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Psychiatry and Addictions Case Conference

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MANAGING ACUTE PAIN IN PATIENTS ON MEDICATIONS FOR OPIOID USE DISORDER

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SPEAKER DISCLOSURES

- ✓ No conflicts of interest
- ✓ Other disclosures: I'm an addiction psychiatrist, not a pain specialist

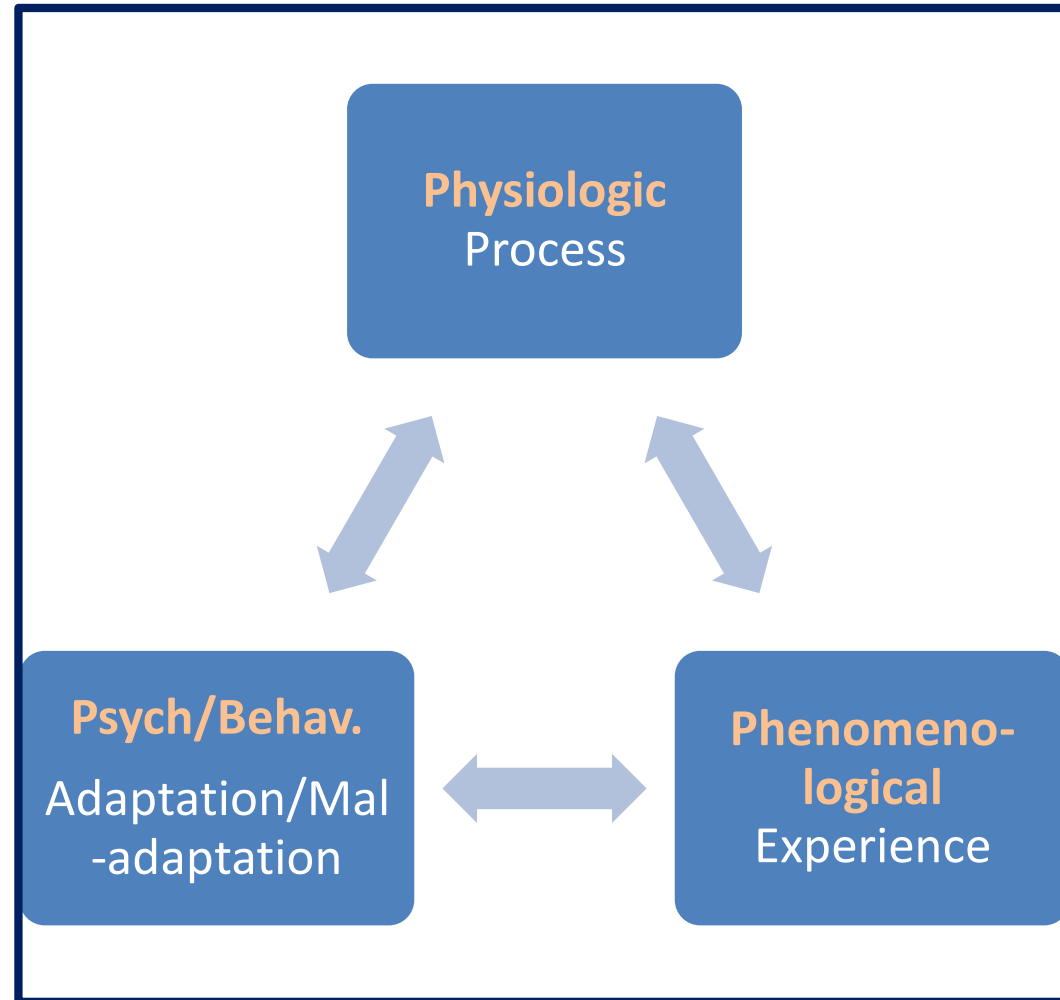
OBJECTIVES

1. Enhance understanding of pain as a complex phenomenon
2. Explore rationale and options for multi-modal analgesia (MMA)
3. Identify challenges to pain management & strategies for MMA in patients on medications for opioid use disorder (OUD)

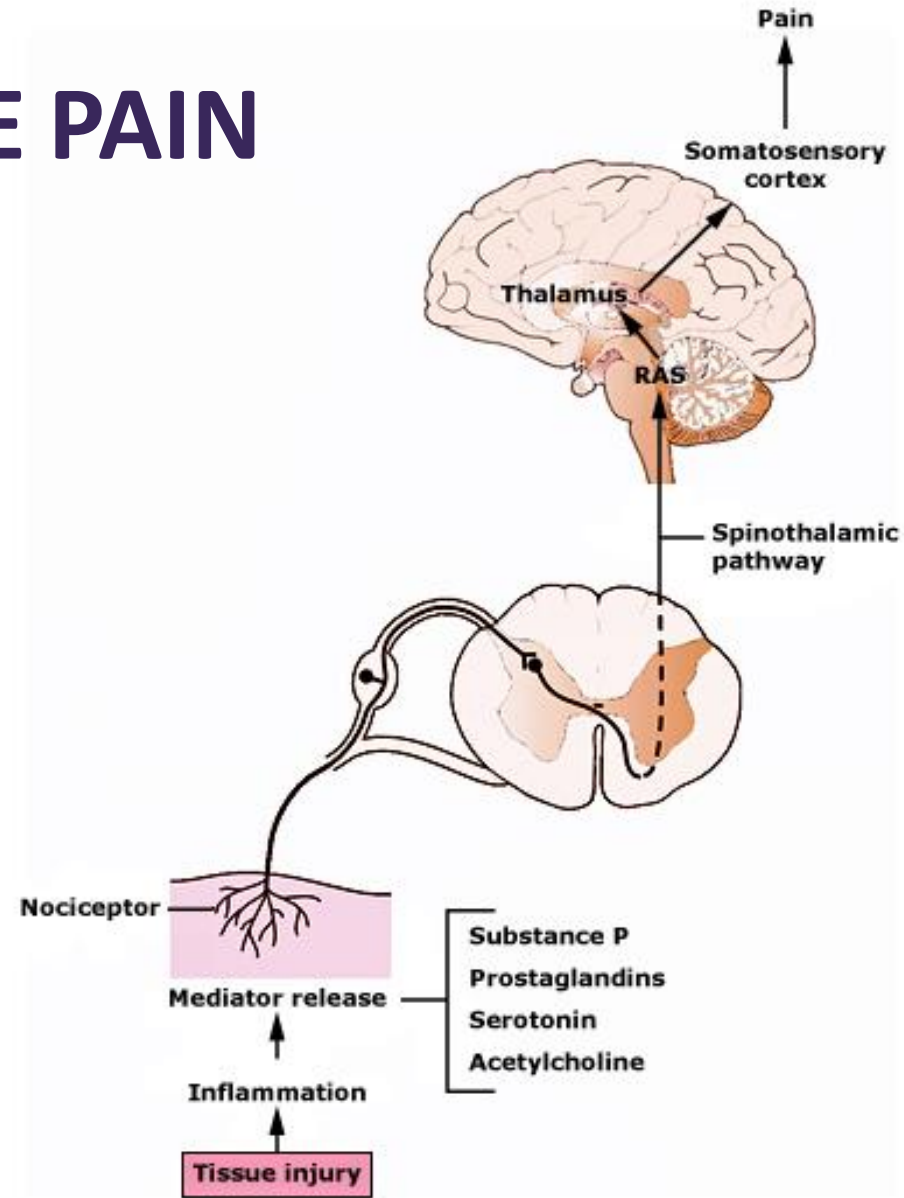
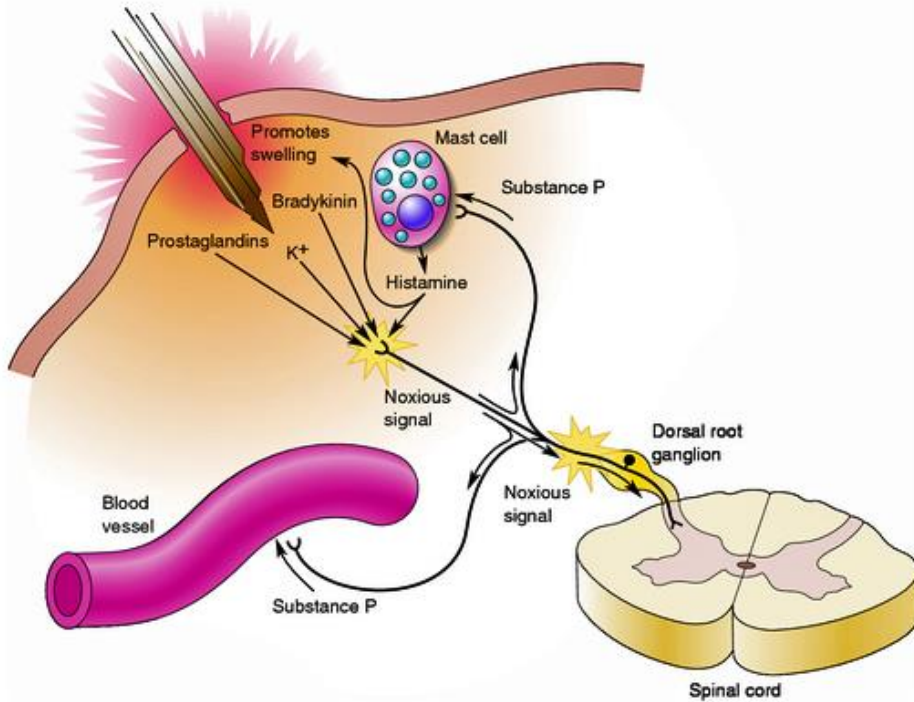
PAIN...IS COMPLICATED

All pain's not the same!

