

Acute on chronic pain management Where do we start?

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Overview

- 1. Identify the problem**
- 2. Discussion : What happens at your institution?**
- 3. TWH process and tools**
- 4. Preliminary outcomes**

The problem - patient

- ✦ Survey of 2012 adult Canadians - 29% reported chronic non-cancer pain (Moulin et al., 2002)
- ✦ 3-19% of chronic pain patients have an addictive disorder (Fishbain, Rosomoff, & Rosomoff, 1992)
- ✦ Increased incidence of opioid tolerant patients presenting for surgery (Bell, 1997; Mitra & Sinatra, 2004)
- ✦ ↑ risk of complications
- ✦ ↑ length of stay
- ✦ ↓ mobility
- ✦ ↓ patient satisfaction

The problem - patient

- ✚ **Associated psychological disorders**
- ✚ **Drug-specific adaptations – tolerance, physical dependence, withdrawal**

or described in terms of such damage.”¹ In settings where pain is poorly controlled, patients suffer needlessly and may develop untoward emotional and cognitive responses that negatively affect behavior, rehabilitation, and quality of life. Providing rapid and effective

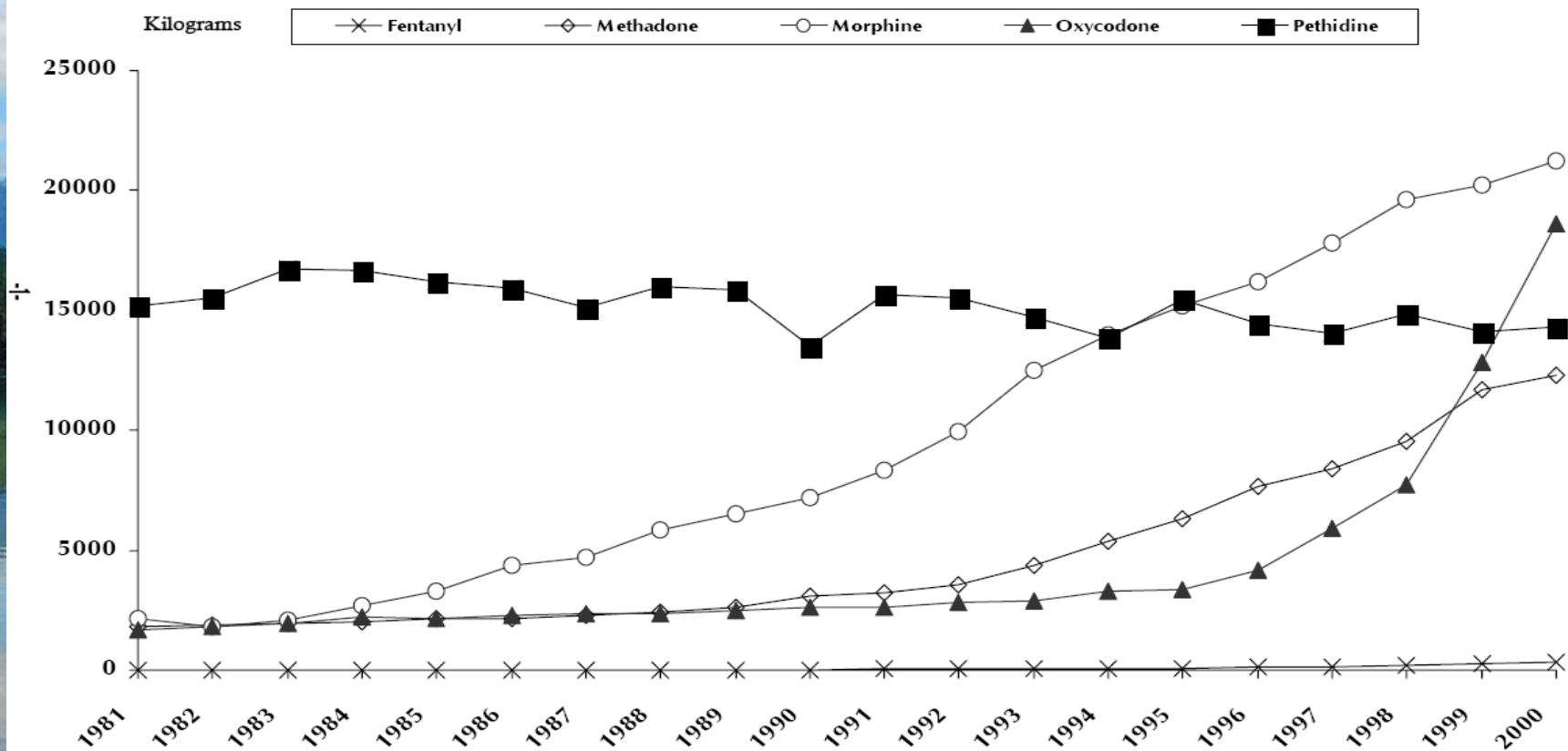
Mitra & Sinatra, 2004

OPIOID ANALGESICS

TRENDS, GUIDELINES, RESOURCES

Global Consumption of Opioid Analgesics

1981 - 2000



Source: International Narcotics Control Board

com



■ REVIEW ARTICLE

David C. Warltier, M.D., Ph.D., Editor

Anesthesiology 2004; 101:212-27

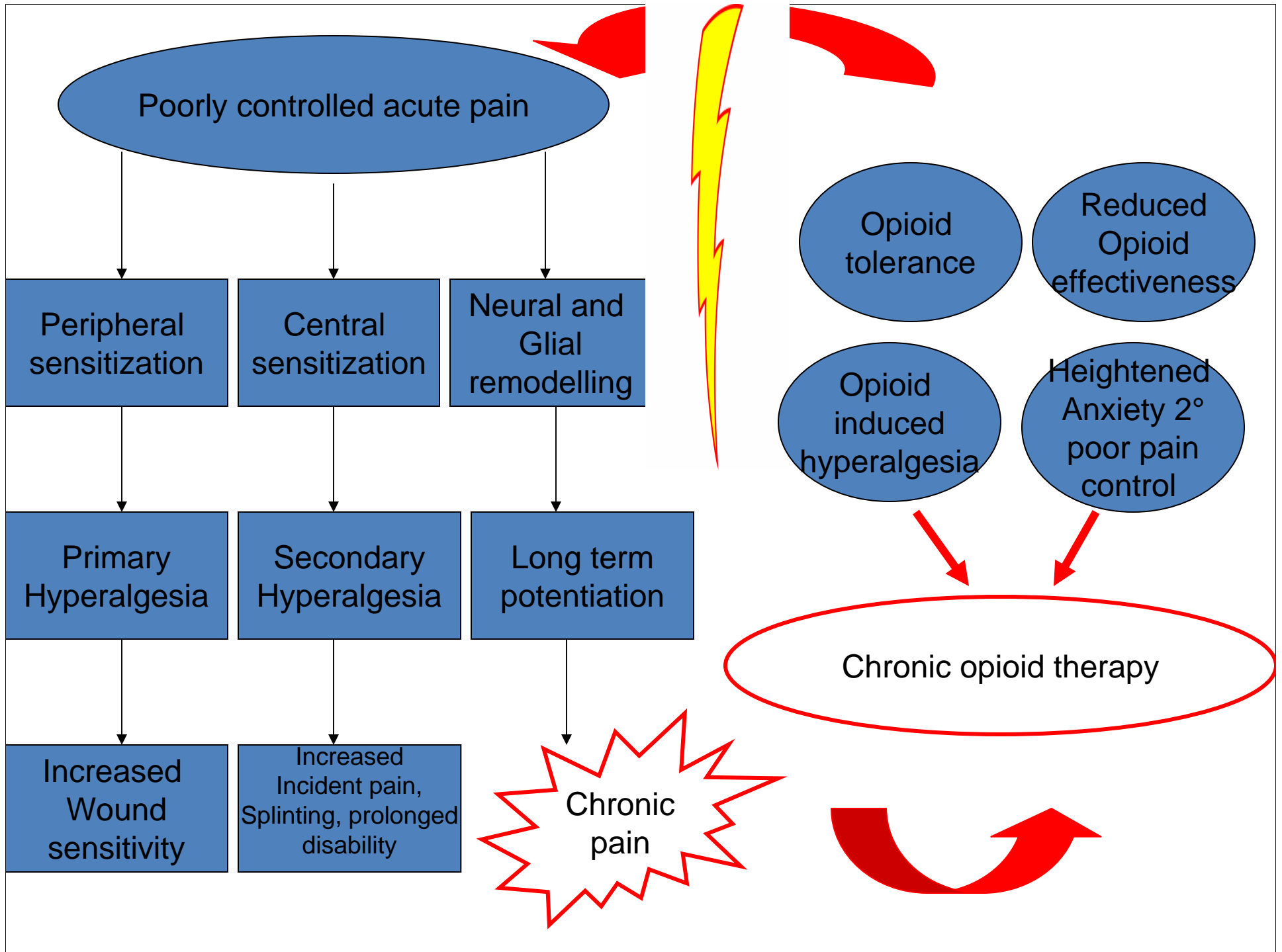
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Perioperative Management of Acute Pain in the Opioid-dependent Patient

Sukanya Mitra, M.D., Raymond S. Sinatra, M.D., Ph.D.†*

lignancy-associated pain. Perioperative management of opioid-dependent patients poses a special challenge to primary caregivers, anesthesiologists, and pain specialists alike. This problem emanates from the often-conflict-





Why we started to manage 'at risk' patients pre op:

