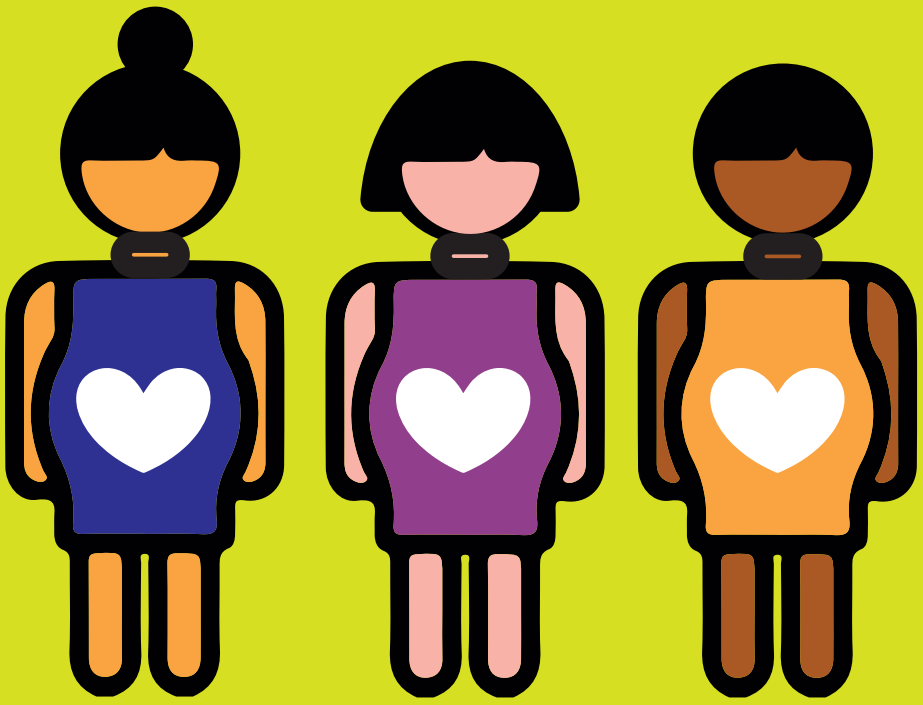
SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA
Azienda Unità Sanitaria Locale di Bologna

Istituto delle Scienze Neurologiche
Istituto di Ricovero e Cura a Carattere Scientifico