- Etiology
 - Nociceptive
 - Neuropathic
 - (other?)
- Chronicity:
 - *Acute* (duration of tissue healing, often <1mo)
 - *Subacute* (1-3mo)
 - *Chronic* (>3mo)
- Severity, tolerability can be shaped by:
 - Central Sensitization Syndrome
 - Hyperalgesia (eg, w/chronic opioids)
 - Comorbid anxiety/affect
 - Comorbid medical conditions

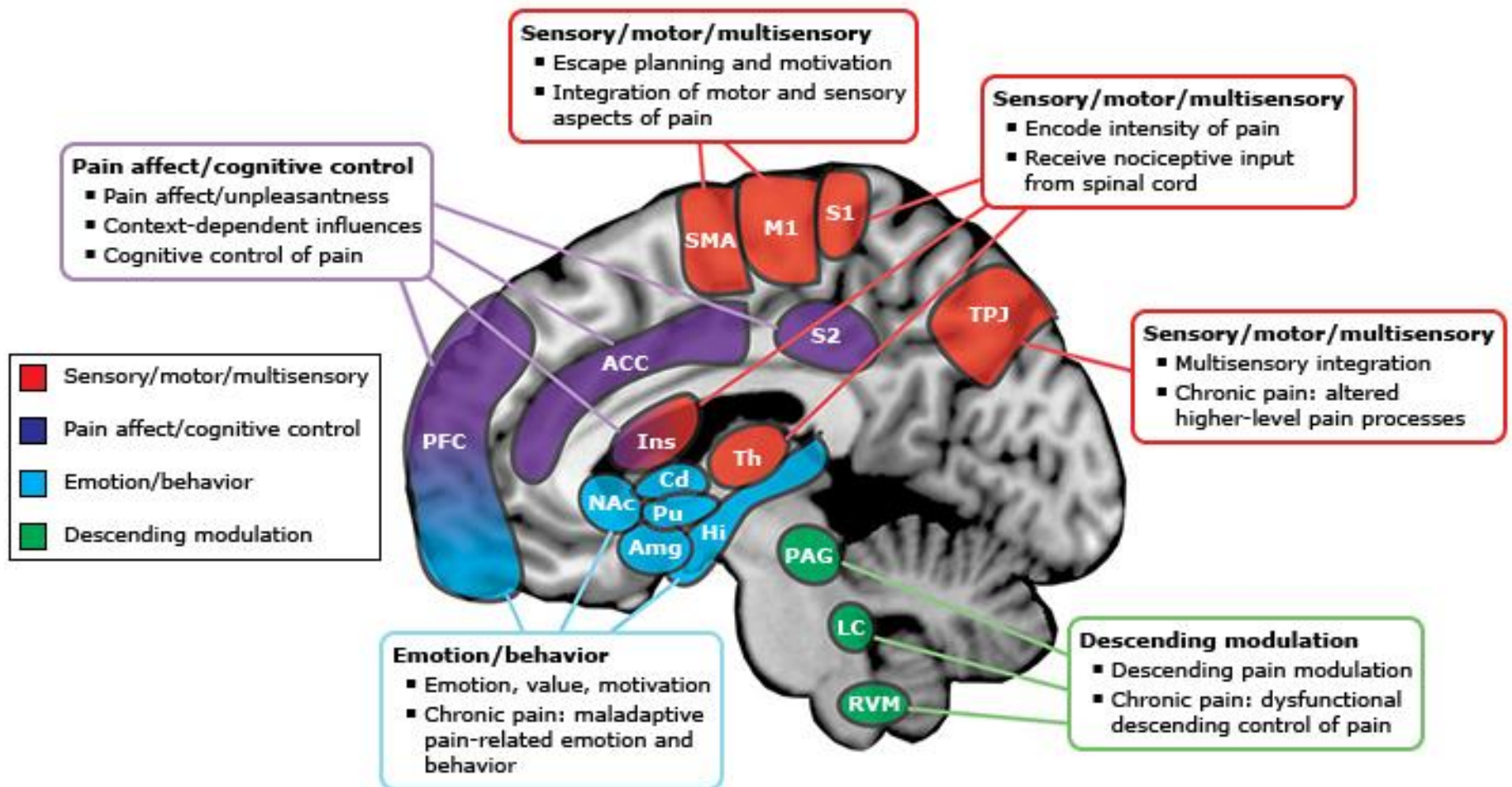


ACUTE NOCICEPTIVE PAIN



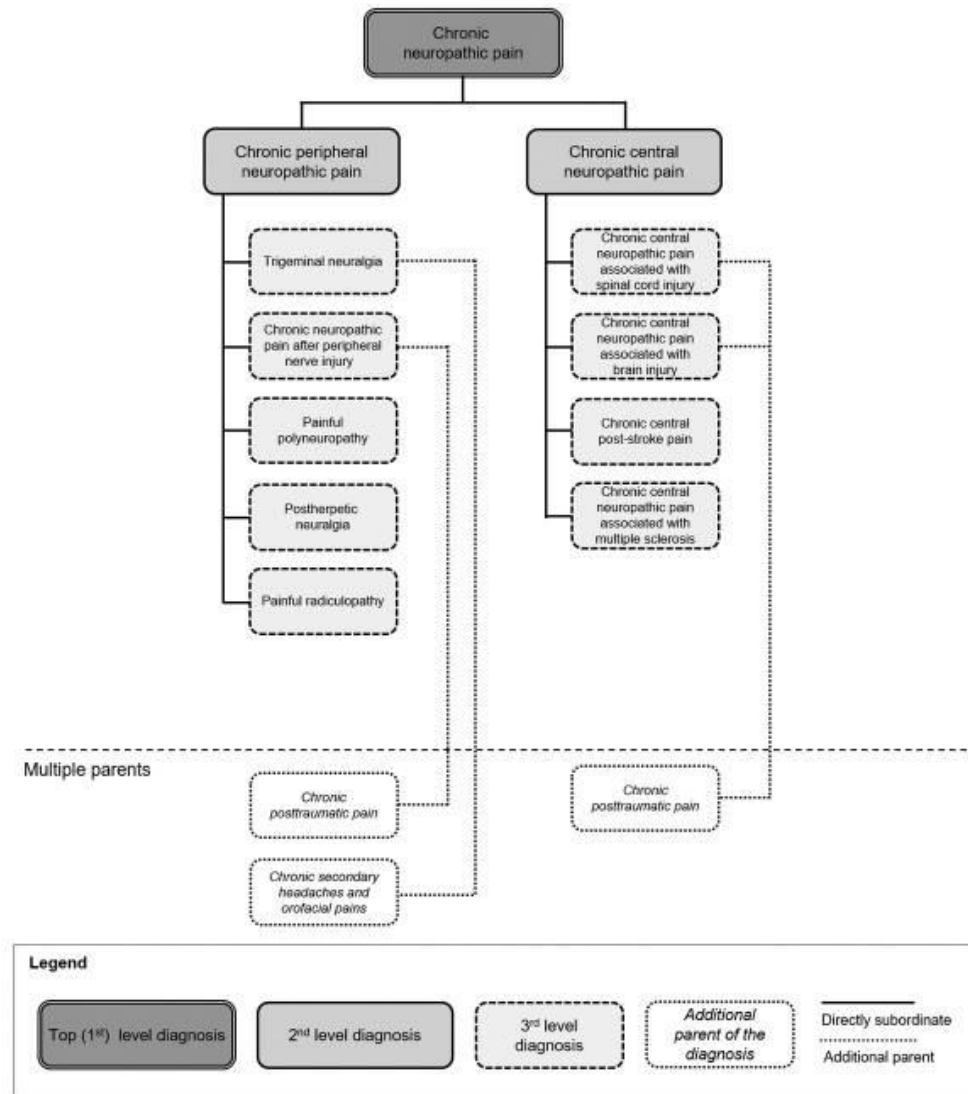
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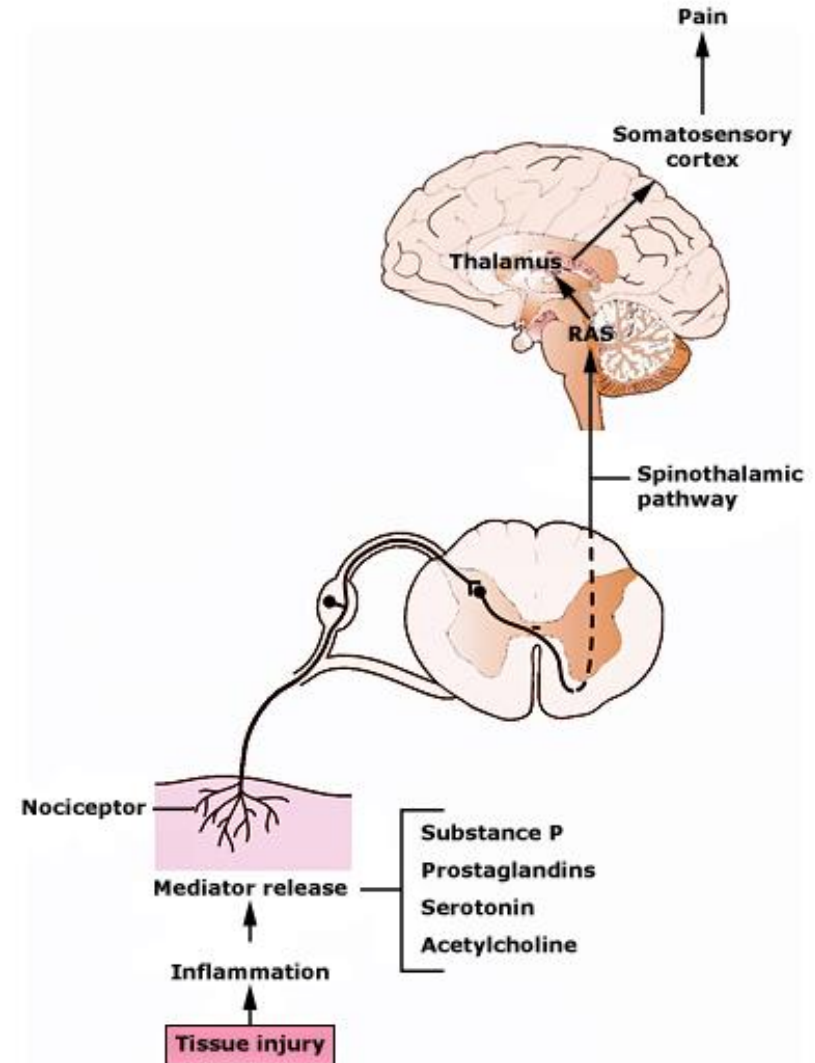
NEUROPATHIC PAIN (NP)

