PERIPARTUM PAIN MANAGEMENT FOR PATIENTS WITH SUBSTANCE USE DISORDER

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GUIDING PRINCIPLES

- Encourage women to remain on their prescribed medications throughout pregnancy.
- Specific to pregnancy, the goals of Medications for Opioid Use Disorder (MOUD) are to suppress symptoms of cravings and withdrawal and prevent illicit opioid use.
- MOUD also increases adherence to prenatal care and reduces infection risk associated with IV drug use.
- For women who are taking chronic opioids for pain => consider slow titration towards a lower dosage of systemic opioids over the course of the pregnancy.
- Such a taper should be managed with an addiction medicine / pain management specialist.
- Can also consider split dosing MOUD regimen and increasing the frequency of dosing => for e.g. moving from OD to BID or TID dosing

INTRAPARTUM CARE GUIDELINES

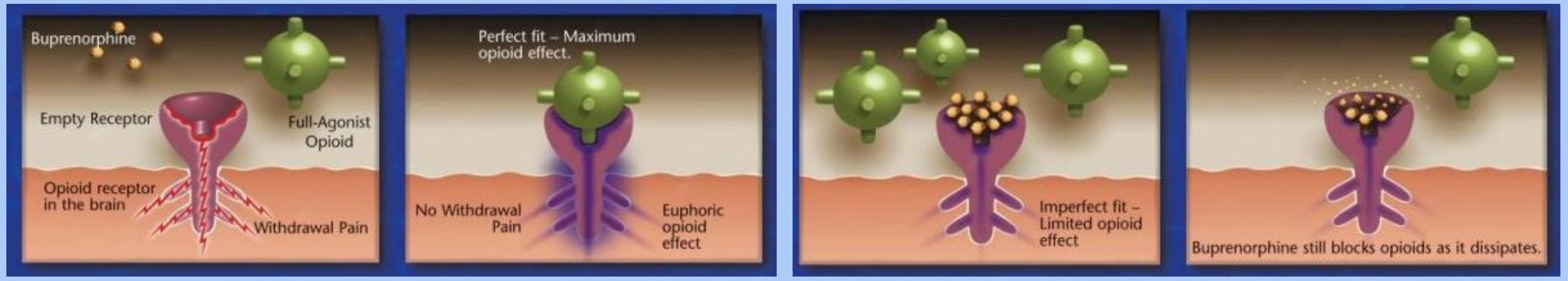
- Continue current dose of Buprenorphine or Methadone – do NOT need to discontinue MOUD agent during labor or postpartum
- Dividing the dose of MOUD medication into 2-3 doses can improve pain control.
- Encourage neuraxial labor analgesia (epidural or combined spinal-epidural) in early labor because this modality has been found to be highly effective in opioid-dependent women.
- Neuraxial full opioid agonist administration does not interfere with ongoing partial agonist (buprenorphine) therapy => i.e. does not potentiate precipitated withdrawal.
- **There is no evidence that opioid-dependent pregnant women tolerate labor worse than nonopioid-dependent women if baseline MAT is continued**

INTRAPARTUM CARE GUIDELINES

- Inhaled nitrous oxide should be avoided because it may be less effective in opioid dependent women and may increase the risk of sedation
- Opioid agonist/antagonists such as nalbuphine (nubain) or butorphanol (stadol) should be avoided due to risk of precipitated withdrawal
- Epidural analgesia is safe and effective, also encourage patient-controlled analgesia (PCA) options
- Can use full opioid agonists (for e.g.: morphine / dilaudid) if needed for acute pain management
- Additional challenges may be present if the patient is using other drugs that may influence analgesia and mental status, such as stimulants or benzodiazepines

BUPRENORPHINE

- Buprenorphine is a partial agonist of the mu receptor.
- For patients on Buprenorphine - adequate pain relief can be obtained by providing a full opioid agonist with strong affinity for the mu receptor (e.g.: fentanyl or hydromorphone), if needed.
- Use of buprenorphine should not preclude the use of systemic opioids when needed for acute pain management.
- Postpartum pain after vaginal or cesarean delivery should be managed with a multimodal approach.



METHADONE

- Used as MOUD in pregnancy since the 1970's
- Full opioid agonist
- Long half life
- Risk of medication interaction through CYP450 metabolism
- Risk of QT prolongation and cardiac arrhythmia
- Dispensed by licensed opioid treatment programs in the outpatient setting,
- Can be dispensed in the inpatient setting by all provider care teams.
- Since this is a full agonist – does not have the risk for precipitated withdrawal.

