



Best Practices in Inpatient Pain Medicine



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Disclosures



- Paid speaker for the Colorado Consortium for Prescription Drug Abuse Prevention.
 - Lecture on Non-Opioid Pain Management
 - Admittedly & shamefully brainwashed...

Objectives



- Present needs for and results of education program on narcotic rescues & patient satisfaction.
- Discuss psychological aspects of pain and satisfaction.
- Discuss evidence-based and safe management of difficult acute & post-op pain patients.
- Discuss pain management in patients with medical comorbidities.
- Review medications available to treat pain.

Pain HCAHPS



- From 2009 to 2014 the rate of opioid-related inpatient stays increased by 48.2% in Colorado and 23.8% nationally (up to 135.7/100,000 population & 224.6/100,000 population, respectively in 2014).
 - Weiss, et al. **Opioid-Related Inpatient Stays and Emergency Department Visits by State, 2009-2014**. Hospital Cost & Utilization Project. December 2016 (Revised January 2017)
- **What are the pain HCAHPS questions patients are asked after discharge (new in Jan., 2018)?**
 - 1) During this hospital stay, did you have any pain?
 - 2) During this hospital stay, how often did hospital staff talk with you about how much pain you had?
 - 3) During this hospital stay, how often did hospital staff talk with you about how to treat your pain?
 - Never
 - Sometimes
 - Usually
 - Always = High satisfaction – “Top box”
- Revised pain questions are anticipated to be included again in the VBP reimbursement model in 2019, but nothing specific or indicated currently...

What is the need?



- Nurses do not get sufficient training in pain management.
- This study examined the “know attitudes”, and clinical practice of registered nurses ($N = 120$) regarding pain management. Data was collected from nine varied clinical units in a large, university-affiliated teaching hospital in an urban area of the Northeast. Demographic information was also collected to explore the relationship between nurses' characteristics, including previous pain education, clinical experience, area of clinical practice (and other variables), knowledge, attitudes and clinical practice... **Mean scores from the nursing knowledge and attitudes survey on pain revealed knowledge deficits and inconsistent responses in many areas related to pain management (mean, 62%; range, 41%–90%).** The top two nurse-ranked barriers to pain management were related to patient reluctance to report pain and to take opioids for pain relief. **Demographic data revealed that education about pain was most inadequate in the following areas: non-pharmacological interventions to relieve pain, the difference between acute and chronic pain, and the anatomy and physiology of pain.** Chart audits with the Pain Audit Tool revealed that 76% of the charts ($N = 82$) lacked documentation of the use of a patient self-rating tool by nurses to assess pain, despite a high reported use (76%) of such a self rating tool. Adjunct medications were ordered with some consistency but appeared to be underutilized.

Pain management knowledge, attitudes and clinical practice: The impact of nurses' characteristics and education. Ellen B. Clarke, RN, MS^a, Brian French, RN, MS^b, Mary Liz Bilodeau, RN, MS, CCRN, CS^c, Virginia C. Capasso, RN, MSN^d, Annabel Edwards, RN, MS^e, Joanne Empoliti, RN, MSN^f Journal of Pain and Symptom Management. Volume 11, Issue 1, January 1996, pages 18-31.

What is the need?



- Pain curricula studied at 104 U.S. & 13 Canadian Medical Schools.
- The cumulative number of pain teaching hours for U.S. CurrMIT participating medical schools ranged from 1 to 31, with a mean of 11.1 hours, a median of 9 hours.
- In Canada, the cumulative number of pain teaching hours per school ranged from 3 to 76 , with a mean of 27.6 hours, and a median of 19.5 hours.

Mezei, L. et al., Pain Education in North American Medical Schools. *The Journal of Pain*, Vol 12, No 12 (December), 2011: pp 1199-1208.

Why is safety important (duh)?



- In a study of 11 million patients from 2002 to 2011, hospital mortality rate was greater than 4x higher in the group of patients who had a postoperative overdose compared to those who did not.
- Hospital length of stay and total healthcare cost were also greater (2.8 days & \$37,400) for those who experienced an overdose vs. those who did not (3.9 vs 6.7 days and \$46,255 vs. \$83,655).
- The current Joint Commission requirements, CDC, ANCC (“Magnet Recognition”) and countless other state and federal governing & credentialing bodies are all working to mitigate the opioid epidemic (*“National Emergency”*).
- Pain HCAHPS was the single biggest positive and negative correlate to patient relationship to staff & overall hospital HCAHPS scores in a study of 2,429 hospitals.

