INDUCTION OF LABOR

Sometimes labor has to be induced before its natural, spontaneous onset due to reasons related to the mother or the baby. The doctor decides when and how the labor will be induced and explains the reasons to the mother.

A pregnancy is full-term if labor begins after week 36+6 but before the week 42. Labor is premature if it starts before the week 37+0 begins. The baby is not considered post-mature until 14 days after the due date, i.e., the pregnancy has lasted for more than 42 weeks. Only about 5-6 % of all babies are truly post-mature.

Induction of labor is always carefully considered and it is never done without a good reason. Of induced births, 70-80% end in a normal vaginal birth. The goal is to deliver a healthy baby and guarantee the mother’s well-being during labor. Induced labor is associated with a slightly increased risk of a caesarean section or other assisted childbirth, such as ventouse delivery.

It is natural for a mother to wish that she will have her baby on the expected day. However, an easy and fully reliable induction method does not exist. Induction, like any other medical procedure, is decided on in co-operation with the mother and attending doctor. An unnecessary or too early induction may lead to cessation of labor or a caesarean section that could have been avoided.

Reasons for induction of labor:

- Hypertension in pregnancy or pre-eclampsia
- Post-term pregnancy (pregnancy has lasted for 42 weeks)
- Hepatic cholestasis of pregnancy
- Insulin-treated diabetes
- Blood group immunizations
- Chorioamnionitis (inflammation of the fetal membranes and amniotic fluid)
- Breaking of water in full-term pregnancy without contractions
- Slowing of fetal growth
- Imminent fetal hypoxia

Suspected macrosomia, i.e., large size of the baby, is not a reason for induction as such. Even when the baby is large, spontaneous onset of labor is desirable, as then the contractions are more likely to be effective.

Modes of induction

The induction method depends on the ripeness of the cervix, evaluated in a pelvic examination. The cervix is located between the uterus and vagina. It dilates during labor. If the cervix is still very unripe we speak of maturation of the cervix instead of induction of labor.
Induction / maturation methods include:
- Widening of the cervical canal with a so-called balloon method
- A prostaglandin tablet administered into the vaginal fornix or orally
- Artificial rupture of the fetal membranes (ARM)
- Plain oxytocin

Maturation of the cervix
Labor is nowadays induced often by widening of the cervix with a so-called balloon method, in which a catheter is placed inside the uterus between the membranes and uterus wall. This is done in a vaginal examination. There is a “balloon” at the tip of the catheter and it is filled with liquid. The balloon settles down between the fetus's head and the cervix. This soft liquid ball matures and dilates cervix locally and without medicine. When the balloon comes loose the cervix is ready for the artificial rupture of the membranes (ARM). The balloon may cause mild ache to the lower abdomen and same kind of pain as menstruation. The drawbacks of this method are few and, depending on the reason for the induction, the patient may also remain at home during the first 24-hour period. Balloon induction is a primary method, especially when the patient has a background of surgery in the area of the myometrium (e.g. Caesarian section). At the discretion of staff, the balloon method may also sometimes be used when the amniotic fluid has broken and the uterine cervix is immature.

The cervix can also be maturated with a vaginally or orally administered prostaglandin (misoprostol) tablet. Misoprostol tablets are usually administered at 4 hour intervals during the day. The tablet usually causes slight pain in the lower abdomen, menstrual pain type aching and contractions of the womb. During the maturation process, the condition of the baby is monitored with cardiotocography (CTG) before and after the administration of the tablet.

The duration of the induction of labor depends on the ripeness of the cervix. If the cervix is very unripe, the maturation may take days, which requires patience of the mother.

Artificial rupture of the membranes (ARM)
When the cervix is ripe enough, labor is induced by ARM. At this point, the cervix is soft, disappeared and already slightly dilated (2 to 3 cm). The procedure involves puncturing the fetal membranes during pelvic examination, so that amniotic fluid can flow out. The puncturing is painless and does not harm the baby or the mother.

After the breaking of the amniotic fluid, contractions begin spontaneously within 24 hours in 70% of births. If contractions do not begin spontaneously, the usual practice is to induce them intravenously using oxytocin hormone. If there is a serious complication with pregnancy, oxytocin can even be started earlier (1-2 hours from the breaking of the amniotic fluid) in order to boost contractions.
Oxytocin can also be given in order to induce labor, for example in situations where a longer period of time (more than 24 hours) has passed since the spontaneous breaking of the amniotic fluid, contractions have not begun and the orifice of the uterus is mature.

**Pain relief**

Induced labor is not more painful than “natural labor”. However, the sensation of pain is very individual. It is not possible to compare the levels of pain experienced by different mothers in different deliveries. The same methods of pain relief are available in induced labor as in other deliveries.

**Will my next childbirth be induced?**

Even if your labor was induced, it does not mean that this will happen again in your future pregnancies. Every pregnancy and birth is different from the others. The need for induction is always assessed case-specifically in each pregnancy.

If you have had a Caesarean section before and your upcoming delivery is planned to be vaginal, the maturation and induction methods described above may be used when necessary. Caution will be exercised in the maturation of the cervix and, particularly, in the administration of medication to improve contractions. After the onset of labor, a detector can be inserted into the womb for the monitoring of uterine pressure. It is used for measuring the intensity of contractions.

**Contact details**

For any questions or further information, please contact:

**WOMEN’S HOSPITAL, Haartmaninkatu 2, Helsinki**
- Emergency Outpatient Clinic (obstetrics), tel. (09) 471 72913
- Gynecological and Maternity Outpatient Clinic, appointments and helpdesk, weekdays 9 am to 3 pm tel. (09) 471 72854
- Labor Ward, tel. (09) 471 73488
- Antenatal Ward, tel. (09) 471 72914 or (09) 471 72915

**KÄTILÖOPISTO MATERNITY HOSPITAL, Sofianlehdonkatu 5 A, Helsinki**
- Antenatal Ward, Emergency Care tel. 050 427 0326
- Gynecological and Maternity Outpatient Clinic, appointments and helpdesk, weekdays 9 am to 3 pm tel. (09) 471 65200
- Labor Wards, tel. 050 428 6843

**JORVI HOSPITAL, Turuntie 150, Espoo**
- Gynecological and Maternity Outpatient Clinic, tel. (09) 471 83201
- Labor Ward, tel. (09) 471 82111
- Emergency Outpatient Clinic, tel. (09) 471 82112