



ESRA ITALIAN CHAPTER

# 30° NATIONAL MEETING

Presidents:

Giuseppe Servillo, Fabrizio Fattorini


13-15 NOV 2025

NAPOLI  
HOTEL RAMADA

REGIONAL  
ANAESTHESIA:  
LET'S OPEN  
THE BORDERS







# Enhanced recovery after surgery pathways and obstetric anesthesia: ERAC protocol

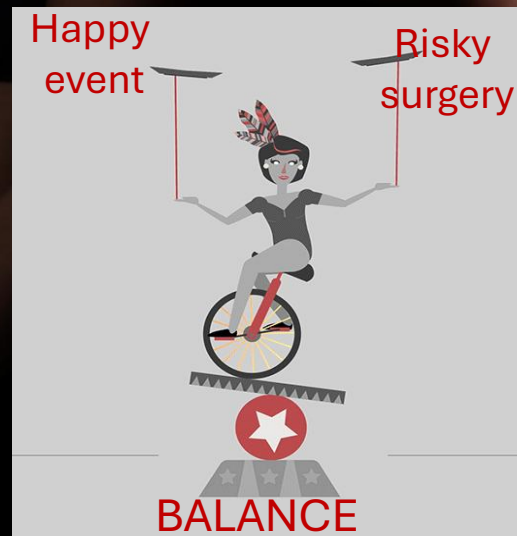
Rossella **PISANO**  
IRCCS Sant'Orsola, Bologna

*Taylored*

«less is more»



Unique psychological  
and social surgery



maternal-  
fetal- neonatal  
Outcome




## **Guidelines for intraoperative care in cesarean delivery: Enhanced Recovery After Surgery Society recommendations (part 2)—2025 update**

- Personal support persons in the Operating room
- Prevention and treatment of Spinal – Induced hypotension
- Maintenance euvolemia
- Multimodal Analgesia
- Early initiation of skin to skin care of neonate
- ...

## **Guidelines for postoperative care in cesarean delivery: Enhanced Recovery After Surgery Society recommendations (part 3)—2025 update**

- Early mobilization and ambulation
- Scheduled acetaminofene/NSAIDs
- Rescue Opioids
- Standardized rescue medication protocol for side effects
- Venous thromboembolism prophylaxis
- ....

A woman is shown from the chest up, holding a baby. The background is dark, and numerous blue and white capsules are scattered around the baby, suggesting a medical or pharmaceutical context. The woman's face is partially visible on the left, looking down at the baby.

**Chronic Pain  
after caesarean section**



## Incidence, Severity, and Interference of Chronic Postsurgical Pain After Cesarean Delivery

### Objectives and methods

Meta-analysis to determine

- Incidence
- Severity
- Interference with health-related quality of life (HR-QoL)

### Conclusions

1 in 10 patients experience chronic postsurgical pain after cesarean delivery that interferes with daily life, work, social life and personal care

### Results

7 database literature search revealed 50 studies involving 13,149 patients

Incidence 16.7% at  $\geq 3$  to  $< 6$  months. Mild at rest in 49%; severe 8.9%  
Incidence 11.4% at  $\geq 6$  to  $< 12$  months. Mild at rest 51.2%; severe 13.5%  
Incidence 8.8% at  $\geq 12$  months. Mild at rest 47.2%; severe 3.3%

The Brief Pain Inventory allowed for meta-analysis of pain interference. During the first year, a majority of patients with chronic postsurgical pain after cesarean delivery suffer interference with multiple domains of HR-QoL



At  $\geq 3$  to  $< 6$  months, an estimated 10% of all patients suffer high-impact chronic pain after cesarean delivery (impacting daily life, work, social life and self-care)





Postoperative pain control is a major component of ERAS programmes because pain negatively affects recovery

Pain also interferes with mother-child bonding by limiting breastfeeding

Acute pain severity...increased risk of post partum depression

Risk factor for persistent postsurgical pain: intensity & time

Postoperative pain after cesarean section remains under-reported and poorly managed

Postpartum women have a tendency to underreport pain and are reluctant to take analgesic

**Information and Education**



## ANESTHESIOLOGY

### Intraoperative Pain during Cesarean Delivery under Neuraxial Anesthesia: A Systematic Review and Meta-analysis

Elinor A. Charles, M.B.B.S., Hester Carter, Mb.Ch.B.,  
Susanna Stanford, B.Sc., Lindsay Blake, Ed.D.,  
Victoria Eley, Ph.D., Brendan Carvalho, M.B.Bc.H.,  
Pervez Sultan, Mb.Ch.B., Justin Kua, M.B.B.S.,  
James E. O'Carroll, M.B.B.S.

