinary Care Committee
 - Medical Executive Committee
 - Board of Directors



IRB Approval

- Required because of EBP project related to dissemination of results
 - Couldn't go to IRB until the Standardized Procedure approved by all committees.

Staff Education

- Change of shift
- Staff Meetings
- Flyers /Posters



Create Order Set in EDIS

The screenshot displays the EDIS software interface. At the top, the patient's name is 'pain : in Waiting'. Below this, there are fields for 'Attend: PHCP: Nurse:' and 'Allg: (Nothing Entered) PMHx: (Nothing Entered)'. The main window has several tabs: 'Registration', 'Orders', 'Disposition', 'Documents', 'Attachments', and 'Events'. The 'Orders' tab is active, showing a search bar and a table of 'Selected Orders'.

Order	Status	Time
Acetaminophen 1000 mg PO once	Ordered	11:43
Ibuprofen 600 mg PO once	Ordered	11:43

The interface also includes a sidebar with various icons and a taskbar at the bottom with several open applications like Microsoft Outlook and PowerPoint.



Mitigate Operational Barriers

- Anti-inflammatory medications need to be readily available.
- Collaborated with pharmacy to make medications available at Triage.
 - *Pill container and log sheets*
- *Plan for positive feedback to early adopters*

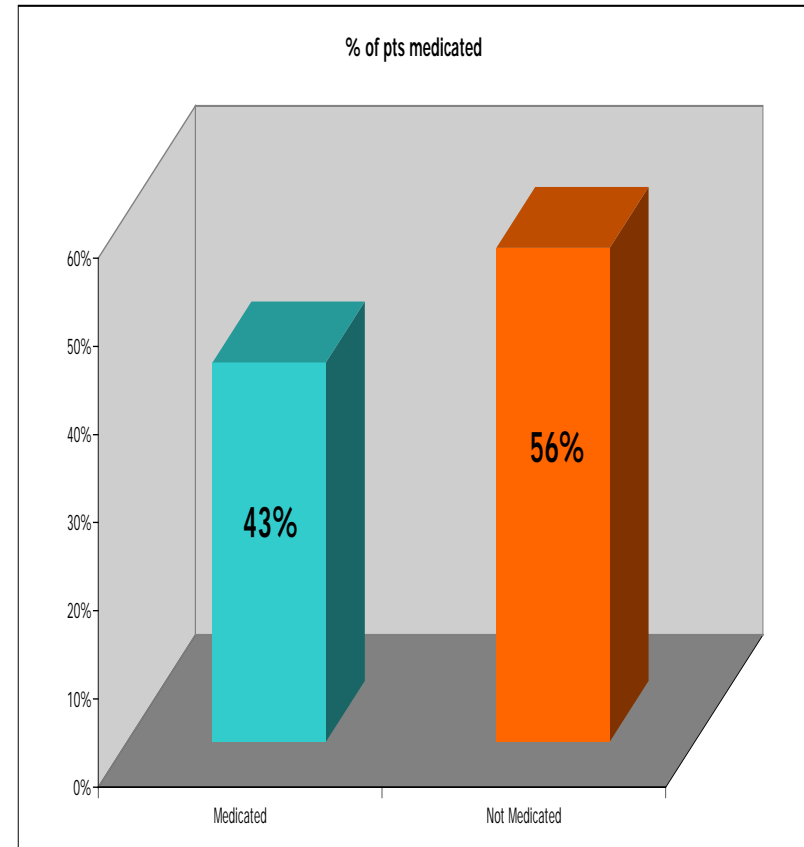


Plan for Data Collection

- Developed a report in EDIS
 - Sorted by chief complaint
 - Reviewed for inclusion criteria
- Data entered in excel spreadsheet

Pre Implementation Data

- Retrospective chart review (May 2009)
- Total charts N=99
 - 53 patients meet inclusion criteria
 - 23 (43%) medicated
 - 6 non-narcotics
 - 17 narcotics
 - 30 (56%) not medicated





Pre Implementation Data

- Non-Opiate (n=6)

- Pain score @ triage: 7.3

- Time to med: 46 min.

- Pain score after 60 minutes: 2.8

- LOS: 120 min

- Opiate (n=17)

- Pain score @ triage: 7.9

- Time to med: 49 min.

