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AWHONN POSITION STATEMENT

Non-Medically Indicated Induction and Augmentation of Labor

An official position statement of the Association of Women's Health, Obstetric and Neonatal Nurses

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Position

The Association of Women's Health, Obstetric and Neonatal Nurses (AWHONN) maintains that labor is a complex physiologic event involving the intricate interaction of multiple hormones that should not be initiated or altered without a medical indication. Reserving induction and augmentation of labor for pregnant women with medical indications promotes the best health outcomes for women and infants and is the best use of health care resources. Women can make fully informed decisions about induction and augmentation of labor only when they understand the medical indications for induction or augmentation; potential harms or benefits associated with the pharmacologic and/or mechanical methods used to induce or augment labor; alternatives to induction or augmentation; and the benefits of waiting for and permitting labor to progress spontaneously. Administering exogenous hormones and performing mechanical interventions to a vulnerable population (pregnant women and their fetuses) is not advisable unless the benefits of these interventions have been shown to outweigh the risks.

Background

Induction of labor is the use of pharmacologic and/or mechanical methods to initiate uterine contractions before spontaneous labor occurs in order to affect vaginal birth (American College of Obstetricians and Gynecologists [ACOG], 2009). Common methods of inducing labor are artificial rupture of membranes, administration of oxytocin (a high-alert medication), and use of cervical ripening agents. Augmentation of labor is the stimulation of uterine contractions using pharmacologic methods or artificial rupture of membranes to increase contraction strength and/or frequency following the onset of spontaneous labor.

Decisions about the need for medically-indicated induction or augmentation are made by weighing the benefits of expeditious birth against the risks of continuing the pregnancy and the risks of the pharmacologic and/or mechanical methods of inducing or augmenting labor. Medical indications for induction can be related to the health of the mother, the fetus, or both. They include but are not limited to preeclampsia, gestational hypertension, premature rupture of membranes, and post-term pregnancy. A woman with ruptured membranes who has been in labor and begins to show signs of infection has a medical indication for augmentation of labor. Labor induction performed for non-medical indications, often termed *elective* induction, may be requested for the convenience of women, families, or health care providers.

Benefits of Spontaneous Labor

Spontaneous labor occurs when contractions begin and progress on their own without the use of pharmacologic or mechanical intervention. Spontaneous labor is a powerful physiologic process with significant benefits for the woman and her infant. In the final weeks of pregnancy, fetal organs reach full maturity, and the passage of immune globulins across the placenta peaks. Naturally occurring hormones prepare the woman and her fetus for labor and birth. These hormones make labor more efficient, with less stress for the fetus, than induced labor.

Spontaneous labor initiates a cascade of hormones during labor and birth that act to

- provide natural pain relief and calm the woman during labor,
- clear fetal lung fluid,
- increase mother-infant attachment after birth,
- expel the placenta,
- warm the mother's skin after birth which helps to warm the infant, and
- enhance breastfeeding.

Health Effects Associated with Induction and Augmentation

The rate of induction in the United States (23.4% of all births) has more than doubled since 1990 (Martin et al., 2012). The rate of induction is calculated as a percentage of all births. However, many births occur as a result of planned, cesarean surgery during which neither spontaneous labor nor induction occurs. If the rate of induction was recalculated without including planned cesarean births, the percentage would be much higher. Although limited data are available to distinguish between inductions performed for medical reasons versus those performed for nonmedical reasons, no data suggest that the significant increase in the induction rate is attributable to a similar rise in medical conditions in pregnancy (Moore & Kane Low, 2012). There are no good data sources on the number of women whose labor is augmented.

Researchers demonstrated that undergoing induction of labor for any reason increases the risks for a number of complications for the woman and her infant. For the woman, induced labor results in more postpartum hemorrhages than spontaneous labor, which increases the risk for blood transfusion, hysterectomy, placenta implantation abnormalities in future pregnancies, a longer hospital stay, more hospital re-admissions, and in the worst case scenario, death (Childbirth Connection, 2012). Induction of labor is also associated with a significantly increased risk of cesarean birth (Zhang et al, 2010), which in addition to the complications already listed, increases the risk for infection and potentially life-long pain from abdominal adhesions. Cesarean birth decreases mobility and therefore increases the risk of deep vein thrombosis (Childbirth Connection, 2012).

For the infant, a number of negative health effects are associated with induction. They include more fetal stress, more respiratory illness, more separation from the mother, interrupted bonding, less breastfeeding, and therefore more childhood obesity and chronic illness. Additionally, when complications occur, infants are more likely to be admitted to the neonatal intensive care unit (NICU) and have longer hospital stays and more hospital re-admissions.

Research on the risk to benefit ratio of elective augmentation of labor is limited. However, many of the risks associated with elective induction logically may extend to augmentation. For example, prolonged use of exogenous oxytocin unnecessarily increases a woman's risk of postpartum hemorrhage by decreasing oxytocin receptors in the uterine myometrium (Phaneuf, Rodríguez Liñares, TambyRaja, MacKenzie, & López Bernal, 2000). In a recent systematic review of the literature, the authors found that women with slow progress in the first stage of spontaneous labor who underwent augmentation with exogenous oxytocin compared to women who did not receive oxytocin had similar rates of cesarean (Bugg, Siddiqui, & Thornton, 2013). Such research calls into question a primary rationale for labor augmentation, which is the reduction of cesarean surgery.

Until we better understand the complex physiology of the hormones involved in labor and birth and the implications of interrupting this powerful hormonal process, it is advisable to limit induction and augmentation of labor to situations for which there are medical indications.

Economic Effects of Induction and Augmentation

In addition to the serious health problems associated with non-medically indicated induction of labor, hospitals, insurers, providers, and patients must consider a number of financial implications.

