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# Healthy Birth Practice #2: Walk, Move Around, and Change Positions Throughout Labor

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## ABSTRACT

In the United States, obstetric care is intervention intensive, resulting in 1 in 3 women undergoing cesarean surgery wherein mobility is treated as an intervention rather than supporting the natural physiologic process for optimal birth. Women who use upright positions and are mobile during labor have shorter labors, receive less intervention, report less severe pain, and describe more satisfaction with their childbirth experience than women in recumbent positions. This article is an updated evidence-based review of the “Lamaze International Care Practices That Promote Normal Birth, Care Practice #2: Freedom of Movement Throughout Labor,” published in *The Journal of Perinatal Education*, 16(3), 2007.

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A 2012 consensus statement by The American College of Nurse-Midwives (ACNM), Midwife Alliance of North America, and the National Association of Certified Professional Midwives entitled “Supporting Healthy and Normal Physiologic Childbirth” defines a normal physiologic labor and birth as “one that is powered by the innate human capacity of the woman and fetus” (p. 2). It includes supportive care practices and low-technology technics that facilitate the normal biological process of childbirth (Goer & Romano, 2012). Freedom to be mobile in labor is more likely to be safe and healthy because it does not disrupt the

normal physiologic processes (Romano & Lothian, 2008). The physiologic process of birth is hormonally designed so that when labor starts, the uterine muscle responds to oxytocin. Women respond to the pain of uterine contractions by moving around to reduce their pain. In the ideal scenario, the pain response signals the brain to continue to release more oxytocin and contractions become more effective. In an environment where women feel safe, beta-endorphins help a woman respond to pain by using coping strategies. Movement is one coping strategy for pain, and freedom to be mobile in labor is a safe, healthy coping strategy in part because it does not disrupt the normal physiologic processes (Romano & Lothian, 2008). In an environment where women feel stressed and fearful, the stress hormones (catecholamines)

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can increase, slowing the process of the first stage of labor. Understanding the role of hormones of labor, as well as the role of movement in comfort and the progress of labor, can give women more confidence in the process of labor and birth and in their own ability to manage labor.

Women value the choice to be mobile during labor, and most feel that the process of birth should not be interfered with unless medically necessary (Declercq, Sakala, Corry, Applebaum, & Herrlich, 2013; Scotland, McNamee, Cheyne, Hundley, & Barnett, 2011). The percentage of polled women who believe that birth should not be interfered with increased from 46% in 2003 to 59% in 2013 (Declercq et al., 2013). Although women reported experiencing less pain when they were able to be mobile in 2003, the 2013 follow-up survey, *Listening to Mothers III*, reported that only 40% of mothers changed positions in labor and only 43% walked after admission to the hospital (Declercq et al., 2013; Declercq, Sakala, Corry, Applebaum, & Risher, 2002). The norm in the United States is medicalized birth that restricts a woman's mobility in labor, despite no study ever reporting that walking in labor is harmful to healthy women or their babies (Storton, 2007). The practice of restricting women's movement in labor is contrary to the recommendations of the World Health Organization (1996) and Lamaze International's Healthy Birth Practices (Shilling, 2009; Shilling, Romano, & DiFranco, 2007). The aim of this article is to provide an updated review of the literature on movement during labor and a discussion of factors in the current medical and social environment which could lead to practice change and support the adoption of freedom of movement as a birth practice that facilitates the normal physiology of labor and birth.

#### **EVIDENCE BASIS FOR MOVEMENT IN LABOR**

The review of the literature included an updated Cochrane Database of Systematic Reviews confirming previous findings: "[W]e believe wherever possible, women should be informed of the benefits of upright positions, encouraged and supported to take up whatever positions they choose, and should not have their freedom of movement options restricted unless clinically indicated" (Lawrence, Lewis, Hofmeyr, & Styles, 2013, p. 13). The researchers examined 25 randomized or quasirandomized trials of 5,218 women. The reported findings use average risk ratio (RR) for categorical data