ANESTHESIOLOGY 2025; 143:156–67



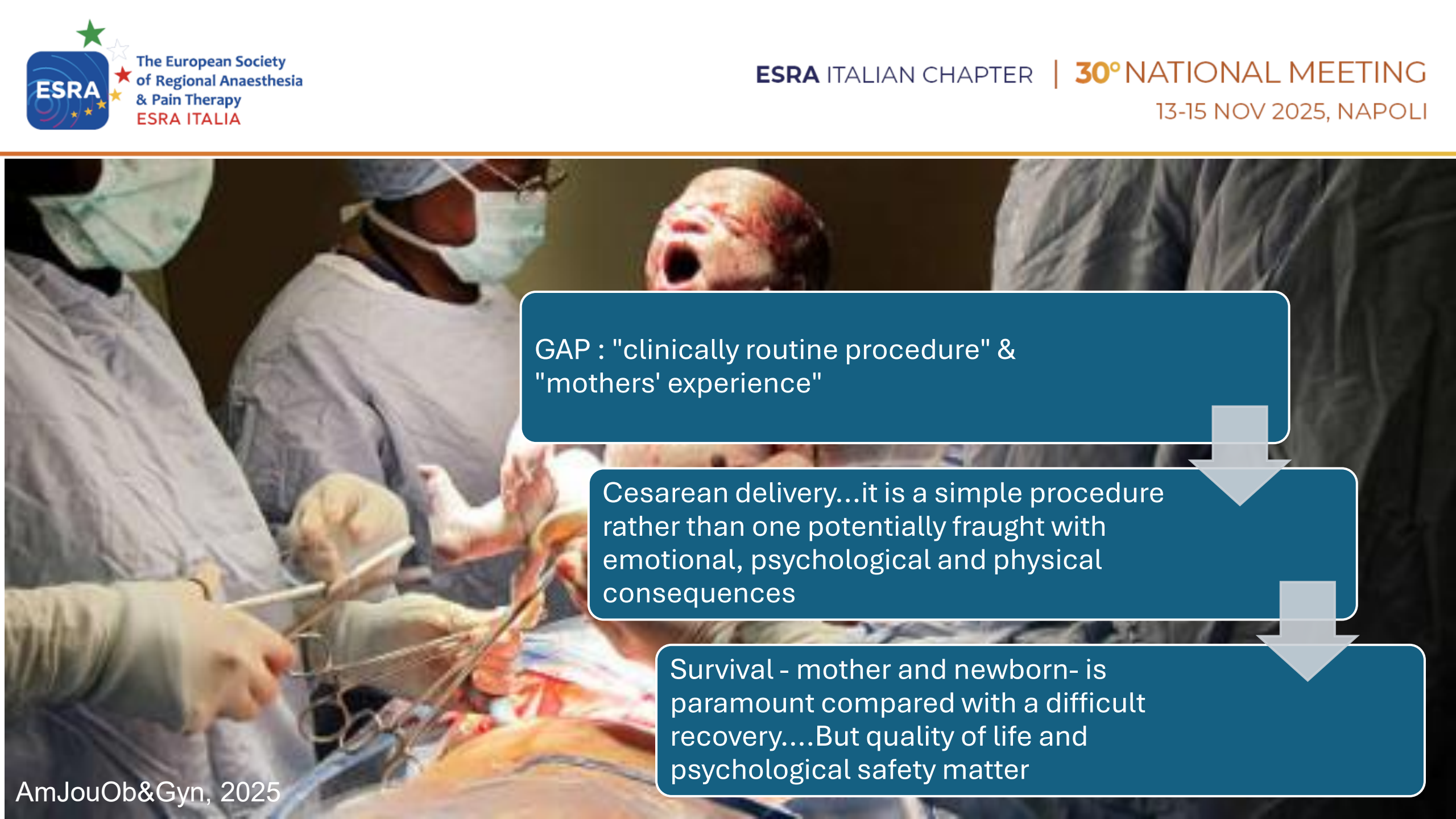
intraoperative pain during cesarean delivery under neuraxial anesthesia is common, approximately 15%