POSTPARTUM CARE – GENERAL PRINCIPLES

- Continue current dose of Buprenorphine / Methadone => DO NOT withhold MOUD dosing
- Pain still needs to be treated as pain!
- Use a full opioid agonist – may need a higher dosing frequency / interval for a brief period for acute pain management
- Use non – opioid analgesia (NSAIDs, local analgesics)
- Use non-pharmacological approaches
- Breastfeeding recommended, unless patient has specific contraindications
  - Only a small amount of buprenorphine is excreted into breastmilk, at a RID (relative infant dose) of 0.09-1.9%

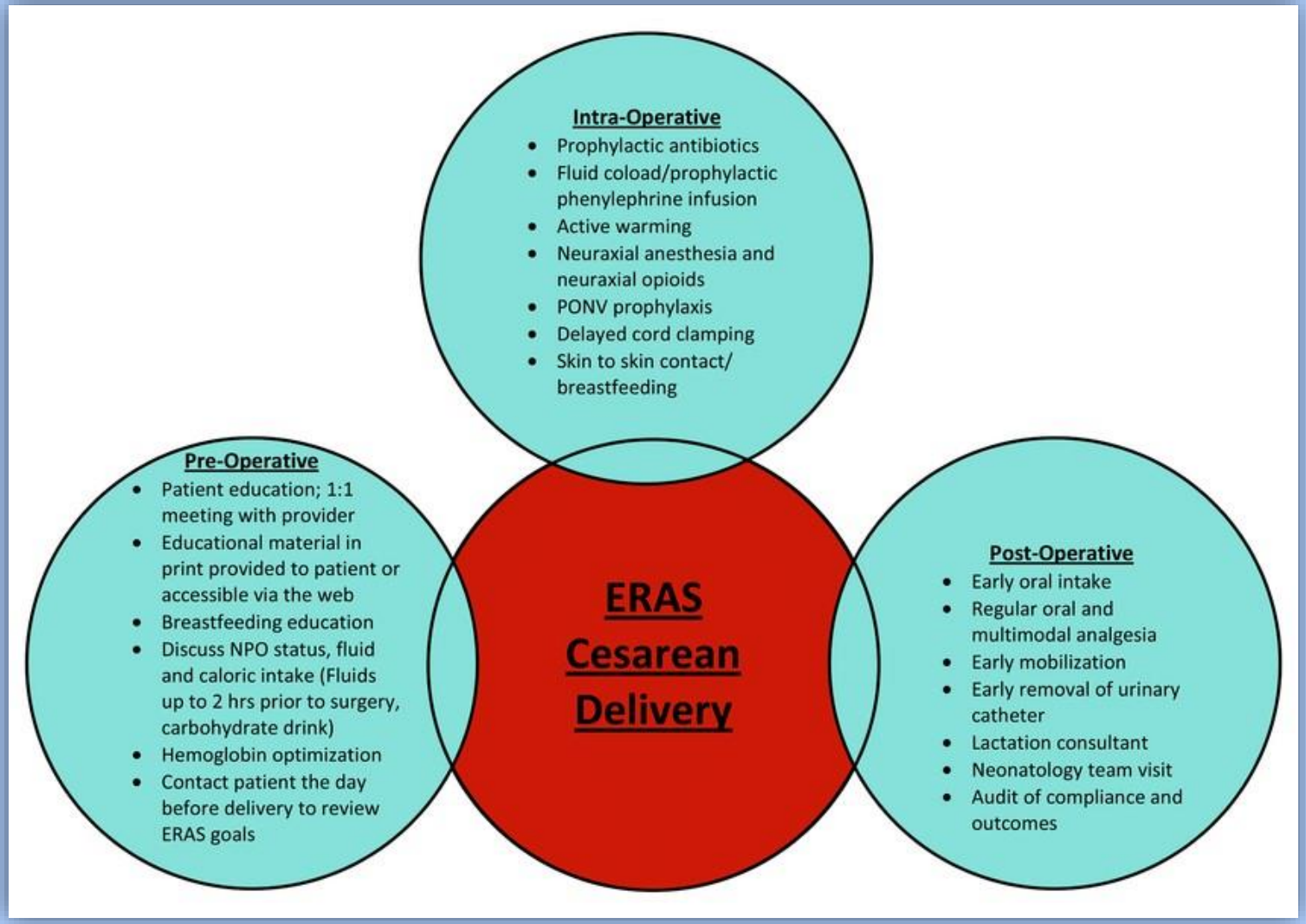
POST VAGINAL DELIVERY CARE

- Continue current Buprenorphine or Methadone dose
- Pharmacologic options:
  - Tylenol 1g PO q8h or 650 mg q6h PO
  - Ibuprofen 600 mg PO q6h
  - Toradol 15 mg - 30 mg q6h IV/IM x 48h for poorly controlled pain
- Nonpharmacological / adjunctive approaches => ice pack, heating pad, hydrocortisone, and local anesthetic application to the perineum
- Consideration of epidural morphine or hydromorphone if there is a significant laceration repair before catheter removal (must be able to provide respiratory monitoring for 24 hours after the procedure)
- Lidocaine patch vs Flexeril prn for musculoskeletal pain
- 3rd or 4th degree laceration: oxycodone 5 mg q4 – q6h prn
- Severe pain after vaginal delivery is unusual and should prompt an evaluation for unrecognized complications.