Patient Perception of Pain Care in Hospitals in the United States. (Gupta, 2009)



1 year survey of 2,429 hospitals to establish what were the predictors of high global HCAHPS scores.

“Strong Correlation” →



“When correlated to satisfaction with pain control, the relationship with global satisfaction and ‘always’ receiving good pain control was highly correlated ($r > 0.84$). In respect to the other HCAHPS components, we found that the patient and health care staff relationship with the patient is also highly correlated with pain relief ($r > 0.85$).” (Gupta, 2009)

Patient Perception of Pain Care in Hospitals in the United States. (Gupta, 2009)



1 year survey of 2,429 hospitals to establish what were the predictors of high global HCAHPS scores.

“Conclusions: The results of this study are a representation of the experiences of patients in US hospitals with regard to pain care specifically and the need for improved methods of treating and evaluating pain care. This study provides the evidence needed for hospitals to make pain care a priority in to achieve patient satisfaction throughout the duration of their hospitalization. Furthermore, future research should be developed to make strategies for institutions and policy-makers to improve and optimize patient satisfaction with pain care.” (Gupta, 2009)

What are the main drivers of patient satisfaction with pain on the HCAHPS? (Dupree, 2009)



- Study showed that there were only 3 positive/negative correlates to predict patient's pain satisfaction.
 1. **A**sking about pain by staff
 2. **B**eing prompt to request for pain medications
 3. **C**are and concern was expressed by staff
 - When patients responded “excellent” to all 3 drivers, 87% described their overall satisfaction with the hospital as “excellent”.
 - When patients responded “excellent” to only 1 of the 3, only 16% reported their overall satisfaction as “excellent”.
- **THERE WAS NO LINK BETWEEN PATIENT REPORTED PAIN SCORES & OVERALL SATISFACTION!!!**

Pain and HCAHPS



We know what influences satisfaction.

But, there is little reported on ***what to do*** to improve satisfaction.

So let's focus on controlling pain...