- # Patients with hx chronic opioid treatment undergoing surgery were receiving inadequate amounts of analgesia intraop and postop
- # Their 1st post op night was often spent in excruciating pain
- # The next several days were spent trying to make up for this opioid debt

The problem Health care provider

“Perioperative management of opioid-dependent patients is not discussed in any major anesthesiology textbook” (Mitra & Sinatra, 2004)

The problem

Health care provider

- ✦ Widespread lack of knowledge/education re pain management best practices
- ✦ What about the pain management 'experts'?
 - Short staffing of anesthesiologists and nurses
 - Significant # anesthesiologists not knowledgeable or interested in acute-on-chronic pain assessment or management
 - APS Advanced practice nurses not available at all centers

The problem Health care system

- # Lack of process to identify these patients and address their unique needs
- # Lack of resources
 - # Time constraints
 - # Human resource shortage
- # Who is responsible ?
- # Lack of accountability

Ms. B.

- + 38 year old

- + History of:

- Kyphoscoliosis – result of MVA
- Restrictive lung disease
- IDDM
- Left leg weakness
- Multiple allergies

- + C5 to T12 fusion and instrumentation

Ms. B.

- ✚ 8th spinal surgery
- ✚ 2-stage revision – i.e. 2 surgeries during 1 admission
- ✚ Opioid tolerant
- ✚ Allergic to Amitriptylline and Gabapentin
- ✚ Difficult intubation - remain intubated and go to ICU post-op

Assessment

Anesthesia Pre-admit consult:

- Oxycontin 80 mg TID
- Oxy IR 20mg po prn
- Morphine
~180mg/day

APS Pre-admit consult:

- Oxycontin 160 mg
BID + 80-160 mg in
pm
- Oxy IR 20 mg 1-2
tabs/day
- Morphine 20mg IM
6-8x /day

2.5 X difference in morphine equivalents

Discussion



Case # 1

- + What do you see as challenges for this patient?
- + What needs to be taken into consideration?
- + What are some options that would be used in your institution?

Intra-op Management

- 1st OR – 8 hours
 - Fentanyl – 250 mcg – intermittent doses
 - Morphine – 70 mg – intermittent doses (incl. 10mg 30 minutes before end of case)
 - Remifentanil infusion
- 2nd OR: - 3 ½ hours
 - Fentanyl 250 mcg – on induction
 - Morphine 50 mg – intermittent doses

ICU

- + Morphine infusion 10-15mg/hr overnight after 1st OR
- + Morphine infusion 10-20 mg/hr after 2nd OR
- + Continuous Propofol infusion

Discussion



Discussion

- + What were the actual opioid requirements based on pre-op opioid use?
- + Was Remifentanil a good option for this patient?
- + Opioid-induced hyperalgesia?
- + What about ketamine?

Opioid Induced Hyperalgesia



PAIN

Clinical Updates

INTERNATIONAL ASSOCIATION FOR THE STUDY OF PAIN®

ance (or disease progression), best overcome by dose escalation. More recently,
it has been recognized that opioids can also activate a pronociceptive mechanism
resulting in heightened pain sensitivity or opioid-induced hyperalgesia (OIH).

Ketamine

Anesthesiology 2005; 103:147-55

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Remifentanil-induced Postoperative Hyperalgesia and Its Prevention with Small-dose Ketamine

Conclusion: A relatively large dose of intraoperative remifentanil triggers postoperative secondary hyperalgesia. Remifentanil-induced hyperalgesia was prevented by small-dose ketamine, implicating an N-methyl-D-aspartate pain-facilitator process.



Post-op Course

- ✚ Morphine 10mg/hr in ICU
- ✚ Infusion increased to 40mg/hour in ICU after Propofol discontinued and patient extubated
- ✚ Changed to Dilaudid 8-12mg/hr
- ✚ Patient continually rated pain as 10/10 until POD #4 (decreased to 8/10)

Process

- ✚ Identify the problem
- ✚ Identify stakeholders
 - anesthesia
 - Pre-admit department
- ✚ Develop a tool
- ✚ Implementation
- ✚ Evaluation of tool and process

Our “Solution”

- # Identify and assess the opioid tolerant patient pre-op
- # Discuss and develop a peri-operative pain management plan with the patient in consultation with anesthesia
- # Communicate with the anesthesiologist on day of surgery to ensure appropriate opioids ordered post op
- # Communicate with resident on evening of surgery and provide suggestions for management issues overnight
- # APS follows patient until stable on oral medications

American Society of Anesthesiologists – Practice Guidelines

II. Preoperative Evaluation of the Patient

Preoperative patient evaluation and planning is integral to perioperative pain management. Proactive individualized planning is an anticipatory strategy for postoperative analgesia that integrates pain management into the perioperative care of patients. Patient factors to consider in formulating a plan include type of surgery, expected severity of postoperative pain, underlying medical conditions (e.g., presence of respiratory or cardiac disease, allergies), the risk-benefit ratio for the available techniques, and a patient's preferences or previous experience with pain. Although the literature is silent regarding the value of a preoperative directed pain history, a directed physical examination, or consultations with other healthcare providers, the Task Force points out the obvious value of these activities.