- Ave. pain score after 60 min.: 4.6

- LOS: 124 min.



Post Implementation

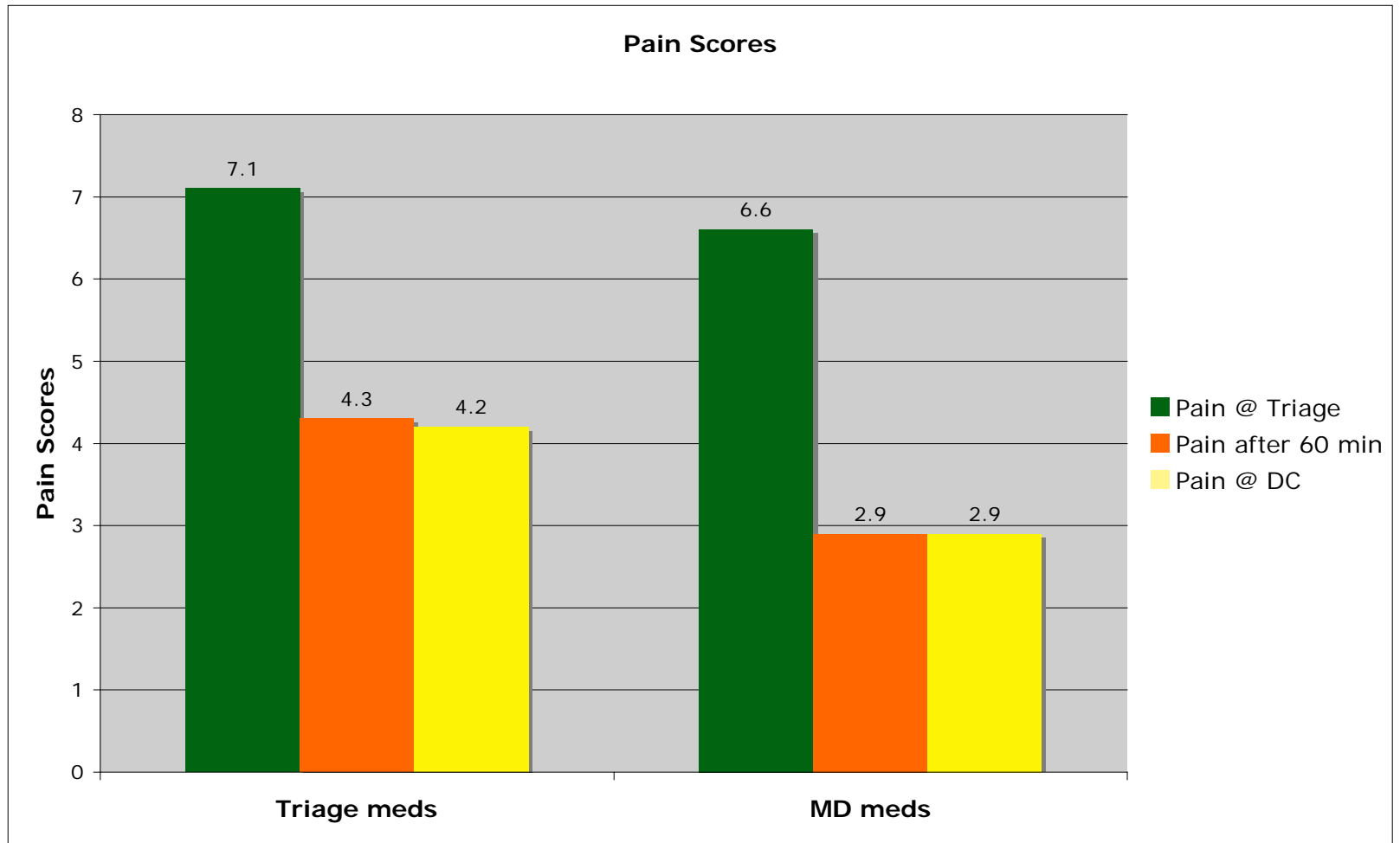
- Time frame: 6/25-07/31/2009
- N=90 eligible patients
- Total of 67 (74%) pts received pain meds during ED visit
- 22 (24%) pts received no medications during ED visit