The severity of reported harm after inadequate regional anesthesia is equivalent to that after awareness under general anesthesia

with spinal and combined spinal-epidural anesthesia reporting a lower incidence of pain than epidural anesthesia

intraoperative pain can have significant psychologic impact for patient in the short and longer term, including an increased incidence of postpartum depression and posttraumatic stress disorder





GAP : "clinically routine procedure" &  
"mothers' experience"

Cesarean delivery...it is a simple procedure  
rather than one potentially fraught with  
emotional, psychological and physical  
consequences

Survival - mother and newborn- is  
paramount compared with a difficult  
recovery....But quality of life and  
psychological safety matter

## Neuraxial anesthesia and pain management for cesarean delivery

Expert Review

2025

Ruth Landau, MD; Pervez Sultan, MBChB, FRCA, MD (Res)

- ✓ Innervation of the uterus, peritoneum, and abdominal wall, and the pain pathways involved with sensations and pain during and after CD
- ✓ Different neuraxial anesthetic and analgesic approaches
- ✓ Selecting appropriate technique and neuraxial medications
- ✓ Preoperatively identifying patient –specific risk factors associated with increased intraoperative and post operative analgesia
- ✓ Interdisciplinary communication to identify inadequate labor epidural analgesia and allow replacement
- ✓ Adequate testing of neuraxial block...before proceeding with skin incision
- ✓ Multimodal Analgesia

***Optimal  
Neuraxial  
Anesthesia  
for CD***



## REVIEW

**Combined spinal epidural for labour analgesia and caesarean section: indications and recommendations**

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*Emilia Guasch<sup>a</sup>, Nicolas Brogly<sup>a</sup>, and Fernando Gilsanz<sup>b</sup>*

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***...effectiveness  
and  
safety  
in the last 20 years***

**INDICATIONS**

- Low dose Spinal Anaesthesia
- Risk of prolonged surgery and risk of reintervention
- Programmed caesarea delivery
- Post operative analgesia
- High Cardial Risk
- Pre Eclampsia grave
- Cardiopatia Congenita
- Obese Patient

## REVIEW

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...for elective caesarean section, 0.8 – 1.3% regional blocks required a conversion to general anaesthesia

**BLOCK FAILED**

6.2% Epidural

1.5 % Spinal

**0.8% CSE**



## REVIEW

**Failed spinal anesthesia for cesarean delivery:  
prevention, identification and management***Thierry Girard<sup>a</sup> and Georges L. Savoldelli<sup>b</sup>*

2024

Reasons for failure:

- Failed/Difficult puncture
- Position in patient
- Error in injectate preparation
- Inadequate dose

Factors associated:

- Previous CD
- Tuba Ligation
- Emergency CD
- Surgical Duration
- BMI
- Dosage drug

9-year retrospective review. Anesth Analg 2024

- 5300 AS per TC: failure rate 2.1%

A systematic review. Anaesthesia 2022

- Failure rate 10.2%

Royal College of Anaesthetists; 2020.

- Conversion AS to AG in CD programmed is the 1%

Prevention and treatment of  
spinal-induced hypotension

Maintain maternal blood pressure with a variable rate vasopressor infusion  
and crystalloid coload

Moderate Strong

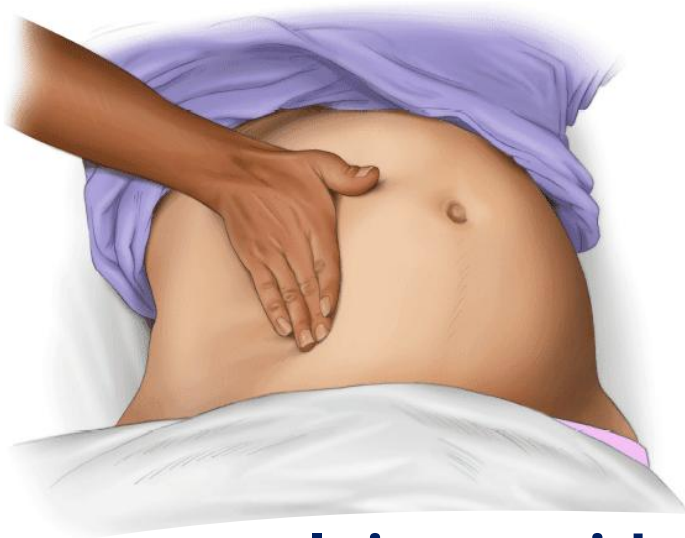
Apply left lateral tilt or other uterine displacement techniques once the  
pregnant person is in the supine position on the operating table

