



What's Psych Got to Do with Perioperative Pain Management?

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Disclosure

- Abhishek Gupta, DO
 - Nothing to disclose
- Patricia Tsui, PhD
 - Nothing to disclose

Learning Objectives

- Identify risk factors involved in the development from acute to chronic pain.
- Name (at least 3) nonpharmacological interventions that have evidence to support its use during the perioperative period.
- Describe psychological approaches that have evidence to support its use in the outpatient setting and may be beneficial for managing post-operative pain.

Transition from Acute to Chronic Pain

- The experience of pain is a complex phenomenon which encompasses various internal and external processes
- The transition from acute to chronic pain has been a topic of great interest in recent years due to the enormous burden on the healthcare system
- There has been a dramatic shift away from prescribing opioids and utilizing a multimodal approach to analgesia and enhanced recovery strategies
- There is a shift towards a biopsychosocial model of managing pain before, during, and after surgery or injury.

Why is it important to understand the transition from acute to chronic pain?

- Tremendous burden on the health care system (both patient overall outcomes as well as the actual economic burden to the healthcare system).
- An opportunity to intervene and improve these outcomes and goal is to come up with proven strategies that would be beneficial across institutions.
- Ideally would be able to create a new “standard of care” for perioperative pain management

What is perioperative pain management?

- Perioperative pain
 - The period before, during, and after a surgical procedure.
 - Is often synonymous with acute pain
- Perioperative pain management
 - Actions taken to manage pain before, during, and after a surgical procedure
 - Pre-existing chronic pain can complicate the picture
 - The intent is to reduce or eliminate postoperative pain before discharge after a procedure
 - Goal is to prevent the development of chronic pain

Why is managing postsurgical pain important?

- Over 300 million surgical procedures are performed around the world annually, and despite advancements, can still have many adverse effects
- Inadequate postoperative pain management can lead to worsened humanistic and economic outcomes, including the development of chronic pain and opioid dependence
- Significant risks and costs associated with opioid overuse.
- Opioid-related adverse events frequently potentiate complications in postoperative period and postsurgical opioid prescribing patterns have in part contributed to the opioid epidemic
- Despite the multitude of current recommendations available, many patients report inadequately treated pain and high rates of adverse events. Many institutions continue to exhibit an overreliance on opioid therapy and underutilization of multimodal strategies

Pathophysiology during Transition from Acute to Chronic Pain

- Pain physiology is complex and involves various systemic processes
- Contribution from the immune, sensory, hormonal, and inflammatory pathways
- Changes occur in both the peripheral and central nervous systems
- Usually, after termination of an acute nociceptive signal and with an adequate recovery time → restoration of homeostasis which ends pain process.

Pain Physiology during Transition from Acute to Chronic Pain

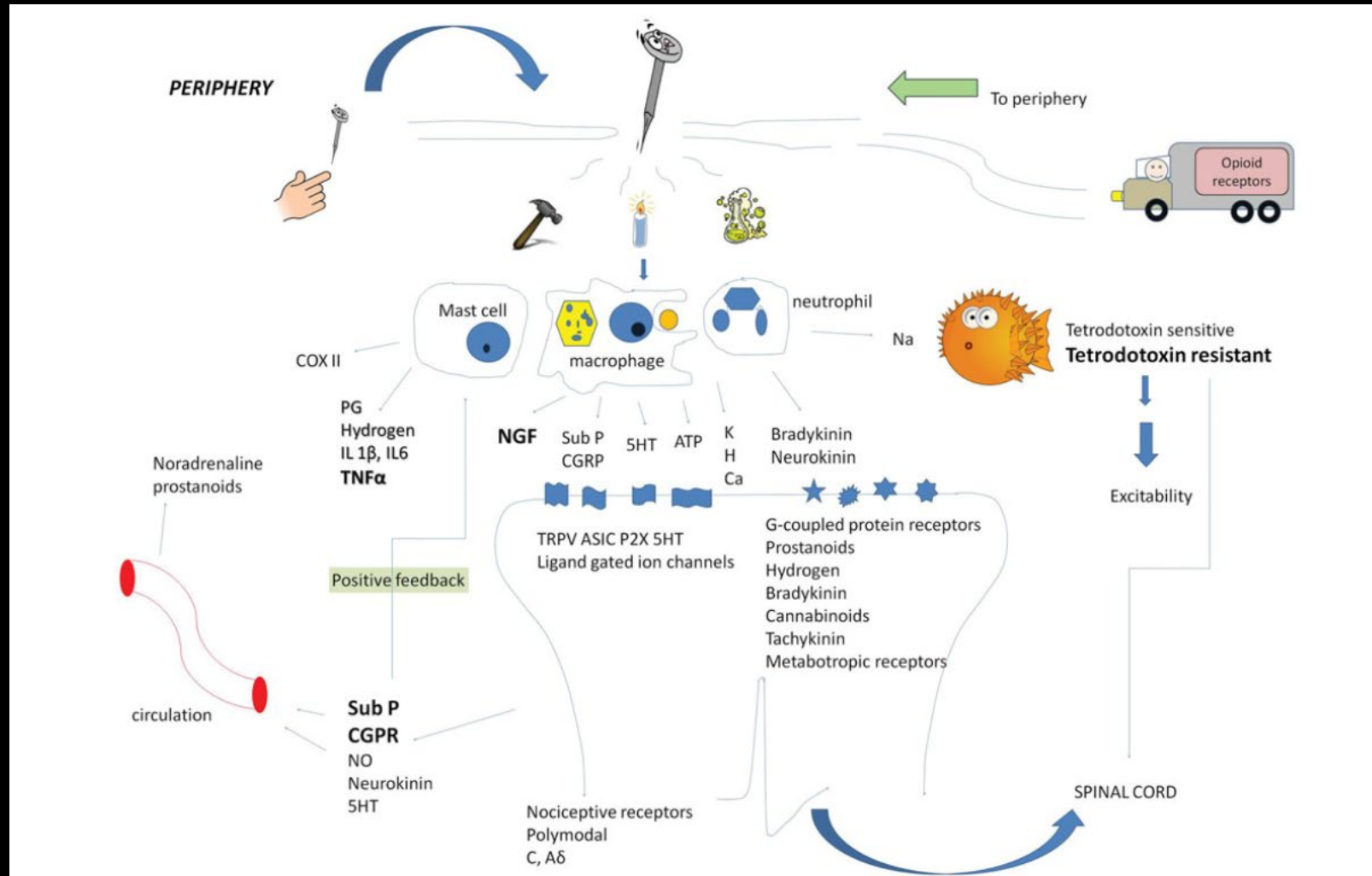


Figure from:
 Feizerfan A, Sheh G. Transition from acute to chronic pain. Contin Educ
 Anaesth Crit Care Pain. 2014;15(2):98–102.