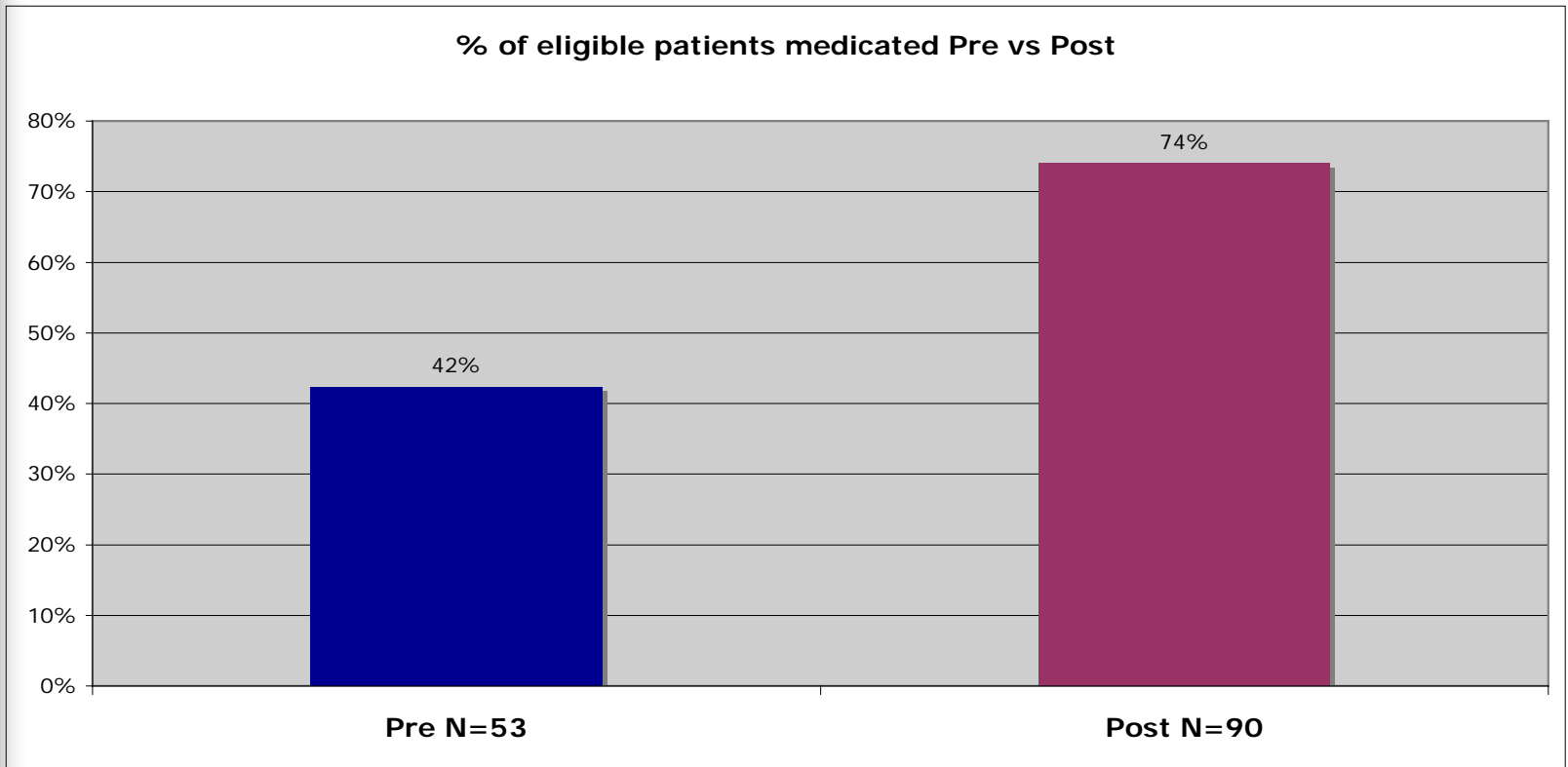
Post Analysis

- 40 (44%) pts. medicated in triage
 - 16 (40%) received additional meds by MD
- 27 (30%) pts. medicated by MD
 - 11 (40%) non-narcotics
 - 16 (59%) received narcotics
- 1 pt declined medication in triage