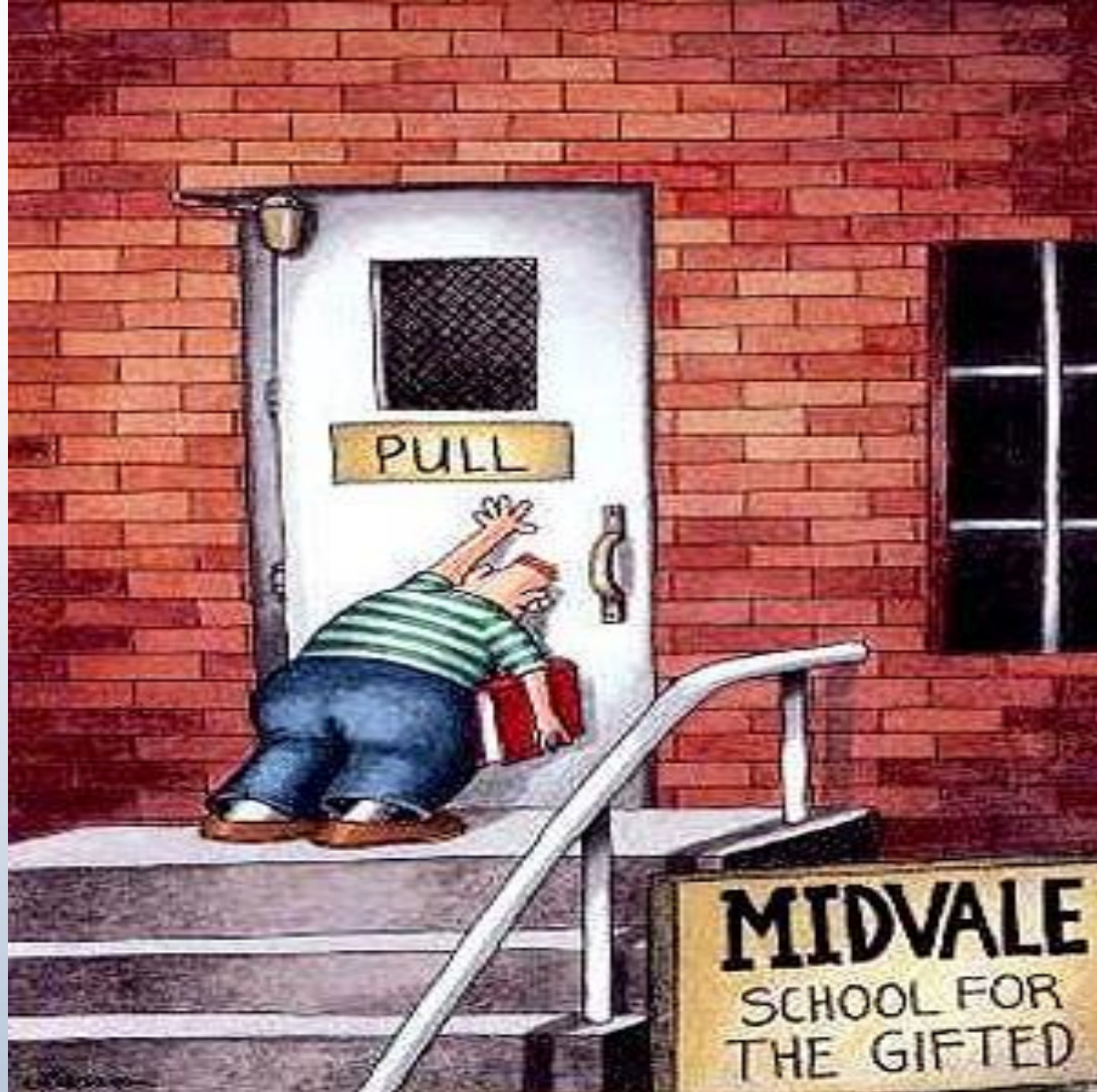


What is Pain?



- Pain is defined as “an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage”. -IASP
- “Pain is a **subjective and entirely individual personal experience** influenced by learning, context, and multiple psychosocial variables”.

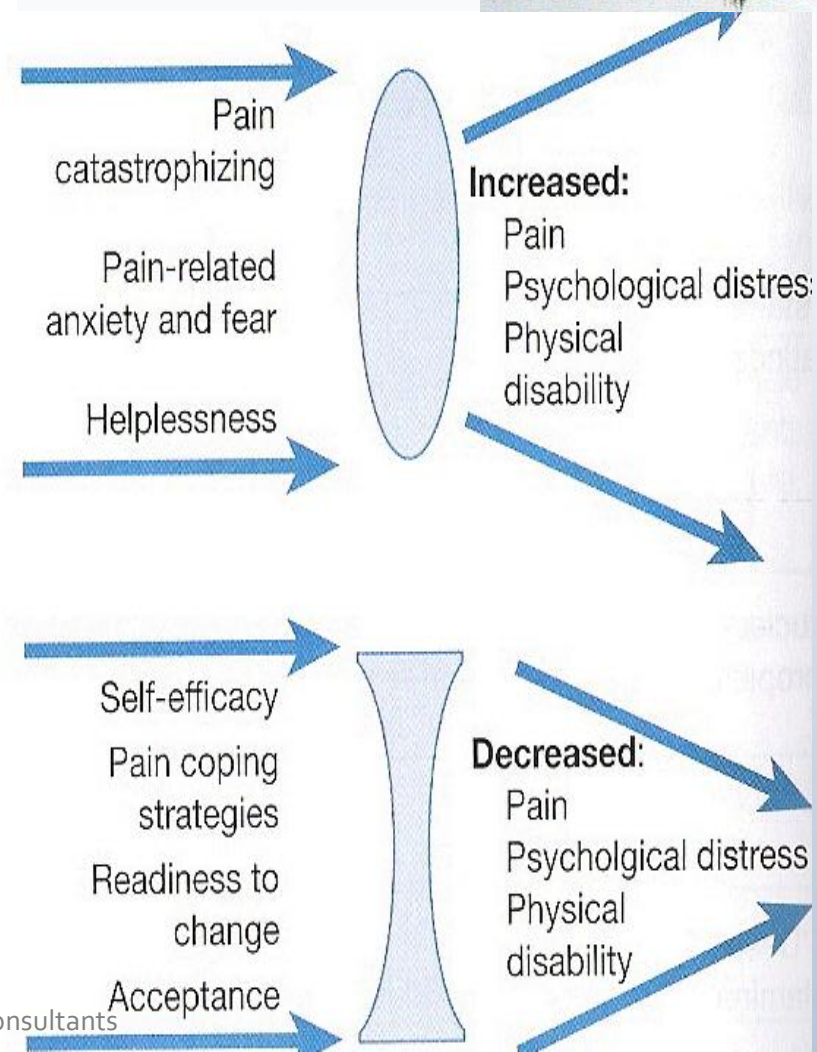






Psychologic Factors in Pain

- Affective & Cognitive factors have a large impact on the perception of pain.
 - Studies show depressed patients have higher levels of pain, decreased cognitive functioning, & greater disability.
 - Anxiety is a strong predictor of pain severity, disability and pain behavior.
 - Patients with pain-related fear had increased disability at 6 months.
 - Catastrophizing is more than 7x more powerful than any other predictor in predicting transition from acute to chronic post-op pain.
 - Depression & anxiety results in 2-5 times more likelihood.
 - Patients with pain related fear over-predict the severity of pain they will experience which results in increased avoidance behavior



How Does Anxiety Influence Pain?



