Care Practice #1: Labor Begins on Its Own

Debby Amis, RN, BSN, CD (DONA), LCCE, FACCE

ABSTRACT

This updated edition of *Care Practice Paper #1* presents the evidence for the benefits of allowing labor to begin on its own. The physiology of normal labor is contrasted with medical induction methods, and the potential harms of elective induction are reviewed. Women are encouraged to avoid induction of labor unless there is a medical reason.

Journal of Perinatal Education, 16(3), 16–20, doi: 10.1624/105812407X217093

Keywords: induction of labor, normal birth, macrosomia, childbirth education

For more resources and to download a copy of each updated care practice paper, visit the Lamaze Institute for Normal Birth link at Lamaze International's Web site (www.lamaze.org).

Most recent update: May 2007

A pregnant woman in a Lamaze class tells the class, “My doctor says my baby is pretty big. My neighbor had her labor induced because her baby was thought to be ‘too big.’ Do you think I should ask to be induced?”

All over the United States and in many other countries, expectant women hear similar statements in childbirth education classes. Induction of labor—starting labor artificially—is one of the most controversial issues in maternity care today. In many hospitals, labor is induced only for medical reasons, and care providers follow strict guidelines. Yet in other hospitals, women have elective inductions—those done for convenience rather than for medical reasons. Many women are confused about when induction is truly necessary. Are there problems with induction? What are the benefits of allowing labor to begin on its own? When does it make sense to induce and when is it better to wait?

NATURE'S PLAN FOR BIRTH

During the last weeks of pregnancy, your body and your baby prepare for birth. For a first-time mother,

the baby often “drops down” into the pelvis in the weeks before birth. The cervix tilts forward and gradually begins to soften. Over a period lasting from a few days to a few weeks, you may (or may not) feel irregular contractions that help your cervix gradually thin and perhaps even dilate a few centimeters.

During the last part of your pregnancy, your baby's lungs mature and he or she puts on a protective layer of fat, taking on the characteristic chubbiness of a newborn. Researchers now believe that when a baby is ready for life outside his mother's uterus, his body releases a tiny amount of a substance that signals the mother's hormones to begin labor (Condon, Jeyasuria, Faust, & Mendelson, 2004). In most cases, your labor will begin only when both your body and your baby are ready.

MEDICAL REASONS FOR INDUCTION

There are good medical reasons for inducing labor. Labor may be induced if it is more risky for your baby to remain inside your body than to be born. According to the American College of Obstetricians and Gynecologists (ACOG, 2005), labor may be induced if:

THE SIX CARE PRACTICES THAT SUPPORT NORMAL BIRTH

Care Practice #1: Labor Begins on Its Own

Key Points

- Labor normally begins when both your body and your baby are ready.
- Induction of labor doubles your chance of having a cesarean section.
- Carrying a big baby is not a medical reason to induce labor.
- Letting labor begin on its own means you are more likely to experience the other care practices that support normal birth.

- your water has broken and labor has not begun.
- your pregnancy is postterm (more than 42 weeks).
- you have high blood pressure caused by your pregnancy.
- you have health problems such as diabetes that could affect your baby.
- you have an infection in the uterus.
- your baby is growing too slowly.

It is important to know that “postterm” means you are 2 weeks past your due date. All obstetric associations define a normal pregnancy as lasting anywhere from 38 to 42 weeks. The expert physicians who write the leading obstetric textbook, *Williams Obstetrics* (Cunningham et al., 2005), have a policy of following closely women whose pregnancies have reached 41 weeks. But they do not induce until the pregnancy reaches 42 completed weeks unless there is another medical reason to do so. They say that inducing at 41 (rather than 42) weeks would mean that about 500,000 more women each year would use interventions that have not been conclusively proved necessary or harmless.

It is also important to know that suspecting a large or very large baby is not a medical reason for induction. Studies have shown that inducing labor for macrosomia (large baby) almost doubles the risk of having cesarean surgery without improving the outcome for the baby (Horrigan, 2001; Leaphart, Meyer, & Capeless, 1997; Sanchez-Ramos, Bernstein, & Kaunitz, 2002). Furthermore, it is very difficult to know how big your baby is until it is born. Ultrasound is not good at predicting which babies are macrosomic (very large). As

many as 70% of women who are told they are carrying a macrosomic baby are actually carrying a normal-weight baby (ACOG, 2004b).

INDUCTION FOR CONVENIENCE

Induction is sometimes considered convenient for the people involved. Hospitals can staff extra nurses during shifts when inductions are scheduled, physicians can schedule births for the days and hours that are the most convenient for them, and expectant parents can make work and family arrangements according to the scheduled date of induction.

