

PATIENT EDUCATION



The American College of
Obstetricians and Gynecologists
WOMEN'S HEALTH CARE PHYSICIANS

Labor, Delivery, and Postpartum Care • EP154

Labor Induction

Labor is the process that leads to the birth of a baby. Labor usually starts on its own. Labor induction is the use of medications or other methods to bring on (induce) labor. More than 20% of pregnant women in the United States have labor induced.

Labor may be induced for many reasons. Some medications used for induction also can be used to speed up labor that is going too slowly.

This pamphlet explains

- *reasons for labor induction*
- *when labor is not induced*
- *how labor is induced*
- *risks of labor induction*

Reasons for Labor Induction

Labor is induced to stimulate contractions of the **uterus** in an effort to have a vaginal birth. Labor induction may be recommended if the health of the mother or **fetus** is at risk. Some of the reasons for inducing labor include the following:

- Maternal health problems, such as diabetes; high blood pressure; or heart, kidney, or lung conditions
- **Placental abruption** (the **placenta** begins to separate from the inner wall of the uterus before the baby is born)
- Fetal problems, such as poor growth or lack of **amniotic fluid**
- Pregnancy that lasts more than 41–42 weeks
- Uterine infection (such as **chorioamnionitis**)
- **Preeclampsia** and **ecclampsia**

• **Premature rupture of membranes**

- Death of the fetus

Before labor is induced, your health care professional will review the fetus's **gestational age**, how your pregnancy is going, and the possible risks for you and the fetus. With some complications, labor induction may be needed even if it means that the fetus will be born early. In these cases, the risks of continuing the pregnancy outweigh the risks associated with the fetus being born too early.

In special situations, labor is induced for nonmedical reasons, such as living far away from the hospital. This is called elective induction. If elective labor induction is being considered, you should be aware that there are possible risks. Some have to do with the fetus being born too early. Elective induction should not occur before 39 weeks of pregnancy.

When Labor Is Not Induced

Some conditions may make a vaginal delivery unsafe for the mother or her fetus. Some of these conditions include the following:

- **Placenta previa** (the placenta covers the opening of the uterus)
- Abnormal presentation (the fetus is in a position that is not favorable for vaginal birth, such as lying sideways in the uterus instead of head down)
- Prolapsed **umbilical cord** (the cord has dropped down in the vagina ahead of the fetus)
- Active **genital herpes** infection
- Some types of previous uterine surgery

How Labor Is Induced

There are several ways to start labor if it has not started naturally. The choice depends on several factors. These factors include your condition and the experience of your health care professional. Several of these methods may be used together.

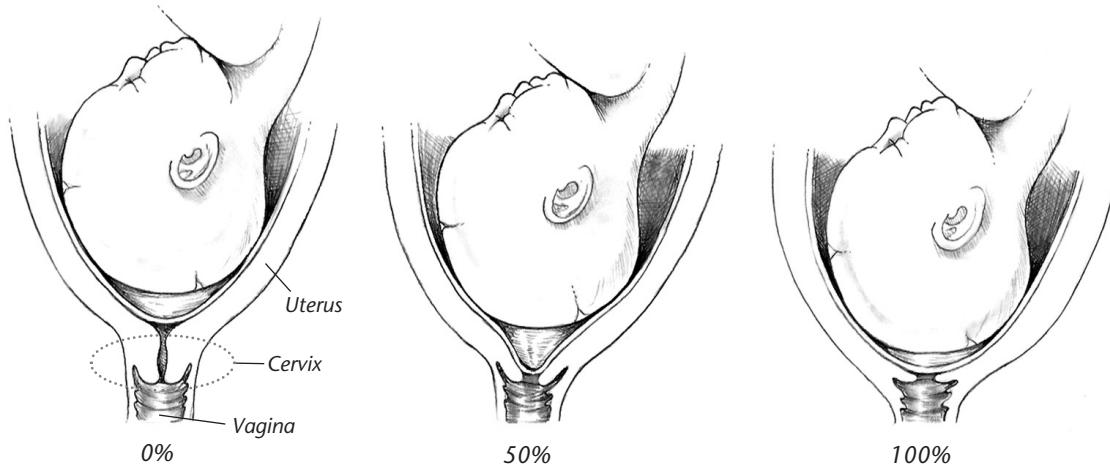
Ripening the Cervix

Ripening the **cervix** is a process that helps the cervix soften and thin out in preparation for labor. Sometimes when labor is going to be induced, the cervix is not yet “ripe” or soft. This means that labor cannot progress (see box “Cervical Changes”). Your health care professional will check to see if your cervix has started this