Low Strong

***... Why are we  
interested in  
controlling maternal  
hemodynamics?***

- It is the most frequent side effect of spinal anesthesia (20-80%)
- The first fibers to be blocked are those of the preganglionic Sympathetic Nervous System (B fibers) with vasodilation and consequent reduction of venous return; moreover, in blocks affecting the highest metameres, the involvement of cardio-accelerating fibers (T1-T4) prevents compensatory tachycardia with further impact on cardiac output
- Considering that the full-term placental uterine circulation is maximally dilated, with low resistance and does not present self-regulatory mechanisms, maternal hypotension, especially if sudden and prolonged, can cause a reduction in blood supply to the placental circulation and fetal distress, fetal bradycardia, hypoxia and fetal acidosis
- It is an unpleasant sensation for the pregnant woman, due to the occurrence of nausea, vomiting, dyspnoea and a sense of lightheadedness due to a reduction in cerebral perfusion





## **LUD: Left Uterine Displacement**

**It is considered the most effective and important maneuver for the control of maternal blood pressure drop after ALR**

Minimizes aorto-caval compression

Maintains adequate venous return

Maintains CO

Avoids the increase in uterine venous pressure

Prevents the decrease in the pressure of uterine artery perfusion

Prevents hypoxia and fetal acidosis

# *Preload vs Coload*

- **Preload** : is currently considered to have little or no effect in the prevent the onset of hypotension after spinal anesthesia, does not compensate for the effect of sympathetic block given by spinal anesthesia
- 
- **Coload** : several studies have shown that delaying the administration just after induction of the AS improves its effectiveness when compared to preload.



## Guidelines

International consensus statement on the management of hypotension with vasopressors during caesarean section under spinal anaesthesia

S. M. Kinsella,<sup>1</sup> B. Carvalho,<sup>2</sup> R. A. Dyer,<sup>3</sup> R. Fernando,<sup>4</sup> N. McDonnell,<sup>5</sup> F. J. Mercier,<sup>6</sup>  
A. Palanisamy,<sup>7</sup> A. T. H. Sia,<sup>8</sup> M. Van de Velde<sup>9,10</sup>, A. Vercueil<sup>11</sup> and the Consensus Statement  
Collaborators

## VASOPRESSORS

They act primarily on what is the most important physiological alteration resulting from an. spinal block, i.e. sympathetic block, which causes arteriolar vasodilation with a reduction in SVRs.

They restore and maintain splanchnic and venous vascular tone, thus preserving venous return and cardiac filling.





	<i>Efedrina</i>	<i>Fenilefrina</i>	<i>Noradrenalina</i>	
Receptor				Norepinephrine
Mechanism of action	$\beta_1, \beta_2$ , weak $\alpha$			$\alpha_1, \alpha_2, \beta_1$
Onset (min)	Indirect			Direct
Duration of action (min)	2–5			1 (immediate)
Effect on heart rate	60			5–10
Bolus doses	Increased			Increased
Bolus doses*	5–10 mg			6 $\mu\text{g}$
Infusion rate				0.05–0.1 $\mu\text{g/kg}$
Infusion rate*	Not recommend			0.02–0.1 $\mu\text{g/kg/min}$
*Body weight adjusted doses.				

### *Phenylephrine:*

Increased effectiveness

Less placental transfer

Fewer depressant effects on fetal pH

Tendency to reduce maternal HR (for the reflex baroreceptor) and consequent reduction of Gc

### *Norepinefrina:*

- Powerful  $\alpha$  agonist, with vasoconstrictive action
- Weak agonist  $\beta$  effect, acting against the baroreceptor reflex
- It does not cross the placenta in substantial quantities because it is degraded
- placental cholinesterases, thus eliminating stimulation on the
- fetal metabolism which would lead to the reduction
- of pH as seen with ephedrine
- Local tissue damage from extravasation and/or local vasoconstriction,
- limited due to the low doses and dilution.