- Participants were 29 healthy men who underwent the measurement of heat-pain threshold, heat-pain intolerance, temporal summation of pain, and conditioned pain modulation (CPM). Testing was conducted before and during exposure to the Montreal Imaging Stress Task (MIST), inducing acute psychosocial stress.... Although pain threshold and pain intolerance were unaffected by stress, an increase in temporal summation of pain and a decrease in CPM were observed. These changes were significantly more robust among individuals with stronger reaction to stress (“high responders”), with a significant correlation between the perception of stress and the performance in the pain measurements. We conclude that acute psychosocial stress seems not to affect the sensitivity to pain, however, it significantly reduces the ability to modulate pain...”

Geva, N. et al., Acute psychosocial stress reduces pain modulation capabilities in healthy men. *Pain* 155 (2014) 2418-2425.

Managing Anxiety



- Preoperative/Comorbid Anxiety and Phobias
 - “The modern informed consent process may make anxious patients even more so, particularly if handled unempathically. Appropriate empathic provision of information about surgery can reduce preoperative anxiety, post-operative pain, and hospital stay length.
 - Powers PS, Santana CA. Surgery. The American Psychiatric Publishing Textbook of Psychosomatic Medicine. Washington, DC: American Psychiatric Publishing; 2005:647-674.
 - “While benzodiazepines are frequently prescribed (and may be useful) for preoperative anxiety, they are not a substitute for the provision of adequate information. Patient education (and, where appropriate, for the partner or family as well) and social support are often more effective than medication in reducing preoperative anxiety and have additional post-operative benefits.”
 - Levenson, J.L. Psychiatric Issues in Surgical Patients, Primary Psychiatry: 2007;14(5): 35-39.



Managing Post-Op Pain



- Educate, educate, educate...
 - Opioids are dangerous medications
 - To make a patient “pain free” may be unrealistic and would most likely result in unwanted/dangerous side effects (confusion, sedation, lethargy...).
 - Goals are controlling pain to the point where they can sleep and participate in therapies.
 - IV opioids are more dangerous, addicting and shorter acting than orals.
 - Make sure the patient understands that they are in charge of their pain and that their wishes will be respected.
 - => Less anxiety and a lower “perception of pain”.
 - Teach them what meds are being used and what they are for.

Managing Post-Op Pain



- Keep things OBJECTIVE!!!
 - If they can sleep, they are not in agony.
 - Establishes a definitive measuring tool for patient and staff.
 - Manages expectations
 - If they can't keep their eyes open, are confused, sedated, slurring their words, BP/O2 are dropping, then the meds are overwhelming their CNS and becoming dangerous.
 - Hold opioids and take note of what meds & doses caused this to happen
 - “What was peaking in their system around when this started?”.

Managing Post-Op Pain



- Educate, educate, educate...
- “The speech”:
 - “First, I want to assure you that we are going to be aggressive controlling your pain. The worst we want your pain to be is the kind of pain that you can get a good nights sleep with (so you heal better) and can tolerate physical therapy (so you get stronger and prevent blood clots or pneumonia). We don’t want you to be overmedicated or ‘passed out’ sleeping; but a little sore/uncomfortable but still able to get a decent nights sleep. If we can get better pain relief than that, we will, but the only thing that will prevent us from giving you pain medications is **safety**. Signs that the medications are becoming dangerous are when you start getting confused, sedated, slurring your words, having trouble staying awake or when your oxygen levels or blood pressure start to drop. This means that the opioids are starting to overwhelm your central nervous system and, if we push it, your blood pressure & oxygen levels drop significantly and that’s when it gets very scary. We usually like to wait at least 1.5 to 2 hours since your last dose of short acting oral pain medication to determine the peak effects. At that point, if we are being safe and you need better pain control, then we can give you something else for your pain.”
 - **“As long as we are being safe, we are going to give you what you need”.**

How can we keep patients from becoming “chronic”?



