

Intraoperative Pain During Cesarean Delivery – Quality Improvement Project Part 1: Quantification and Documentation

NEVA LEMOINE MD, BRYAN WAKEFIELD MD, HOLLY ENDE MD, LAURA SORABELLA MD, JEANETTE BAUCHAT MD

Assessing Pain

- Pressure vs Pain
- Check a level
- Timing

Treatment Options

- Epidural vs IV
- General Anesthesia

Consequences of Uncontrolled Pain

- Poor Satisfaction
- Chronic Pain
- Birth Trauma
- Postpartum Depression

Intraoperative Pain Management for Cesarean Delivery



Patient reports pain/severe pressure ⇒ **S.A.V.E.** your patient

- 1 Stop surgery (if feasible): **ALERT ANESTHESIA ATTENDING**
- 2 Acknowledge
- 3 Validate
- 4 End pain: **Give Fast-Acting Opioid Medication**

ALWAYS:

- Use shared decision-making with the patient in their preferred language
- If the patient requests general anesthesia, honor their request as soon as is safe

Pain Assessment (location, severity, block height) and Differential Diagnosis

Time into surgery

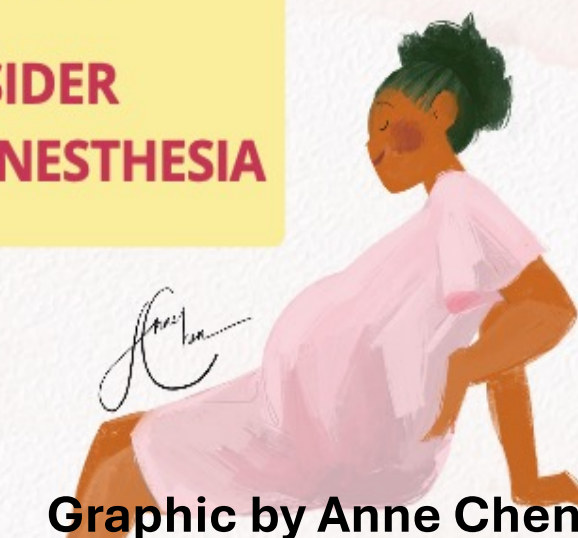
- > Beginning or after successful epidural anesthetic:
Give additional LA and adjunct
- > Sacral sparing / Uterine exteriorization pain:
Replace uterus intra-abdominally
Give IV opioid or ketamine
Consider additional LA
- > End of surgery:
Have surgeon inject LA in the incision



If pain is severe or not controlled within 15 minutes:

**CONSIDER
GENERAL ANESTHESIA**

* If the patient clarifies feeling pressure/anxiety and NOT pain: provide verbal support and consider pharmacologic treatment after discussion of amnesia; continual reassessment



Hypothesis:

The aim of this QI project was to quantify intraoperative pain during cesarean delivery (CD) and create EMR documentation for this metric at our institution.

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Study Design and Methods

Prospective Interview
POD 1

- 9/14/23 – 12/05/23
- Intraoperative pain (Yes/No)
- Numeric rating scale (NRS) 0-10

Improvements

- Automatic pop-up prompt to document pain during CD
- NRS (0-10) in follow-up note for CD patients

Compliance Evaluation

- 11/15/23 – 01/29/24
- Intraoperative & Postoperative EMR documentation
- Incidence of pain using NRS

Medication	Totals	10:15	10:20	10:25	10:30	10:35	10:40	10:45	10:50
azithromycin 500 mg in 250 m...mg	500 mg			500					
bupivacaine 0.75%-dextrose 8... mL	1.8 mL		1.8						
ceFAZolin (ANCEF) 2,000 mg I... mg	2,000 mg			2,000					
citric acid-sodium citrate solu... mL	30 mL								
dexamethasone 4 mg/mL mg									
ephedrine 5mg/mL mg									
EPINEPHrine HCl (PF) 1 mg/mL... mg	0.2 mg			0.2					
famotidine 10mg/mL 2mL vial mg	20 mg								
fentanyl 0.05 mg/mL mcg	15 mcg			15					
haloperidol lactate 5 mg/mL mg	1 mg					1			
Intrathecal morphine (PF) 0.15... mg	0.15 mg			0.15					
lidocaine 1% PF (preservative... mL	3 mL			3					
ondansetron 2 mg/mL mg	4 mg								
oxytocin (PITOCIN) 30u... milli-un... mg	3,300 mL								500
phenylephrine 100mcg/mL 1... mg									
phenylephrine 25 mg/250... mg/min	1,380 mcg						50	70	
Normosol R 7.4 mL									
Urine mL									
Est. Blood Loss mL									
Vent Mode									
O2 L/min									
N2O L/min									
Air L/min									

Current pain score: 0/10, 1/10, 2/10, 3/10, 4/10, 5/10

Satisfaction with current level of pain: Very satisfied, Satisfied, Neutral, Dissatisfied, Very dissatisfied

Headache: Yes No
Back pain: Yes No
Nausea: Yes No
Weakness: Yes No
Itching: Yes No
Able to mobilize?: Yes No

Maximum intraoperative cesarean pain score: 0/10, 1/10, 2/10, 3/10, 4/10, 5/10, 6/10, 7/10, 8/10, 9/10, 10/10

Satisfaction with anesthesia experience: 0/10, 1/10, 2/10, 3/10, 4/10, 5/10, 6/10, 7/10, 8/10, 9/10, 10/10

Additional follow-up needed?: Yes No
Follow-up complete?: Yes No

5/5 motor strength in all extremities

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Results

Table : Incidence of Intraoperative Pain during CD

NRS Range	Total	NRS of >0	NRS ≥3	NRS ≥5
Prospective Interview	276	7 (2.5%)*	7 (2.5%)	5 (1.8%)
EMR Intraoperative NRS	342	91 (26.6%)	57 (16.6%)	44 (12.8%)
EMR Postpartum Follow-Up NRS	264	36 (13.6%)	18 (6.8%)	8 (3.0%)

Data: N (%)

NRS — Numeric Rating Scale

*Question: Did you have pain during your CD? Yes/no

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Conclusion

Rate varied from 2.5% - 26.6% depending on multiple factors

- How patients were asked
- When they were asked
- How we define pain by NRS
- Documentation compliance

Discussion

Further Directions

- Developing a standardized definition for intraoperative pain during CD
- Use to address this issue within and across institutions

References