POST CESAREAN CARE

- Multimodal analgesia approach to pain management
- Enhanced Recovery After Surgery (ERAS) principles for guiding postoperative care
- Neuraxial morphine (or hydromorphone)
- Continue current Subutex or Methadone dose
- Medication Management:
  - Tylenol 1g q8h PO
  - Toradol 30 mg q6h IV x 48 hrs standing order, followed by Ibuprofen 600 mg q6h
  - Morphine or Dilaudid PCA x24 hrs postop, then transition to PO oxycodone
  - Oxycodone 5-10 mg q3-4 prn, uptitrate to 15 mg q3-4 prn based on pain control

GUIDING PRINCIPLES – ENHANCED RECOVERY AFTER SURGERY (ERAS)



OPERATIONALIZING ERAS

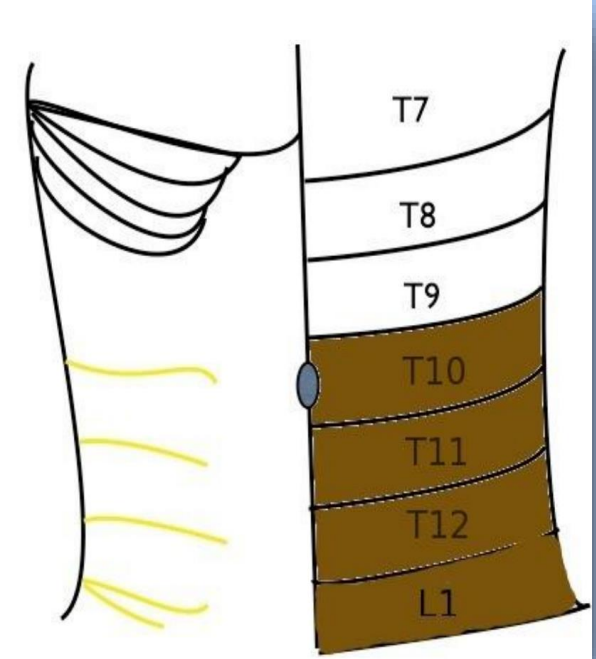
https://www.youtube.com/watch?v=CoFtgdluBc0

POST CESAREAN CARE

- Lidocaine patch once a day applied near incision
- Single 10-mg dose of ketamine, given intraoperatively, has been shown to decrease pain scores 2 weeks after delivery
- Gabapentin 300 mg BID => some concern about transfer into breast milk / dizziness
- Flexeril 10 mg q6h – q8h PO PRN for musculoskeletal pain
- D/c epidural POD#1
- Consider splitting MOUD agent dosing to 2-3 times a day

TAP BLOCKS

- Transverse abdominus plane (TAP) blocks may also be used preoperatively or postoperatively.
- Not been studied in opioid-dependent patients, but may have clinical utility in this population



