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Committee on Obstetric Practice

The American College of Nurse-Midwives endorses this document. This Committee Opinion was developed by the Committee on Obstetric Practice in collaboration with committee members Allison S. Bryant, MD, MPH and Ann E. Borders, MD, MSc, MPH.

Approaches to Limit Intervention During Labor and Birth

ABSTRACT: Obstetrician–gynecologists, in collaboration with midwives, nurses, patients, and those who support them in labor, can help women meet their goals for labor and birth by using techniques that require minimal interventions and have high rates of patient satisfaction. Many common obstetric practices are of limited or uncertain benefit for low-risk women in spontaneous labor. For women who are in latent labor and are not admitted to the labor unit, a process of shared decision making is recommended to create a plan for self-care activities and coping techniques. Admission during the latent phase of labor may be necessary for a variety of reasons, including pain management or maternal fatigue. Evidence suggests that, in addition to regular nursing care, continuous one-to-one emotional support provided by support personnel, such as a doula, is associated with improved outcomes for women in labor. Data suggest that for women with normally progressing labor and no evidence of fetal compromise, routine amniotomy need not be undertaken unless required to facilitate monitoring. The widespread use of continuous electronic fetal monitoring has not been shown to significantly affect such outcomes as perinatal death and cerebral palsy when used for women with low-risk pregnancies. Multiple nonpharmacologic and pharmacologic techniques can be used to help women cope with labor pain. Women in spontaneously progressing labor may not require routine continuous infusion of intravenous fluids. For most women, no one position needs to be mandated or proscribed. Obstetrician–gynecologists and other obstetric care providers should be familiar with and consider using low-interventional approaches, when appropriate, for the intrapartum management of low-risk women in spontaneous labor. Birthing units should carefully consider adding family-centric interventions that are otherwise not already considered routine care and that can be safely offered, given available environmental resources and staffing models. These family-centric interventions should be provided in recognition of the value of inclusion in the birthing process for many women and their families, irrespective of delivery mode. This Committee Opinion has been revised to incorporate new evidence for risks and benefits of several of these techniques and, given the growing interest on the topic, to incorporate information on a family-centered approach to cesarean birth.

Recommendations and Conclusions

The American College of Obstetricians and Gynecologists (ACOG) makes the following recommendations and conclusions:

- For a woman who is at term in spontaneous labor with a fetus in vertex presentation, labor management may be individualized (depending on maternal and fetal condition and risks) to include techniques such as intermittent auscultation and nonpharmacologic methods of pain relief.
- Admission to labor and delivery may be delayed for women in the latent phase of labor when their status and their fetuses' status are reassuring. The women can be offered frequent contact and support, as well as nonpharmacologic pain management measures.
- When women are observed or admitted for pain or fatigue in latent labor, techniques such as education and support, oral hydration, positions of comfort, and nonpharmacologic pain management techniques such as massage or water immersion may be beneficial.

