NH AIM/ERASE Monthly Webinar
November 9, 2023

WELCOME!

- We will begin shortly
- Reminder, we will be recording this session
- Please mute your line upon entering and chat in your comments or questions
- Julie Bosak & Vicki Flanagan will monitor the chat box and call on you to unmute yourself
- If you have trouble connecting, please email **Karen.G.Lee@Hitchcock.org**

To Receive CME/CNE Credit for Today's Session

Text: 833-884-3375 – NEW PHONE #

Enter Activity Code: 134401

Need help? clpd.support@hitchcock.org

Peripartum Pain Management Strategies for Patients with Substance Use Disorders

NH AIM/ERASE Monthly Webinar
November 9, 2023

AIM ALLIANCE FOR INNOVATION ON MATERNAL HEALTH

NNEPQIN NORTHERN NEW ENGLAND PERINATAL QUALITY IMPROVEMENT NETWORK

NH DIVISION OF Public Health Services

Today's Agenda

Peripartum Pain Management Strategies for Patients with Substance Use Disorders

Kate Olivia Stokes, RN, BSN, MPH

NOTE: Todays speakers have nothing to disclose

AIM ALLIANCE FOR INNOVATION ON MATERNAL HEALTH

NNEPQIN NORTHERN NEW ENGLAND PERINATAL QUALITY IMPROVEMENT NETWORK

A quality improvement initiative to support best practices that make birth safer, improve maternal health outcomes and save lives.

AIM

ERASE MM
Enhancing Reviews and Surveillance to Eliminate Maternal Mortality

CDC works with MMRCs to improve review processes that inform recommendations for preventing future deaths.

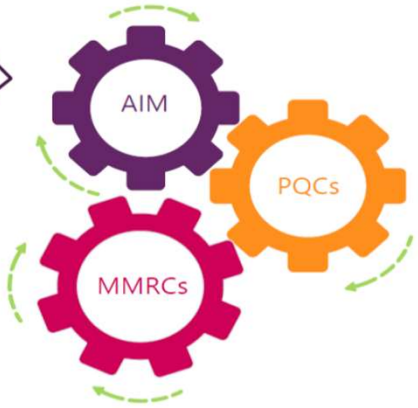
https://saferbirth.org/

https://www.cdc.gov/reproductivehealth/maternal-mortality/erase-mm/index.html

Critical Collaborations: NNEPQIN, ERASE and AIM

Alliance for Innovation on Maternal Health moves established guidelines into practice with a standard approach to improve safety in care

Maternal Mortality Review Committees conduct detailed reviews for complete and comprehensive data on maternal deaths to prioritize statewide prevention efforts



Perinatal Quality Collaboratives mobilize state or multi-state networks to implement clinical quality improvement efforts and improve care for mothers and babies

Created from a Centers for Disease Control, Division of Reproductive Health source

NNEPQIN
NORTHERN NEW ENGLAND PERINATAL QUALITY IMPROVEMENT NETWORK

AIM
ALLIANCE FOR INNOVATION ON MATERNAL HEALTH

NH DIVISION OF Public Health Services
Improving health, preventing disease, reducing costs for all

CPPPSUD Bundle Structure Measures:

S3: General Pain Management Guidelines Report Completion Date Has your hospital implemented post-delivery and discharge pain management prescribing guidelines for routine vaginal and cesarean births focused on limiting opioid prescriptions?

S4: OUD Pain Management Guidelines Report Completion Date Has your hospital implemented specific pain management and opioid prescribing guidelines for patients with OUD?

NH Hospital Data

SUD Safety Bundle, measure *SUD S1*: Has your hospital implemented post-delivery and discharge pain management prescribing guidelines for routine vaginal and cesarean births focused on limiting opioid prescriptions? *(Responses taken from Q2 2023 data as reported to AIM)*

Hospital blind code	1 (not started)	2	3	4	5 (fully in place)
1					x
2				x	
3					x
4		x			
5					x
6					x
7		x			
8		x			
9	*(no data)*				
10					x
11					x
12				x	
13				x	
14		x			
15					x
16				x	

NH Hospital Data

SUD Safety Bundle, measure *SUD S2*: Has your hospital implemented specific pain management and opioid prescribing guidelines for patients with a diagnosis of opioid use disorder?