Recommendations. A directed pain history, a directed physical examination, and a pain control plan should be included in the anesthetic preoperative evaluation.



III. Preoperative Preparation of the Patient

Preoperative patient preparation includes (1) adjustment or continuation of medications whose sudden cessation may provoke a withdrawal syndrome, (2) treatment(s) to reduce preexisting pain and anxiety, (3) premedication(s) prior to surgery as part of a multimodal analgesic pain management program, and (4) patient and family education (including behavioral pain control techniques).

There is insufficient literature to evaluate the impact of preoperative adjustment or continuation of medications whose sudden cessation may provoke an abstinence syndrome. Similarly, there is insufficient literature to evaluate the efficacy of the preoperative initiation of treatment(s) either to reduce preexisting pain, or as part of a multimodal analgesic pain management program. The literature supports patient education for reducing anxiety and decreasing time to discharge. The literature is equivocal regarding the impact of patient education on the direct reduction of patients' pain, but indicates that lower total dosages of analgesics are used by patients receiving preoperative education.

The Task Force supports patient and family education and participation in perioperative pain control for promoting patient comfort and well-being.

Recommendations. Patient preparation for perioperative pain management should include appropriate adjustments or continuation of medications to avert an abstinence syndrome, treatment of preexistent pain, or



DOES YOUR PATIENT REQUIRE AN APS REFERRAL?

If your patient is taking the following medications, please contact the Acute Pain Service for a referral.

Any dose of:

➤ Methadone

➤ Fentanyl/Duragesic
Patch

➤ Recreational Drugs

AND/OR

➤ Oxycontin > 30mg/24hrs

➤ MEslon/MS Contin > 30mg/24hrs

➤ Hydromorphone Contin > 9mg/24 hrs

➤ Oxy IR/Oxycodone > 50mg/24 hrs

➤ Percocet/Oxycocet > 10 tabs/24 hrs

➤ Statex/Morphine > 50mg/24 hrs

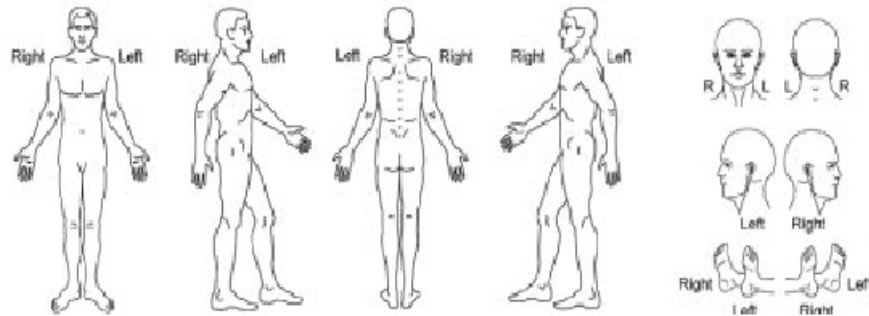
➤ Dilaudid/Hydromorphone > 9 mg/24
hrs

PRE-OPERATIVE PAIN CONSULT

Addressograph _____

OR DATE /SURGERY: _____ PRE-ADMIT CLINIC DATE: _____

A) PAIN ASSESSMENT Mark Location: Numbness (o) Weakness (x) Pain (+)



Intensity	Pain A	Pain B	Pain C	Other
Present				
Worst				
Least				
Quality				

B) MEDICAL HISTORY

Prior chronic pain diagnosis (list): _____

Smoking/Alcohol/Recreational Drugs (list): _____

	Mild	Mod.	Severe	
Depression / Anxiety?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Insomnia / Rx's?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
Constipation / Rx's?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____
		Yes	No	
Difficulty with Urination?		<input type="checkbox"/>	<input type="checkbox"/>	_____
Post-Op Normal / Vomiting History?		<input type="checkbox"/>	<input type="checkbox"/>	_____
Peptic Ulcer Disease?		<input type="checkbox"/>	<input type="checkbox"/>	_____

C) MEDICATION HISTORY

Current Medications	Dose/Frequency
Previous Pain Medications Tried	Reason Stopped / Max Daily Dose