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and mean difference (MD) for continuous data. In the comparison of upright and ambulant positions versus recumbent positions during the first stage, the conclusion is that labor is shorter by approximately 1 hr and 22 min for women randomized to upright as opposed to recumbent positions (average MD  $-1.36$ , 95% confidence interval [CI]  $-2.22$ – $-0.51$ ; 15 studies, 2,503 women; random effects,  $T^2 = 2.39$ ,  $\chi^2 = 203.55$ ,  $df = 14$ , [ $p < .00001$ ],  $I^2 = 93\%$ ). Women who were upright were also less likely to have cesarean surgery (RR = 0.71, 95% CI [0.54–0.94]; 14 studies, 2,682 women) and less likely to have an epidural (RR = 0.81, 95% CI [0.66–0.99]; 9 studies, 2,107 women; random-effects,  $T^2 = 0.02$ ,  $I^2 = 61\%$ ; Lawrence et al., 2013).

The authors questioned the methodological quality of the trials. Another problem with the data from the Cochrane review is that the studies were conducted over a 50-year period in 13 different countries where many cultural changes in the management of labor and women's expectations about birth, as well as an increase in the use of technology, have occurred. In the studies that included women who received epidural anesthesia, there were no differences in the duration of labor in groups that compared upright and ambulant position versus recumbent. Only one of the studies reported examined results of upright positioning on the baby. It concluded lower admissions to a neonatal intensive care unit (RR = 0.20, 95% CI [0.04–0.89]; 200 women) for upright and ambulant women.

Although there is a lack of well-conducted studies, it seems logical that the actual benefits of mobility in the first stage of labor could be greater than reported in the mobility studies analyzed by the authors of the Cochrane review and others (Hollins-Martin & Martin, 2013). Participants in randomized controlled trials (RCTs) are assigned to a group and remain in that group whether they walk or not. This is the nature of RCTs, which must be analyzed according to "intent to treat." The participants of the trials have to remain in their group. This makes it harder to find a significant difference in clinical trials related to mobility in labor (Goer, 2013). An

important finding is that no studies report maternal activity in labor lengthening labor.

There are several studies that do find advantages to movement in labor. Women who use upright positions during labor have shorter labors, receive less intervention, report less severe pain, and describe more satisfaction with their childbirth experience than women in semirecumbent or supine positions (Priddis, Dahlen, & Schmied, 2012). In a study published in *Nursing Research*, laboring women experienced more lower back pain when recumbent (Adachi, Shimada, & Usai, 2003). Changing positions not only helps women cope with the pain of labor; upright positions use gravity to bring the baby down, whereas changing position frequently moves the bones of the pelvis, helping the baby find the best fit (Simkin & Ancheta, 2011; Storton, 2007).

### **BARRIERS TO MOBILITY IN LABOR**

Hospital protocols, although often providing instruction for position change, conflict with those policies that demand the use of technology such as continuous fetal monitoring and intravenous infusions that restricts mobility (Hollins-Martin & Martin, 2013). Current labor management protocols that use partograms to measure the process of labor based on the Friedman curve are unrealistic measures based on current evidence and recommendations of the length of the first stage of labor (Laughon, Branch, Beaver, & Zhang, 2012). These practices are among those targeted in the Obstetric Care Consensus Report on Safe Prevention of the Primary Cesarean (American College of Obstetricians and Gynecologists, Society for Maternal-Fetal Medicine, 2014). The report concludes that cesarean surgery results in more risk than vaginal birth. Mortality from cesarean surgery occurs in 2.7% of births, compared to 0.9% of vaginal births (American College of Obstetricians and Gynecologists, Society for Maternal-Fetal Medicine, 2014). In addition, the associated increase of morbidity to mothers who undergo cesarean surgery raises the risk of admission to neonatal intensive care units and perinatal death. The consensus recommendations for the first stage of labor include the following: “A prolonged latent phase (e.g., greater than 20 hours in nulliparous women and greater than 14 hr in multiparous women) should not be an indication for cesarean delivery; slow but progressive labor in the first stage of labor should not be an indication for cesarean delivery; cervical dilation of 6 cm should be considered

the threshold for the active phase for most women in labor; thus, cesarean delivery for active phase arrest in the first stage of labor should be reserved for women at or beyond 6 cm of dilation with ruptured membranes who fail to progress” (American College of Obstetricians and Gynecologists, Society for Maternal-Fetal Medicine, 2014, p. 7). The recommendations do not address mobility in the first stage of labor, but looking at the leading factors that have led to the rise in the U.S. cesarean rate, (a) labor dystocia, (b) abnormal or indeterminate fetal heart rate tracings, and (c) fetal malpresentation, all can be potentially positively affected by mobility in labor.