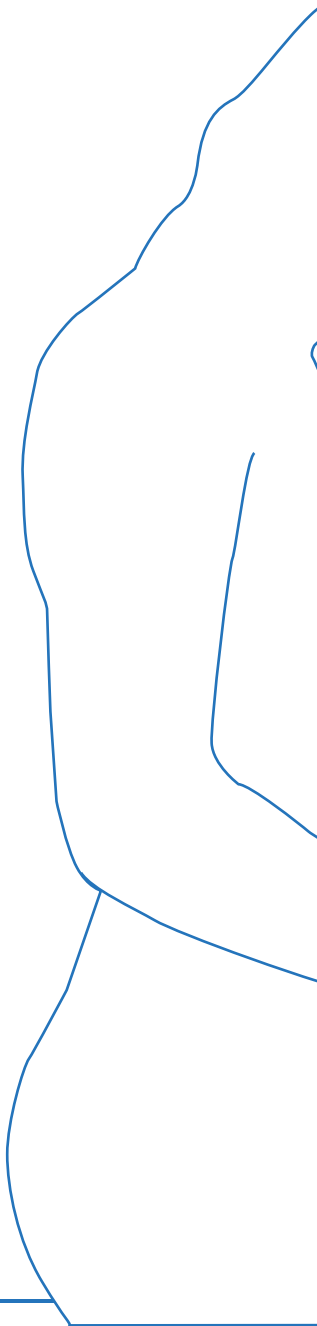
POLICLINICO DI
SANT'ORSOLA

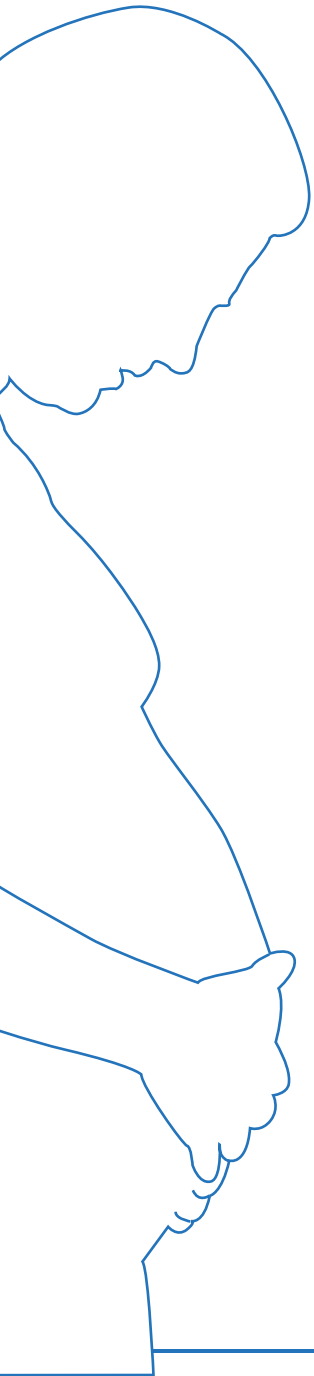
SERVIZIO SANITARIO REGIONALE
EMILIA-ROMAGNA
Azienda Ospedaliero - Universitaria di Bologna

Epidural analgesia in the labor of childbirth



INDICE





The limiting of labor pain, whatever the method adopted, has the purpose of obtaining a reduction of the physiologically present pain during labor.

The modern anesthesiology offers the women a chance to control their pain during labor and childbirth through epidural analgesia: relieving pain during labor contributes not only to improving the welfare of the mother, but also to reduce the possible adverse effects that pain can produce to mother and fetus.

Only in rare cases it is necessary to exclude pregnant women from this procedure: some complications of pregnancy, the intake of particular drugs, the presence of some pre-existing conditions that will be evaluated during the anaesthesiologic visit.

The woman who wants to make use of epidural analgesia in order to be eligible to procedure must perform some laboratory tests (complete blood count with platelet count, coagulation), an electrocardiogram and finally, undergo a anaesthesiologic visit.

After these checks, and after being fully informed on the method, the benefits and possible risks you can confirm the request by signing the informed consent.

The clinical condition and obstetric eligibility to the execution of epidural analgesia will once again be assessed at the time of labor.

During the anaesthesiologic visit are requested results of indicated exams, the list of medicines you use and the documentation relating to any pre-existing conditions or those that have arisen during pregnancy.

LABOR PAIN FEATURES

The pain of labor is perceived and reported differently from pregnant women, because it can be influenced by many individual variables.

It has different features in the dilatative and expulsive stages of labor.

The dilatative phase is characterized by an intermittent pain, synchronous with the uterine contractions, of increasing intensity with progressive distension of the cervix. It is diffusely localized, present mainly in the periumbilical area and back and is similar to menstrual pain. During expulsion, the pain becomes more intense, it is felt in the pelvice, vaginal and perianal area and overlaps the feeling of pushing.

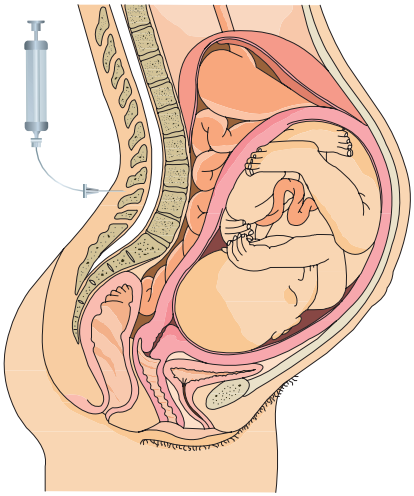
DESCRIPTION OF THE EPIDURAL TECHNIQUE

Normally epidural analgesia is initiated in well-established labor with valid, regular contractions, and when cervical dilatation is about 3-4 cm, and after further verification of clinical conditions by the gynecologist.

After the continuous monitoring of the fetal heartbeat and the placement of a small venous catheter in the arm for the administration of fluids and medication that may be needed during labor; to perform the epidural anesthesia woman is positioned lying on her side, with her knees and her head flexed on the trunk, or in a sitting position, so as to facilitate the identification of the lumbar intervertebral space for placement of a catheter in the epidural space.