- Lesions/diseases of somatosensory nervous system --> pain sensitivity & spontaneous pain.
- NP can become chronic, w/continuous or recurrent episodes.
- Can be 2/2 various disorders impacting peripheral or central nervous system, e.g.:
 - Metabolic disease (e.g., DM)
 - Neurodegenerative ds
 - Vascular insults
 - Autoimmune ds
 - Tumor or trauma
 - Infection
 - Exposure to toxins
 - Hereditary disease.
 - Idiopathic neuropathies.
- Etiologies of hypersensitivity & spontaneous pain:
 - complex, often w/unclear relationships to underlying disease process.



PAIN, IN SUMMARY

- 1. *The hard truth:*** Pain is complicated
- 2. *A positive reframe:***
Because it's complicated, there are multiple potential sites for intervention



ASSESSMENT

ENGAGE, ASSESS, EDUCATE, COLLABORATE, COORDINATE CARE

- Empathetic, non-judgmental, and open approach
- Take patient's symptoms & concerns seriously
- Thorough assessment – Treatment tied to etiology:
 - What hx, PE, imaging, other studies are required for dx?
 - Which pain pathways to target
- Develop shared & reasonable tx goals, expectations
 - Pain management (not elimination)
 - Focus on function
 - Anticipate pain-illness course (reduce uncertainty)
- Review treatment options & their rationales
 - Outline the components and value of a multimodal approach
- Commit to ongoing coordination with patient and other providers

PAIN ASSESSMENT

Pain (QISS-TAPED)

Q = Quality

I = Impact

S = Site

S = Severity

T = Temporal Characteristics

A = Aggravating & Alleviating Factors

P = Past Treatment & Response,
Patient Preferences

E = Expectations, Goals, Meaning

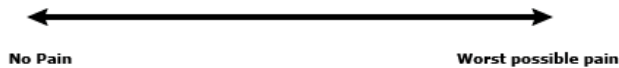
D = Diagnostics, physical exam

Approach

- Establish rapport
- Listen to the patient's story
- Use open ended questions in non-judgmental fashion
- Anticipate anxiety, fear
- Discuss prior experiences
- Listen for & reflect concerns about bias, stigma, problems with medical care

... AND ONGOING RE-ASSESSMENTS

A



B

What does your pain feel like?

0 1 2 3 4 5 6 7 8 9 10

None Mild Moderate Very bad Unbearable

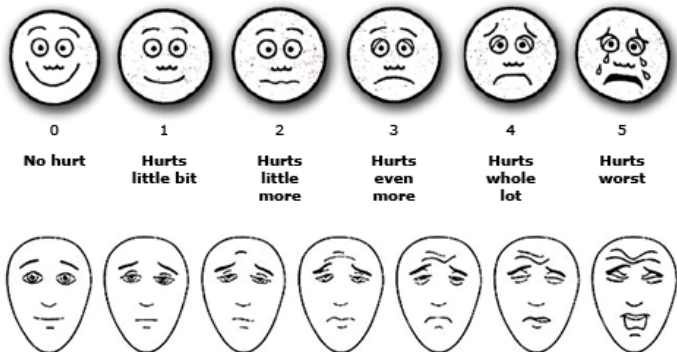
Date: _____

C

Choose the word that best describes your pain:

- None
- Mild
- Moderate
- Severe

D



Descriptor	Definition
No Pain (0)	No pain
Minimal (1)	Hardly noticeable/no impact on ADL's/sleep not affected and able to use passive distraction for comfort. Mild range order
Mild (2)	Noticeable when not distracted/no impact on ADL's/sleep only slightly affected and able to use both passive and active distraction for comfort. Mild range order
Uncomfortable (3)	Pain is present but can complete all ADL's/sleep is slightly affected and passive distraction only gives marginal relief. Mild range order
Moderate (4)	Constantly aware of pain but can complete ADLs with modification/sleep marginally affected at times/passive distraction is of no use, but active distraction gives some relief. Moderate range order
Distracting (5)	Aware of pain/able to complete some ADL's but limited by pain/sleep is affected and active distractions are only slightly useful. Moderate range order
Distressing (6)	Pain is present/unable to complete most ADLs limited by pain/sleep is difficult and active distraction is only marginal. Moderate range order
Unmanageable (7)	Pain interferes with normal ADL's/nothing seems to help/sleep is very difficult/active distractions are very difficult to concentrate on. Severe range order
Intense (8)	Cannot complete any ADLs without much assistance/cannot concentrate/conversation is difficult/unable to sleep and unable to use distraction. Severe range order
Severe (9)	Cannot do any ADL's even with assistance can barely talk/unable to sleep and unable to use distraction. Severe range order
Immobilizing (10)	Unable to move or talk due to intensity of pain/unable to sleep and unable to use distraction. Severe range order

TREATMENT

TREATMENT GOALS

- Improve function:
 - ↓time to return to (old or new) baseline of physical, social, psychological function/ability
- Improve patient's experience:
 - Reduction in pain (freq., intensity, impact)
 - Quality of life (expand life-world, enhance agency, increase capacity to derive joy & purpose from relationships & healthy activities)