Hospital blind code	1 (not started)	2	3	4	5 (fully in place)
1				x	
2					x
3					x
4				x	
5					x
6					x
7		x			
8			x		
9	*(no data)*				
10				x	
11					x
12		x			
13			x		
14		x			
15					x
16				x	

Dartmouth Health

Population Health
DARTMOUTH HITCHCOCK MEDICAL CENTER

Peripartum Pain Management Strategies for Patients with Substance Use Disorders

November 9, 2023

Kate Olivia Stokes, RN, BSN, MPH

Objectives

- Understand pain management strategies for people with SUD/OUD.
- Implement specific pain management and opioid prescribing guidelines for patients with a diagnosis of opioid use disorder.
- Implement post-delivery and discharge pain management prescribing guidelines for routine vaginal and cesarean births focused on limiting opioid prescriptions.

Pain Management Strategies:

Trauma-informed care

Shared decision-making

Trauma

- High prevalence of trauma among people with substance use disorders
- **55-99%** of women in substance use treatment report history of physical or sexual abuse (Krans et al, 2019)

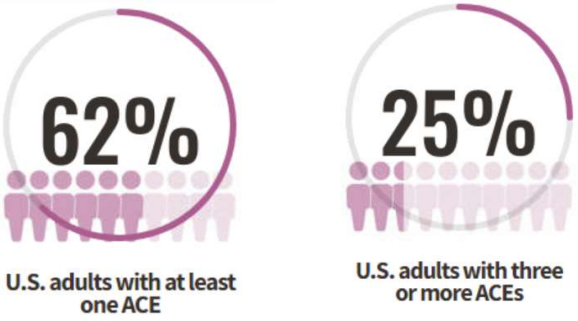


Image source: What is Trauma? - Trauma-Informed Care Implementation Resource Center (chcs.org)

Anxiety

- Preexisting diagnosis of anxiety
  - Higher average pain scores
  - Greater opioid pain medication use
  - First 24 hours after a cesarean section
- Higher average pain scores (3.9 vs 3.5; P<.001)
- Morphine milligram equivalents use (110.4 mg vs 102.2 mg; P<.001)
  - Retrospective cohort study from 2017 (Poehlmann et al, 2022)

of people with SUD have a co-occurring mental health disorder and vice-versa

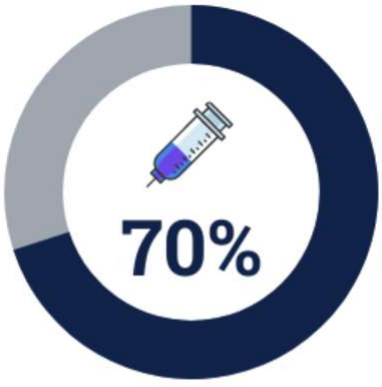
National Institute of Mental Health

Tobacco/Nicotine

- Chronic exposure to **nicotine** and tobacco smoke may **increase sensitivity** to acute pain over time
- **Nicotine withdrawal** causes **increased** sensation of **pain**
- **Nicotine** has **acute analgesic effects** regardless of delivery method (smoking, patch, gum)
  - Meta-analysis from 2016 (Ditre et al, 2016)

Physiologic Factors of SUD

- Medication for Opiate Use Disorder (MOUD) receptor-blocking / binding
  - Patients on Methadone need more opiates post-operatively than those on Buprenorphine (Vilkins et al., 2016)
- Tolerance
- Hyperalgesia (Lee et al., 2011)



more opiates required after cesarean for patients on Methadone

(Meyer et al, 2007)

Emotional Factors

- Fear of opioid-based analgesia
- Prior negative experiences with pain management in medical settings
- Fear of child protective services
- Fear of being judged
- Stigma

