CHAPTER 17
PAIN RELIEF IN LABOUR

Learning Objectives
By the end of this chapter, the participant will:

1. Identify pharmacological and non-pharmacological methods of pain relief in labour.
2. Describe how pain in labour contributes to dysfunctional uterine contractions and maternal anxiety.
3. Recognize situations where pain relief should be offered.

Introduction

The management of pain during labour involves more than the act of administering the best anesthetic agent available in a timely fashion. Successful control of pain in labour requires active management of the entire process. This should begin with prenatal education and counseling. Measures to enhance comfort and reduce apprehension are required for the care of all women in labour. If appropriate measures are used early in the process of labour, analgesic needs decrease. Those who care for women in labour, need to be aware of all the available options.

Health care providers support women's sexual and reproductive rights through advocacy for women's access to:

1) Prenatal and parenting education
2) Privacy
3) Hydration and nourishment during labour
4) Labour companions
5) Pharmacological pain relief for certain gynecological procedures as well as in labour and following cesarean section surgery
6) Choice of labour and birth positions

Under no circumstances is verbal or physical violence ever appropriate i.e. yelling, slapping or hitting a woman during labour in an attempt to gain her cooperation or compliance.

Support Measures During Labour

Physiological discomforts will accentuate labour pain and need to be relieved. Maintenance of mobility and frequent position changes are helpful. Fear and anxiety are major contributors to pain and should be dealt with taking into account unique personality and cultural factors. Supporting a labouring woman includes measures such as:

- Encouragement and facilitation of position changes and mobility
- Reduction of fear and anxiety by providing information and support
- Facilitation of appropriate rest
- Provision of a labour companion
- Listen to her complaints, and ensure hydration & breathing techniques

Appendix 2 in Chapter 4, Management of Labour, has more information on positions for birth.

Companion Support During Labour

The presence of a labour companion to provide physical contact and encouragement to the woman is beneficial to mothers and their babies. Studies have shown that continual support throughout the whole labour reduces the length of labour, the use of medication for pain relief, the cesarean rate, and the use of oxytocin. These studies are listed in the references.

Non-Pharmacological Pain Relief

It must be recognized that non-pharmacological pain relief varies from country to country. The wishes of the woman must be determined to ensure the most comfortable birthing experience.

Techniques that reduce painful stimuli
- Maternal movement and position change
- Counter-pressure against the woman's sacrum

Techniques that activate peripheral sensory receptors
- Superficial heat and cold
- Immersion in water during labour
- Touch and massage
- Acupuncture and acupressure
- Transcutaneous electrical nerve stimulations
- Intracutaneous injection of sterile water in the sacral area
- Aromatherapy

Techniques that enhance descending inhibitory pathways
- Attention focusing and distraction
- Hypnosis and self-hypnosis
- Music and audio analgesia

Pharmacologic Methods—Systemic

When pharmacologic agents are used for pain control in labour, guidelines regarding their safe and effective use should be available for all staff. These guidelines should include the method of action, average and maximum dose, possible maternal and fetal side effects, precautions, and resuscitative measures for each drug.

Narcotics
Narcotics are used routinely in many centres. The agent used depends primarily on the health care provider preference. Narcotics may be given intramuscularly or by repetitive intravenous boluses. The intravenous route has the advantage of a rapid effect when needed. Narcotics may be usefully combined with an antiemetic. Administration can be by health care providers or by patient-controlled analgesia pumps.

Narcotics may cause decreased fetal heart rate variability and neonatal respiratory depression. Vigilance is required. Respiratory depression in the newborn may be easily treated with repeated doses of naloxone.

Nitrous oxide
Entonox is self-administered. Deep inhalation should begin as soon as the woman is aware of the onset of a contraction to allow for maximal benefit. It is often useful for the patient who has coped well until transition and then requires some form of analgesia. It may also be used as an adjunct during other procedures, such as placement of a pudendal block.

Peripheral nerve blocks

Pudendal nerve block
This form of analgesia of the perineum can be very useful in the second stage of labour and should be considered when other regional analgesia is not available. Local anesthetic, such as lignocaine with epinephrine, allows administration of larger volumes with greater effectiveness and limits systemic levels in the mother and transfer to the fetus. Pudendal block is especially useful for forceps-assisted operative delivery. The block may be administered via the vagina or via the perineum. Both approaches are easily learned.