- Rule #1: Control the patients pain.
 - Decreases the pain impulses bombarding the CNS and, as a result, lessens central sensitization.
- Rule #2: Limit anxiety and fear with education regarding options available to them and how their pain will be treated.
 - Ideally, this process begins in the preoperative setting.
 - Communicate & Educate
 - Make the patient a member of the team to help you help them.
 - Tell them what to look for in the framework of objective findings to guide their pain control.
 - “overmedicated vs. undertreated”
 - Change of shift bedside report in front of the patient/family!!!
 - Lets patient/family know that they can expect the same good care, reinforces pain message, allows patient and family to feel included and respected.

“MYTH BUSTERS”



- All opioids are not the same!
 - Work differently on different patients due to variations in receptor binding and receptor differences.
 - We all have different faces and receptors that don't bind the same molecules identically.
- Timing of long-acting oral medications with oral prn “breakthrough” meds.
 - If the patient is tolerating these meds, they can be given at the same time due to peak effects for long acting opioids being over 2 hours and short acting being around 90 min.
 - For severe acute pain, it may be better to give IV with a long-acting and-or short-acting narcotic to further eliminate any overlap of the peak effects.
 - All IV opioids' “peak effect” occurs at least 10 minutes after delivery.
 - This is when you can determine if the patient is tolerating the medicine, or if it is helping, as it's effects will not increase after this point.

CBME Guidelines for Prescribing Opioids



- Addiction vs. Physical Dependence
 - “Physical dependence and tolerance are normal physiologic consequences of extended opioid therapy and are not the same as addiction.”
 - “Patients with chronic pain should not be considered addicts merely because they are being treated with opiates”.
 - **“As a rule, patients develop tolerance to all opioid adverse effects except constipation”. –American Pain Society**
- “Addiction is a behavioral syndrome characterized by psychological dependence and aberrant drug-related behaviors”.
 - “...compulsively uses drugs for non-medical purposes despite harmful effects”.

Colorado Board of Medical Examiners: Guidelines for Prescribing Controlled Substances for Chronic Non-Malignant Pain

- Addiction usually affects someone who is genetically (family hx) or psychologically (poorly treated anxiety, depression, PTSD) predisposed to addiction.
 - In poorly treated psych conditions opioids and other drugs can replace anxiety, PTSD and depression with a feeling of euphoria (when nothing else can) and/or allow for an “escape” from their debilitating psychological condition.
 - Nobody chooses to be an addict.

Opioids & Opioid Tolerant Patients



- Keep in mind that “tolerance” means that their baseline is having opioids in their system.
 - Discontinuing meds abruptly will cause withdrawal.
- Post-operatively/acute, even chronic pain patients will have increased pain despite their baseline opioids.
- General Rule:
 - Give them at least the equivalent of their baseline opioids at home and add a breakthrough medication.
 - PCA's are a good start.
 - Later convert to oral breakthrough meds.
 - A good choice is increasing what they take for breakthrough at home.
 - As their pain decreases, they should need less breakthrough medication and therefore can taper down.

Treating Pain with Comorbidities



American Society for Enhanced Recovery and Perioperative Quality Initiative Joint Consensus Statement on Postoperative Gastrointestinal Dysfunction Within an Enhanced Recovery Pathway for Elective Colorectal Surgery:

- We recommend **active strategies to minimize the use of opioids while maintaining adequate pain control through the use of multimodal analgesia.**
- We recommend the maintenance of euvoolemia along with a normal salt and electrolyte balance in the perioperative period.
- We strongly recommend against the routine use of prophylactic nasogastric tubes (NGTs).
- We recommend the use of minimally invasive surgery when appropriate.
- We recommend using **alvimopan (12mg pre-op & no more than 15 doses total) if opioid-based analgesia is used (its use could also be considered within an opioid-restricted ERP in CRS).**
- We recommend the use of a standardized risk-based strategy for postoperative nausea and vomiting (PONV) prophylaxis.
- We strongly recommend **immediate resumption of eating and drinking after CRS.**
- We recommend the use of a combined isosmotic mechanical bowel preparation with oral antibiotics in elective colorectal surgery.
- Consider coffee and gum chewing as adjuncts to an enhanced recovery protocol in promoting recovery of GI function.**