Pain Management Strategies:

Best practices for patients with substance use disorders

Pain Management for Patients with OUD

- **Maintain** methadone or buprenorphine dosing (ACOG, 2017)
  - **Prevents withdrawal** and relapse
  - Not for pain control in this context
- **Multimodal** pain management
  - May need opioids to achieve adequate relief
  - Consider **split dosing** of buprenorphine to 3-4 times/day (Buresh et al., 2020)

Cesarean Delivery

For patients with chronic opioid use (ie, OUD on MOUD OUD untreated, or taking opioids for chronic pain)

- Neuraxial anesthesia preferred
  - Spinal with intrathecal morphine (same dose as opioid naïve patients)
- Anticipate need for non-pharmacologic therapy +/- sedatives (ketamine)

Peripartum management pts who are opioid tolerant or with OUD - UpToDate

Post Cesarean Pain Management

- Multimodal management
  - Scheduled NSAID and acetaminophen
  - Nicotine replacement
- More severe pain or GA
  - Continuous Epidural Analgesia
  - PCA
  - QL Block

Peripartum management pts who are opioid tolerant or with OUD - Up

Image source: stock-mama-baby-skin-to-skin-940x470.jpg (940×470) (themindfulcesarean.com)

Severe Pain Approaches

- **Full-agonist opioids** with strong affinity for mu receptor (Dilaudid)
  - For IV opioids, **PCA** provides **patient control**
  - **Avoid basal** PCA rate to prevent respiratory depression
- For oral, start with **higher dose** (7.5mg Dilaudid or 20mg Oxycodone)
  - Titrate oral opioids every 2-4 hours
  - Schedule oral dosing every 3-4 hours

➢Monitor closely for respiratory depression

(Coffa & Carr, 2022)

Post-operative Epidural

- Epidural maintained after cesarean section (CSE or placed after GA)
  - Effective pain control
  - Less need for opioids
  - Risk of delayed mobility if decreased motor function
  - Risk of epidural failure >30% (catheter leak, occlusions, unilateral coverage) (Rawal, 2021)

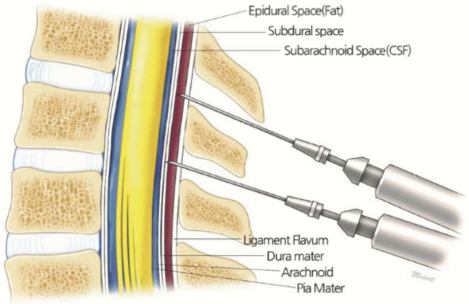


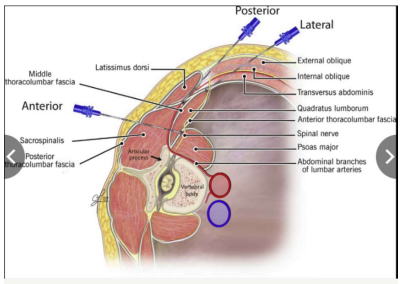
Image: Anatomy of Epidural-Subdural-Subarachnoid space (from outside to inside). | Download Scientific Diagram (researchgate.net)

Quadratus Lumborum (QL) Block

Local anesthetic injected into fascial plane between quadratus lumboratum and erector spinae muscles.

- Randomized controlled trial of 50 patients
- Scheduled cesarean under spinal anesthesia
- QLB 0.125% bupivacaine 0.2 ml kg vs. Placebo 0.9%NS

- Greater spread of local anesthetic than TAP Block.