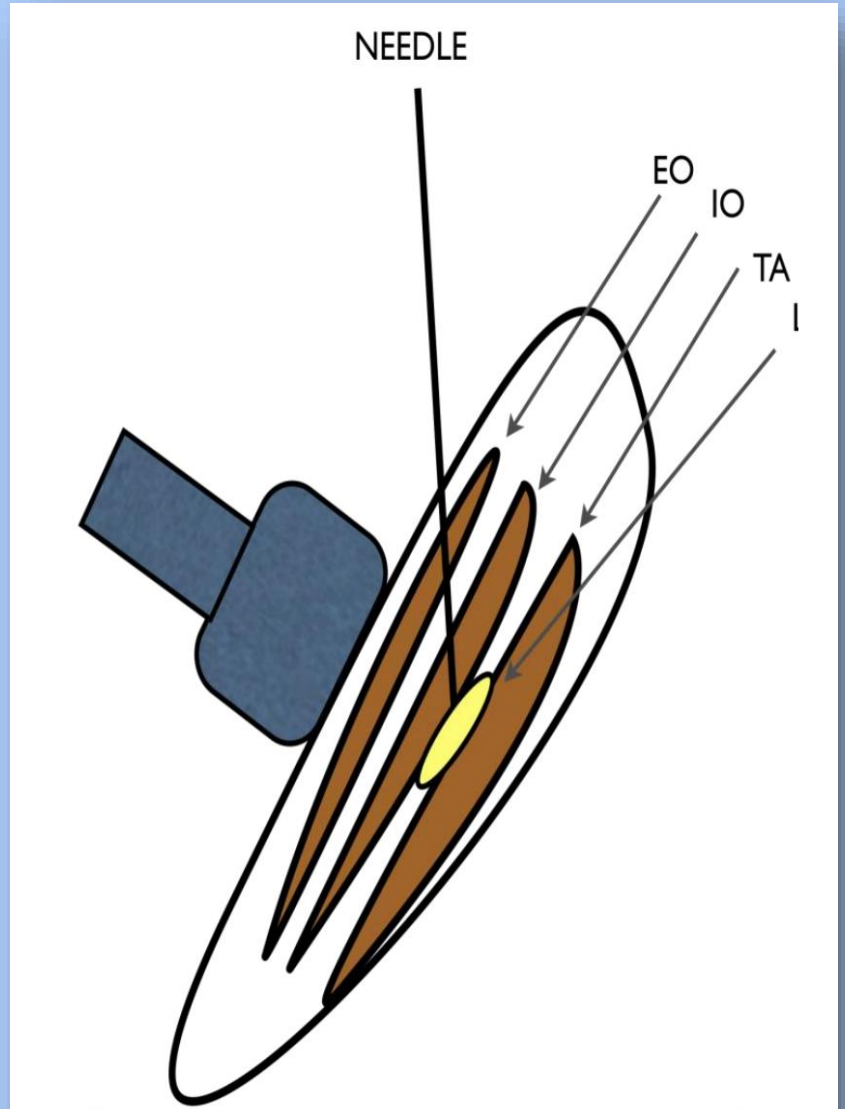


Figure 4. Schematic view of an ultrasound-guided tranaversus abdominis plane block. **EO**: external oblique, **IO**: internal oblique, **TA**: transversus abdominis, **LA**: local anaesthetic

ON-Q* PUMP WITH SELECT-A-FLOW* VARIABLE RATE CONTROLLER

Flow rate that can be changed according to patients' individual pain relief requirements

- The ON-Q* Pump with Select-A-Flow is a non-narcotic elastomeric pump that automatically and continuously delivers local anesthetic.
- Provides post-operative pain relief for up to 5 days, while reducing patients' opioid consumption post-operatively
- Comes with a Select-A-Flow * dial to allow for customizable control of the flow rate, depending on the patient's pain level
- Available in 400 ml and 600 ml that can be filled to 550 ml and 750 ml, respectively, for longer duration of therapy
- Available in 1-7 ml/hr and 2-14 ml/hr

* https://avanospainmanagement.com/solutions/acute-pain/on-q-pain-relief-system/

ON-Q PUMP

- With the ON-Q* Pain Relief System, patients:
  - Went home an average of 1.1 days sooner
  - Reported up to 69% lower pain scores
  - Were up to 3x as likely to report high satisfaction scores
  - Are more likely to experience better pain management with fewer side effects
  - Medication: 2% Ropivacaine; some may have combination of ketorolac + ropivacaine
  - Decreases opioid utilization for pain management

* https://avanospainmanagement.com/solutions/acute-pain/on-q-pain-relief-system/

POSTOP MOUD MANAGEMENT

- Postoperatively, MOUD should be continued, and the patient with OUD should be maintained on her baseline dose.
- Withholding MOUD does not improve postpartum pain control and increases the risk of withdrawal.
- Some women benefit from receiving their usual daily MOUD dose in divided doses, because the half-life for analgesia is much shorter than for opioid withdrawal.
- Nonopioid scheduled multimodal analgesics should be ordered with as-needed full agonist oral opioids.
- Patients on buprenorphine may require more opioid pain medication than the opioid-naïve patient and may require PCA with a full agonist with strong affinity for the mu receptor, such as fentanyl or hydromorphone, for 24 hours.
- Women with OUD should be encouraged to breastfeed and room-in with the baby

RESEARCH GAPS

- Definition of the roles of both nonopioid medications
  - Clonidine
  - Gabapentinoids
  - selective norepinephrine/serotonin reuptake inhibitors
- Examining effect of regional anesthesia / PCA / TAP blocks or TAP catheters
- Identification of optimal dosing regimens of neuraxial opioids in opioid-dependent patients.

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