- Obstetrician–gynecologists and other obstetric care providers should recommend labor induction to pregnant women with term prelabor rupture of membranes (also referred to as premature rupture of membranes) (PROM) who are candidates for vaginal birth, although the choice of expectant management for a limited time may be considered after appropriate counseling. Obstetrician–gynecologists and other obstetric care providers should inform pregnant women with term PROM who decline labor induction in favor of expectant care of the potential risks associated with expectant management and the limitations of available data. For appropriately counseled women, if concordant with their individual preferences and if there are no other maternal or fetal reasons to expedite delivery, the choice of expectant management for 12–24 hours may be offered. For women who are group B streptococci (GBS) positive, however, administration of antibiotics for GBS prophylaxis should not be delayed while awaiting labor. In such cases, many patients and obstetrician–gynecologists or other obstetric care providers may prefer immediate induction.
- Evidence suggests that, in addition to regular nursing care, continuous one-to-one emotional support provided by support personnel, such as a doula, is associated with improved outcomes for women in labor.
- For women with normally progressing labor and no evidence of fetal compromise, routine amniotomy need not be undertaken unless required to facilitate monitoring.
- To facilitate the option of intermittent auscultation, obstetrician–gynecologists and other obstetric care providers and facilities should consider adopting protocols and training staff to use a hand-held Doppler device for low-risk women who desire such monitoring during labor.
- Use of the coping scale in conjunction with different nonpharmacologic and pharmacologic pain management techniques can help obstetrician–gynecologists and other obstetric care providers tailor interventions that best meet the needs of each individual woman.
- Frequent position changes during labor to enhance maternal comfort and promote optimal fetal positioning can be supported as long as adopted positions allow appropriate maternal and fetal monitoring and treatments and are not contraindicated by maternal medical or obstetric complications.
- When not coached to breathe in a specific way, women push with an open glottis. In consideration of the limited data regarding superiority of spontaneous versus Valsalva pushing, each woman should be encouraged to use her preferred and most effective technique.
- Collectively, and particularly in light of recent high-quality study findings, data support pushing at the start of the second stage of labor for nulliparous women receiving neuraxial analgesia. Delayed pushing has not been shown to significantly improve the likelihood of vaginal birth and risks of delayed pushing, including infection, hemorrhage, and neonatal acidemia, should be shared with nulliparous women receiving neuraxial analgesia who consider such an approach.
- Birthing units should carefully consider adding family-centric interventions (such as lowered or clear drapes at cesarean delivery) that are otherwise not already considered routine care and that can be safely offered, given available environmental resources and staffing models. These family-centric interventions should be provided in recognition of the value of inclusion in the birthing process for many women and their families, irrespective of delivery mode.

Introduction

This Committee Opinion reviews the evidence for labor care practices that facilitate a physiologic labor process and minimize intervention for appropriate women who are in spontaneous labor at term. The desire to avoid unnecessary interventions during labor and birth is shared by health care providers and pregnant women. Obstetrician–gynecologists, in collaboration with midwives, nurses, patients, and those who support them in labor, can help women meet their goals for labor and birth by using techniques that require minimal interventions and have high rates of patient satisfaction (1). This Committee Opinion has been revised to incorporate new evidence for risks and benefits of several of these techniques and, given the growing interest on the topic, to incorporate information on a family-centered approach to cesarean birth.

As used in this document, "low risk" indicates a clinical scenario for which there is not clear demonstrable benefit for a medical intervention. What constitutes low risk will, therefore, vary depending on individual circumstances and the proposed intervention. For example, a woman who requires oxytocin augmentation will need continuous electronic fetal monitoring (EFM) and, therefore, would not be low risk with regard to eligibility for intermittent auscultation. Rather than categorize laboring women as low or high risk, the goal of this document is to ensure that the obstetrician–gynecologist or other obstetric care provider carefully selects and tailors labor interventions to

meet clinical safety requirements and the individual woman's preferences.

Latent Labor: Labor Management and Timing of Admission

Observational studies have found that admission in the latent phase of labor is associated with more arrests of labor and cesarean births in the active phase and with a greater use of oxytocin, intrauterine pressure catheters, and antibiotics for intrapartum fever (2–4). However, these studies were unable to determine whether these outcomes reflected interventions associated with earlier and longer exposure to the hospital environment or a propensity for dysfunctional labor among women who present for care during the latent phase. A randomized controlled trial (RCT) that compared admission at initial presentation to the labor unit (immediate admission) versus admission when in active labor (delayed admission) found that those allocated to the delayed admission group had lower rates of epidural use and augmentation of labor, had greater satisfaction, and spent less time in the labor and delivery unit. Although there were no significant differences between study groups in operative vaginal or cesarean births or newborn outcomes, the study was underpowered to assess these outcomes (5).