Reached with the needle the intervertebral space, the anesthetist positions and fix a catheter through which will be administered the necessary "analgesics" drugs for the whole duration of labor, without need for further punctures. A dressing will fix the catheter in the back and allow the pregnant to move freely.

The disappearance of pain occurs usually after about 15-20 minutes of the first dose of the analgesic mixture. The woman continues to feel the contractions but not the pain, and if accompanied, could walk and collaborate effectively during childbirth. The maintenance of analgesia during all stages of labor will be guaranteed by administering repeated doses of analgesic through the epidural anesthesia catheter. At the end of the procedure epidural anesthesia catheter is removed.



ADVANTAGES

Epidural analgesia plays favorable action on maternal and fetal well-being, because, by lowering the perception of pain, indirectly reduces the stress and fatigue of the woman in labor.

The greater calm and breathing facility of the mother have positive effects on the newborn. Even the child's father (or the person of trust) that eventually assists childbirth can attend the event in a more positive way.

Analgesia is fully effective in over 95% of cases in the dilatative phase, reducing in the expulsion stage when the pain may be present but moderate.

In case of indication for urgent caesarean section, due to the presence of the epidural catheter, analgesia can be converted into surgical anesthesia, reducing the risks related to urgent anesthetic techniques conducted. In special cases, the catheter can be used for the control of post-operative pain.

SIDE EFFECTS AND COMPLICATIONS

Epidural analgesia is an effective and safe method, but in some cases it may be technically difficult (or impossible) or make an incomplete result (partial analgesia). In addition, as with all medical procedures, undesirable reactions and complications may manifest.

The side effects for the mother are rare and can include, occasionally, those listed below:

- paresthesia: unpleasant feeling, transient and without consequences, of "electric shock" when the catheter is introduced;
- not adequate relief in some areas if the anesthetic fails to fully impregnate the nerve roots. In these cases, it is necessary to change the location of the catheter. You may have to repeat the puncture and, in extreme cases, abandon the procedure;
- chills: transient response without the consequences that can accompany also childbirth without analgesia;
- itch: may occur as a result of using certain medications to control pain. It is usually in the mild form, well tolerated and not frequent. It passes on its own after about an hour;
- hypotension (drop of pressure) occurs rarely with low doses of anesthetic drug used for labor analgesia. In the case that occurs, it is easily treated with the administration of liquids intravenously (IV) and / or with the use of appropriate medications;
- headache: can occur within 72 hours of birth, with an incidence of less than 1/100 cases and is linked to technical difficulties of positioning of the catheter into the epidural space. Can be controlled with bed rest in the first 48 hours, drinking plenty of water and taking analgesics. This disorder may last a few days, so the mother may have to remain hospitalized with her baby a bit longer;
- Fever: women undergoing epidural analgesia may expe-

rience an increase in body temperature more than the women in labor without analgesia. This occurs mainly in long-lasting childbirth;

- low back pain, back or sciatic type pain: are related to stress to which the spine is subjected the during pregnancy, childbirth and postpartum, regardless of whether performed epidural analgesia or not. Only rarely are caused by the needle, and in this case are resolved in 3-4 days;
- urinary retention: can occur in a small percentage of women as a result of the action of anesthetics. In these cases it is necessary to temporarily insert a special catheter to empty the bladder.

Allergic reactions to utilized anesthetic drugs are very rare, but when they occur can be problematic: that is why it is important to make the anaesthesiologic visit. Serious complications such as nerve damage, epidural hematoma, infection, paralysis are rare events.

EFFECTS ON LABOR AND DELIVERY

The effects of epidural analgesia on the progression of labor have been extensively studied. The first stage of labor (dilatative) is not elongated while the second phase (expulsive) could be longer on average of 15-30 min. This effect does not affect the welfare of the mother and child.

The epidural analgesia labor of childbirth requires:

- the continuous CTG monitoring (monitoring of the fetal heartbeat);
- an increased use of oxytocin drug, intended to facilitate the uterus dynamic.

The need to use the sucker for baby extraction increases by about one and a half in births compared with normal birth without epidural analgesia: in fact, the sucker is used in 3.5% of births without epidural anesthesia and in 5% of births with epidural anesthesia.

This is because the anesthetic can affect the reflection of pushing and expulsive force.