Impact of Chronic Pain

- fMRI and PET scans have identified structural changes in the brain once central sensitization has occurred
- These changes can often create psychological and mental health problems - depression, anxiety, poor pain-coping strategies, and substance use disorders.
- These stressors can often times worsen a patient's pain symptoms and further burden the healthcare system

Feizerfan A, Sheh G. Transition from acute to chronic pain. Contin Educ Anaesth Crit Care Pain. 2014;15(2):98–102.

How do we identify patients who are at risk of developing postsurgical chronic pain?

Fundamental to this Knowledge: Answers to 2 Key Questions

1. Who will develop chronic pain?

- Currently, there is no way to predict with absolute certainty which patients will go on to develop chronic pain symptoms after surgery.
- However, there are a number of risks factors which have been identified that can help determine which patient populations may be at higher risk

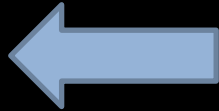
2. What makes a person vulnerable to developing chronic pain?

- These predictive factors can be patient related or surgery related.

Risk Factors for Developing Chronic Postsurgical Pain

Patient factors

- Genetic predisposition
- Medical comorbidities
- Chronic pain prior to surgery
- Female gender
- Younger age
- Depression
- Anxiety
- Stress
- Hypervigilance
- Catastrophization
- Rate of return to work



Surgical and perioperative factors

- Type of surgery¹
- Surgical technique²
- Duration of surgery
- Severity of postoperative pain
- Analgesic regimen
- Type of anesthesia

¹Thoracic, breast, lumbar spine, inguinal hernia, hip, and knee arthroplasty have high prevalence of chronic postsurgical pain

²Open (high risk factor) versus laparoscopic (low risk factor)

How are we currently treating pain in the perioperative period?

Multimodal Analgesia + Enhanced Recovery After Surgery (ERAS) Strategies

- Historically, postoperative pain has been managed heavily with opioid therapy
- Shift towards a multimodal approach and enhanced recovery strategies
- Opioid minimization strategies → opioid free anesthesia, regional anesthetic techniques, multimodal non-opioid analgesics, and nonpharmacological interventions (such as early implementation of physical therapy and acupuncture).
- Opioid free anesthesia is possible by the use of continuous regional anesthetic techniques, and non-opioid preemptive analgesics and adjuvant medications.

Scott MJ, McEvoy MD, Gordon DB, et al. American Society for Enhanced Recovery (ASER) and Perioperative Quality Initiative (POQI) Joint Consensus Statement on Optimal Analgesia within an Enhanced Recovery Pathway for Colorectal Surgery: Part 2-From PACU to the Transition Home. Perioperative medicine (London, England). 2017;6

Perioperative Multimodal Pain Management: an Evidence-Based Update

- Acetaminophen, NSAIDs, and ketamine provide clear benefit and are opioid sparing, with wide safety margins.
- Enthusiasm is waning for the use of gabapentinoids (gabapentin and pregabalin) and systemic alpha-2 agonists (clonidine and dexmedetomidine) due to relatively minimal benefits and potentially dangerous side effect profile (i.e. sedation).
- Lidocaine infusions may improve analgesia and reduce the risk of ileus, but current research quality is poor.

Creighton, D.W., Kumar, A.H. & Grant, S.A. Perioperative Multimodal Pain Management: an Evidence-Based Update. *Curr Anesthesiol Rep* 9, 295–307 (2019). <https://doi.org/10.1007/s40140-019-00340-1>

Perioperative Multimodal Pain Management: an Evidence-Based Update

- Corticosteroids appear to improve pain control and spare opioids, but require larger doses (typically used doses for nausea prophylaxis are much lower).
- Limited evidence for use of anticonvulsants, antidepressants, skeletal muscle relaxants, or cannabinoids but animal studies are promising, so more clinical trials are needed in humans.

Creighton, D.W., Kumar, A.H. & Grant, S.A. Perioperative Multimodal Pain Management: an Evidence-Based Update. *Curr Anesthesiol Rep* 9, 295–307 (2019). <https://doi.org/10.1007/s40140-019-00340-1>

Antidepressants Overview

- Antidepressants have indirect analgesic properties while others are solely indicated for depression, anxiety, and/or obsessive compulsive disorder
- Analgesia is based mainly on noradrenergic function. Norepinephrine reuptake inhibitors are the most widely used in clinical practice.
 - However, excess norepinephrine may be associated with pain
- Want to achieve a balance between serotonin, norepinephrine, and other neurotransmitters to inhibit the descending pain pathways and produce effects on central pain processing
- When possible, avoid combining TCAs, SSRIs, and SNRIs, which may lead to serotonin syndrome, seizures, adverse anti-cholinergic effects

Tricyclic Antidepressants (TCAs)

- Amitriptyline and nortriptyline are most commonly used TCAs for pain management. Nortriptyline has more noradrenergic properties and may produce fewer adverse effects
- Frequently used for management of headaches, neuropathic pain, sleep disorders, OCD, and fibromyalgia
- Many safety issues and adverse effects associated with TCAs, primarily anticholinergic effects. Also anti-arrhythmogenic and may cause QT prolongation
- The use of topical TCAs seems to be on the rise and may offer better safety profile