D) SUGGESTIONS FOR PERIOPERATIVE PAIN MANAGEMENT

PRE - OP	POST - OP
<input type="checkbox"/> Patient advised to take on morning of OR (with <u>small sips</u> water): _____ _____ _____ Written as pre-op medication on paper Dr's Order Sheet to be given 1 hour prior to OR: <input type="checkbox"/> Acetaminophen _____ mg x 1 PO <input type="checkbox"/> Gabapentin _____ mg x 1 PO <input type="checkbox"/> Other _____ x 1 PO <input type="checkbox"/> Other _____ <input type="checkbox"/> Other _____	IV PCA: <input type="checkbox"/> Morphine – standard dose <input type="checkbox"/> Dilaudid – standard dose <input type="checkbox"/> Morphine – high dose 4 hr limit? <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Dilaudid – high dose 4 hr limit? <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Acetaminophen _____ mg po QID x 20 then q6h prn <input type="checkbox"/> Gabapentin _____ mg TID <input type="checkbox"/> Other _____ <input type="checkbox"/> Other _____ <input type="checkbox"/> Other _____

1. Patient's usual pharmacy: _____
2. Outpatient prescribing physician for pain meds: _____

Other comments or patient requests: _____

Assesment completed by: _____

Discussed with: _____ Date: _____





University Health Network
 Toronto General Hospital Toronto Western Hospital Princess Margaret Hospital

Doctor's Order Sheet

REVISED

2:17 pm, Sep 18, 2007

Anesthesia Pre-Operative Orders

Addressograph

PLEASE USE BLACK OR BLUE BALLPOINT PEN, PRESS FIRMLY

ALLERGIES:

NO KNOWN ALLERGIES

KNOWN ALLERGIES (Specify)

PHYSICIAN'S ORDER AND SIGNATURE

SIGNATURE(S) AND POSITION ACTION TAKEN PHARMACY

(Check appropriate box(es) and complete orders as required)

IV THERAPY:

Start IV with _____ gauge needle _____ at _____ mL/hr
 (solution) (rate)

PRE-OPERATIVE MEDICATIONS

To be taken 60 to 90 minutes pre-operatively with 30 ml of water

NSAID: (choose one of the following if appropriate)

- Celecoxib (Celebrex®) 200 mg PO x 1 (age 70 or above) **Do not prescribe Celecoxib if patient allergic to sulfa**
- Celecoxib (Celebrex®) 400 mg PO x 1 (below age 70)
- Meloxicam (Mobicox®) 7.5 mg PO x 1 (age 70 or above)
- Meloxicam (Mobicox®) 15 mg PO x 1 (below age 70)
- Ibuprofen 200 mg PO x 1 (age 70 or above)
- Ibuprofen 400 mg PO x 1 (below age 70)
- Naproxen (Naprosyn®) 250 mg PO x 1 (age 70 or above)
- Naproxen (Naprosyn®) 500 mg PO x 1 (below age 70)

ACETAMINOPHEN: (choose one of the following if appropriate)

- Acetaminophen 650 mg PO x 1 (age 70 or above)
- Acetaminophen 1000 mg PO x 1 (below age 70)

ADJUNCTS: (choose one of the following if appropriate)

- Gabapentin (Neurontin®) 300 mg PO x 1 (age 70 or above)
- Gabapentin (Neurontin®) 600 mg PO x 1 (below age 70)
- Gabapentin (Neurontin®) _____ mg PO x 1

OPIOIDS: (choose one of the following if appropriate)

- Oxycodone CR (Oxycontin®) _____ mg PO x 1
- Hydromorphone CR (Hydromorph Contin®) _____ mg PO x 1
- Morphine CR (MESlon®) _____ mg PO x 1
- Acetaminophen 325 mg and Oxycodone 5 mg (Percocet®) _____ tabs PO x 1
- Patient has been instructed to take long acting opioids on morning of surgery.
Note: Call anesthesiologist for orders if patient has **not** taken a pre-operative dose

OTHER ORDERS:

- Sodium Citrate 30 mls PO x 1 in Pre-Operatively
- Sedative _____



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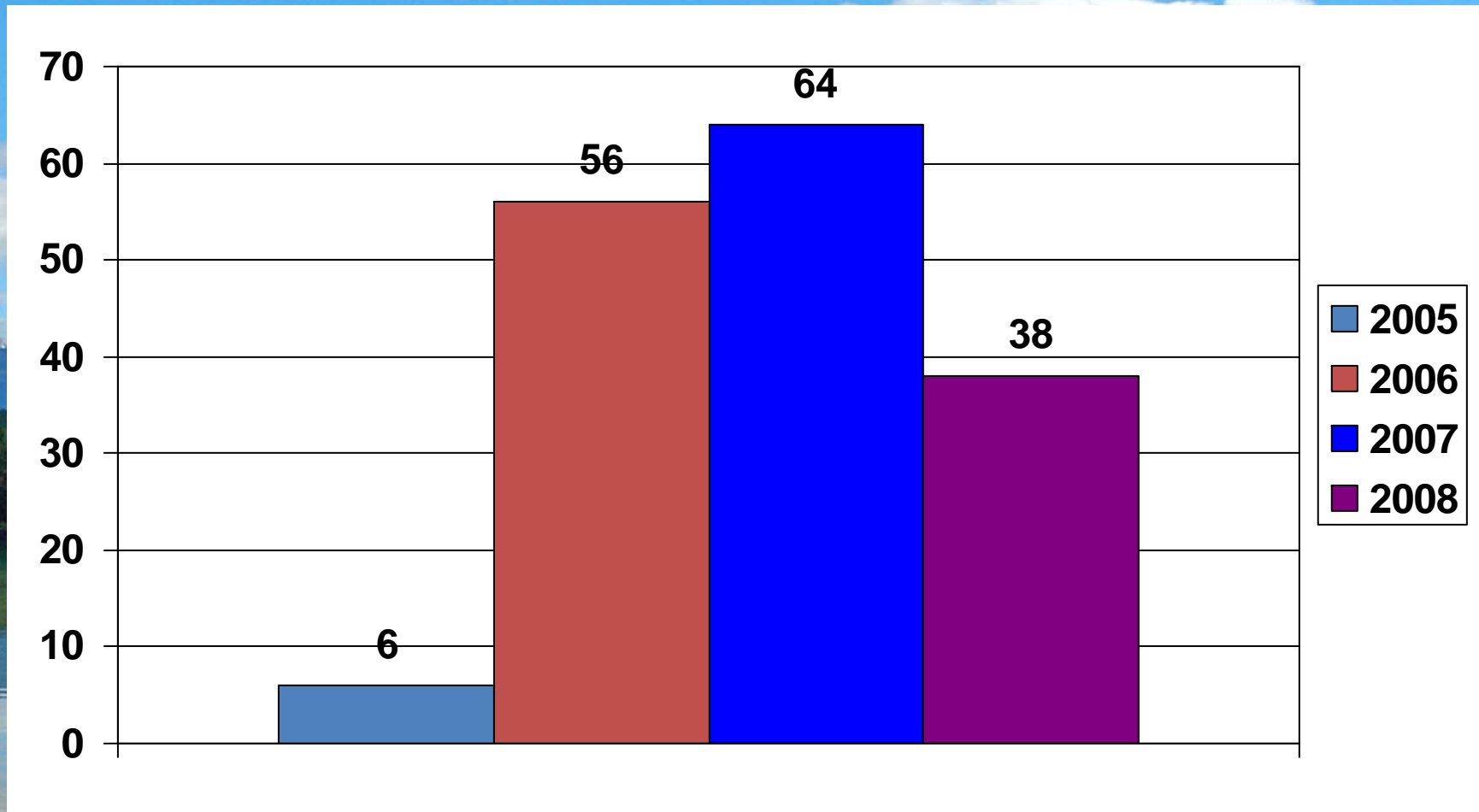
TWH process - Then

- ✚ APS APN sees patient, completes form, consults with anesthesia and devises plan of care – pre, intra and post-op
- ✚ On day of surgery, APN discusses case with anesthesiologist in room
- ✚ Patient followed post-op by APS

TWH process - Now

- # APS APN sees patient in pre-admit – advises on pre-op medication
- # No plan of care developed
- # Day of surgery, APS physician discusses plan of care with anesthesiologist
- # Patient followed by APS after surgery