(9) Multimodal anal- gesia	<p>Multimodal analgesia protocols include:</p> <ul style="list-style-type: none"> <li>• Low-dose long-acting neuraxial opioid such as morphine (see above)</li> <li>• Scheduled NSAID</li> <li>• Scheduled APAP</li> <li>• Local anesthetic techniques as indicated</li> </ul> <p>Example:</p> <ul style="list-style-type: none"> <li>• APAP 650–1000 mg orally, per os q6h scheduled</li> <li>• Ibuprofen 600 mg orally, per os q6h scheduled after IV ketorolac 15–30 mg that is given after delivery in OR, or naproxen 500 mg orally, per os twice a day or other NSAID</li> <li>• Oxycodone 2.5–5 mg orally, per os q4h PRN pain</li> <li>• Preemptive or rescue supplemental regional blocks as indicated</li> </ul>	<p>Multimodal analgesia should be used to:</p> <ul style="list-style-type: none"> <li>• Reduce pain</li> <li>• Improve mobilization</li> <li>• Limit IV opioids in PACU</li> <li>• Limit opioids in hospital</li> <li>• Limit opioids at discharge</li> </ul> <p>Opioids are associated with nausea/vomiting, sedation, fatigue, ileus, constipation, misuse/addiction risk</p> <ul style="list-style-type: none"> <li>• Multimodal analgesia (including NSAID + APAP) decrease opioid use/side effects by 30%</li> <li>• See SOAP Center of Excellence criteria Link: <a href="https://soap.org/grants/center-of-excellence/">https://soap.org/grants/center-of-excellence/</a></li> <li>• Expectation management<sup>25</sup></li> <li>• Truncal blocks (TAP, QLB) or continuous wound infiltration available when neuraxial morphine cannot be given, or as a rescue technique when severe breakthrough pain despite the use of neuraxial morphine</li> <li>• TAP blocks does not provide significant improvement when given in addition to neuraxial morphine and scheduled NSAID/ APAP</li> <li>• Gabapentinoids have not been shown to have significant benefit in routine cesarean; may be appropriate in select patients; use caution in patients on methadone or other QTc prolonging medications</li> </ul>	Class I	Level B-NR
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## Obstetric Anesthesiology

### ■ SPECIAL ARTICLE

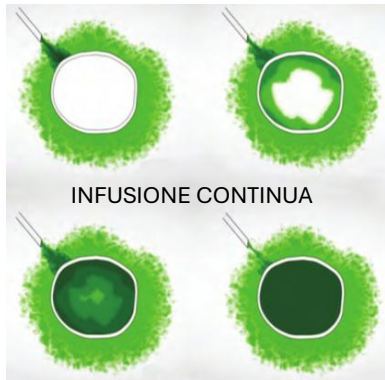
2020

# Society for Obstetric Anesthesia and Perinatology: Consensus Statement and Recommendations for Enhanced Recovery After Cesarean

Laurent Bollag, MD,\* Grace Lim, MD, MS,† Pervez Sultan, MBChB, FRCA, MD (Res),‡  
Ashraf S. Habib, MBBCh, MSc, MHSc, FRCA,§ Ruth Landau, MD,|| Mark Zakowski, MD,¶  
Mohamed Tiouririne, MD,# Sumita Bhambhani, MD,\*\* and Brendan Carvalho, MBBCh, FRCA, MDCH‡

## PostOperative Pain Management

- **CEI: Continuous Epidural Infusion**
- **PCEA : Patient Controlled Epidural Analgesia**
- **PIEB: Programmed intermittent Epidural Bolus**



*....several studies have shown the superiority of the PIEB compared to the CEI*

Analgesia and motor block are produced by the movement of local anesthetic (AL) from the extraneural space in the long nerve a diffusion gradient.

In the case of Continuous Infusion, the extraneural concentration of AL is higher than in the intraneural space, and the total concentration within the nerve is increased and can reach the threshold for motor fiber blockage.

If low concentrations of local anesthetic are given instead in intermittent boluses, blockage of motor fibers is unlikely, since the total amount of AL within the nerve is insufficient.