However, elective induction is not convenient when routine delays at the hospital postpone the starting time of the induction. It is not convenient when an induction does not work and the pregnant woman is sent home to try another day. And it certainly is not convenient when it leads to a cesarean birth and a new mother has to recover from major abdominal surgery rather than from a vaginal birth or if the baby has breathing problems and is separated from its mother in the neonatal intensive care unit (NICU). Before deciding to induce labor for nonmedical reasons, consider the risks of induction for both the baby and the mother.

HOW LABOR IS INDUCED

Most often, labor is induced in the hospital setting by giving the drug Pitocin through an intravenous line. Sometimes, medicines called “ripening agents” are used before the induction to soften the cervix and prepare it for labor. These drugs have been tested and approved by the U.S. Food and Drug Administration (FDA).

Occasionally, a drug called “misoprostol” (or “Cytotec”) is used to induce labor. This drug is approved by the FDA to treat stomach ulcers, but it has not been approved to induce labor. The FDA warns that when medical providers use misoprostol to induce labor, there can be rare but serious side effects, including a torn uterus. A tear in the uterus may result in severe bleeding and, consequently, having the uterus removed (hysterectomy), or it may cause the death of the mother or baby. These risks are more likely in women who have had previous uterine surgery, a previous cesarean section, or many previous births (FDA, n.d.).

WHAT RESEARCH TELLS US

There is growing evidence that induction of labor is not risk-free. In 2007, Goer, Leslie, and Romano

reviewed the entire body of literature on the risks of induction in healthy women with normal pregnancies and found that when labor was induced, the following problems might be more common:

- vacuum or forceps-assisted vaginal birth;
- cesarean surgery;
- problems during labor such as fever, fetal heart rate changes, and shoulder dystocia;
- babies born with low birth weight;
- admission to the NICU;
- jaundice (yellow skin caused by the breaking down of red blood cells) that required treatment; and
- increased length of hospital stay.

Additionally, women whose medical providers induced labor were more likely to use an epidural or other drugs for pain relief.

Prematurity

One of the reasons that babies born after elective induction can have poor outcomes such as low birth weight and jaundice is that some babies are accidentally induced before they reach full term (at least 37 completed weeks). This is because due dates are not exact. An ultrasound used to determine due dates during the first 20 weeks of pregnancy is accurate only within 7 days. Ultrasounds done from 20 to 30 weeks are only accurate within 14 days, and ultrasounds done in the last 10 weeks of pregnancy are only accurate within 21 days (ACOG, 2004a). If there is a 2-week error in calculating a due date, a woman scheduled to be induced at 38 weeks might be only 36 weeks pregnant.

In a study published in *The Journal of the American Medical Association* that examined 4.5 million births in the United States and Canada, researchers concluded that babies born only a few weeks early—at 34 weeks through 36 weeks—were nearly 3 times more likely to die in their first year of life than full-term infants (Kramer et al., 2000). The causes of death included infections, breathing problems, various birth defects, and sudden infant death syndrome. The researchers stated that “obstetricians should be aware of these risks when contemplating preterm induction or cesarean delivery, and pediatricians may wish to consider closer monitoring of mildly and moderately preterm infants after hospital discharge” (Kramer et al., 2000, pp. 847–848). In a later interview, Dr. Michael Kramer, lead researcher of the study, said, “Obstetricians may perceive induction as risk-free and therefore

not adequately balance the risks and benefits” (Tanner & Associated Press, 2000).

Another study published in 2004 in *Pediatrics* found that “near-term” infants born at 35–36 weeks gestation were at higher risk for breathing problems, jaundice, feeding problems, and problems maintaining their temperature (Wang, Dorer, Fleming, & Catlin, 2004). The March of Dimes has launched a campaign to increase public awareness of the increased risks for babies born between 34 and 36 weeks gestation (March of Dimes, 2006b). They encourage pregnant women not to ask for or agree to labor induction unless there are medical reasons for it (March of Dimes, 2006a).

Complications and Cesarean Surgeries

Studies consistently show that inducing labor almost doubles a woman’s chance of having cesarean surgery (Glantz, 2005; Goer et al., 2007). Also, in hospitals where many women are induced, a low-risk woman having her first baby is more likely to end up giving birth by cesarean section (Main et al., 2006). The risk is not decreased by using cervical ripening agents. In fact, when medicines are used to ripen the cervix before Pitocin is given, the risk of cesarean section is even higher (Ben-Haroush et al., 2004; Hoffman, 2003; Vahratian, Zhang, Troendle, Sciscione, & Hoffman, 2005; Vrouenraets et al., 2005). Additionally, the risk of a rare, but life-threatening complication called “amniotic-fluid embolism” is twice as high in women whose labor is induced (Kramer, Rouleau, Baskett, & Joseph, 2006).