Serotonin-Norepinephrine Reuptake Inhibitors (SNRIs)

- Duloxetine used in the treatment of diabetic peripheral neuropathic pain, fibromyalgia, and chronic musculoskeletal pain.
- Venlafaxine is not specifically approved for pain, but it is commonly and successfully used off-label for chronic neuropathic conditions
- Desvenlafaxine more noradrenergic than its racemic mixture relative venlafaxine, but it seems to be less effective in the treatment of chronic pain

Selective Serotonin Reuptake Inhibitors (SSRIs)

- Beneficial for the treatment of psychiatric comorbidities, such as depression and anxiety, in patients living with chronic pain, but has minimal direct benefit on analgesia
- Paroxetine, Fluoxetine, Sertraline, Citalopram and Escitalopram
- Not as commonly used compared to other antidepressants as analgesic
- Blocks nitric oxide synthesis and may cause sexual dysfunction

How do I select an antidepressant?

- If a previous antidepressant was tried, what was the patient's response? Explore both the benefits and side effects from previous trials. This may offer valuable clues on which to trial next.
- Any barriers due to cost/insurance issues that may limit access?
- Any specific drug-drug interactions to be concerned about?
- Does the drug have an FDA indication or a good data set regarding its effectiveness and tolerability?
- Is there a mechanism of action advantage that fits best with the patient's needs?
- A patient's adherence to medication heavily depends on a patient and the physician exploring beliefs such as:
 - Refusal to accept a psychological diagnosis
 - Social stigma of taking an antidepressant
 - Cultural or religious beliefs
 - “Nothing works”
 - “worrying about the way things might have been”

-
- Always rely on a collaborative effort and utilize a multi-specialty team centered approach
 - Refer to psychiatry/psychology colleagues early in the treatment process. Often times other specialties may view or approach it from a different perspective.
 - Physiological + Psychological Comorbidities
 - CBT, pain education/expectation, acceptance and commitment therapy
 - Our colleagues in other specialties can assist in medication management, interventional therapies, as well as nonpharmacological treatment strategies

Perioperative Multimodal Pain Management: an Evidence-Based Update

- There is growing evidence for the routine use of nonpharmacologic pain management techniques such as acupuncture and Transcutaneous Nerve Stimulation (TENS).
 - A meta-analysis conducted on acupuncture and related techniques demonstrated that acupuncture was associated with lower pain scores.
 - One of the studies included in the analysis found that transcutaneous electric acupoint stimulation led to a reduction in opioid use as well
- Music therapy was effective in reducing pain intensity, fatigue, anxiety, and analgesic consumption in gynecological patients during the postoperative period.

Creighton, D.W., Kumar, A.H. & Grant, S.A. Perioperative Multimodal Pain Management: an Evidence-Based Update. *Curr Anesthesiol Rep* 9, 295–307 (2019). <https://doi.org/10.1007/s40140-019-00340-1>

Perioperative Multimodal Pain Management: an Evidence-Based Update

- Simple therapies such as hot or cold packs
- Meditation (has some overlap with psychological approaches)
- Distraction techniques (e.g. watching television, music therapy)
- Physical activity (e.g. walking, deep breathing)

Nonpharmacologic Therapy

- Nonpharmacologic therapy has shown to provide improvement in post-operative pain while avoiding the side effects of medications
- These results indicate that nonpharmacologic modalities can be used to provide additional analgesia.
- These techniques can be applied broadly during the perioperative period with relatively minor risks and few contraindications, such as patient refusal to cooperate

Psychological and Psychoeducation Approaches

Rationale of Pain Models

Biomedical Model	Biopsychosocial Model
Most appropriate for acute pain	More useful for chronic pain
Emphasizes peripheral nociception	Central mechanisms involved
Focuses on physical disease mechanisms	Focuses on illness behavior, including cognition and emotional response
“Reductionistic” approach	Multidimensional systems approach
Medical management approach	Self-management strategies important