## Guidelines

### **PROSPECT guideline for elective caesarean section: updated systematic review and procedure-specific postoperative pain management recommendations**

**E. Roofthoof<sup>1,2</sup>, G. P. Joshi<sup>3</sup>, N. Rawal<sup>4</sup>, M. Van de Velde<sup>5</sup> and on behalf of the PROSPECT Working Group\* of the European Society of Regional Anaesthesia and Pain Therapy and supported by the Obstetric Anaesthetists' Association**



- Pre Operatively:  
Intrathecal long acting opioid ( eg morphine 50-100mcg)  
An alternative Epidural Morphine 2-3mg (Grade A)  
Oral Paracetamol (Grade A)
  
- Intra Operative after CD  
- If intrathecal morphine not used,  
local anaesthetic wound infiltration or  
continuous wound infusion and/or  
regional analgesia technique (TAP, QLB) (Grade A)
  
- Post Operative:  
Oral Paracetamol and NSAID  
Opioid rescue when other recommended strategies  
are not possible (controindication regional anaesthesia)

# Regional Analgesia for Cesarean Delivery: A Narrative Review Toward Enhancing Outcomes in Parturients

Matthew Silverman<sup>1</sup>, Nicholas Zwolinski<sup>1</sup>, Ethan Wang<sup>2</sup>, Nishita Lockwood<sup>1</sup>, Michael Ancuta<sup>1</sup>, Evan Jin<sup>1</sup>, Jinlei Li<sup>1</sup>

.... *blocks?*

- Ribeiro Junior IDV, Carvalho VH, Brito LGO. Erector spinae plane block for analgesia after cesarean delivery: a systematic review with meta-analysis. Braz J Anesthesiol. 2022
- Malawat A, Verma K, Jethava D, Jethava D. Erector spinae plane block and transversus abdominis plane block for postoperative analgesia in cesarean section: a prospective randomized comparative study. J Anaesthesiol Clin Pharmacol. 2020
- Boules ML, Goda AS, Abdelhady MA, Abu El SA, El-Azeem NA, Hamed MA. Comparison of analgesic effect between erector spinae plane block and transversus abdominis plane block after elective cesarean section: a prospective randomized single-blind controlled study. J Pain Res. 2020
- Priya TK, Singla D, Talawar P, Sharma RS, Goyal S, Purohit G. Comparative efficacy of quadratus lumborum type-II and erector spinae plane block in patients undergoing caesarean section under spinal anaesthesia: a randomised controlled trial. Int J Obstet Anesth. 2023
- Bakshi A, Srivastawa S, Jadon A, Mohsin K, Sinha N, Chakraborty S. Comparison of the analgesic efficacy of ultrasound-guided transmuscular quadratus lumborum block versus thoracic erector spinae block for postoperative analgesia in caesarean section parturients under spinal anaesthesia-A randomised study. Indian J Anaesth. 2022
- Hamed MA, Yassin HM, Botros JM, Abdelhady MA. Analgesic efficacy of Erector spinae plane block compared with intrathecal morphine after elective cesarean section: a prospective randomized controlled study. J Pain Res. 2020;
- Wang P, Chen X, Chang Y, Wang Y, Cui H. Analgesic efficacy of ultrasound-guided transversus abdominis plane block after cesarean delivery: a systematic review and meta-analysis. J Obstet Gynaecol Res. 2021;

## OBSTETRICS

BJA  
2025

## The analgesic effects of novel fascial plane blocks compared with intrathecal morphine after Caesarean delivery: a systematic review and meta-analysis