➢**Less morphine via PCA at 6 and 12 hours post-op (p<0.001)** (Blanco et al., 2015)

➢**No difference if intrathecal morphine used** (Irwin et al., 2020)

Image source: ClevelandClinic.org

Vaginal Delivery

- Neuraxial anesthesia
- Opioids with strong affinity for mu receptor (Fentanyl, Hydromorphone)
- Nitrous oxide
  - Extra vigilance for respiratory depression

(Reale & Farber, 2021)

Additional Considerations

- Opioid antagonists such as **Nubain** and **Stadol** are ***contraindicated*** for this population
  - Cause acute **withdrawal**
- Patients with untreated OUD at high risk for withdrawal
  - Recommend starting buprenorphine or methadone

(Reale & Farber, 2021)

Summary

- Trauma-informed approach
- Be mindful of nicotine withdrawal, and risks for increased pain response
- Collaborate with patients on pain management and provide anticipatory guidance
- Multimodal Pain Management:
  - Scheduled NSAID and acetaminophen, Nicotine replacement, Opioids with high affinity for mu receptor
  - Consider: QL Block, PCA, Continuous Epidural Analgesia

Implementation of Pain Management Guidelines for Patients with OUD/SUD

Implementation Steps

- DH OB **Anesthesia** created pain management **protocol** for pregnant patients with OUD/SUD in collaboration with the DH OB GYN Moms in Recovery providers
- Created a patient-facing **education brochure** about pain management in labor and postpartum for people with OUD/SUD
- Created a **provider** insert for the brochure to provide further education for staff/providers

Brochure content developed by:
Avery Borgmann, Daisy Goodman DNP CNM MPH, Wanda Joshi MD, Kate Stokes RN BSN MPH

Patient Brochure

Dartmouth Health

Your Guide to Labor and Delivery
Pain Management

Guide to Pain Control Methods

Method	Definition and Details	Option for Vaginal Birth?	Option for C-Section?
Epidural block (epidural)	A form of regional anesthesia and the most common type of pain relief used for childbirth in the U.S. Medication is given through a thin tube the size of a fishing line placed in the lower back.	**Yes.** A combination of analgesics (pain relief medications) and anesthetics (numbing medications) are used. You will have some loss of feeling in the lower part of your body, but you remain awake and alert. The medication does not go into your bloodstream, so it does not affect your baby.	Yes. Epidurals can be used for c-sections. They can be used in addition to a spinal for longer surgeries or for pain control after the c-section. If you have an epidural for labor and then need to have a c-section, the epidural can be used for the surgery with a stronger medication. Epidurals can sometimes be left in place to control pain after surgery.
Spinal anesthesia (spinal)	Like an epidural, a form of regional anesthesia. Medication is given as a single shot into the fluid around the spinal cord. Starts to relieve pain quickly and lasts for 2 to 2.5 hours. Side effects and risks are very similar to epidural.	**Not usually.** Sometimes a spinal is used during vaginal birth if providers believe delivery will happen within less than 2 hours.	**Yes.** Regional anesthesia is the safest method of pain control during a c-section and is very effective. You will be numb from your lower ribs to your toes. The anesthesia team will make sure you are comfortable. If needed, they can give you medication to help with anxiety during the c-section. The epidural or spinal will also contain a small amount of pain medication to help you with pain right after the c-section.
General anesthesia	Often called 'going to sleep.' You are not awake and do not feel pain. It can be started quickly and usually is used only for emergency situations during childbirth. It is given through an IV line or through a mask. After you are asleep, your anesthesiologist will place a breathing tube into your mouth and windpipe. The tube will come out before you are fully awake.	**No.** General anesthesia is not used for a vaginal birth. You will be awake.	**Sometimes.** Used in cases when a baby is needs to be delivered emergently, meaning there is not enough time to place a spinal. Also used if a person cannot have regional anesthesia for medical reasons.
Opiates	Morphine, fentanyl, oxycodone and hydromorphone are commonly used.	**Yes.** Morphine and fentanyl can be given through an IV site during labor.	**Yes.** Most people will need stronger pain medication like oxycodone or hydromorphone after a c-section.
Comfort measures	Non-medication strategies like breathing, mindfulness, walking and water therapy.	**Yes.** Can be helpful to cope with pain during labor and birth.	Comfort measures will never be the only pain management for a c-section, but breathing and mindfulness can be helpful to cope with discomfort during and after a c-section. To promote family-centered care, a support person can come with you to the operating room for your spinal/epidural and for your surgery.
Non-opioid pain medications	Includes ibuprofen and acetaminophen. Given after birth.	**Yes.** Oral medications are used to help with cramping and generalized pain after birth.	**Yes.** After surgery ibuprofen and acetaminophen are given every 6 hours.