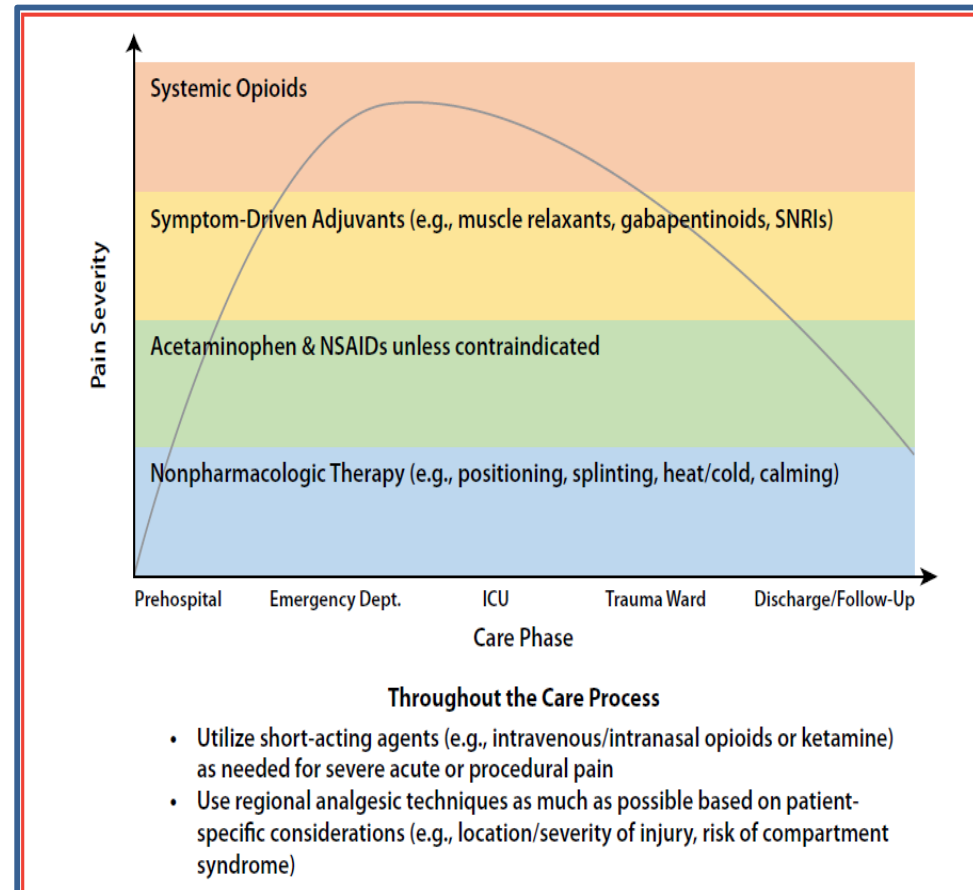
MMA ACROSS THE CARE CONTINUUM

Across care spectrum, MMA can involve:

- Multiple clinicians/services and treatments
- Rxs: combo APAP, NSAIDs, SNRIs, TCAs, gabapentinoids, opioids, other analgesic Rxs, local & regional analgesia
- Cognitive modalities
- Physical modalities

MAA should involve:

- Patient-centered approach
- Consent around risks/benefits of treatment options (and what rxs are targeting)
- Edu re expected recovery timeline for recovery
- Flexible plan for de-escalation of treatment, transition from severe acute pain towards recovery.



(ACS TQP Figure 3 & Table 10 pg 53-54)

IN ALL CASES, AIM FOR A BALANCED, MULTI-MODAL ANALGESIA

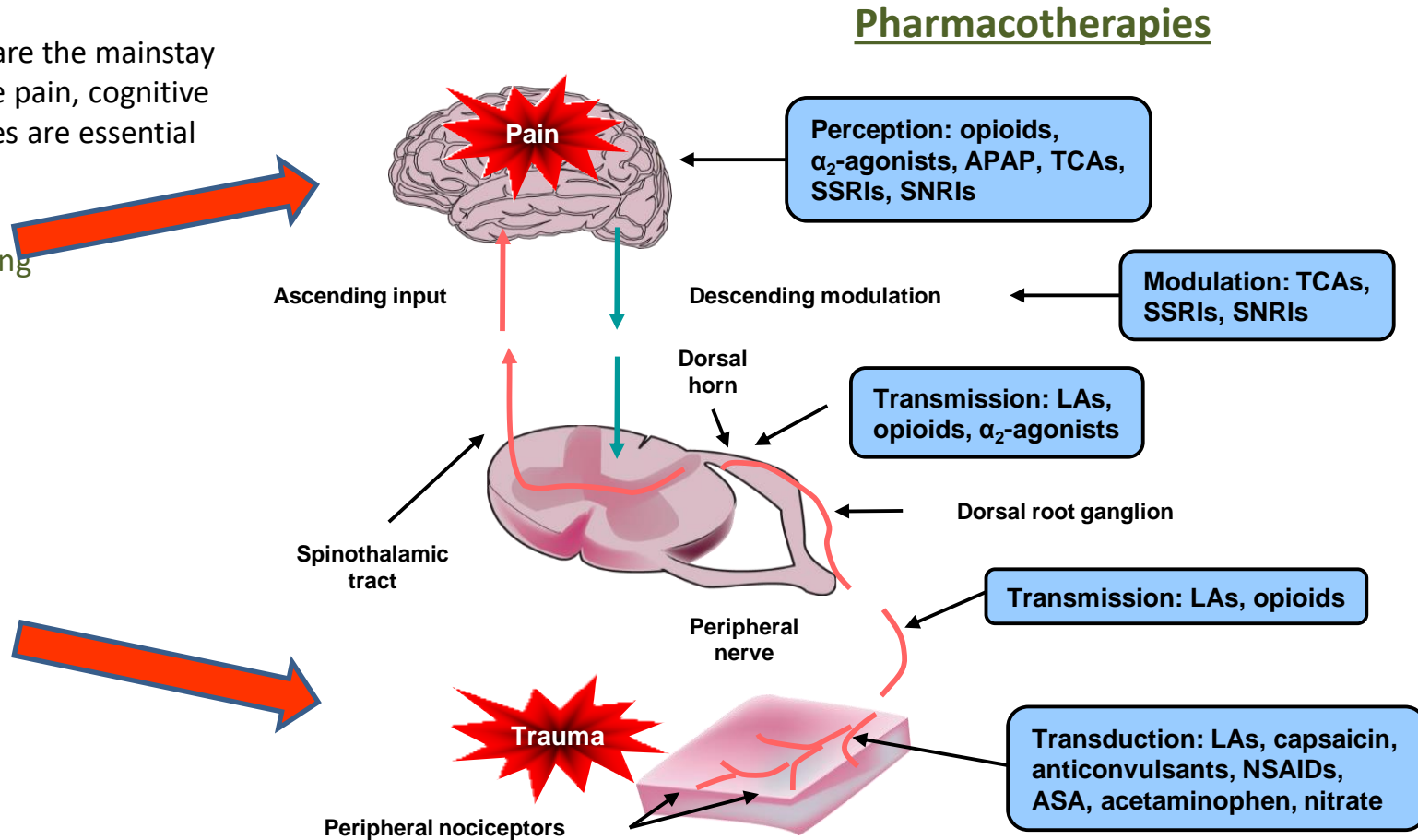
Although analgesics are the mainstay for mod/severe acute pain, cognitive and physical strategies are essential

Cognitive

- Education/counseling
- Distraction
- Relaxation
- Music
- Hypnosis
- Meditation
- CBT...

Physical

- Cold
- Heat
- TENS
- Massage...



TCAs=tricyclic antidepressants; SSRIs=selective serotonin reuptake inhibitors; SNRIs=serotonin-norepinephrine reuptake inhibitors; LAs=local anesthetics; NSAIDs=nonsteroidal anti-inflammatory drugs; ASA=aspirin.

NON-PHARMACOLOGIC STRATEGIES

- **Treat underlying cause(s) of pain!**
- **Physical techniques** (e.g., Cold, Heat, TENS, Massage, PT, acupuncture):
 - Can provide comfort, reduce inflammation, correct physical dysfunction, & alter physiologic responses
- **Cognitive/behavioral strategies** (e.g., psychoeducation, distraction, relaxation, music, hypnosis, meditation, CBT-pain techniques):
 - Can help patients understand pain, alter pain behavior, enhance coping skills, change perception of pain, ↓ anxiety/affective distress, ↓ excess RXs

NON-PHARMACOLOGIC STRATEGIES

– ACUTE PAIN

- Current evidence base stronger for cognitive rather than physical strategies (particularly in the acute care setting).
- Many require little specialized training (some are used as part of routine care); others may require more extensive training.
- Tailor to needs of individual pts & resources available

Therapy	Evidence Base in Trauma/Burn Care	Expertise Required	Associated Cost
Cognitive Strategies			
Animal-assisted therapy	Low	Moderate	Moderate
Cognitive behavioral therapy	Moderate ^{A,B}	Moderate	Low
Hypnosis	Moderate ^{C,D}	High	Moderate
Mindfulness	Low ^{B,C}	Moderate	Low
Music therapy	Moderate ^C	Low	Low
Virtual reality	High ^D	Low	High
Physical Strategies			
Acupuncture	Moderate ^{D,E}	High	High
Aromatherapy	Moderate ^{D,E}	Low	Low
Iontophoresis	Moderate ^E	High	High
Immobilization	Moderate ^E	Low	Low
Massage therapy	Moderate ^{A,D}	Moderate	Low
Temperature therapy (cold)	Low	Low	Low
Temperature therapy (heat)	Moderate ^E	Low	Low
Transcutaneous electrical nerve stimulation (TENS)	High ^E	Moderate	High
Ultrasound	Moderate ^F	High	High