Biopsychosocial Model in Acute Pain

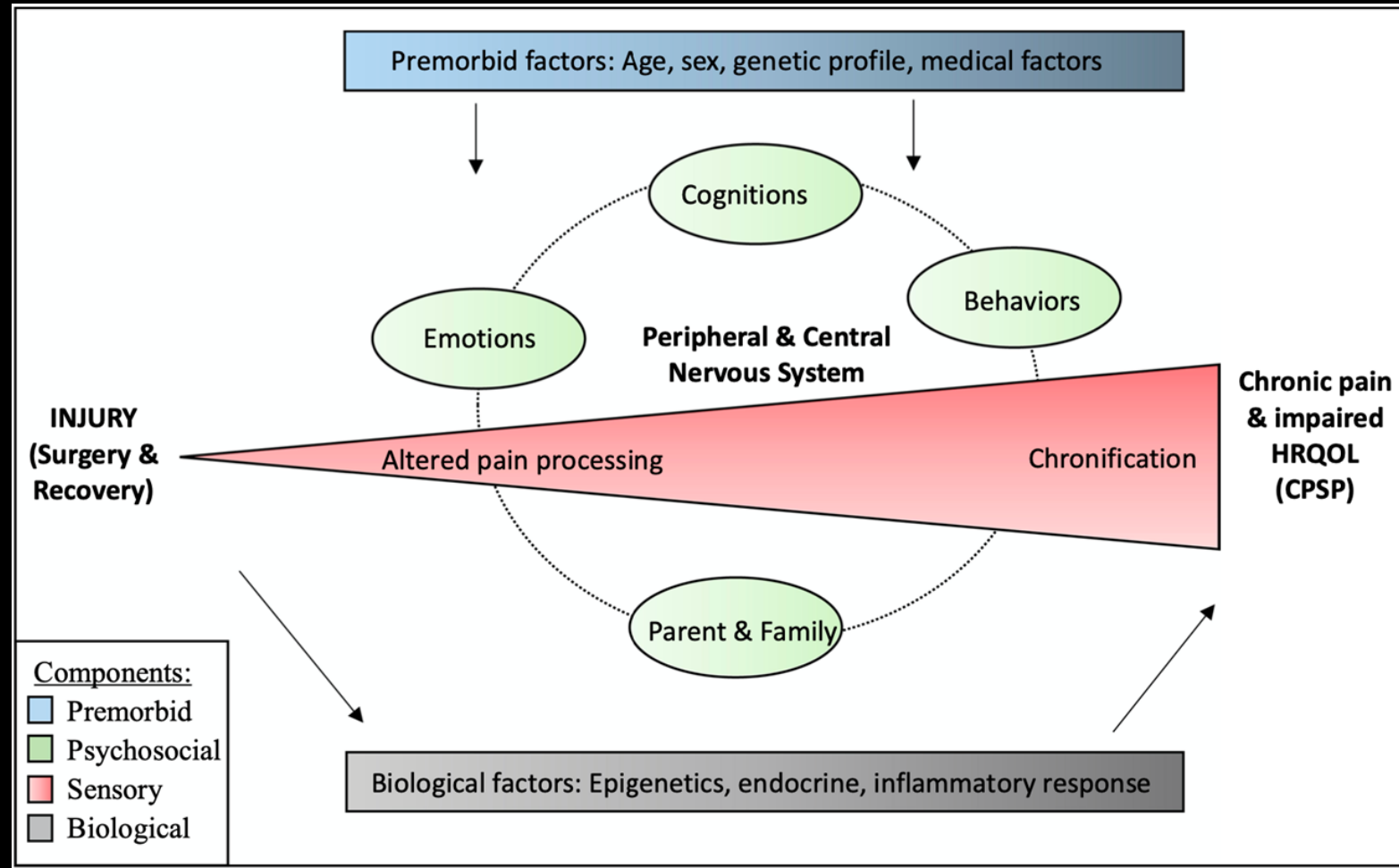


Figure from Rabbitts JA, Palermo TM, Lang EA. (2020). "A Conceptual Model of Biopsychosocial Mechanisms of Transition from Acute to Chronic Postsurgical Pain in Children and Adolescents." *J Pain Res*: 24;13:3071-3080.

The Role of Psychiatry

- Psychiatry services in the hospital are commonly used for the management of anxiety and depression within the backdrop of pain.
- Psychiatry services are also called upon for the management of addiction.
A collaborative effort between pain and psych becomes even more prudent when managing both pain and addiction.
- Greater coordination and integration of care is needed to improve post-operative pain related outcomes.

Psychological Factors

- Pain related anxiety
- General anxiety
- Depression
- Post-traumatic stress disorder
- Panic disorder
- Kinesiophobia “fear of pain”
- Pain related catastrophizing
 - A tendency to magnify, ruminate, and feel helpless in the face of pain
 - Can be measured using the Pain Catastrophizing Scale

Pain Related Catastrophizing

- A predictor of:
 - Increased analgesic pain medication use
 - Pain related disability
 - Pain intensity
 - Postsurgical pain intensity
 - Depression
 - Pain related anxiety
 - Poor response to opioids
 - Greater use of perioperative opioids
 - Persistent post operative pain and use of opioids 2 months post-op

Darnall, B. D. Pain Psychology and Pain Catastrophizing in the Perioperative Setting: A review of impacts, interventions and unmet needs. *Hand Clin* **32**(1), 33-39 (2016).
<https://doi.org/doi:10.1016/j.hcl.2015.08.005>.