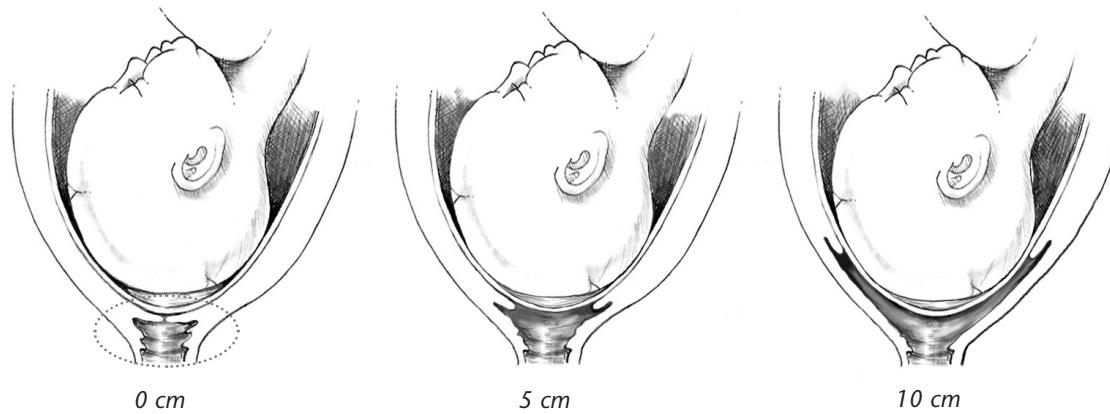
Cervical Changes

To prepare for labor and delivery, the cervix begins to soften, thin out, and open. These changes usually start a few weeks before labor begins.

1. **Ripening**—the softening of the cervix so that it becomes able to stretch for labor.
2. **Effacement**—the thinning out of the cervix. Before effacement, the cervix looks like a narrow tube about 4 centimeters long that is connected to the uterus. As the cervix becomes thinner, it shortens and pulls up toward the uterus. When effacement is complete, the cervix is part of the lower uterine wall. Effacement is measured in percentages, from 0% (no effacement) to 100% (full effacement).



3. **Dilation**—the amount that the cervix has opened. Dilation is measured in centimeters, from 0 centimeters (no dilation) to 10 centimeters (fully dilated).



change. Health care professionals use the Bishop score to rate the readiness of the cervix for labor. With this scoring system, a number ranging from 0–13 is given to rate the condition of the cervix. A Bishop score of less than 6 means that your cervix may not be ready for labor. Medications or devices may be used to soften the cervix so it will stretch (dilate) for labor.

Prostaglandins are drugs that can be used to ripen the cervix. They are forms of chemicals produced naturally by the body. These drugs can be inserted into the vagina or taken by mouth. Some of these drugs are not used in women with a previous **cesarean delivery** or other uterine surgery to avoid increasing the possible risk of uterine rupture (tearing).

The cervix also can be widened with special dilators. For example, inserting **laminaria** (a substance that absorbs water) expands the cervix. A catheter (small tube) with an inflatable balloon on the end also can be inserted to widen the cervix.

“Stripping the Membranes”

“Stripping the membranes” is another common way to start labor. It can be done in your health care professional’s office or in the hospital. The health care professional sweeps a gloved finger over the thin membranes that connect the **amniotic sac** to the wall of your uterus. This action may cause your body to release prostaglandins, which soften the cervix and may cause contractions.

Rupturing the Amniotic Sac

The amniotic sac also is called “the bag of waters.” If the sac has not broken already, and your labor has not started on its own, rupturing the amniotic sac can start contractions. It also can make them stronger if they have already begun. The health care professional makes a small hole in the amniotic sac with a special tool. This procedure, called an **amniotomy**, may cause some discomfort.

Amniotomy is done to start labor when the cervix is dilated and thinned and the fetus’s head has moved down into the pelvis. Most women go into labor within hours after their water breaks.

Oxytocin

Oxytocin is a hormone that causes contractions of the uterus. It can be used to start labor or to speed up labor that began on its own. Oxytocin is given through an intravenous (IV) tube in the arm. A pump hooked up to the IV tube controls the amount given. Contractions usually start in about 30 minutes. Your condition, your contractions, and the fetus’s heart rate will be monitored when you are given this medication.