### **OVERCOMING BARRIERS TO MOBILITY IN LABOR**

A barrier to promoting mobility in labor is the lack of the understanding of the physiologic process of birth by both women and their care providers. To achieve optimal care in labor, the barriers to receiving and providing that care need to be overcome. The term “optimal care” originates from the concept of optimality in maternity care derived from the ACNM (Goer & Romano, 2012). Freedom of movement is one practice in achieving optimal care in labor. Traditionally, childbirth educators have discussed the three Ps—the power of the uterine contractions; the passenger, which is the size and position of the fetus’s presenting part; and the passage-way of the mother—as the keys to progress in labor. In *Optimal Care in Childbirth*, Goer and Romano (2012) suggest an alternative list of Ps. Those four factors that must be present to support the laboring women’s autonomy and mobility are permission, physical environment, practices, and people (Goer & Romano, 2012).

Women need to perceive that they have *permission* to move and select the position of their choosing without providers limiting choice unless an actual medical indication occurs. Informed choice is part of a shared decision-making process between a woman and her care provider to review the risks, benefits, and alternatives of a recommended practice—in this case, a restriction in mobility with which the care provider desired the woman to comply.

The *physical environment* needs to be large enough to support freedom of movement. In a pilot study conducted at two Canadian hospitals, laboring women were randomly assigned to a regular labor room or to an “ambient room.” The intention of the ambient room was to create an environment of calm

to promote relaxation, including tools that assisted mobility. The results were that the laboring women spent 50% less time in bed and used less augmentation of labor with oxytocic infusions (Hodnett, Stremler, Weston, & McKeever, 2009). Another example is a California hospital that encourages mothers to use birth balls to “rock and roll” in labor. The goal of this program is to increase the success of trials of labor in women seeking a vaginal birth after cesarean (CBS News, 2013). A study demonstrated that the use of the birth ball for rocking movements significantly reduced the pain scores of the birth ball group in active labor, consistent with previous studies indicating that lower back pain is reduced in upright positions between 6 and 8 cm (Adachi et al., 2003; Traavoni, Abdollahian, Haghani, & Neysani, 2011).

Women also need *permission* to avoid *practices* that interfere with mobility. Examples of those practices are (a) intravenous catheters that could be reserved for delivery of medications, allowing women to have oral fluids and calories and, when needed, inserted in the arm rather than the hand so as not to restrict mobility and (b) unless medically indicated, using intermittent monitoring or telemetry for electronic fetal surveillance so women can be mobile. Evidence-based nonpharmacological practices that are known to reduce labor pain need to be recognized and encouraged as adjuncts to mobility. Those practices are relaxation, massage, acupuncture, and immersion in water (Jones et al., 2012). In addition, in an RCT, warm showers were an effective nonpharmacological pain reduction method as well as being cost effective, convenient, and supportive of the upright posture (Lee, Liu, Lu, & Gau, 2012). Many other practices that are used by childbirth educators and doulas can be used safely with support, although not all have been researched for their efficacy. Some of many are pelvic rocks, lunges, slow dancing, and stair climbing. These interventions help women to participate fully in the birthing process and feel cared for and comforted.

