Induction of labor

The aim of induction of labor is a vaginal birth by dilating the cervix and stimulating the contractions. Induction of labor is the most common childbirth-related procedure. Approximately 20–30% of all labors are induced. Labor is induced due to reasons related either to the mother or the child when the risk of continuing the pregnancy is higher than the risks of induced labour. Most common reasons for induction are an overdue pregnancy and the breaking of water without spontaneous start of contractions. Inducing labour for non-medical reasons is not recommended before the gestational week 40. Contraindications for induction are mainly the same as for vaginal birth in general.

Induction of labor is always evaluated individually taking into account the wellbeing of the mother and the fetus, duration of the pregnancy, risk factors, and dilation of the cervix. Before making the decision to induce labor, the mother should know why the labor is induced, what the options are, and what risks are involved in the induction. These issues are discussed before the induction with each mother and for each the most suitable and risk-free method of induction is chosen.

Induction methods

The method of induction depends upon the dilation of the cervix, which is checked with an internal examination. The cervix is a part of the birth canal, it is situated between the uterus and the vagina, and it opens during the child birth. With a very undilated cervix, the method is actually just cervical dilation rather than induction of labor. The cervix can be dilated either mechanically or medically. The actual induction begins by rupturing the membranes, i.e. amniotomy. Before and, if necessary, also after the cervical dilation or amniotomy, the fetus's condition is checked by registering the heart beat for 20–30 minutes.

Mechanical induction with a balloon

In the balloon method, a balloon-tipped catheter is inserted into the cervix via the vagina in an internal examination. The balloon is filled with liquid (saline). The balloon is placed inside the uterus between the amniotic membranes and the wall of the uterus. The cervix begins to shorten and open due to mechanical pressure and biochemical reactions. For app. 10% of mothers, the contractions will spontaneously begin while the balloon is in its place.

Minor bloody discharge may occur when the balloon is inserted. Inserting the balloon should not be painful but you may experience some tightness in the lower abdomen. Once the balloon is in its place, you may move freely. This procedure is proven to be a safe method to induce labor. If the patient is not
diagnosed with any complication that needs special monitoring in a hospital, the patient can be discharged after the balloon has been inserted.

The balloon usually comes off spontaneously within 24 hours, sometimes even after a few hours, and after this the cervix will have dilated app. 3–4 cm. Then, if the cervix has dilated enough, the membranes are ruptured. Sometimes, if the cervix has not dilated enough, the dilation is continued with medicines or a new balloon is placed. Water breaking improves contractions and advances the childbirth. The procedure is painless and it is harmless to the fetus and the mother. If the balloon has not come off after 24 hours nor have the contractions began, the situation of the cervix and the need for further procedures is re-evaluated. The start of labor varies from person to person and each induction is planned individually.

**Induction with medicines**

If the cervix is undilated, it can be dilated with oral or vaginal prostaglandin i.e. misoprostol. Misoprostol tablets are usually taken every 3–4 hours during daytime.

The medicine usually causes minor ache in the lower abdomen, pain similar to menstrual pain, and contractions of the uterus. The condition of the fetus is monitored during the dilation by checking their heart rate with a CTG before and after taking the medicine. With medicinal induction of labor it is usually not possible to go home before the childbirth. The duration of the induction depends on the dilation of the cervix. If the cervix is undilated, the dilation process may sometimes take several days. This requires patience from the mother.

**Artificial rupture of membranes, amniotomy**

The labor can be induced by rupturing the membranes once the cervix has dilated enough. In this procedure, a hole is made in the amniotic membrane and the water breaks. Rupturing the membranes improves contractions and advances the childbirth. The procedure is painless and it is harmless to the fetus and the mother. Once the water breaks, a small electrode is placed on the baby’s head to monitor their condition. If contractions do not spontaneously begin, oxytocin hormone is administered intravenously. The administration of oxytocin is planned individually.

**Reasons for induction**

- Pre-eclampsia
- Overdue pregnancy, i.e. pregnancy has lasted over 42 gestational weeks
- Cholestasis of pregnancy
- Diabetes treated with insulin
- Medicated gestational diabetes
- Hemolytic disease of the newborn
- Infection in the amniotic fluid, chorioamnionitis
- Water breaking in a fulltime pregnancy without contractions
- Fetal growth deceleration
- Fetus is in danger of lack of oxygen

A suspected large size of the fetus, fetal macrosomia, is not a reason to induce labour as such. Even if the fetus was large, a spontaneous labor is desirable.