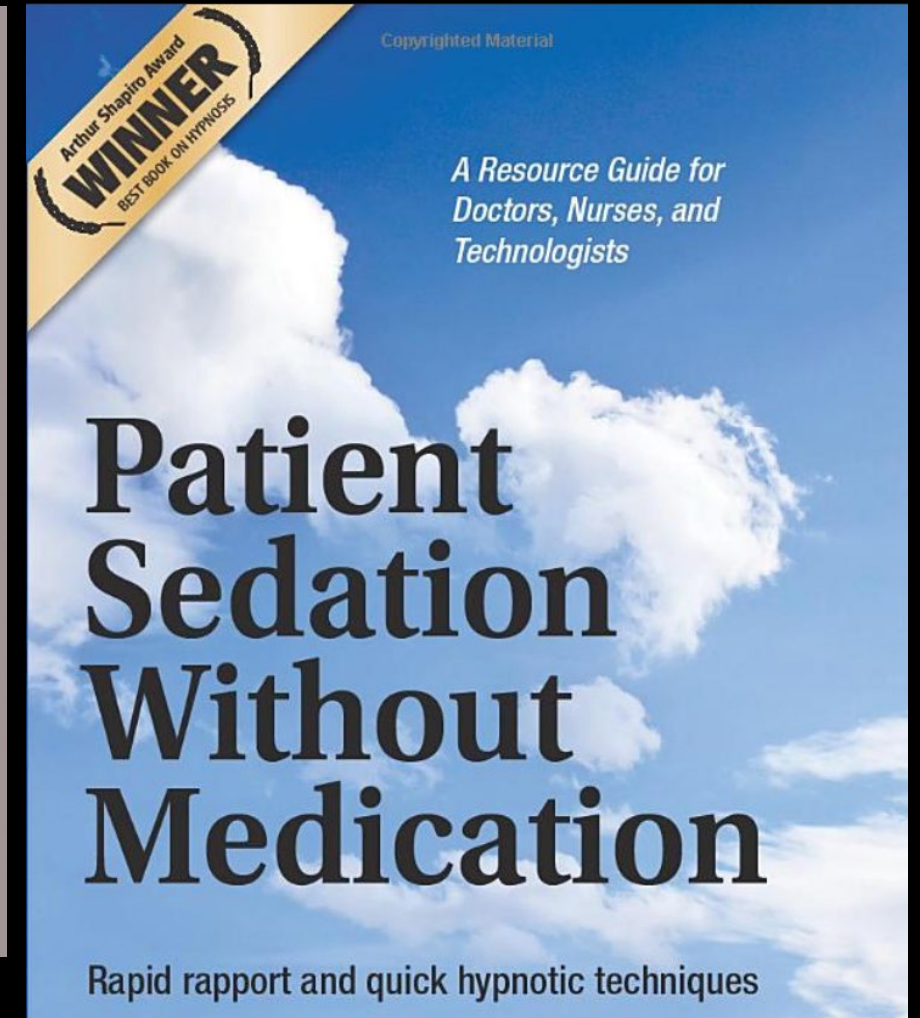
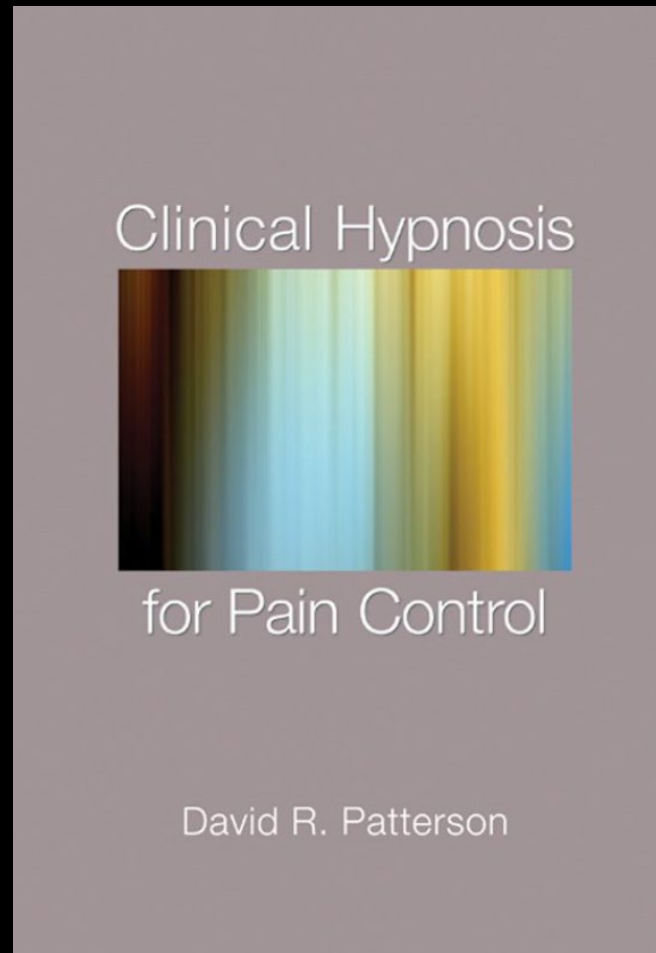
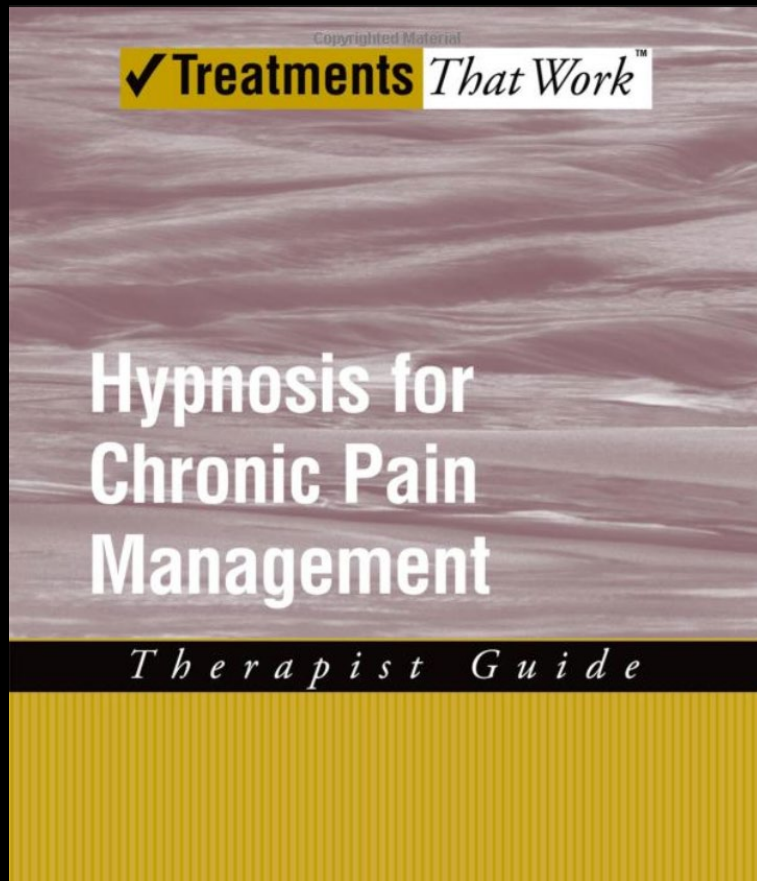
Psychological Interventions

- Mindfulness Based Stress Reduction (MBSR)
- Mindfulness Based Cognitive Therapy
- Cognitive Behavioral Therapy
- Acceptance and Commitment Therapy
 - “this is time for letting go”
- Dialectical Behavior Therapy
- Meditation
- Biofeedback
- Pain education and expectation management
- Eliciting the relaxation response
- Hypnosis