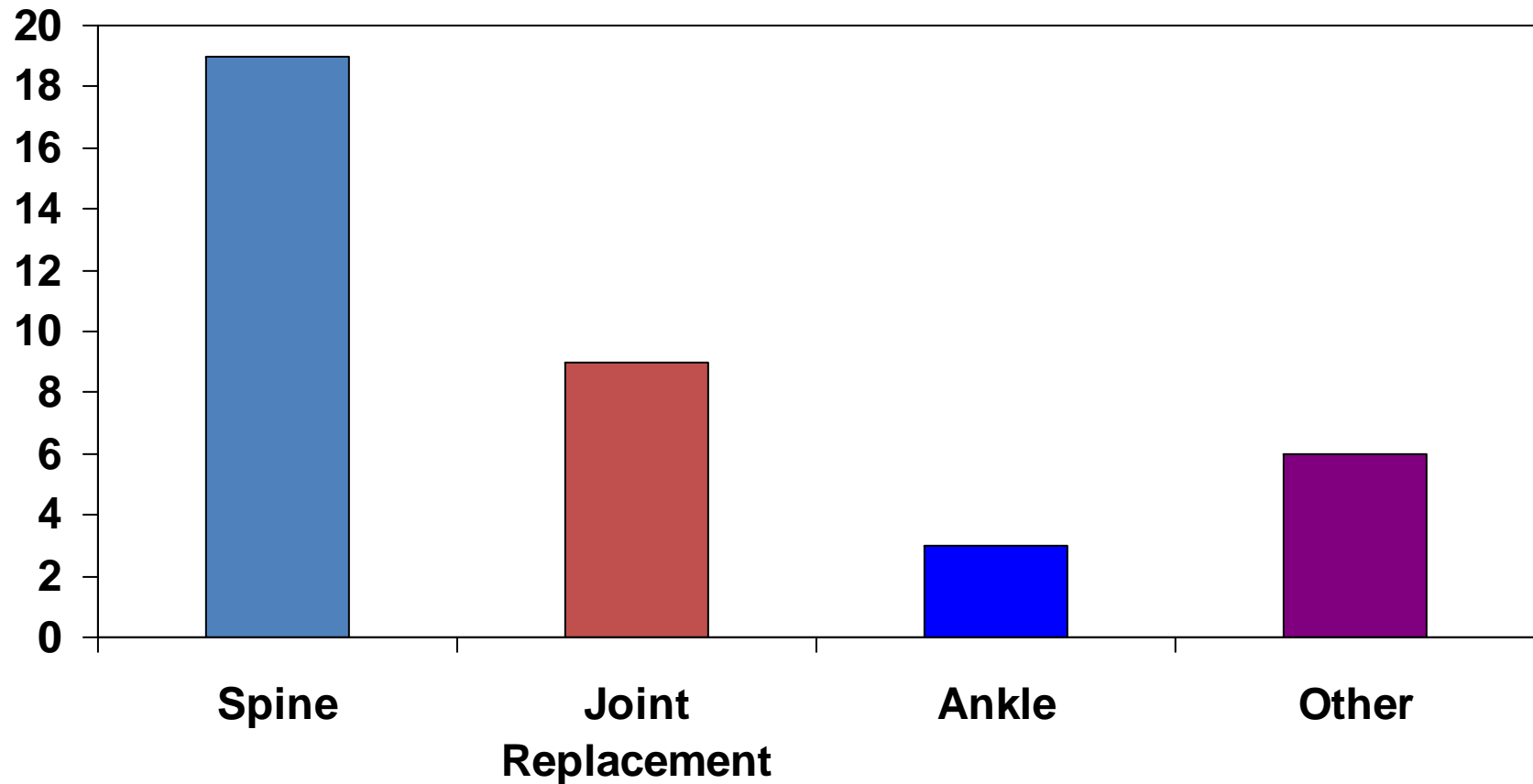
Patients seen Pre-op



January – April 2008

- # of patients seen – 38
- Average # of pain sites – 2.3
- Average Pain Score – 5.6 (range 1.5-10)
- Average daily oral morphine equivalents – 396 mg (range 0-1610mg)

Type of Surgery (Jan – April 08)



Barriers - Patient

- # Expectations not realistic
- # Patients don't take pre-op opioid dose
- # Opioid use not fully disclosed or wrong doses given
- # Patient unable to take oral opioids/and or methadone post op due to tracheal intubation

Barriers – Health Care Provider(s)

- ✚ APS not notified by pre-admit
- ✚ Adequate analgesia not provided intra-op
- ✚ Fear that opioid doses are “too much”
- ✚ “plan” not followed through

I'm supposed to do it!

No, I am!



Who is best suited to conduct a pre-op pain assessment?

- Anesthesiologist
- Acute Pain Service
- Advance Practice Nurse/Nurse Practitioner
- Pharmacist
- Another HCP?

Barriers – Health care system

- ✦ Cases postponed and APS not aware when patient has been rescheduled
- ✦ Lack of resources
 - unable to follow up in community
 - Screening for substance dependence vs. substance abuse
- ✦ Poor collaboration with multidisciplinary team
- ✦ Patients rely on family physicians for opioid prescription and titration

Facilitators

- ✚ Pre admit nurses
- ✚ Clinical Nurse Specialist
- ✚ Anesthesia
- ✚ Patients
- ✚ Nursing leadership

Future?

- ✚ How do we move towards a truly collaborative, cohesive interdisciplinary team approach to pre, intra and post-op pain management of at risk populations?
- ✚ How do we best form links with community physicians to provide long-term continuity of care?



Study

- Quality Initiative funded by the Krembil Nursing Awards
- Patient satisfaction with APN pre-admission pain clinic visit
- Assess whether expectations for post-op pain control met
- Suggestions for improvement