Treating Pain with Comorbidities



- **Abdominal Surgery/Ileus**

- Limit opioids if at all possible.
 - Maximize acetaminophen, NSAID's, ambulation and multimodal approaches.
- Think tapentadol if opioid-like analgesia needed.
 - 30-50% less constipation, nausea and vomiting compared to oxycodone.
 - Combination mixed opioid agonist with norepinephrine reuptake inhibition
 - Works on ascending (opioid) and descending pain pathways (norepinephrine).
 - **65% less risk abuse than oxycodone**
 - **10 cents/mg compared to \$1 per mg of oxycodone street value.**
 - Diversion rates based on drug availability were 0.03 (tapentadol IR), 0.016 (tapentadol ER), and 0.172 (other Schedule II opioid tablets) per 1,000 prescriptions dispensed.
 - **No reports of Opioid Induced Hyperalgesia!**
 - Less than 5% experienced withdrawal when abruptly withdrawing.
 - Starting dose is typically 50mg Q6hrs prn (equivalent to 15mg morphine).
 - Maximum dose is 600mg daily.
 - ½ life: 4 hours
 - Avoid in epilepsy, severe renal & hepatic disease.
 - SE' s: nausea, dizziness, somnolence, constipation.

Treating Pain with Comorbidities



- **Kidney and/or Liver disease**

- Avoid acetaminophen in liver disease.
 - In liver cirrhosis, opioid half lives can double, but time to time to peak effects can be shorter or longer depending on the narcotic and whether 1st pass metabolism yields active metabolites.
- Avoid NSAID's, tapentadol and tramadol in patients with severe kidney disease.
- Think of hydromorphone as 1st line narcotic for both conditions.
 - Best for patients with kidney and liver disease (but use something else if they cannot tolerate or ineffective).
 - Easy to metabolize and 1st line for these conditions.

Treating Pain with Comorbidities



- **Addiction, Compromised Respiratory Status...**
 - Avoid typical opioid agonists, ESPECIALLY IV!!!
 - Do not give IV opioid abusers IV opioids whenever possible!
 - Buprenorphine Transdermal System
 - A mixed antagonist/agonist that is a part of (buprenorphine/naloxone) formulations.
 - **Much less euphoria, addiction and overdoses.**
 - CIII due to much safer respiratory depression profile.
 - Available in 5, 10, 15 & 20 mcg/hr patches.
 - 20mcg/hr is the max due to increased risk of QTc prolongation.
 - A 5mcg/hr patch is equivalent to 22.5mg morphine in 24 hrs, but much safer!
 - One patch lasts 7 days with 3 days needed to reach steady state.
 - tapentadol or tramadol are good second choices.

Dementia vs. Delirium



- **Dementia**

- Chronic, slower onset
- Stable over course of day
- Progressive course
- Rarely reversible
- Alert but confused
- Attention intact until later stages

- **Delirium**

- Acute onset
- Fluctuating course
- Reversible
- Typically more agitated
- Decreased level of consciousness

Post-operative delirium is very common, particularly in elderly patients undergoing hip replacement, major abdominal surgery, or cardiac surgery. Up to 40% of elderly orthopedic surgery patients experience delirium.

Galanakis P, Bickel H, Grading R, Von Gumpfenberg S, Forstl H. Acute confusional state in the elderly following hip surgery: incidence, risk factors and complications. *Int J Geriatr Psychiatry*. 2001;16(4):349-355.

Dementia vs. Delirium (cont.)



- Diagnostic Work-Up
 - **Talk to the family or those closest to the patient!!!**
 - Establishes a baseline and communication that fosters cooperation and demonstrates compassion.
 - Review medications
 - CBCD, CMP, UA, B12/folate levels, thyroid tests, cardiac enzymes, pulse ox, CXR, EKG, CT Head and/or MRI, and EEG when cause not obvious.
 - Drug levels
 - ABG
 - Other testing should be focused on clinical suspicion.
- Benzodiazepines
 - **10x MORE LIKELY TO DIE OF AN OVERDOSE WHEN USED WITH OPIOIDS vs. OPIOIDS ALONE.**
 - Commonly worsen confusion and sedation.
 - Increased risk of onset of delirium by 20% in study of ICU px' s.
 - **Diazepam has a 24-48 hour ½ life!!!**
 - Over prescribed for patients by physicians.
 - Drug of choice only for withdrawal deliriums
 - Paradoxical activation and disinhibition in elderly.

Dementia vs. Delirium Treatment



- If diagnostics are unrevealing, safety is the #1 priority
 - Hold opioids/benzo's/psychoactive medications to allow "clearing", then reintroduce slowly focusing on risk vs. benefits.
 - Example: if pain is the chief complaint, then add non-opioids if possible being careful to watch closely with pharmacokinetics in mind.
 - Use APAP ➡ tramadol ➡ tapentadol or buprenorphine ➡ "traditional" opioids
 - Morphine is typically the least desirable for most patients with delirium/dementia as it is the closest to opium (most organic) and typically has the highest side effect profile among opioids.