Risks

Problems sometimes can occur with both cervical ripening and labor induction. With some methods, the uterus can be overstimulated, causing it to contract too frequently. Too many contractions may lead to changes in the fetal heart rate, umbilical cord problems, and

placental abruption. Other risks of cervical ripening and labor induction include the following:

- Infection in the mother or fetus
- Uterine rupture (rarely)
- Increased risk of cesarean birth
- Fetal death

Medical problems that were present before pregnancy or occurred during pregnancy may contribute to these complications. To help prevent these complications, the fetal heart rate and force of contractions may be electronically monitored during labor induction.

Another risk of labor induction is that sometimes it does not work. A failed attempt at induction may mean that you will need to try another induction or have a cesarean delivery. The chance of having a cesarean delivery is greatly increased for first-time mothers who have induction, especially if the cervix is not ready for labor. Cesarean deliveries pose additional risks for the mother and fetus. Babies born by cesarean delivery may have breathing problems. Women who have cesarean deliveries may develop infections or have bleeding from the surgery. There may be complications for future pregnancies, such as problems with the placenta. The recovery time for a cesarean delivery usually is longer than that for a vaginal delivery.

Finally...

Labor induction sometimes is necessary to protect the health of both mother and fetus. You and your health care professional will weigh the risks and benefits of labor induction compared with the risks and benefits of continuing the pregnancy. Understanding the risks and benefits allows you and your health care professional to make the best choice for you and your fetus.

Glossary

Amniotic Fluid: Water in the sac surrounding the fetus in the mother’s uterus.

Amniotic Sac: Fluid-filled sac in the mother’s uterus in which the fetus develops.

Amniotomy: Artificial rupture of the amniotic sac.

Cervix: The lower, narrow end of the uterus at the top of the vagina.

Cesarean Delivery: Delivery of a baby through incisions made in the mother’s abdomen and uterus.

Chorioamnionitis: Inflammation or infection of the membrane surrounding the fetus.

Dilation: Widening the opening of the cervix.

Eclampsia: Seizures occurring in pregnancy or after pregnancy and linked to high blood pressure.

Effacement: Thinning out of the cervix.

Fetus: The stage of prenatal development that starts 8 weeks after fertilization and lasts until the end of pregnancy.

Genital Herpes: A sexually transmitted infection caused by a virus that produces painful, highly infectious sores on or around the sex organs.

Gestational Age: The age of a pregnancy, usually calculated from the number of weeks that have elapsed from the first day of the last normal menstrual period and often using findings from an ultrasound examination performed in the first or second trimester of pregnancy.

Laminaria: Slender rods made of natural or synthetic material that expands when it absorbs water; they are inserted into the opening of the cervix to widen it.

Oxytocin: A hormone made in a part of the brain called the hypothalamus that causes the uterus to contract and milk to be released into the milk ducts of the breast during breastfeeding. A synthetic form of oxytocin can be given as a drug to induce labor contractions or make them stronger.

Placenta: Tissue that provides nourishment to and takes waste away from the fetus.

Placental Abruption: A condition in which the placenta has begun to separate from the inner wall of the uterus before the baby is born.

Placenta Previa: A condition in which the placenta partially or completely covers the opening of the uterus.

Preeclampsia: A disorder that can occur during pregnancy or after childbirth in which there is high blood pressure and other signs of organ injury, such as an abnormal amount of protein in the urine, a low number of platelets, abnormal kidney or liver function, pain over the upper abdomen, fluid in the lungs, or a severe headache or changes in vision.

Premature Rupture of Membranes: A condition in which the membranes that hold the amniotic fluid rupture before labor.

Prostaglandins: Chemicals that are made by the body that have many effects, including causing the muscle of the uterus to contract, usually causing cramps.

Umbilical Cord: A cord-like structure containing blood vessels that connects the fetus to the placenta.

Uterus: A muscular organ located in the female pelvis that contains and nourishes the developing fetus during pregnancy.

This Patient Education Pamphlet was developed by the American College of Obstetricians and Gynecologists. Designed as an aid to patients, it sets forth current information and opinions on subjects related to women's health. The average readability level of the series, based on the Fry formula, is grade 6-8. The Suitability Assessment of Materials (SAM) instrument rates the pamphlets as "superior." To ensure the information is current and accurate, the pamphlets are reviewed every 18 months. The information in this pamphlet does not dictate an exclusive course of treatment or procedure to be followed and should not be construed as excluding other acceptable methods of practice. Variations, taking into account the needs of the individual patient, resources, and limitations unique to the institution or type of practice, may be appropriate.

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ISSN 1074-8601

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