Key: ^ASpinal cord injury, ^BChronic pain, ^CExtremity/orthopaedic trauma, ^DBurn, ^EPerioperative/acute pain, ^FMuscle/tendon injury. (ACS TQP Figure 3 & Table 10 pg 53-54)

BENEFITS OF NON-PHARMACOLOGIC STRATEGIES

- Reduced anxiety
- Improved mood
- Increased sense of control over pain
- Decreased discomfort
- Improved sleep
- Decreased fatigue
- Improved function
- Restored hope
- Improved quality of life
- Reduce excess pharmacotherapy
- Decrease risk of chronic pain

ORAL PHARMACOLOGIC STRATEGIES (NON-OPIOID)

- **Acetaminophen**
 - APAP 325-1000mg PO Q4-6hr (max dose 4 g/day)
- **NSAIDs**
 - **Nonselective NSAIDs**
 - Ibuprofen (400mg Q4-6hr); Diclofenac (50 mg three times daily)
 - (Preoperative PO NSAIDs for elective minor surgery ↓ postoperative pain; post-op NSAIDs decrease PRN morphine requirement)
 - **COX-2 inhibitors** In Cochrane reviews of RCTs of postoperative pain control, use of Celecoxib (200-400 mg PO), etoricoxib (120mg PO)
 - Delays and decreases the opioids for breakthrough pain
 - Several trials suggest have greater analgesic effect & tolerability than opioids, were similar to nonselective NSAIDs for postoperative pain management
 - (Note: "black-box" warning regarding CV risk, appears associated with long-term use.)

ORAL PHARMACOLOGIC STRATEGIES (NON-OPIOID), CONT.

- **SNRI/TCAs:** (nortriptyline, amitriptyline, desipramine; duloxetine, venlafaxine, milnacipran)
 - Early analgesic effects ~1wk, w/maximum benefit delayed weeks/months
 - Consider for pt's with comorbid anxiety/depression and/or pre-existing chronic pain
- **Gabapentinoids:**
 - Gabapentin (300-600mg PO X1 pre-op) or Pregabalin (75-150mg PO X1 pre-op)
 - And can schedule and titrate as tolerated BID/TID for ongoing acute/subacute pain.
 - SEs: sedation and dizziness, possible respiratory depression in older pts or in combo w/other meds
 - Note: **stronger evidence for chronic, neuropathic pain** than acute pain; but *may* reduce risk of chronic post-op pain, duration of PRN opioids (in **non-dependent pts**)
- **Alpha-2 receptor agonists**
 - clonidine 0.1-0.2mg BID, as tolerated (analgesic effect enhanced w/concurrent opioid)
 - tizanidine 2-4 mg TID-QID PRN
- **Muscle relaxants** (baclofen 5mg TID; methocarbamol 750mg q8h prn)
- **Local/topical anesthetics** (lidocaine patches, capsaicin/other topicals)
- **Others:**
 - Low dose naltrexone; other anti-seizure meds (e.g., carbamazepine)
 - Rarely: ketamine or memantine (NMDA receptor antagonists), outpatient lidocaine infusions

KETAMINE

- Usually used only in acute care settings
- N-methyl-D-aspartate (NMDA) antagonist that can inhibit induction and maintenance of central sensitization (“wind-up”) after painful stimuli
 - Pain Reduction
 - Analgesic opioid sparing (5-20mg MED/day)
- Mind-altering effects do occur, are not usually problematic (RR 1.27)
- UW does not use weight-based dosing, start at 8mg/hr, max 15mg/hr

Snijdelaar DG et al, *Anaesthesia* 2004;59(3):222-228.

Unlugenc H et al, *European Journal of Anaesthesiology* 2003;20:416-21.

Wang L, et al, *Canadian Journal Anaesthesia* 2016;63(3):311-325.

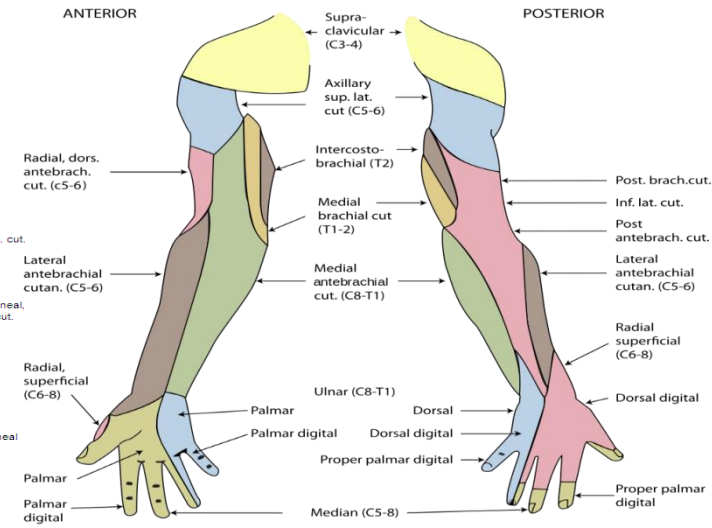
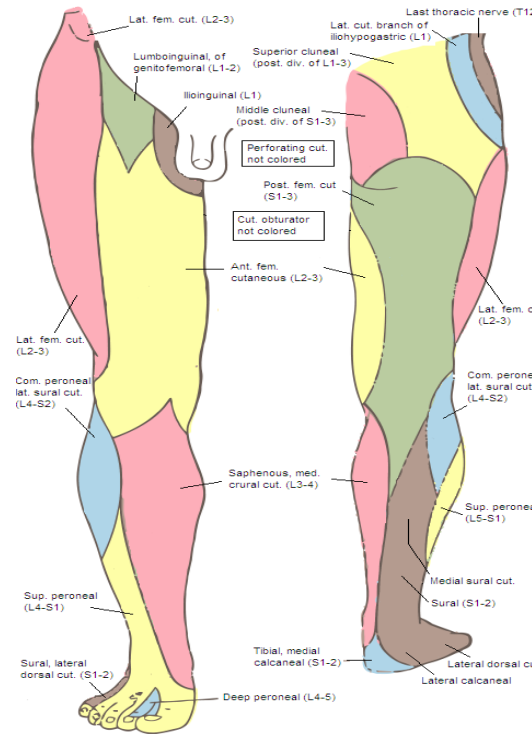
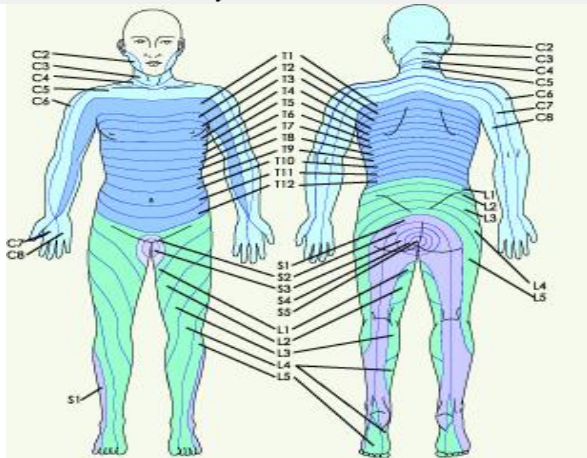
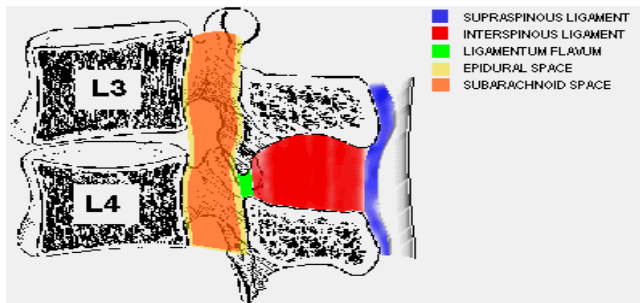
Schwenk ES et al. *Regional Anesthesia and Pain Medicine* 2018;43(5):456-466

Slide adapted, with permission, from presentation by Deb Gordon, DNP (Harborview Acute Pain Service)

NEURAXIAL AND REGIONAL ANALGESIA

- Epidural

- Peripheral Nerve Block



4% LIDOCAINE SOLUTION PRE-DRESSING CHANGE

- Lidocaine 1mg/kg applied topically without impairment of healing
- Wound size limits volume used due to potential systemic toxicity
- Normal saline may dilute making less effective
- Apply 20-30 minutes prior
- >50% may report stinging
- Short half-life allows for reapplication