OTHER CONSIDERATIONS

Increased Need for Interventions

In addition to increased risk for mild prematurity and cesarean surgery, induced labor often creates the need for more medical interventions. In most cases, if you are induced, you will need an intravenous line and continuous electronic fetal heart rate monitoring. In many settings, you must stay in bed or very close to the bed. As a result, you may be unable to walk freely or change positions in response to your labor contractions, possibly slowing the progress of your labor. You may be unable to take advantage of a soothing tub bath or a warm shower to ease the pain of your labor contractions. Artificially induced contractions often peak sooner and remain intense longer than natural contractions, increasing your need for pain medication.

Labor induction leads to a cascade of interventions, which often result in cesarean surgery.

Psychological Disadvantage

Induced labor, especially when it is not medically necessary, can send a powerful message that your body is not working correctly—that you need help to begin your labor. Allowing labor to begin on its own may increase your confidence in your ability to give birth and take care of your baby once it arrives.

RECOMMENDATIONS FROM LAMAZE INTERNATIONAL

Lamaze International recommends that you neither choose induction nor agree to be induced unless there is a true medical reason. A “large” or even “very large” baby is not a medical reason for induction. Allowing your body to go into labor on its own almost always is the best way for you to know that your baby is ready to be born. Spontaneous labor also increases the likelihood that you can experience the other care practices identified by Lamaze International that support normal birth—especially freedom of movement and no routine interventions.

Experiencing natural contractions produced by your own body’s oxytocin increases your freedom to respond to your contractions by moving around, changing positions, and trying the tub or shower. Interfering with or replacing the natural hormones that orchestrate labor, birth, breastfeeding, and maternal attachment may have consequences that we do not yet understand. Laboring and giving birth without unnecessary medical intervention decrease the possibility of complications for both you and your baby and increase the likelihood that you will have positive, lifelong memories of your birth experience.

ACKNOWLEDGEMENTS

The six care practice papers were originally developed in 2003 by Lamaze® International and published in 2004 in *The Journal of Perinatal Education* 13(2) issue. The following members of the Lamaze International Education Council contributed to and reviewed the first edition of *Care Practice Paper #1*:

- Elena Carrillo de Reyes, CD (DONA), LCCE, FACCE
- Diana Chiaverini, RN, MEd, LCCE, FACCE

- Jeannette Crenshaw, RN, MSN, IBCLC, LCCE, FACCE
- Joyce DiFranco, RN, BSN, LCCE, FACCE
- Caroline Donahue, RN, MA, LCCE, FACCE
- Jeanne Green, MT, CD (DONA), LCCE, FACCE
- Judith Lothian, RN, PhD, LCCE, FACCE
- Michele Ondeck, RN, MEd, IBCLC, LCCE, FACCE
- Teri Shilling, MS, IBCLC, CD (DONA), LCCE, FACCE
- Sandra Steffes, RN, MS, LCCE, FACCE

The updated (May 2007) edition of *Care Practice Paper #1* was edited by Amy M. Romano, MSN, CNM.

REFERENCES

- American College of Obstetricians and Gynecologists [ACOG]. (2004a). ACOG Practice Bulletin No. 55: Management of postterm pregnancy. *Obstetrics and Gynecology*, 104(3), 639–646.
- American College of Obstetricians and Gynecologists [ACOG]. (2004b). ACOG Practice Bulletin No. 58: Ultrasonography in pregnancy. *Obstetrics & Gynecology*, 104(6), 1449–1458.
- American College of Obstetricians and Gynecologists [ACOG]. (2005). *Your pregnancy and birth*. Washington, DC: Author.
- Ben-Haroush, A., Yogeve, Y., Bar, J., Glickman, J., Kaplan, H., & Hod, M. (2004). Indicated labor induction with vaginal prostaglandin E2 increases the risk of cesarean section even in multiparous women with no previous cesarean section. *Journal of Perinatal Medicine*, 32(1), 31–36.
- Condon, J. C., Jeyasuria, P., Faust, J. M., & Mendelson, C. R. (2004). Surfactant protein secreted by the maturing mouse fetal lung acts as a hormone that signals the initiation of parturition. *Proceedings of the National Academy of Sciences of the United States of America*, 101(14), 4978–4983.
- Cunningham, F. G., Leveno, K. J., Bloom, S. L., Hauth, J. C., Gilstrap, L. C., & Wenstrom, K. D. (2005). *Williams obstetrics* (22nd ed.). New York: McGraw-Hill.
- Glantz, J. C. (2005). Elective induction vs. spontaneous labor associations and outcomes. *Journal of Reproductive Medicine*, 50(4), 235–240.
- Goer, H., Leslie, M. S., & Romano, A. M. (2007). The Coalition for Improving Maternity Services: Evidence basis for the ten steps of mother-friendly care. Step 6: Does not routinely employ practices, procedures unsupported by scientific evidence. *Journal of Perinatal Education*, 16(Suppl. 1), 32S–64S.
- Hoffman, M. K. (2003). Abstract 7S: Preinduction cervical ripening significantly increases risk of cesarean. ACOG 51st annual clinical meeting. New Orleans, LA: April 29, 2003. Reported in *Medscape Medical News*. Retrieved May 7, 2007, from http://www.medscape.com/viewarticle/453298_print