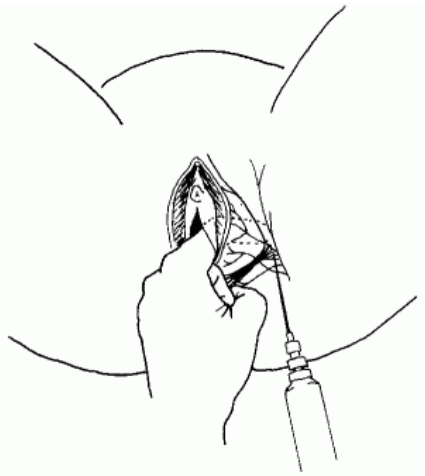

Figure 1 - Perineal approach

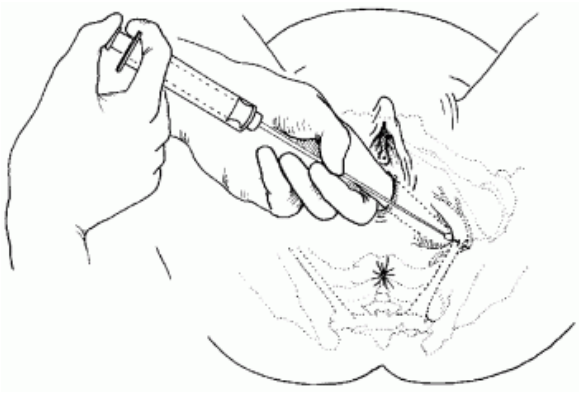

Figure 2 - Vaginal approach

Perineal infiltration

Generous and widespread infiltration of lignocaine should be used. Use of an agent with epinephrine is helpful. Care should be taken not to inject intravascularly and the toxic dose of the agent being used must be known.

Regional anesthesia

Epidural block

Epidural block can provide effective pain relief throughout all stages of labour and delivery.

The hormonal response to pain includes a rise in endogenous catecholamines. The effective relief of pain lowers epinephrine concentrations, resulting in improved uterine contractions and possibly improved placental perfusion.

Epidural analgesia is of particular benefit for women with dystocia of labour due to hypotonic contractions and whose labour is augmentated. Provision at this point of more effective pain relief is truly humane, and permits augmentation and subsequent vaginal delivery.

Overall, epidural analgesia has been reported to be associated with longer first and second stages of labour, an increased incidence of fetal malposition, an increased use of oxytocin, and instrumental vaginal delivery.

High-dose motor-block epidurals may lead to prolongation of second stage. This may be due to the blockage of the natural increase in oxytocin that occurs in the second stage of labour. Oxytocin augmentation may be necessary if contractions are too infrequent or ineffective. Paralysis of the pelvic floor musculature may result in persistent fetal head malposition. Low-dose epidurals lead to less motor blockage and, therefore, to less head malposition and a shorter second stage.

Discontinuing an epidural in the second stage to allow effective pushing is disadvantageous. The sudden return of pain is often worse than if there had not been relief provided at all. The woman may be so distracted and distressed by the pain that she cannot push effectively.

Facts about epidurals

- Epidurals effectively relieve pain.
- First-stage progress is unaltered or enhanced.
- High motor-block epidurals prolong the second-stage progress.

- Second-stage management may be altered to ameliorate epidural effect:
  - delayed pushing
  - extending time limits for second stage
  - placental blood flow and fetal well-being are preserved or enhanced

Epidurals and the second stage—management options

- Continue the epidural and allow a longer second stage.
- Delay pushing until the head is on the pelvic floor.
- Use oxytocin, if necessary.
- Avoid early intervention with operative delivery.

Summary

The type of pain relief should always be individualized after a complete discussion with each woman. Every woman should enter the labour process fully aware of all available pain relief options in the health care setting in which they will give birth. It is the responsibility of every health care provider (and that health care providers inform women) about all approaches, including advocating for access to pain relief in the health care facility.

Key Messages

1. Women should not experience unnecessary stress due to inattentive health care providers OR to painful procedures.
2. Each woman has her own level of pain tolerance that may vary, depending on the circumstances and her previous experiences. Health care providers need to respond appropriately based on the woman's reports of pain.
3. All methods of pain relief enhance labour progress by reducing maternal discomfort and anxiety, resulting in a positive birthing experience.
4. Encourage the woman to be accompanied and supported by a person she knows and trusts.
5. Health care providers should only use pharmaceutical pain relief if they have a solid understanding of their mechanism of action

Suggestion for Applying the Sexual and Reproductive Rights Approach to this Chapter

Health care providers should do everything possible, no matter how simple, to help alleviate pain for women. Access to analgesia during painful procedures is a human right. Although a woman may have not had any pain relief during her labour she may want to have her perineum anesthetized if suturing is required. Pay attention to the woman's pain tolerance and offer her pain relief.

Resources:

- Bruggemann OM, Parpinelli MA, Osis MJ. [Evidence on support during labor and delivery: a literature review]. *Cad Saude Publica* 2005;21(5):1316-27.Cochrane Library, Issue 4 2003
- Klaus MH, Kennell JH. The doula: an essential ingredient of childbirth rediscovered. *Acta Paediatr* 1997;86(10):1034-6.
- Rosen P. Supporting women in labor: analysis of different types of caregivers. *J Midwifery Womens Health* 2004;49(1):24-31.
- Scott KD, Berkowitz G, Klaus M. A comparison of intermittent and continuous support during labor: a meta-analysis. *Am J Obstet Gynecol* 1999;180(5):1054-9.
- SOGC. Advances in Labour and Risk Management (ALARM) Course. 14th edition, Ottawa: SOGC, 2007.