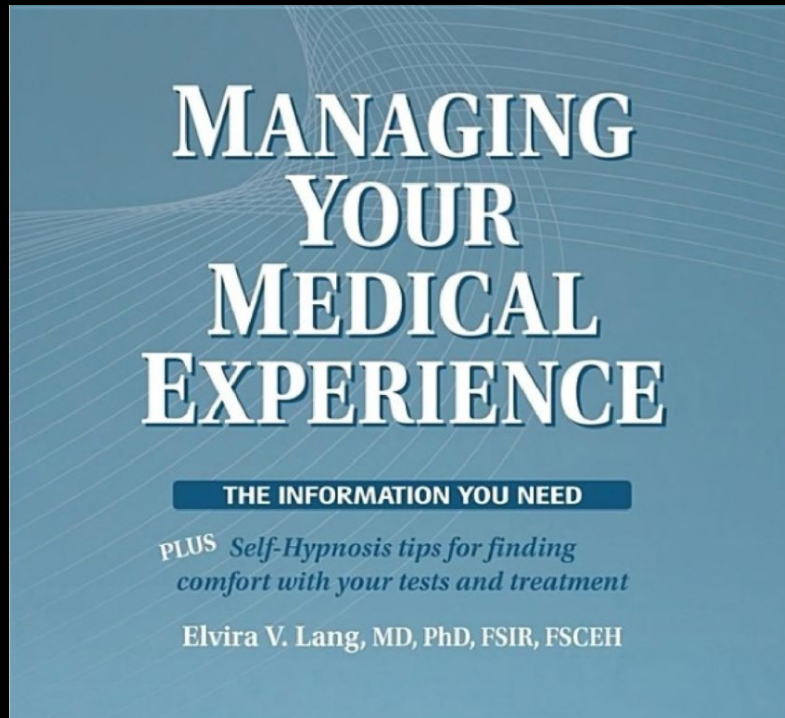
Hypnosis

- Retrospective study found:
 - Improved intraoperative patient comfort
 - Reduced anxiety, pain, and intra-op requirements for anxiolytic and analgesic meds
- In a prospective study using conscious sedation in plastic surgery patients, hypnosis was compared to a stress reduction approach
 - Peri- and post-op pain was lower in the hypnosis group, so were requirements for midazolam and alfentanil
 - Greater intraop control
 - Less postop nausea and vomiting
 - Less signs of discomfort and pain
 - Vital signs more stable

Hypnosis Books for Pain Management



Self-Hypnosis



- The Comfort Talk® Pro App provides step-by-step directions guiding you to utilize your mind's natural ability to reduce stress and bolster your self-confidence without the use of medication. Developed for the iPad, iPhone, and Android systems, it is now available for take-along personal use.

Preemptive and Preventive Pain Psychoeducation

- Preoperative pain education to reduce mismatch between pain expectation and sensation
- Knowledge about various approaches to manage pain during surgery preparation and/or during recovery
- Assessment for anxiety and catastrophizing will determine the level of intervention that may range from education about postoperative care to a more comprehensive approach, e.g. psychiatric treatment, CBT
- Patient centered approach to increased perceived sense of control, reduce fear about surgery, increase patient satisfaction

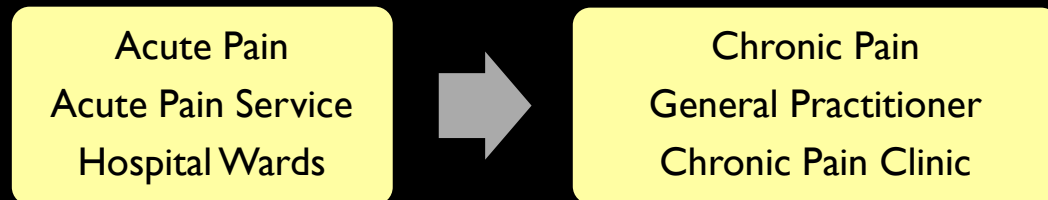
Horn, A., Kaneshiro, K., and Tsui, B. C. H. Preemptive and preventive pain psychoeducation and its potential application as a multimodal perioperative pain control option: A systematic review. *Chronic Pain Medicine* 130(), 33-39 (2020).
<https://doi.org/doi:10.1016/j.hcl.2015.08.005>.

Taking on a new direction...

Transitional Pain Services

Transitional Care – Acute to Chronic Pain Treatment

Old Model



New Model



Example of Consult Criteria

- Current or recent history of chronic pain diagnosis
- Previous or recent history of medication misuse or abuse
- Previous or recent psychological comorbidities
- Current or recent high dose chronic opioid therapy
- Extended release opioids such as methadone or buprenorphine
- History of consuming excessive amounts of postoperative opioids
- Followed by the acute pain service for an extended period of time for poorly managed pain
- Referral by an attending surgeon

Vetter, T. R. & Kain, Z. N. "Role of the Perioperative Surgical Home in Optimizing the Perioperative Use of Opioids". *International Anesthesia Research Society*, 125 (5), 1653-1657 (2017). <https://doi.org/10.1213/ANE.0000000000002280>

Transitional Pain Services

- Delivery of comprehensive pain services
 - Comprehensive pre-operative assessment that continues throughout post discharge