Limiting Opioid Prescriptions

- Implement post-delivery and discharge pain management prescribing guidelines for routine vaginal and cesarean births focused on limiting opioid prescriptions.
- EMR report created to track opioid prescriptions written at birth hospitalization discharge

Dartmouth Health

DH Population Health
DARTMOUTH HITCHCOCK MEDICAL CENTER

Questions?

Katherine.Olivia.P.Stokes@Hitchcock.org

Dartmouth Health

References

ACOG Committee Opinion. Opioid use and opioid use disorder in pregnancy. (2017). Number 711 (https://www.acog.org/clinical/clinical-guidance/committee-opinion/articles/2017/08/opioid-use-and-opioid-use-disorder-in-pregnancy)

Blanco R, Ansari T, Girgis E. Quadratus lumborum block for postoperative pain after caesarean section: A randomised controlled trial. (2015). *Eur J Anaesthesiol*. 32(11), 812-8. doi: 10.1097/EJA.0000000000000299. PMID: 26225500.

Blum, K., Gondré-Lewis, M. C., Modestino, E. J., Lott, L., Baron, D., Siwicki, D., McLaughlin, T., Howeedy, A., Krengel, M. H., Oscar-Berman, M., Thanos, P. K., Elman, I., Hauser, M., Fried, L., Bowirrat, A., & Badgaiyan, R. D. (2019). Understanding the Scientific Basis of Post-traumatic Stress Disorder (PTSD): Precision Behavioral Management Overrides Stigmatization. *Molecular neurobiology*, *56*(11), 7836–7850. https://doi.org/10.1007/s12035-019-1600-8

Brown, H. L. Opioid management in pregnancy and postpartum. 2020. *Obstet Gynecol Clin N Am*, 47, 421–427. https://doi.org/10.1016/j.ogc.2020.04.005

Dartmouth Health

Buresh, M., Ratner, J., Zgierska, A., Gordin, V., Alvanzo, A. (2020). Treating Pain in Patients on Buprenorphine. *J Gen Intern Med*. 35(12):3635–43. DOI: 10.1007/s11606-020-06115-3

Hedegaard, H., Miniño, A., Spencer, M., Warner, M. Drug overdose deaths in the United States, 1999-2020. (2021). NCHS Data Brief. 428. Data Briefs - Number 428 - December 2021 (cdc.gov)

Coffa, D., Carr, D. Management of acute pain in adults with opioid use disorder. (2022). In PostTW, ed. *UpToDate*. https://www.uptodate.com/contents/management-of-acute-pain-in-adults-with-opioid-use-disorder

Ditre, J. W., Heckman, B. W., Zale, E. L., Kosiba, J. D., & Maisto, S. A. Acute analgesic effects of nicotine and tobacco in humans: a meta-analysis. (2016) *Pain*, *157*(7), 1373–1381. https://doi.org/10.1097/j.pain.0000000000000572

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., Koss, M. P., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine, 14*(4), 245–258. https://doi.org/10.1016/S0749-3797(98)00017-8

Irwin R, Stanescu S, Buzaianu C, Rademan M, Roddy J, Gormley C, Tan T. Quadratus lumborum block for analgesia after caesarean section: a randomised controlled trial. (2020). *Anaesthesia*. 75(1):89-95. doi: 10.1111/anae.14852. Epub 2019 Sep 15. PMID: 31523801.