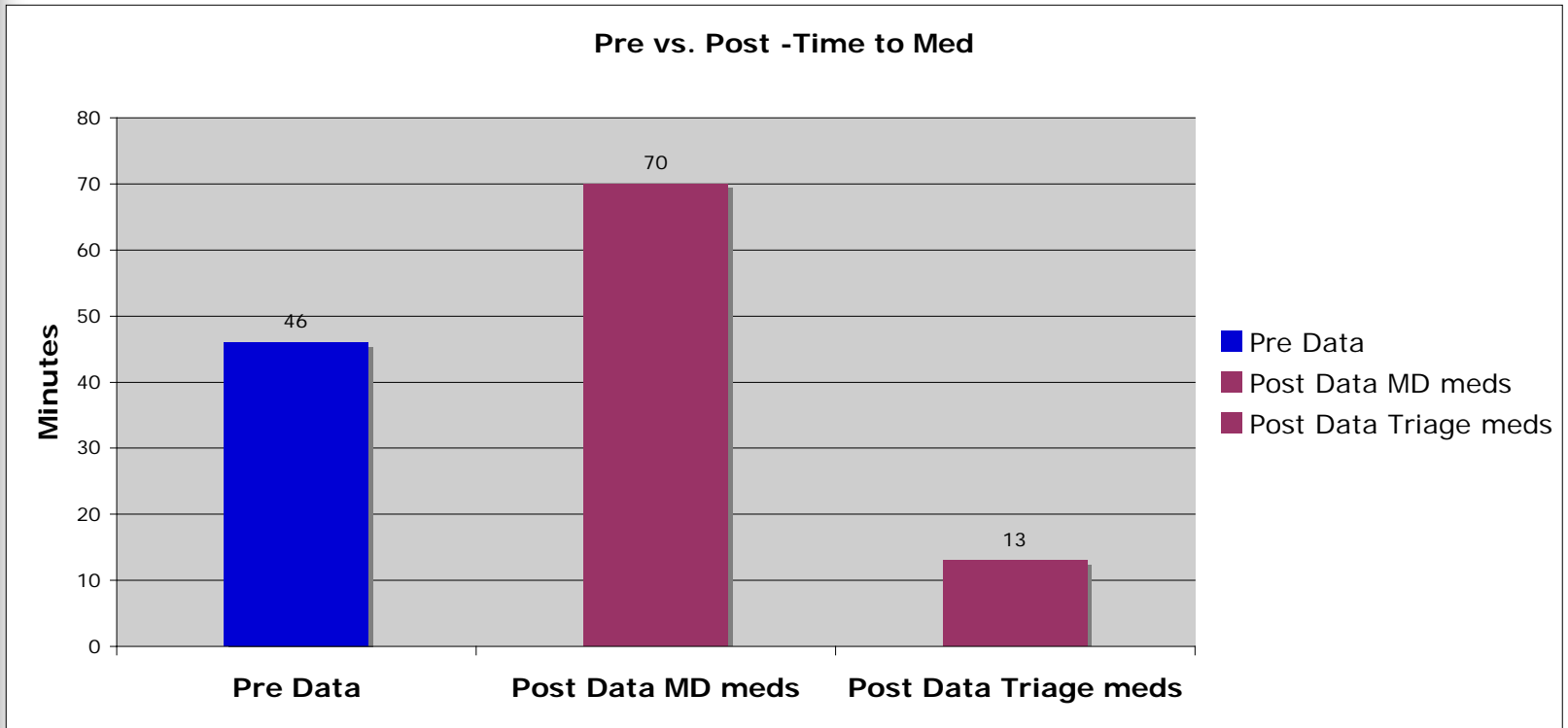
Post Data Analysis-Pain Scores



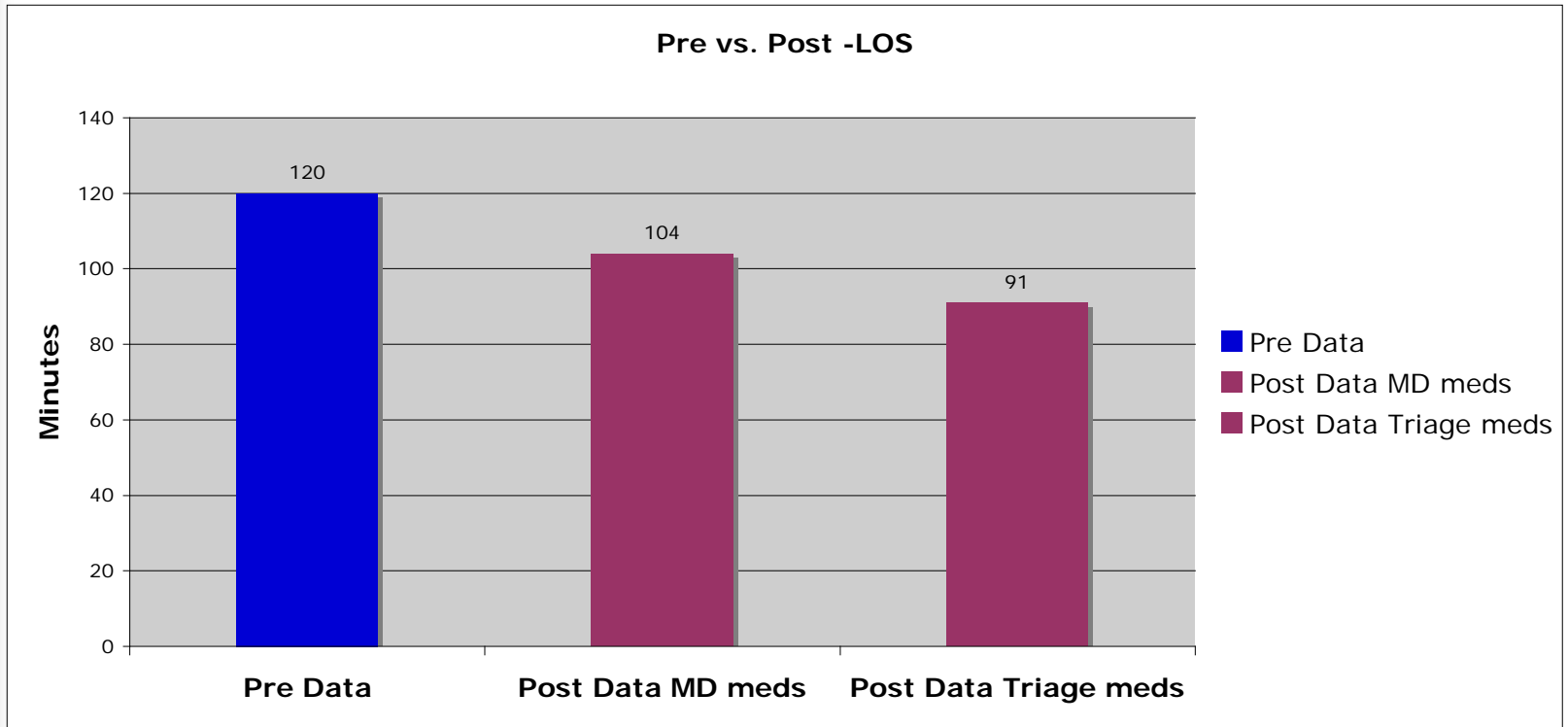
Pre vs. Post- % of Medicated pts.



Pre vs. Post cont.-Time to Med



Pre vs. Post cont.-LOS



Lessons Learned

- Nursing interventions make a difference
 - ↑ % of pts receiving pharmacological pain interventions (increased collaboration with EDMDs)
 - ↓ Time to Med
 - ↓ LOS
 - ↓ Pain Score





More Lessons Learned

- Staff education essential for success
- Begin with the end in mind: the approval process can be lengthy!



Dissemination of Results

- Magnet Blitz session
- Shared Governance
- ED docs
- ED skill day

Remember the PICO Question?

- In ED patients 13 years and older with closed distal extremity injuries, will a nurse initiated non-narcotic medication pain protocol, compared to pain treatment deferred until seen by ED physicians decrease the patient's pain scale within 60 minutes of triage?

Answer: Yes !!!



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Questions