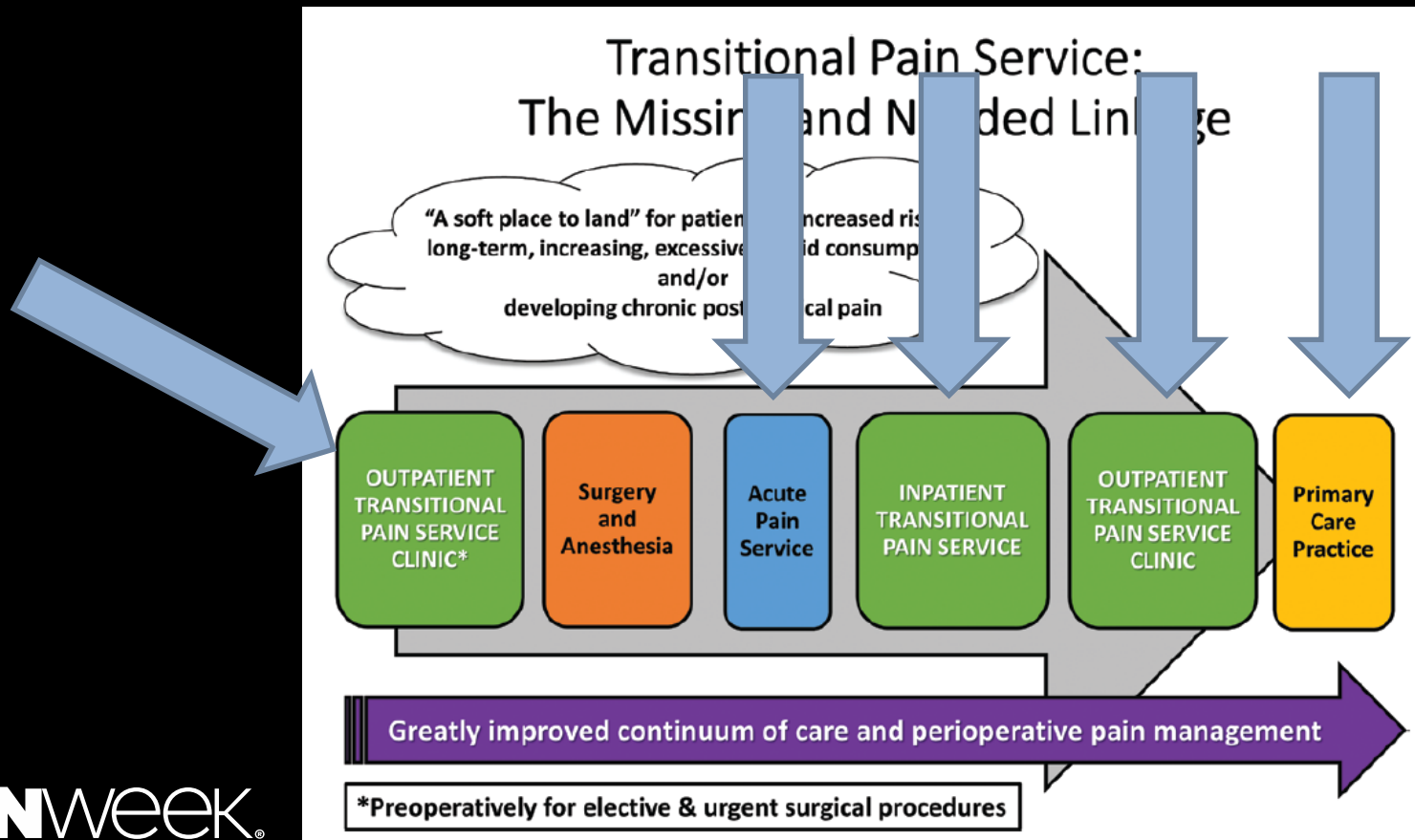


Figure from: Vetter, T. R. & Kain, Z. N. "Role of the Perioperative Surgical Home in Optimizing the Perioperative Use of Opioids". *International Anesthesia Research Society*, 125 (5), 1653-1657 (2017).
<https://doi.org/10.1213/ANE.0000000000002280>

Within a Broader Context – “Pain Out”

- Institutional Change
 - Positive “organizational culture”
 - Institutional culture includes norms, values, and basic assumptions to **embrace change**
 - Academic settings and non-academic settings that value teaching
 - “buy in” from clinicians and administrators to collaborate
 - Teaching staff about the management of perioperative pain

Zalansky, R., Chapman, C. R., Baumbach, P. et al. “Improving perioperative pain management: A preintervention and postintervention study in 7 developing countries.” *Pain Reports*, 1-9 (2019).
[https://doi: 10.1097/PR9.0000000000000705](https://doi.org/10.1097/PR9.0000000000000705)

What are some emerging pain therapies in the perioperative period?

Emerging Pain Therapies

- Regional Analgesia
 - Erector spinae block
 - PECs II block
 - Serratus anterior block
- Perineural Adjuvants
 - Dexmedetomidine
 - Steroids (dexamethasone & methylprednisolone)
 - Buprenorphine
- Liposomal bupivacaine and proliposomal ropivacaine

Erector Spinae Block

- A fascial plane block that involves the delivery of local anesthetics between the erector spinae muscle and the vertebral transverse process.
- Initially described by Forero *et al* for chest wall pathology, and has since been adopted in breast, cardiac, spine and upper limb surgery
- Ongoing debate as to the exact mechanism of this block. Cadaveric studies observed the spread of the injectant into the paravertebral space, neural foraminal, and the epidural space
- While the erector spinae block has demonstrated promising analgesic efficacy, it is not clear how this compares with other truncal blocks. Further studies are needed regarding the optimization of this technique

Forero M, Adhikary SD, Lopez H, et al. The Erector Spinae Plane Block: A Novel Analgesic Technique in Thoracic Neuropathic Pain. *Reg Anesth Pain Med*. 2016;41:621-7

Kot P, Rodriguez P, Granell M, et al. The erector spinae plane block: a narrative review. *Korean J Anesthesiol*. 2019;72:209-20

PECs II Block

- First described by Blanco *et al* for breast surgery. It involves the administration of local anesthetics between pectoralis major and minor, as well as between pectoralis minor and serratus anterior. This is thought to target the pectoral nerve and upper intercostal nerves
- Several recent studies have investigated the efficacy of PECs block in sternotomy and cardiac procedures. The sternum receives sensory innervation from the intercostal nerve, and PECs II block has been shown to target the intercostal nerves between T2 and T6
- Further studies need to be done, as the evidence for the use of PECs II block remains conflicted. Meißner *et al* concluded the efficacy is much lower and questionable when comparing the PECs block to placebo

Blanco R, Fajardo M, Parras Maldonado T. Ultrasound description of Pecs II (modified Pecs I): a novel approach to breast surgery. *Revista española de anestesiología y reanimación*. 2012;59:470-5

Meißner M, Austenfeld E, Kranke P, et al. Pectoral nerve blocks for breast surgery: A meta-analysis. *European journal of anaesthesiology*. 2020

Serratus Anterior Block

- Regional anesthetic technique that delivers local anesthetics into the potential space formed by the serratus anterior and latissimus dorsi muscles. This targets the lateral cutaneous intercostal nerves and provides analgesia to the ipsilateral hemithorax between T2 and T9
- As with other truncal blocks, further research is needed regarding the efficacy and clinical utilization of this technique