Epidural analgesia does not increase the risk of cesarean section, does not increase the risk of postpartum hemorrhage, the afterbirth manual placenta and perineal tears.

EFFECTS ON THE NEWBORN

The placement of the catheter and the utilized drugs do not cause any harm to the child. In rare cases, you can witness a rise in body temperature of the newborn.

The effects of labor analgesia on infant behavior at birth are irrelevant or none at all.

There are no differences between children born with labor analgesia and those born without epidural analgesia for major vitality indices such as the APGAR index (the adaptation assessment parameter to extrauterine life of the newborn).

EFFECTS ON BREASTFEEDING

Breastfeeding is undoubtedly an extremely important step for the welfare of the child and the mother.

In this area, several studies have attempted to identify any aspects of epidural analgesia that could influence breastfeeding delaying the start in the first 24 hours or lowering the durability the first 6 weeks postpartum. There may be a relationship between possible breastfeeding difficulties and analgesia which can not be regarded, however, as the only possible cause, as many other aspects will affect the progress.

WHEN YOU CAN NOT GET THE EPIDURAL ANALGESIA

The epidural analgesia is absolutely contraindicated in cases of::

- coagulation disorders;
- infection with high fever;
- some severe neurological or cardiological diseases.

There may be other minor drawbacks, to be examined on case by case basis, and evaluate and discuss at the time of anaesthesiologic visit, such as treatment with anticoagulants.

In addition to clinical type contraindications, the request of epidural analgesia given birth may not be accepted for reasons related to the timing of labor, such as the arrival in the delivery room being in phase of very advanced labor with imminent birth (the effect of analgesia would coincide with the arrival of the newborn).

It is also possible to consider that if the anesthesiologist was engaged at the same time with more serious and urgent patients or more deliveries, the labor analgesia may be delayed or not be initiated.

HOW TO ACCESS THE LABOR ANALGESIA

To make use of epidural analgesia is needed:

1. participate between the 24th and the 30th week of pregnancy an information meeting during which you receive all communications useful to allow an informed and conscious choice.

   Every month each Birth Point organizes information ses-

sions with doctors and obstetricians (dates and locations of the meetings are given below).

More information is available at the clinics and the Birth Points.

2. before the 35th week of pregnancy make a clinical eligibility assessment which includes:
   - ECG, blood count, pt and ptt;
   - anaesthesiologic visit.

Access mode for reservations for examinations and anaesthesiologic visit to the 30th week of pregnancy:

- for Birth Points of Maggiore and Bentivoglio Hospitals of Company Local Health Unit of Bologna registration must be completed directly on the website www.ausl.bologna.it/form/epiduraleparto, or by calling unique number 051.317 2753, available from Monday to Friday, from 9 to 12.
- for Birth Point of General Hospital S.Orsola the request shall be made using the specific form, at the address partoanalgesia@aosp.bo.it, or by fax to number 051 636 4321, or by entering the module directly into the dedicated little hole at the concierge desk.

For information visit the website www.aosp.bo.it.

BIBLIOGRAFIA

Anim-Somuah M,Smyth R, Jones L. **Epidural versus non-epidural or no analgesia in labour (Review)**. Cochrane database Syst Rev 2011; 12:CD00331.

Wassen M, Smits L, Sheepers H, Marcus M,Van Neer J,Nijhuis J, et al. **Routine labour epidural analgesia versus labour analgesia on request: a randomized non-inferiority trial.** BJOG 2014; doi: 10.1111/1471-0528. 12854 (epub ahead of printing).

Felicity Reynolds. **Labour analgesia and the baby: good news is no news**. International Journal of Obstetric Anesthesia (2011) 20, 38-50.

Dozier AM, Howard CR, Brownell EA at al. **Labor epidural anesthesia, obstetric factor and breastfeeding cessation.** Matern Child Health J. 2013 May; 17(4):689-98.

Wilhelm Ruppen, Sheena Derry, Henry McQuay, R. Andrew Moore. I**ncidence of Epidural Hematoma, Infection, and Neurologic Injury in Obstetric Patients with Epidural Analgesia/Anesthesia Anesthesiology** 2006; 105:394 –9.

a cura di Comunicazione e Relazioni con il cittadino - Azienda USL di Bologna