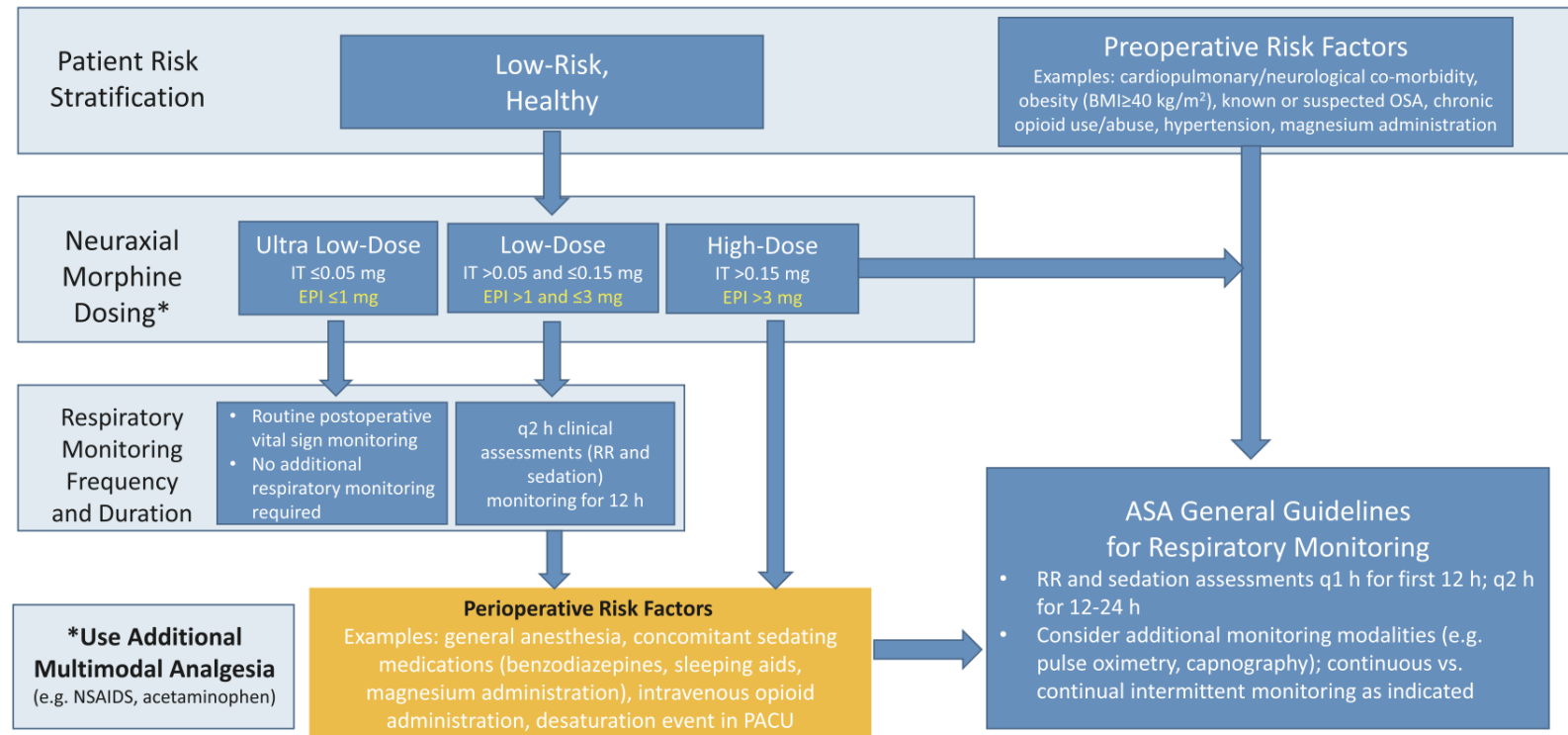
QLB and ESP block, but not TAP block,  
can provide similar pain relief to intrathecal morphine  
after CD up to 12 h after surgery

In parturients undergoing Caesarean delivery who cannot  
receive intrathecal morphine,  
QLB and ESP blocks may be the most suitable  
alternatives for post operative analgesia



# Society for Obstetric Anesthesia and Perinatology Consensus Statement: Monitoring Recommendations for Prevention and Detection of Respiratory Depression Associated With Administration of Neuraxial Morphine for Cesarean Delivery Analgesia

2019



Respiratory monitoring algorithm following neuraxial morphine administration for postcesarean delivery analgesia.



## TAKE HOME MESSAGE

- Unique Psycho-Social Surgery
- ERAS and Boonding: can they coexist?
- Technique
- How to check hemodynamics
- Post-operative analgesia

***"A good birth  
goes further  
having a healthy baby"***

Dr. Princess Nothemba Simelela  
WHO Assistant Director – General for Family Woman,  
Children and Adolescents



***"What each of us does  
in giving birth to  
a child and a mother  
will make a difference  
that day and  
for their whole lives"***

*Thanks*