- Horrigan, T. J. (2001). Physicians who induce for fetal macrosomia do not reduce cesarean delivery rates. *Journal of Perinatology*, 21(2), 93–96.
- Kramer, M. S., Demissie, K., Yang, H., Platt, R. W., Sauve, R., & Liston, R. (2000). The contribution of mild and moderate preterm birth to infant mortality. *Journal of the American Medical Association*, 284(7), 843–849.
- Kramer, M. S., Rouleau, J., Baskett, T. F., & Joseph, K. S. (2006). Amniotic-fluid embolism and medical induction of labor: A retrospective, population-based cohort study. *The Lancet*, 368(9545), 1444–1448.
- Leaphart, W. L., Meyer, M. C., & Capeless, E. L. (1997). Labor induction with a prenatal diagnosis of fetal macrosomia. *The Journal of Maternal-Fetal Medicine*, 6(2), 99–102.
- Main, E. K., Moore, D., Farrell, B., Schimmel, L. D., Altman, R. J., Abrahams, C., et al. (2006). Is there a useful cesarean birth measure? Assessment of the nulliparous term singleton vertex cesarean birth rate as a tool for obstetric quality improvement. *American Journal of Obstetrics and Gynecology*, 194(6), 1644–1651; discussion 1651–1652.
- March of Dimes. (2006a). *If you're pregnant: Induction by request*. Retrieved May 15, 2007, from www.marchofdimes.com/prematurity/21239_20203.asp
- March of Dimes. (2006b). *Late preterm birth: Every week matters*. Retrieved May 15, 2007, from www.marchofdimes.com/files/MP_Late_Preterm_Birth-Every_Week_Matters_3-24-06.pdf
- Sanchez-Ramos, L., Bernstein, S., & Kaunitz, A. M. (2002). Expectant management versus labor induction for suspected fetal macrosomia: A systematic review. *Obstetrics & Gynecology*, 100(5), 997–1002.
- Tanner, L., & Associated Press. (2000, August 16). Death risk higher for preemies: Study reassesses danger for those born just a few weeks early. *Dallas Morning News*.
- U.S. Food and Drug Administration [FDA]. (n.d.). *Patient information sheet: Misoprostol (marketed as Cytotec)*. Retrieved May 15, 2007, from <http://www.fda.gov/cder/drug/InfoSheets/patient/MisoprostolPIS.pdf>
- Vahratian, A., Zhang, J., Troendle, J. F., Sciscione, A. C., & Hoffman, M. K. (2005). Labor progression and risk of cesarean delivery in electively induced nulliparas. *Obstetrics & Gynecology*, 105(4), 698–704.
- Vrouenraets, F. P., Roumen, F. J., Dehing, C. J., van den Akker, E. S., Aarts, M. J., & Scheve, E. J. (2005). Bishop score and risk of cesarean delivery after induction of labor in nulliparous women. *Obstetrics & Gynecology*, 105(4), 690–697.
- Wang, M. L., Dorer, D. J., Fleming, M. P., & Catlin, E. A. (2004). Clinical outcomes of near-term infants. *Pediatrics*, 114(2), 372–376.

DEBBY AMIS is coauthor, along with Jeanne Green, of *Prepared Childbirth: The Family Way and Prepared Childbirth: The Educator's Guide*. She also codirects the *Texas Lamaze Childbirth Educator Program* and teaches early-pregnancy classes for Presbyterian Hospital of Plano, Texas.