Narcotic Equivalents



Drug Name	Closest Equivalent Available Dose (mg)
morphine sulfate (MSIR, Kadian, Avinza, etc.)	½ to 1 of a 15 mg tab
hydrocodone (Norco, Lortab, vicodin, etc.)	5/235 to 7.5/325mg tabs
oxycodone (Roxicodone, Percocet, OxyContin, etc.)	5 mg or 5/325mg tab
oxymorphone (Opana IR, Opana ER, etc.)	½ of a 5mg tab
hydromorphone (dilaudid, Exalgo, etc.)	2 mg tab

Multimodal Analgesia



- Strong evidence supporting the use of non-opioids for pain and some have been quantified as to how many morphine equivalents each can reduce over 24 hours.
 - APAP 1000 mg IV Q4hrs = **6-9 mg less morphine**
 - Other NSAID's = **10.2 mg less morphine**
 - ibuprofen 400 mg, celecoxib 200-400 mg & diclofenac 30-60 mg
 - gabapentin 300-1,200 mg = **13-32 mg less morphine**
 - pregabalin <300 mg/d & >300 mg/d = **8.8 mg & 13.4 mg morphine**, respectively.

1st Encounter



1) Convey concern, compassion & calm.

- Assure them that we will take good care of their pain.
- Educate on how to get in touch with someone quickly (call button) and how often you will be checking on them.

2) “How is what we are doing working so far?”

3) “Are you getting loopy, sedated, confused or having trouble staying awake?”

4) “Do you feel like your pain is controlled enough so you could get some sleep and participate in some physical therapy?”

5) Give “*The Speech*”.

6) Medication history:

- “What have you tried in the past for pain, whether it has worked or not, so we can get the right regimen for you quickly”.
- Use what has helped with fewest intolerable side effects.

7) “Any difficulty swallowing pills?”

8) Promote the benefits of multimodal therapy (ice, non-opiates, PT, OT, etc.).

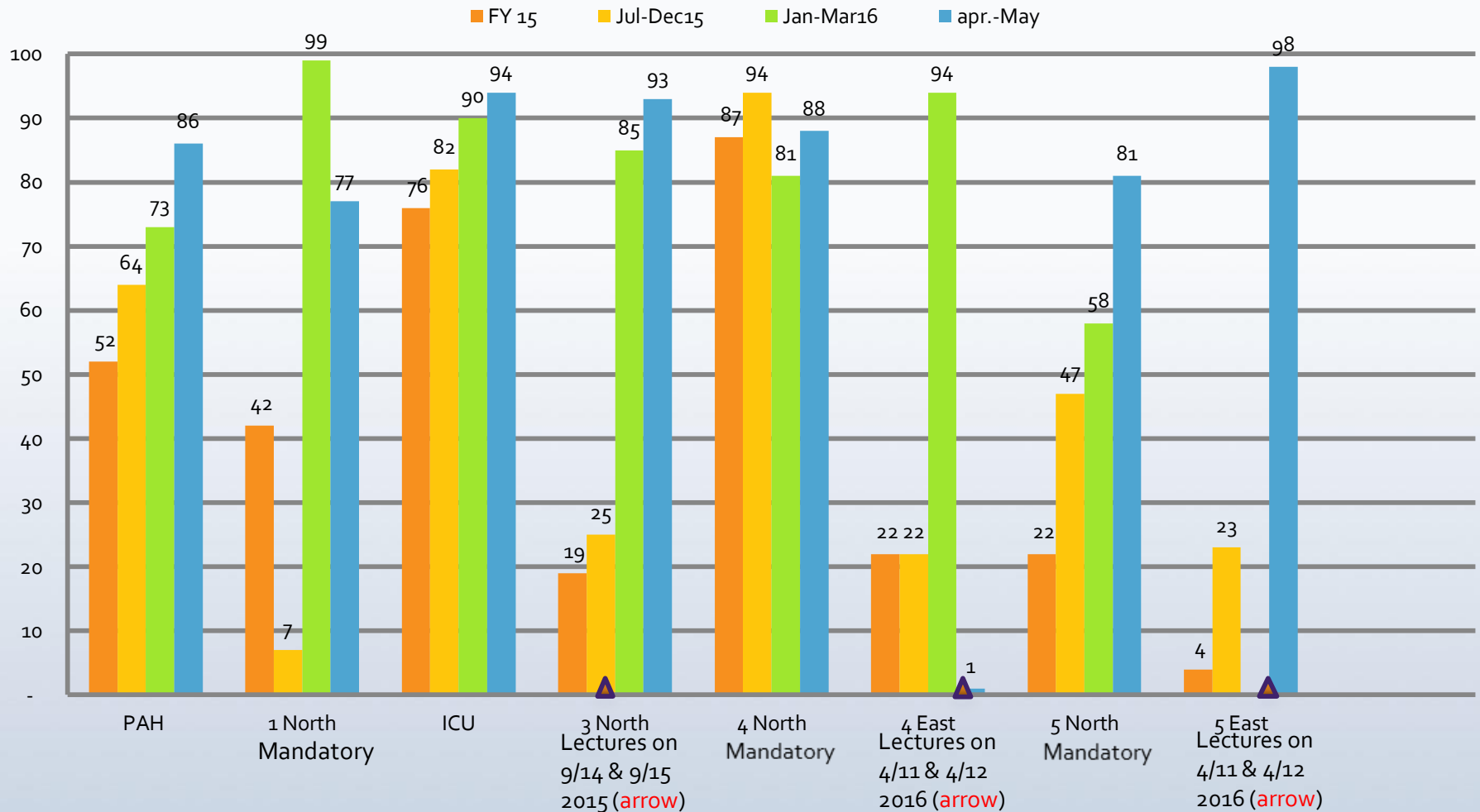
2nd Encounter “& Beyond”