The most important “P” is *people*. The health-care providers who care for laboring women need to believe in the physiologic process. Nonjudgmental, supportive, and accommodating behaviors by care providers include those that first, respect women’s choices; second, aid in her achieving her wishes; and third, advocate to other health-care providers on her behalf. The fear of labor is a significant inhibitor of progress in labor. In a study, 2,206 women who wished to deliver vaginally were enrolled in a fear of

childbirth assessment (Wijma Delivery Expectancy/Experience Questionnaire). The results determined that labor averaged 47 min longer in women who scored high in the assessment (Adams, Eberhard-Gran, & Eskild, 2012). Women need childbirth education to help them understand and believe in the physiologic process. In a discrete choice survey, Scotland et al. (2011) reported that women valued vaginal birth. Most influential in their values were their previous birth experiences. There were some contradictions in this study, where women both wanted the highest level of interventions to be available and ideally preferred to experience the lowest levels available. Some trade-offs were acceptable such as being sent home if they were not in active labor to avoid time in the hospital and to reduce the likelihood of interventions (Scotland et al., 2011).

Hospitals are people, too. An example of a hospital policy that is needed is one deterring latent labor admission based on the consensus report that active labor begins at 6 cm (Laughon et al., 2012). Women who recently gave birth indicate that they would accept attempts to reduce early admissions to labor wards if they resulted in reductions in the duration of time spent on the labor ward and reduced the chance of being immobilized during labor (Scotland et al., 2011). Obviously, policies aimed at addressing early admission and intervention during labor should include efforts to educate women about the potentially long duration of the latent phase of labor, about the appropriate timing of admission, and that a long labor is not in itself a sign that intervention is necessary (Scotland et al., 2011). In addition, women need the tools and confidence to work with their latent labor at home and, after admission, freedom of movement to reduce the need of invasive interventions.

## SUMMARY

There is an optimal way to give birth and it is supporting the physiologic process (ACNM et al., 2012; Goer & Romano, 2012; Lothian, 2009). No study has ever shown that walking in labor is harmful in healthy women with normal labors, which is the evidence-based conclusion of the mother-friendly birth practice to provide the birthing woman with the freedom to walk, move about, and assume the positions of her choice during labor issued by the Coalition for Improving Maternity Services (Storton, 2007). “A woman’s position in labor, mobility, and fear and anxiety or, conversely, confidence may influence her experience of pain” (Jones et al., 2013,

Women need to feel that they can labor in a supportive environment that decreases their fear of pain by supporting their ability to cope with the pain of labor, including having the freedom to walk, move, and change position throughout labor.

para. 1). Current practice, which is intervention intensive, has contributed to the high U.S. cesarean rate of almost one-third of women and has resulted in increased maternal morbidity and mortality (American College of Obstetricians and Gynecologists, Society for Maternal-Fetal Medicine, 2014). Because dystocia is the most common indication for cesarean surgery, efforts to reduce the cesarean rate must include efforts to support the physiologic process in which the women's ability to be mobile is key. Women need to feel that they can labor in a supportive environment that decreases their fear of pain by supporting their ability to cope with the pain of labor, including having the freedom to walk, move, and change position throughout labor.

#### IMPLICATIONS FOR EVIDENCE-BASED PRACTICE

The philosophies and preferences of maternity care providers—doctors, midwives, nurses, doulas, and childbirth educators—influence the recommendations they make to laboring women. Some care models and birth settings use mobility more often than others. Although there is evidence that walking and upright positions reduce the duration of the first stage of labor, there is a need for better quality studies to demonstrate the significance to providers and direct them on more precise recommendations for ambulation and movement. There is insufficient understanding of what facilitates or inhibits a woman's use of physiologic birth positioning (Priddis et al., 2012). The Cochrane review related to mobility leaves some important questions to answer, such as management after ruptured membranes and epidural anesthesia (Goer, 2013; Lawrence et al., 2013). Based on the current information, we can encourage women to choose the positions of their choice. More research into both the factors and practices within the current health systems that facilitate or inhibit women to adopt various positions during labor and birth is the suggestion of Hollins-Martin and Martin (2013). The answers to three research questions would provide both care providers and women with more clarity on how to use movement and positioning to not only shorten labor but also provide pain

relief. The research questions that Hollins-Martin and Martin propose are as follows:

1. *What are women's qualitative experiences of ambulating or being confined to semirecumbent bed rest during the first stage of labor?*
2. *What are the environmental, educational, and cultural influences that persuade/dissuade women from being physically active during the first stage of labor?*
3. *What detailed maternal positions and activity are effective at progressing the first stage of labor? (p. 48)*

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