Induction of labor is associated with a two-fold increased risk of cesarean surgery for a woman having her first infant (ACOG, 2009, Clark et al., 2009). In the United States, the average cost of an uncomplicated cesarean birth is 68% more than the cost of an uncomplicated vaginal birth (Childbirth Connection, 2011). Women who deliver vaginally experience shorter hospital stays, fewer hospital readmissions, quicker recoveries, and fewer infections than those who have cesareans. Additionally, women who deliver vaginally are more likely to successfully breastfeed, which leads to short-term cost savings for families and long-term savings for the health care system more broadly. For infants, breastfeeding is associated with decreased incidence of infections and sudden infant death syndrome. Breastfeeding also has protective effects against diabetes, allergies, asthma, lymphoma, ulcerative colitis, and adult-onset hypertension. For women, breastfeeding is associated with less postpartum blood loss and reduced risk of osteoporosis, ovarian cancer, premenopausal breast cancer, and rheumatoid arthritis (AWHONN, 2007).

When compared with infants born at 39 weeks or later, infants born at 37 or 38 weeks as a result

of non-medically-indicated induction or cesarean were at higher risk for respiratory problems, sepsis, hypoglycemia, admission to the NICU, and hospitalization for five days or more (Clark et al, 2009, Tita et al., 2009). The average cost for infants hospitalized in the NICU is approximately $3,000 per day (Kornhauser & Schneiderman, 2010). Although significant progress has been made to reduce the number of infants who are born for non-medical reasons at 37 and 38 weeks gestation, on-going monitoring and targeted initiatives are needed to further work to eliminate elective inductions among these most vulnerable infants.

As more women have inductions, more nurses are needed to safely monitor their health and the health of their infants during labor and birth. When a woman undergoes an induction or augmentation of labor, she usually receives oxytocin, an exogenous hormone that is a high-alert medication with an increased potential to cause significant harm if not administered and monitored correctly (Institute for Safe Medication Practices, 2007). Therefore, the staffing recommendation for women receiving oxytocin is one nurse for one woman. For women in labor who have no complications and are not receiving oxytocin, the recommendation is one nurse for two women (AWHONN, 2010). The need for additional nurses to adequately monitor women undergoing induction and augmentation of labor increases costs for hospitals and is an important economic consideration.

Prioritizing induction or augmentation for women with medical indications is prudent in order to ensure that a sufficient number of nurses will be available to monitor them. The common medical indications for inducing labor may also put a woman and her fetus at increased risk if they suffer common complications from oxytocin, such as uterine tachysystole or abnormal fetal heart rate patterns.

The Role of the Nurse

Nurses working in obstetric settings need to be familiar with evidence-based information about the medical indications for induction and augmentation of labor; maternal and newborn risks associated with induction and augmentation; and the benefits of waiting for spontaneous labor and allowing it to progress for the healthy woman and fetus. Nurses should share this vital information with women and families, especially when they are considering or given the option of a non-medically indicated induction or augmentation of labor, even after 39 weeks. Nurses can play an important role in advocating for women who want to wait for labor to progress naturally but who face pressure from their families or obstetric providers to undergo non-medically indicated induction. Nurses can also play an important role in ensuring women have the information needed to make informed decisions regarding labor augmentation.

Nurses who plan and evaluate care on perinatal units should track the reasons for medically and non-medically indicated induction and augmentation, rates of spontaneous labor, and associated outcomes for each (e.g., length of stay, cesarean rates, success of breastfeeding at discharge, postpartum hemorrhage, and infection rates). Neonatal outcomes, complication rates, and NICU admissions associated with induced, augmented, and spontaneous labor should also be monitored. This information is valuable when planning and budgeting for resources, including nurse staffing. Patient, nurse, and provider satisfaction are other important variables to consider when evaluating trends in spontaneous, augmented, and induced labor.

Perinatal nurses can also play an important role in educating their own families, friends, colleagues, and communities about the benefits of awaiting spontaneous labor for women and babies. AWHONN's Don't Rush Me . . . Go the Full 40 campaign (2014) provides resources for nurses to share with women and to use on their units to promote the value of going at least the full 40 weeks of pregnancy and allowing labor to start on its own.

Recommendations

AWHONN supports the implementation of polices that limit non-medically indicated induction and augmentation of labor; that support spontaneous labor when mother and fetus are healthy; and that increase funding for research and education related to spontaneous and induced labor:

- Hospital leaders should ensure robust informed consent discussions take place with women about the potential risks and benefits of induction and augmentation of labor.
- Private and public health insurers should adapt payment policies to discourage obstetric providers and institutions from performing non-medically indicated induction and augmentation of labor.
- The use of quality measurement and quality improvement initiatives designed to reduce

non-medically indicated induction before 39 weeks have been successful and can be a promising strategy to reduce induction and augmentation rates overall and promote spontaneous labor.

- Birthing hospitals, birth centers, and obstetric providers should report their overall induction and augmentation rates (medically indicated and elective) so women and their families can make informed choices about their care providers and where they choose to give birth.
- Childbirth courses and education provided during prenatal care should include information for the woman and her family about the benefits of spontaneous labor and letting labor progress on its own for women and newborns.
- More research is needed to understand women's perceptions of and experiences with spontaneous and induced labor; women's decision making about induction and augmentation; and effective approaches to consumer and childbirth education about induction and spontaneous labor.
- More research is needed to fully understand the hormonal physiology of spontaneous labor and birth; how spontaneous labor begins and is sustained without interventions; and to determine the short and long term effects on women's and infants' health when they do not receive the benefits of spontaneous labor.
- The health record of the mother and infant, whether paper or electronic, should include information related to the methods and indication(s) for induction and augmentation of labor.

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