- 1) How many hours of sleep did you get last night?
- 2) “How is your pain compared to before (better, same, worse)?”
- 3) “Are you getting loopy, sedated, confused or having trouble staying awake?”
- 4) “Do you feel like your pain is controlled enough so you can sleep and tolerate physical therapy?”
- 5) “Moving your bowels or passing gas?”
- 6) “Any questions on ‘*The Speech*’”.
- 7) “Any input on specific medications (side effects, efficacy, etc.)?”
- 6) “Pain level 0-10/10?”

-“15/10” is fine. Don’t argue. We are just looking for relative improvements, so if it goes down to an “11/10” that’s progress!!! If they can sleep and participate in therapy a “15/10” is acceptable.

PAH HCAHPS for Pain Management FY 2016 %tile rank



- ❖ On floors where 1 hour lecture was mandatory, all nurses were required to attend one of multiple possible lectures from May, 2015 to December, 2015.
- ❖ Narcan rescues in 2014 were 15 for the hospital & 8 in 2015. A cost savings of approximately \$261,800. Zero Narcan rescues occurred in 2015 in units where 1 hour lecture was mandatory (1N, 4N, 5N).

Porter Nursing Pre- & Post Lecture Questionnaire



74 PORTER NURSES SURVEYED

1) How comfortable are you managing patients with pain in the hospital?

“Very comfortable” **Pre-Lecture: 33.8%** **Post-Lecture: 54.7%**

2) How comfortable are you managing patients with pain who have psychological comorbidities (depression, anxiety, histrionic, addiction problems, etc.)?

“Very comfortable” **Pre-Lecture: 13.5%** **Post-Lecture: 37.8%**

3) How comfortable are you managing patients with pain who are on chronic opioids at home?

“Very comfortable” **Pre-Lecture: 24.3%** **Post-Lecture: 48.6%**

4) How comfortable are you managing patients (and maybe their friends/family) that are demanding more opioids than you are comfortable giving?

“Very comfortable” **Pre-Lecture: 10.8%** **Post-Lecture: 39.2%**

9) Do you think this content would be meaningful for all Porter nurses to hear?

“YES” 100% or 70/70 respondents **“NO” 0%** (4 left blank)

Summary



- “As long as we are being safe, we can give you what you need”.
 - “The worst we want your pain to be is the kind you can naturally sleep through and participate in therapies”.
 - “Signs that the medications are becoming dangerous is if you are getting loopy, confused, sedated, slurring your words or having trouble staying awake”.
- Troubleshooting...
 - Call pharmacy and have the check the CPDMP website to determine baseline narcotic tolerance.
 - Most common culprit in my experience!
 - Recheck with the patient and family that we are on the same page with regards to expectations (see above).
 - Think about & document how the patient was doing before and 90 min after each short acting oral medication, or 10-20 min after IV medications.
 - If still not clear, check with your charge nurse and CALL ME (or email me @ jclappmd@gmail.com) so that I may offer some assistance.

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Questions???

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