Blanco R, Parras T, McDonnell JG, et al. Serratus plane block: a novel ultrasound-guided thoracic wall nerve block. *Anaesthesia*. 2013;68:1107-13

Andersen KG, Kehlet H. Persistent pain after breast cancer treatment: a critical review of risk factors and strategies for prevention. *J Pain*. 2011;12:725-46

Emerging Pain Therapies

- Perineural Adjuvants
 - Dexmedetomidine
 - Steroids (dexamethasone & methylprednisolone)
 - Buprenorphine

Perineural Adjuvants – Dexmedetomidine

- Dexmedetomidine is a highly selective α -2 adrenergic agonist initially developed as a sedative agent. It has analgesic properties attributable to its effect on cerebral and spinal α -2 receptors
- Several clinical trials and meta-analyses have reported that perineural dexmedetomidine administration is associated with faster block onset, longer duration of sensory block and reduced postoperative opioid requirement
- Duration of motor block is also prolonged with perineural dexmedetomidine administration, which may be of concern with ambulatory surgery

Carollo D, Nossaman B, Ramadhyani U. Dexmedetomidine: a review of clinical applications. Current opinion in anaesthesiology. 2008;21

Hussain N, Grzywacz V, Ferreri C, et al. Investigating the Efficacy of Dexmedetomidine as an Adjuvant to Local Anesthesia in Brachial Plexus Block: A Systematic Review and Meta-Analysis of 18 Randomized Controlled Trials. Regional anesthesia and pain medicine. 2017;42

Dai W, Tang M, He K. The effect and safety of dexmedetomidine added to ropivacaine in brachial plexus block: A meta-analysis of randomized controlled trials. Medicine. 2018;97

Perineural Adjuvants – Steroids

(Dexamethasone & Methylprednisolone)

- **Dexamethasone** is a synthetic glucocorticoid with minimal efficacy on mineralocorticoid receptors. Systemic administration of dexamethasone reduces postoperative pain, fatigue, nausea and vomiting
 - Perineural administration of dexamethasone promotes the expression of membrane potassium channels, thereby reducing the excitability of neurons
- **Methylprednisolone** is a synthetic glucocorticoid with high receptor affinity and minimal mineralocorticoid activity.
 - It works by inhibiting peripheral phospholipase and decreasing products produced by the cyclooxygenase and lipoxygenase pathways.

Liu X, Liu J, Sun G. Preoperative intravenous glucocorticoids can reduce postoperative acute pain following total knee arthroplasty: A meta-analysis. *Medicine*. 2017;96

Murphy G, Szokol J, Greenberg S, et al. Preoperative dexamethasone enhances quality of recovery after laparoscopic cholecystectomy: effect on in-hospital and postdischarge recovery outcomes. *Anesthesiology*. 2011;114

Som A, Bhattacharjee S, Maitra S, et al. Combination of 5-HT3 Antagonist and Dexamethasone Is Superior to 5-HT3 Antagonist Alone for PONV Prophylaxis After Laparoscopic Surgeries: A Meta-analysis. *Anesth Analg*. 2016;123:1418-26

Perineural Adjuvants – Steroids

(Dexamethasone & Methylprednisolone)

- The current evidence suggests steroids are an efficacious regional anesthesia adjunct that can increase duration of analgesia.
- Systemic intraoperative dexamethasone is already frequently used for PONV prophylaxis.
- The choice of systemic versus perineural administration will require further study

Emerging Therapies: Opioid & Non-opioid Pharmacotherapy

- Opioid
 - Oliceridine
 - Tapentadol
 - Methadone
 - Dinalbuphine

- Non-opioid
 - Intravenous lidocaine infusion
 - Wound infusion catheters
 - Esmolol
 - Dextromethorphan

Case Examples

Case 1

- 23 y/o female with a severe degloving injury to the right knee that required multiple orthopedic and plastic surgeries.
- This injury was sustained during a train derailment that resulted in over fifty passengers injured and four fatalities. One of the fatalities was in close proximity to her.
- Course was complicated by infections. She required antibiotic treatment and frequent washouts. Consulted with infectious diseases.
- She displayed acute stress disorder symptoms (precursor to PTSD) and agreed to receive mental health treatment (psychiatry and psychology) after some hesitation

Case 1

- Psychological treatment entailed: learning to elicit the relaxation response, attention diversion, sleep management, goal setting, mindfulness meditation, and behavioral activation.
- Managing stressors (interpersonal conflict and litigation) was also a key component of treatment.
- Focus on nutrition and exercise
- Desire to reduce reliance on medications
- Over time there were increases in self-efficacy, as well as decreases in anxiety and depression symptoms. Level of functioning improved after completion of surgeries and litigation ended. She was eventually able to return to work

Case 2

- 32 y/o married male living with his wife and two children (3 & 5 y/o)
- Medically refractory Crohn's disease
- Perianal fistula, abscesses
- Procedure for anorectal remnant removal on 12/16/2021, s/p ileoscopy and anoscopy 3/24/21 with continued perineal pain
- Suboxone (not much relief)
- Tried acupuncture and hoped that hyperbaric oxygen would help
- Endorsed depression and anxiety symptoms surrounding his medical condition
- Has a history of self-escalating doses of opioids after surgery and reports having pain that is not adequately managed

Medications Trialed for Pain Management

- Percocet
- Tramadol
- Methadone
- Cymbalta
- Tricyclic antidepressants
- Topiramate
- Gabapentin
- Medical Marijuana

Course of Treatment

- Post-op pain management not effective and patient would increase pain medication doses (medication misuse). Would call for early refills. Transitioned from oxycodone to suboxone
- Undertreated pain vs. possible opioid use disorder.
- Patient expressed concern that he may be “addicted” to his pain medications and has needed them after surgeries since he was 14 y/o.
- Pain medications were always prescribed based on patient report.
- Was referred to addiction psychiatry who evaluated this patient and placed him on a higher dosage of suboxone.
- Has not seen outpatient pain management in the last few months.

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Questions or Comments?