(CHRONIC) NEUROPATHIC PAIN

- CNP treatment often combines Rx & non-Rx
- Pharmacotherapies:
 - High-to-moderate quality evidence:
 - Gabapentin, pregabalin
 - SSRIs, SNRIs, TCAs.
 - Topical/patches lidocaine or capsaicin
 - Botulinum toxin Subcut. inj
 - Limited utility
 - Opioids – reserve for patients not responding to tx alternatives (e.g., methadone for complex cancer-related mixed nociceptive/neuropathic pain.)
 - NSAIDs, sadly, have no proven efficacy against neuropathic pain

MMA in the setting of MOUD

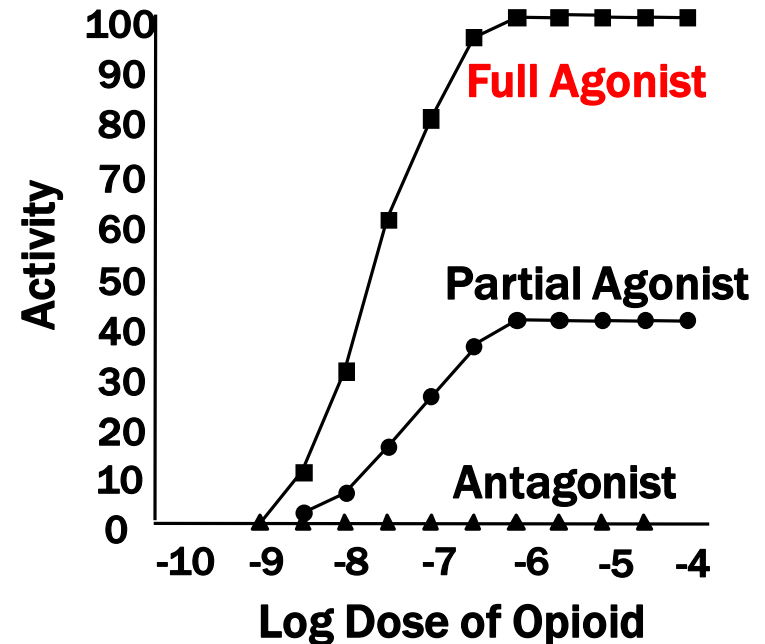
PAIN IN OPIOID USE DISORDER – A SPECIAL CASE

- Chronic opioid exposure:
 - Tolerance, physiologic dependence
 - Hyperalgesia, alterations in pain thresholds and experience
- Addiction's psychological and social valences
 - Patients' & Providers' prior experiences, preconceptions, & anxieties
 - Ineffective pain management ↑ risk of disengagement from care, return to use
- Impacts of MOUD
 - Alters Sensitivity to Opioids
 - ↓ / ↑ Sensitivity (tolerance; occupation of μ -receptors; up/down-regulation of μ -receptors)

METHADONE

METHADONE as MOUD

- Full mu agonist
 - SEs: sedation, respiratory depression, constipation
 - [Also, relevant for pain, some NMDA antagonism & SNRI activity]
- Slower onset (peak effects ave 3-5 hrs.)
- Long duration
 - half-life ~8-60hrs)
 - serum levels rise for ~4-6 days (stacking)



PAIN AND *METHADONE*

- Continue outpt methadone dose
- Treat pain w/MMA as you would for any other pt.
 - Opioids:
 - Short-acting:
 - However, *may* need higher short acting doses of opioids (vs opioid naïve patients)
 - Depending on context, can be scheduled, prn, PO/IV
 - Monitor for SEs (constipation, respiratory suppression)
 - Methadone: generally not titrated for acute (+/- evidence for splitting of maintenance dose)
 - Non-opioid:
 - Emphasize PT, regular activity, other non-pharm modalities
 - Can use combination of APAP, SNRIs/TCAs, muscle relaxants, topical (lidocaine, capsaicin, heat, etc), anticonvulsants, NDAIDs/COX-2Is & ASA (judiciously)
 - Consider pain consult for difficult-to-manage or complex pain

BUPRENORPHINE

BUPRENORPHINE-NALOXONE as MOUD

-*Partial* mu agonist with high receptor *affinity*

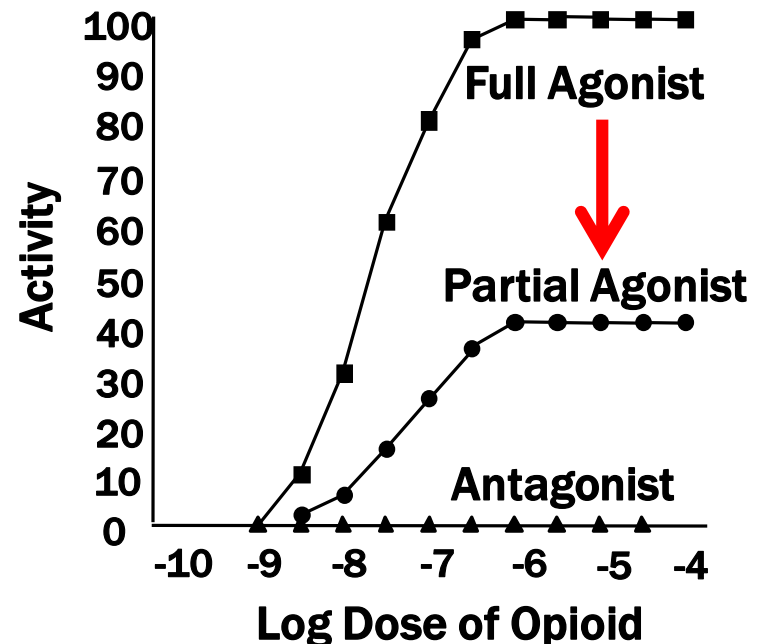
- Ceiling Effect
 - Note: some evidence analgesic effects don't abide by same ceiling
- "Blocks" opioid receptor

-Onset (peak serum & peak effect depend on formulation)

e.g., 45min & 2-3hrs, respectively, for SL.)

-Long duration

- half-life ~20-40hrs



**SO, YOUR PATIENT ON
BUPRENORPHINE...**

....HAS AN UPCOMING PROCEDURE,

**...OR PRESENTS TO YOUR ED WITH A
SIMPLE CLAVICULAR FRACTURE**

BUPRENORPHINE & ACUTE PAIN

Common concerns:

– Partial agonist

- Helpful for pain?

 - For what kind and severity of pain?

 - At what dose?

- Do I stop, continue, modify buprenorphine dosing?

– High mu-receptor affinity

- Will other opioids work?

- Will we precipitate withdrawal if we use other opioids?

BUPRENORPHINE - GENERAL GUIDANCE

In vast majority of cases...

- Bup-Nal will ***not*** prevent adequate pain control
- Advisable to ***continue buprenorphine w/option for:***
 1. Utilizing standard **non-opioid** pain management
 2. **Buprenorphine: split-dose, Q4-8hr, titration**
 3. Can use concurrent **full agonist opioids** for breakthrough pain if needed

<https://www.bridgetotreatment.org/resources>

Anna Lembke, Einar Ottestad, Cliff Schmiesing, Patients Maintained on Buprenorphine for Opioid Use Disorder Should Continue Buprenorphine Through the Perioperative Period, *Pain Medicine*, Volume 20, Issue 3, March 2019, Pages 425–428, <https://doi.org/10.1093/pm/pny019>

Goel, Akash et al. Perioperative Pain and Addiction Interdisciplinary Network (PAIN) clinical practice advisory for perioperative management of buprenorphine: results of a modified Delphi process. *British Journal of Anaesthesia*, Volume 123, Issue 2, e333 - e342