Importantly, recent data from the Consortium for Safe Labor support updated definitions for latent and active labor. In contrast to the prior suggested threshold of 4 cm, the onset of active labor for many women may not occur until 5–6 cm (6–8). These data suggest that expectant management is reasonable for women at 4–6 cm dilatation and considered to be in latent labor, as long as maternal and fetal status are reassuring. For women who are in latent labor and are not admitted to the labor unit, a process of shared decision making is recommended to create a plan for self-care activities and coping techniques. An agreed-upon time for reassessment should be determined at the time of each contact. Care of women in latent labor may be enhanced by having an alternate unit where such women can rest and be offered support techniques before admission to labor and delivery.

Admission during the latent phase of labor may be necessary for a variety of reasons, including pain management or maternal fatigue (9, 10). When women are observed or admitted for pain or fatigue in latent labor, techniques such as education and support, oral hydration, positions of comfort, and nonpharmacologic pain management techniques such as massage or water immersion may be beneficial (11, 12).

Term Prelabor Rupture of Membranes

When membranes rupture at term before the onset of labor, approximately 77–79% of women will go into labor spontaneously within 12 hours, and 95% will start labor spontaneously within 24–28 hours (13, 14). In the TERMPROM trial, a RCT of labor induction versus expectant management of rupture of membranes at term, the median time to delivery for women managed expectantly was 33 hours; 95% had delivered by 94–107 hours after rupture of membranes (15). A 2017 Cochrane review that compared immediate induction with expectant management did not find a difference in cesarean delivery or definite early-onset neonatal sepsis, but did find a decreased risk of chorioamnionitis or endometritis, or both (relative risk [RR], 0.49; 95% CI, 0.33–0.72), a decreased risk of definite or probable early-onset neonatal sepsis (RR, 0.73; 95% CI, 0.58–0.92), and a decreased risk of neonatal admission to a special or intensive care unit (RR, 0.75; 95% CI, 0.66–0.85) in the induction group (16). The Cochrane authors commented that the quality of evidence to support reduced risk of maternal and probable neonatal infection remains low and that "women should be appropriately counselled in order to make an informed choice between planned early birth and expectant management for PROM at 37 weeks' gestation or later." However, given the available evidence, obstetrician–gynecologists and other obstetric care providers should recommend labor induction to pregnant women with term PROM who are candidates for vaginal birth, although the choice of expectant management for a limited time may be considered after appropriate counseling.

The RCTs that addressed women who were experiencing term PROM included expectant care intervals that ranged from 10 hours to 4 days. The risk of infection increases with prolonged duration of ruptured membranes. However, the optimal duration of expectant management that maximizes the chance of spontaneous labor while minimizing the risk of infection has not been determined. In line with the knowledge that a large proportion of women will go into spontaneous labor within 12–24 hours after term PROM and recognizing questions that remain unanswered, obstetrician–gynecologists and other obstetric care providers should inform pregnant women with term PROM who decline labor induction in favor of expectant care of the potential risks associated with expectant management and the limitations of available data. For appropriately counseled women, if concordant with their individual preferences and if there are no other maternal or fetal reasons to expedite delivery, the choice of expectant management for 12–24 hours may be offered (15, 16). For women who are GBS positive, however, administration of antibiotics for GBS prophylaxis should not be delayed while awaiting labor. In such cases, many patients and obstetrician–gynecologists or other obstetric care providers may prefer immediate induction.

Continuous Support During Labor

Evidence suggests that, in addition to regular nursing care, continuous one-to-one emotional support provided by support personnel, such as a doula, is associated with

improved outcomes for women in labor. Benefits described in randomized trials include shortened labor, decreased need for analgesia, fewer operative deliveries, and fewer reports of dissatisfaction with the experience of labor (1, 17). As summarized in a Cochrane evidence review, a woman who received continuous support was less likely to have a cesarean birth (RR, 0.75; 95% CI, 0.64–0.88) or a newborn with a low 5-minute Apgar score (RR, 0.62; 95% CI, 0.46–0.85) (1). Continuous support for a laboring woman that is provided by a nonmedical person also has a modest positive effect on shortening the duration of labor (mean difference −0.69 hours; 95% CI, −1.04 to −0.34) and improving the rate of spontaneous vaginal birth (RR, 1.08; 95% CI, 1.04–1.12) (1).

