

# Labor Pain Relief for the Parturient

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## Introduction

Obstetrics is the branch of medicine that is concentrated on pregnancy, childbirth and the care that is provided in the postpartum period. When combining obstetrics and anesthesia, the focus shifts towards the peripartum anesthetic and analgesic methods that can be controlled during labor. The main goal of obstetric anesthesia is to ensure quality care, while also working towards patient satisfaction and improving patient safety by decreasing the incidences of complications (Barash, 2017).

Birth rates are ever increasing and with that includes women who experience the miracle of childbirth. However, childbirth comes with an undesirable amount of pain. Those who chose to forgo natural birth are typically treated with neuraxial techniques, making them the most common. Epidurals and spinals are dosed with local anesthetics (LA), opioids, and multiple adjuncts to relieve the pressure experienced during labor. Pain can also be managed with non-pharmacologic approaches that come with less risks, such as hypnotherapy or hydrotherapy.

### 1<sup>st</sup> Stage of Labor

- Onset of uterine contractions – start of cervical dilation to dilatation of 10 cm
- Visceral cramping pain perceived by nerves T10-L1

### 2<sup>nd</sup> Stage of Labor

- Begins when the cervix has fully dilated to the delivery of fetus
- Visceral pain from the uterus and cervix with somatic pain from the distension of the vagina and perineum
- Pain is received through the pudendal nerve - S2-S4

### 3<sup>rd</sup> Stage of Labor

- Begins after the delivery of the fetus and ends after the placenta is delivered
- Pain is received through the pudendal nerve - S2-S4

## Neuraxial vs. Nonpharmacologic Techniques

### Neuraxial/Pharmacologic Methods

Uses local anesthetics to block the sensations of pain in a certain part of the body (Grant, 2020).

- Epidural block
  - Solution of LA is administered through a catheter that is placed into the lumbar epidural space
- Spinal block
  - Single injection using a small gauge needle (<25 gauge), to puncture the dura and inject LA into the subarachnoid space
- Combined spinal-epidural (CSE)
  - Spinal needle is passed through the epidural catheter to puncture the dura wall and inject a single bolus of LA into the subarachnoid space (Butterworth et al., 2018)

### Nonpharmacologic Methods

Are used to elevate the care of the patient and mainly reduce the pain to a manageable limit (Caughey, (2021).

- Low resource techniques
  - Changing positions, birthing ball, taking walks
  - Touch massage, acupressure, music, hot and cold cloths
- Moderate resource techniques
  - Hypnotherapy, hydrotherapy, acupuncture, yoga, sterile water injection, transcutaneous electrical nerve stimulation

## Conclusion

Labor pain is a common sensation that is experienced in every childbirth. The pain that women experience is intense and unmatched as it manifests both physiologic and psychologic. Some parturient tend to seek nonpharmacologic methods, while others prefer pharmacologic therapies along with neuraxial analgesia. There is no right or wrong way to manage the pain that comes from labor, and while not every method has been proven to relieve or allow women to cope with the pain, it is still solely up to the patient and their wishes. Ultimately, all mothers choose the health and safety of themselves and their infant when deciding which pain relief option is the best. It's important that these women have means of getting the appropriate care and have trust in the providers who can administer such techniques. It should be noted that providers, physicians, and most importantly anesthesia providers have informed conversations with patients to select the best route that is suitable for both the mother and baby.

## Reference

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## Discussion

Trials were conducted to conclude the efficacy and safety of nonpharmacological and pharmacological methods to manage labor pain. Within the trials, most tested the comparison of treatments within the same category, versus comparing different treatment methods. The comparisons of each category allowed for further breakdown into classifications of what methods work, may work for some, and insufficient data to judge on efficacy. As for what works, there was significant evidence to suggest that epidurals and use of combined spinal-epidural are effective at managing pain.

However, when selecting these techniques, it should be taken into consideration that they can have adverse effects or associated risks that need to be outweighed. For options that were classified as methods that may work, evidence suggested that water immersion, acupuncture, massage, non-opioid drugs, and local anesthetic nerve blocks may aid in relieving labor pain.. Lastly, for some methods there was not enough evidence to support whether such methods are capable or sufficient to manage the discomfort. These techniques included hypnosis, sterile water injections, aromatherapy, TENS machine, and parenteral opioids (Jones, 2021).