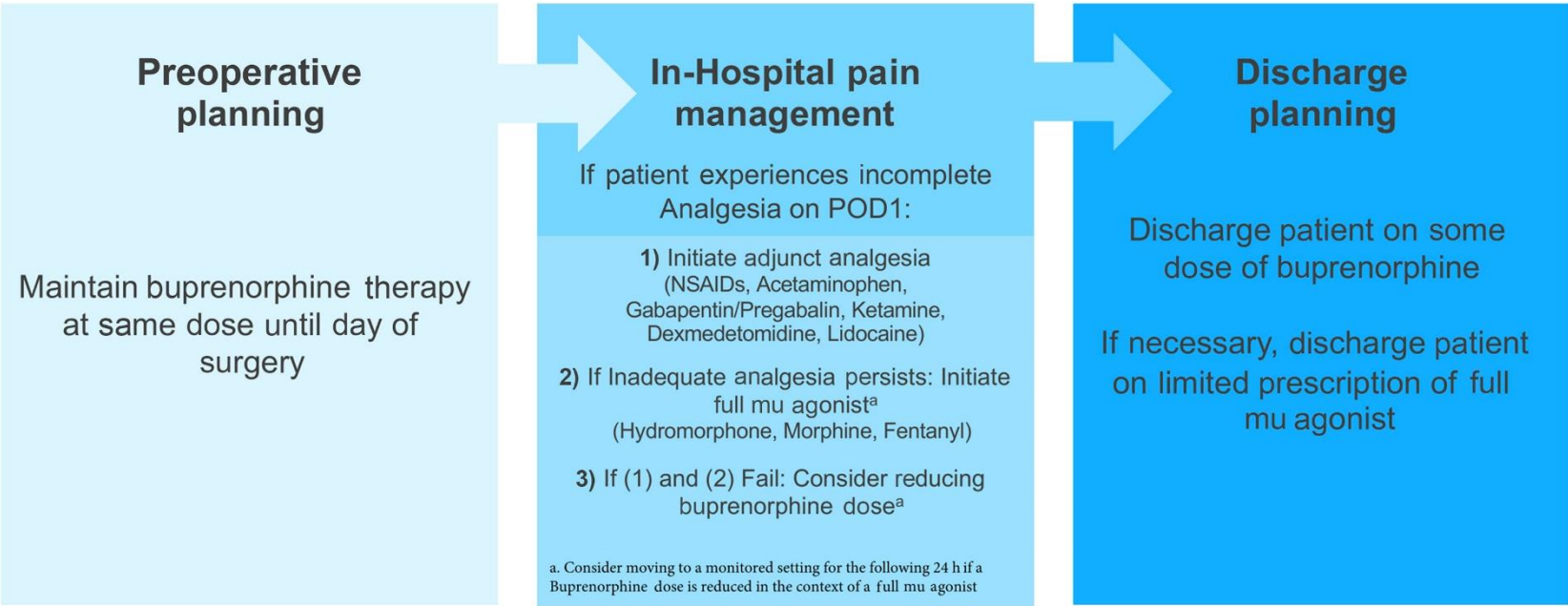
Cooper R, Vanjani R, Trimbura MC. Acute Pain Management in Patients Treated With Buprenorphine: A Teachable Moment. *JAMA Intern Med*. 2019;179(10):1415–1416. doi:10.1001/jamainternmed.2019.3103

FULL AGONIST OPIOID

- Can be added to maintenance Bup to provide synergistic analgesia.
 - Will NOT cause withdrawal if added to Bup.
- *Consider use of Higher-Affinity full agonist Opioids:*
 - Hydromorphone (PO/IV/PCA)
- Titrate to analgesia, monitoring for side effects.
 - Can begin w/standard dosing protocols, w/option to escalate dosing in the setting of altered tolerance, sensitivity, competition.
 - If buprenorphine dose mod/high (e.g., >20mg/day), could temporarily reduce dose if aggressive rx w/full agonist is required

PERIOPERATIVE CARE– COORDINATION IS KEY!

For all surgeries (elective or emergent); for all doses and formulations of SL and TD buprenorphine; for all expected post-operative pain levels; for all risk category patients (with respect to OUD and/or PD)



P E R I O P E R A T I V E

1. OUTPATIENT PROVIDER INVOLVEMENT 2. ENGAGEMENT OF PATIENT IN ANALGESIC CARE: SETTING AND MANAGING EXPECTATIONS 3. CONSIDERATION OF REGIONAL ANALGESIA

Continue Maintenance Bup
Divide dose q4-8hrs
(e.g 4mg Bup SL QID)

Non-opioid analgesia

Promote calm and comfort

Regional Anesthesia

Acetaminophen and NSAIDs

Gabapentinoids

Alpha-2 Agonists

Ketamine & Magnesium

IV Lidocaine

Additional opioids

Option 1
High affinity
full agonist
opioids

Fentanyl

Hydromorphone

Option 2
Additional Bup

Increase SL Bup

Start IV Bup

Taper down to
maintenance dose Bup

Promote calm and comfort

Anxiety, fear, depression are common: Instill sense of control, provide education on self-management techniques such as mindfulness meditation. Reduce noise, uncertainty, confusion.

Positioning, splinting, and physical comfort should be maximized. Minimize unnecessary NPO status.

TREAT UNPLEASANT SYMPTOMS:

Diphenhydramine 25-50mg PO q8h prn insomnia/anxiety

Tizanidine 2-4mg q6h prn muscle spasms

Ondansetron 4mg PO q6h prn nausea

Trazadone 50mg PO qhs prn insomnia

Melatonin 3mg PO qhs prn insomnia

Lorazepam 0.5-1mg PO prn anxiety

Antipsychotics prn psychotic disorder symptom control

Nicotine replacement prn tobacco dependence

Regional Anesthesia

Peripheral nerve blocks: superficial cervical plexus, brachial plexus, radial/median/ulnar, PECS, erratus plane, TAP, femoral, sciatic, posterior tibial.

Spinal and Epidural anesthesia

Acetaminophen and NSAIDs

Acetaminophen and **NSAIDs**, when not contraindicated, should be the foundation of a multimodal analgesic strategy.

Gabapentinoids

In opioid dependent patients, the calcium channel inhibitors, gabapentin and pregabalin reduce postoperative pain and reduce opioid consumption. Gabapentin 300-600mg PO TID.

Alpha-2 agonists

Clonidine and Dexmedetomidine are anxiolytic and analgesic with significant opioid sparing effects. e.g. **Clonidine** 0.1-0.3mg PO q6-8h prn pain or anxiety (NTE 1.2mg/day, hold if BP <100/70).

Ketamine & Magnesium (NMDAR antagonists)

Ketamine is the most potent non-opioid analgesic for opioid tolerant patients. A brief infusion of 0.3mg/kg IV over 15min is followed by 0.3-1mg/kg/hr as needed.

Magnesium is also an NMDAR with analgesic and opioid sparing effect. eg. 30-50mg/kg bolus followed by 10-mg/kg/hr.

IV Lidocaine (Na channel antagonist)

Opioid sparing analgesic. A bolus of 1-1.5mg/kg is followed by 1.5-3 mg/kg/h. Contraindications include cardiac dysrhythmias. Must monitor serum levels after 24hrs.

High Affinity Full agonist Opioids

Hydromorphone, fentanyl, and sufentanil can be added to maintenance Bup to provide synergistic analgesia. Titrate to analgesia and side effects. This will NOT cause withdrawal.

Additional Bup

There is no clinical ceiling on Bup analgesia. SL Bup can be given as frequently as q2h. IV Bup is a potent analgesic start at 0.3mg IV and titrate as needed. At higher doses respiratory depression does occur.

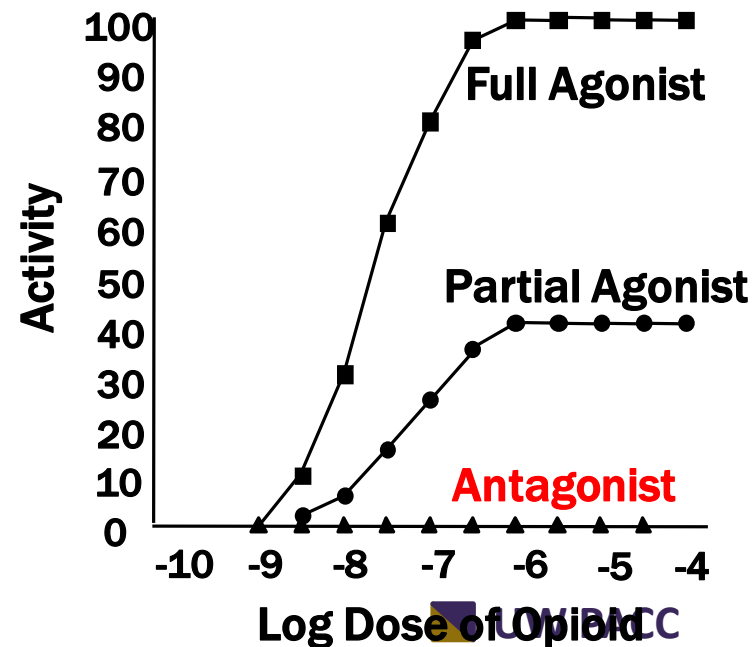


<https://cabridge.org/tools/resources/?cat=clinical-protocols>

NALTREXONE

NALTREXONE as MOUD

- Indications:
 - OUD & AUD
- MOA:
 - competitive antagonist at opioid receptors
 - high receptor *affinity* (for mu esp)
- Formulations & dosing:
 - PO: 50-100mg/day
 - IM: 380mg Q4wks
- Duration of Effect:
 - Oral: 50 mg: 24 hours (100 mg: 48 hours)
 - IM: 4+ weeks
- Half-life :
 - Oral: NTX 4 hours; 6-beta-naltrexol 13 hours;
 - IM: naltrexone and 6-beta-naltrexol: 5 to 10 days (dependent upon erosion of polymer)
- Time to peak, serum:
 - Oral: ~60 minutes
 - IM: Biphasic: ~2 hours (1st peak), ~2-3 days (2nd peak)



XR-NALTREXONE & ACUTE PAIN – COMMON CONCERNS

- Pragmatically, how will we manage my pain?
 - If I need opioids: will I be given any; will they work?
 - Under what circumstances should I stop, continue, modify naltrexone dosing?
 - What about unanticipated acute pain (e.g., trauma)?
- Stigma, shame:
 - Addressing pain in setting of OUD
- Fear
 - Unmanageable pain
 - Risk of relapse w/opioid re-exposure, changes in MOUD

PLAN AHEAD!