Preliminary outcomes

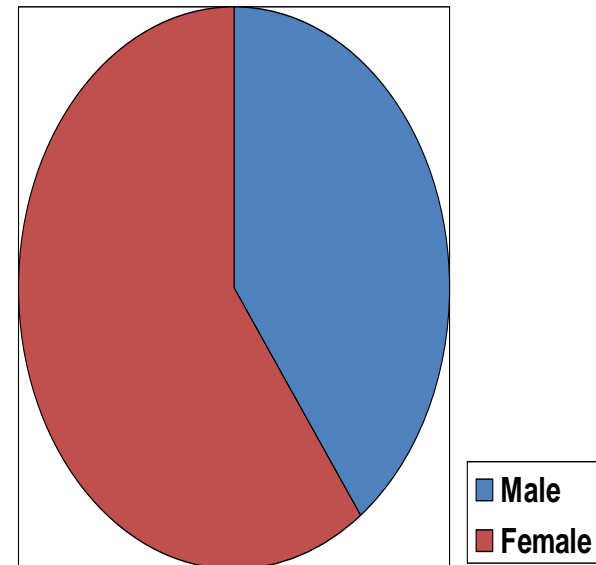
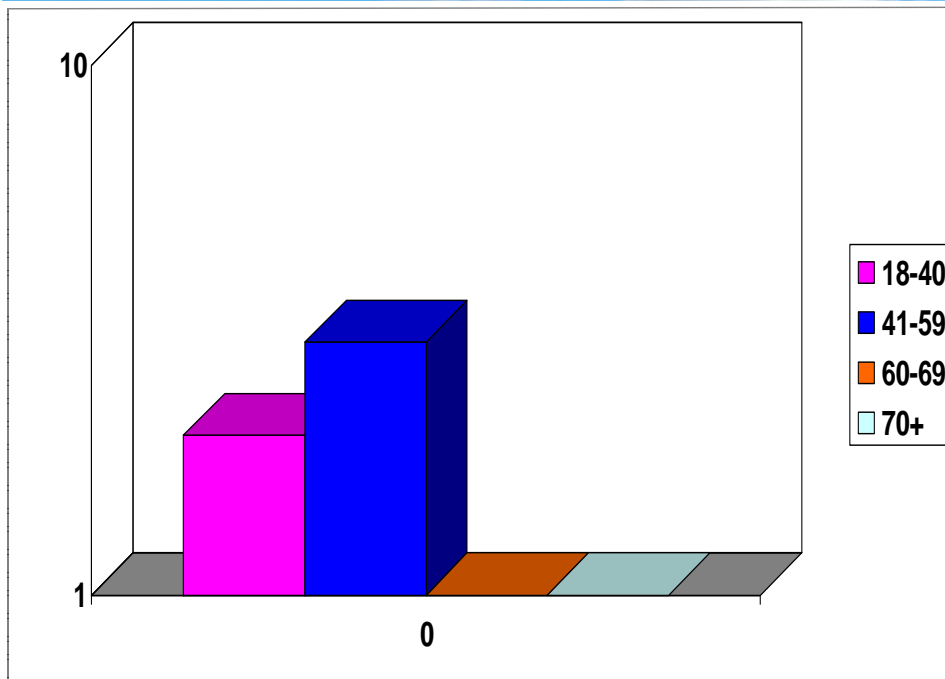


Preliminary Outcomes

N=5

Age

Gender



Preliminary Outcomes

How **helpful** was it for you to meet and talk about your pain and pain treatment with the Pain Service nurse in Pre-Admit clinic before surgery?

0 1 2 3 4 5 6 7 8 9 10

not helpful

very helpful

Preliminary Outcomes

After you spoke to the Pain Service nurse in the Pre-admit clinic, what did you **expect** your pain would be like **after your surgery?**

- I expected I would have no pain at all after my surgery
- I expected I would have pain that would be manageable after my surgery
- I expected I would have uncontrolled, severe pain after my surgery
- I did not know what to expect

Preliminary Outcomes

How happy are you with your pain management after your surgery?

0 1 2 3 4 5 6 7 8 9 10
not happy very happy

Comments

- “It really relieved me to know that the team realized that I have chronic pain for a very long time...They would listen to me and work from there extremely settled my nerves”
- “My expectations ...were outmatched by the actual experience. ...the actual management of pain and the people involved in the process were outstanding”

Comments

“In my case I use the scale like this

0 no pain

1 no pain or very occasional twinge

2 Occasional twinge

3 Barely noticeable pain

4 Moderate pain but not a problem

8 no longer carry on conversation due to pain

9 Worst I have experienced

10 Worst pain imaginable”

Summary

- ✚ To optimize outcomes for this high risk population, interdisciplinary collaboration is imperative
- ✚ A directed pain history, a directed physical examination and a pain control plan should be included in the anesthetic pre-operative evaluation Anesthesiology, 2004 (emphasis added)
- ✚ A discussion about patient expectations and pain management options is critical

Summary

- ✚ **Pain management as a human right is a moral imperative that will help medicine return to its humanist roots...**
- ✚ **However, simply recognizing pain relief as a human right without making the changes necessary to provide appropriate treatment for patients in pain will only foster an illusion of care that can fuel unrealistic expectations and discontent among physicians and patients.** (Anesthesia & Analgesia, 2007)

THE END!