Khan, J. S., Hah, J. M., & Mackey, S. C. Effects of smoking on patients with chronic pain: a propensity-weighted analysis on the Collaborative Health Outcomes Information Registry. (2019). *Pain*, *160*(10), 2374–2379. https://doi.org/10.1097/j.pain.0000000000001631

Krans, E. E., Campopiano, M., Cleveland, L. M., Goodman, D., Kilday, D., Kendig, S., Leffert, L. R., Main, E. K., Mitchell, K. T., O'Gurek, D. T., D'Oria, R., McDaniel, D., & Terplan, M. (2019). National Partnership for Maternal Safety: Consensus Bundle on Obstetric Care for Women With Opioid Use Disorder. *Obstetrics and gynecology*, *134*(2), 365–375. https://doi.org/10.1097/AOG.0000000000003381

Meyer M, Wagner K, Benvenuto A, Plante D, Howard D. Intrapartum and postpartum analgesia for women maintained on methadone during pregnancy. (2007). *Obstet Gynecol*. 110(2 Pt 1):261.

Narinder Rawal. Epidural analgesia for postoperative pain: Improving outcomes or adding risks? (2021). *Best Practice & Research Clinical Anaesthesiology*. 35(1), 53-65. ISSN 1521-6896, https://doi.org/10.1016/j.bpa.2020.12.001.

Patel, Ruchira MBBS[*]; Carvalho, Jose C. A. MD, PhD[*†‡§]; Downey, Kristi MSc[*]; Kanczuk, Marcelo MD[*]; Bernstein, Paul MD[†‡§]; Siddiqui, Naveed MD, MSc.[*] Intraperitoneal Instillation of Lidocaine Improves Postoperative Analgesia at Cesarean Delivery: A Randomized, Double-Blind, Placebo-Controlled Trial. (2017). *Anesthesia & Analgesia*. 124(2), 554-559. doi: 10.1213/ANE.0000000000001799

Poehlmann JR, Stowe ZN, Godecker A, Xiong PT, Broman AT, Antony KM. The impact of preexisting maternal anxiety on pain and opioid use following cearean delivery: a retrospective cohort study [published online ahead of print, 2022 Jan 31]. Am J Obstet Gynecol MFM. 2022;4(3):100576. doi:10.1016/j.ajogmf.2022.100576

Reale, S., Farber, M. Obstetric anesthesia for patients with opioid use disorder or opioid tolerance - UpToDate. (2021). Accessed June 3, 2022.

Vilkins, Annmarie DO; Wachman, Elisha MD; Bagley, Sarah MD, MPH; Saia, Kelley MD; Hahn, Kristen PhD, MPH; Alford, Dan MD, MPH Comparison of Post-Cesarean Opioid Analgesic Requirements in Methadone and Buprenorphine Maintained Women. *Obstetrics & Gynecology*. (2016)127, 107S. doi: 10.1097/01.AOG.0000483444.84564.4a

Yehuda, R., Hoge, C., McFarlane, A. *et al.* Post-traumatic stress disorder. *Nat Rev Dis Primers* 1, 15057 (2015). https://doi.org/10.1038/nrdp.2015.57

Questions & Comments?

To Receive CME/CNE Credit for Today's Session

Text: 833-884-3375 – NEW PHONE #

Enter Activity Code: 134400

Need help? clpd.support@hitchcock.org

NNEPQIN
NORTHERN NEW ENGLAND PERINATAL QUALITY IMPROVEMENT NETWORK

AIM
ALLIANCE FOR INNOVATION ON MATERNAL HEALTH

NH DIVISION OF Public Health Services
Improving health, preventing disease, reducing costs for all

NEXT MONTH

The Role of WIC in Reducing Maternal Mortality

NH AIM/ERASE Monthly Webinar

December 14, 2023

NNEPQIN 2023 FALL CONFERENCE

November 16 -17, 2023

Omni Mount Washington Resort

AIM ALLIANCE FOR INNOVATION ON MATERNAL HEALTH

NNEPQIN NORTHERN NEW ENGLAND PERINATAL QUALITY IMPROVEMENT NETWORK

NH DIVISION OF Public Health Services