- When to discuss acute pain management?
 - **Prior to** XR-NTX induction: MOUD education & consent
 - **Ongoing**: ask about upcoming procedures, current pain symptoms
- Consider the context of Pain:
 - Timeframes
 - Urgent/emergent
 - Future/anticipated event
 - Anticipated/experienced Severity & Duration

OUTLINE OF TREATMENT STRATEGIES: NALTREXONE & PAIN MANAGEMENT (GENERAL)

Mild/Moderate pain:

- Emphasize PT, regular activity, other non-pharm modalities
- Rxs - Can use combination of:
 - APAP
 - NDAIDs/COX-2Is & ASA (judiciously)
 - (save time-limited Ketorolac for moderate to severe pain)
 - muscle relaxants
 - topical (lidocaine, capsaicin, heat, etc)
 - Anticonvulsants
 - SNRIs/TCAs

OUTLINE OF TREATMENT STRATEGIES: NALTREXONE & PAIN MANAGEMENT (GENERAL)

Emergency management of high moderate/severe pain:

- Regional anesthesia
- Conscious sedation w/benzodiazepines, central alpha-2 agonist, or ketamine
- Non-opioid options in general anesthesia.
- Opioids (short-acting, higher affinity)
 - Titrate for analgesia, monitoring for side effects.
 - Usually 10-20X nl doses to overcome blockade, requires careful monitoring
 - Note: over time NTX serum levels will decline, opioid sensitivity will increase
 - Short duration (usually <2 wks, even after major surgery), taper w/close follow-up & clear MOUD plan

**SO, YOUR OTHER PATIENT, JOHN, HAS
AN UPCOMING PROCEDURE...**

ANOTHER CASE:

John is a 55yo M planning for a non-emergent/elective ortho surgery. He has been stable on XR-NTX for OUD for years prior to admission.

Prior to surgery, what should you do?

- Begin dialogue w/pt, explore near and long-term options, goals, concerns.
 - Wants to cont XR-NTX, concerned about pain management
- Communicate with his surgical/anesthesia team regarding NTX plan, their anticipated intra- and post-op pain severity and their expected management.
 - They anticipate need for Opioid rx, post-op for ~1wk (which you think is reasonable)
- Develop plan w/pt & team (informed by the info above)

What would be a reasonable perioperative plan?

- What will you do with his XR-NTX?
- Other interventions?

OUTLINE OF TREATMENT STRATEGIES: NALTREXONE IN ELECTIVE SURGERY

- Ensure surgical team is aware of pt's NTX.
- Determine if opioids will be required
- *If* Opioids are required:
 - XR-NTX: dc >30 days before surgery (switch to PO NTX if needed to bridge)
 - PO NTX: dc >48-72hrs before surgery
 - Plan for re-induction of XR-NTX: short-acting opioid washout 3–7 days; provide naloxone challenge.

CASE, CONT – PRE-OP PLAN

NTX:

- Stop XR-NTX min 1mo before surgery
- If longer than 1mo, begin PO NTX, holding 48-72hrs prior to surgery

Other Interventions:

- Mobilize and coordinate support network (AA/NA, therapist, family/friends, other medical providers)
- Anticipate & address distress
- Additional training/re-enforcement of Mindfulness training, CBT skills
- Review multimodal pain management plan

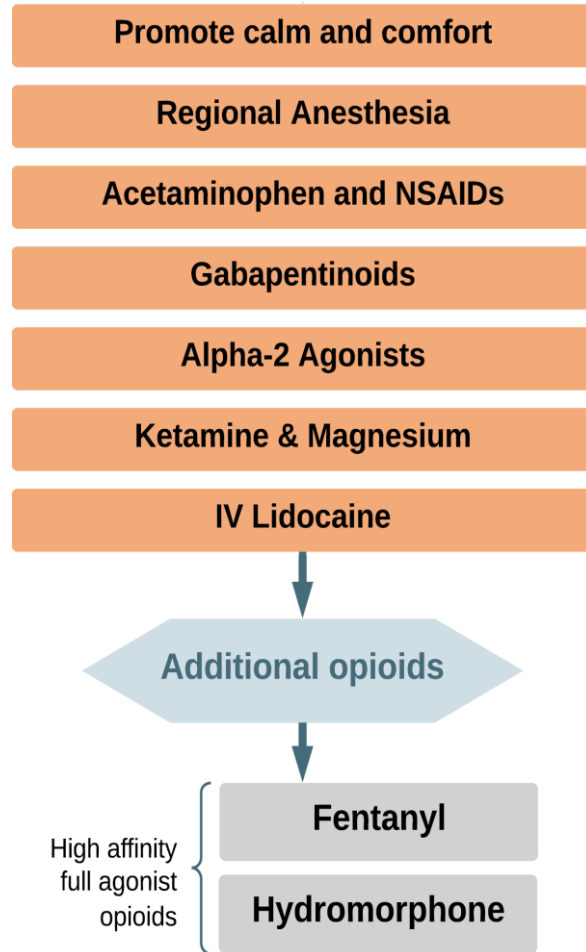
Other Planning:

- Relapse prevention-planning
- Plan XR-NTX re-induction

Intra-operative Options:

- Regional anesthesia
- Conscious sedation (benzo or ketamine)
- General anesthesia

Perioperative Interventions:



Promote calm and comfort

Anxiety, fear, depression are common: Instill sense of control, provide education on self-management techniques such as mindfulness meditation. Reduce noise, uncertainty, confusion. Positioning, splinting, and physical comfort should be maximized. Minimize unnecessary NPO status.

TREAT UNPLEASANT SYMPTOMS:

Diphenhydramine 25-50mg PO q8h prn insomnia/anxiety

Tizanidine 2-4mg q6h prn muscle spasms

Ondansetron 4mg PO q6h prn nausea

Trazadone 50mg PO qhs prn insomnia

Melatonin 3mg PO qhs prn insomnia

Lorazepam 0.5-1mg PO prn anxiety

Antipsychotics prn psychotic disorder symptom control

Nicotine replacement prn tobacco dependence

Regional Anesthesia

Peripheral nerve blocks: superficial cervical plexus, brachial plexus, radial/median/ulnar, PECS, erratus plane, TAP, femoral, sciatic, posterior tibial.

Spinal and Epidural anesthesia

Acetaminophen and NSAIDs

Acetaminophen and **NSAIDs**, when not contraindicated, should be the foundation of a multimodal analgesic strategy.

Gabapentinoids

In opioid dependent patients, the calcium channel inhibitors, gabapentin and pregabalin reduce postoperative pain and reduce opioid consumption. Gabapentin 300-600mg PO TID.

Alpha-2 agonists

Clonidine and Dexmedetomidine are anxiolytic and analgesic with significant opioid sparing effects. e.g. **Clonidine** 0.1-0.3mg PO q6-8h prn pain or anxiety (NTE 1.2mg/day, hold if BP <100/70).

Ketamine & Magnesium (NMDAR antagonists)

Ketamine is the most potent non-opioid analgesic for opioid tolerant patients. A brief infusion of 0.3mg/kg IV over 15min is followed by 0.3-1mg/kg/hr as needed.

Magnesium is also an NMDAR with analgesic and opioid sparing effect. eg. 30-50mg/kg bolus followed by 10-mg/kg/hr.

IV Lidocaine (Na channel antagonist)

Opioid sparing analgesic. A bolus of 1-1.5mg/kg is followed by 1.5-3 mg/kg/h. Contraindications include cardiac dysrhythmias. Must monitor serum levels after 24hrs.

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55yo M was stable on XR-NTX, transitioned to PO NTX then dc-ed prior to non-emergent surgery, now on multimodal analgesia that includes a PO hydromorphone PRN, tapering (<10 total days on opioids). He returns to your care in the outpt setting where you and John continue collaborative planning regarding his pain management and MOUD:

Pt's Goal: Get back on XR-NTX

Plan:

- Optimize non-opioid pain management
- Optimize support, follow-up
- Opioid → NTX induction – when and how?
 1. Traditional induction:
 - 7 day washout followed by naloxone challenged & XR-NTX induction
 2. What about a rapid induction?
 - Consideration: No/minimal physiologic dependence after 1-2 wks exposure; but, elevated risk return-to-use (and OD) prior to MOUD.
 - Complete hydromorphone (half-life ~3hrs) taper, wait >5 half-lives (e.g., <24hrs) and give naloxone challenge + XR-NTX

THANKS & QUESTIONS