It also may be effective to teach labor-support techniques to a friend or family member. This approach was tested in a randomized trial of 600 nulliparous, low-income, low-risk women, and the treatment resulted in significantly shorter duration of labor and higher Apgar scores at 1 minute and 5 minutes (18). Continuous labor support also may be cost effective given the associated lower cesarean rate. One analysis suggested that paying for such personnel might result in substantial cost savings annually (19). Given these benefits and the absence of demonstrable risks, patients, obstetrician–gynecologists and other obstetric care providers, and health care organizations may want to develop programs and policies to integrate trained support personnel into the intrapartum care environment to provide continuous one-to-one emotional support to women undergoing labor.

Routine Amniotomy

Amniotomy is a common intervention in labor and may be used to facilitate fetal or intrauterine pressure monitoring. Amniotomy also may be used alone or in combination with oxytocin to treat slow labor progress. However, whether elective amniotomy is beneficial for women without a specific indication has been questioned. A Cochrane review of 15 studies found that among women in spontaneous labor, amniotomy alone did not shorten the duration of spontaneous labor (mean difference, –20.43 minutes; 95% CI, –95.93 to 55.06) or lower the incidence of cesarean births. Likewise, when compared with women who did not undergo amniotomy, those who did were similar in terms of patient satisfaction, frequencies of 5-minute Apgar scores less than 7, umbilical cord prolapse, and abnormal fetal heart rate patterns (20). Another study evaluated the combination of early amniotomy with oxytocin augmentation as a joint intervention for women in spontaneous labor or for women with mild delays in labor progress (21). This meta-analysis of 14 trials found that amniotomy together with oxytocin augmentation is associated with modest reduction in the duration of the first stage of labor (mean difference, –1.11 hours; 95% CI, −1.82 to −0.41) and a modest reduction in cesarean birth rates when compared with expectant management (RR, 0.87; 95% CI, 0.77–0.99). Overall, these data suggest that for women with normally progressing labor and no evidence of fetal compromise, routine amniotomy need not be undertaken unless required to facilitate monitoring.

Intermittent Auscultation

Continuous EFM was introduced to reduce the incidence of perinatal death and cerebral palsy and as an alternative to the practice of intermittent auscultation. However, the widespread use of continuous EFM has not been shown to significantly affect such outcomes as perinatal death and cerebral palsy when used for women with low-risk pregnancies. *Low risk* in this context has been variously defined but generally includes women who have no meconium staining, intrapartum bleeding, or abnormal or undetermined fetal test results before giving birth or at initial admission; no increased risk of developing fetal acidemia during labor (eg, congenital anomalies, intrauterine growth restriction); no maternal condition that may affect fetal well-being (eg, prior cesarean scar, diabetes, hypertensive disease); and no requirement for oxytocin induction or augmentation of labor. A Cochrane review of 13 RCTs included women with varying degrees of a priori risk of fetal acidemia at the onset of labor (22). This meta-analysis found that continuous EFM was associated with an increase in cesarean deliveries (RR, 1.63; 95% CI, 1.29–2.07; n=18,861, 11 RCTs) and an increase in instrumental vaginal birth rate (RR, 1.15; 95% CI, 1.01–1.33; n=18,615, 10 RCTs) when compared with intermittent auscultation. However, continuous EFM was associated with a halving of the rate of early neonatal seizures (RR, 0.50; 95% CI, 0.31–0.80, n=32,386, nine trials, 0.15% for EFM versus 0.29% for intermittent auscultation group), but the authors found no significant difference in the rates of perinatal death or cerebral palsy when compared with intermittent auscultation (22). In the largest RCT conducted, the group that had early onset seizures had a neonatal death similar to those allocated to EFM versus intermittent auscultation. Moreover, at 4 years of age, there was no difference in the rate of cerebral palsy (1.8 per 1,000 in the EFM group versus 1.5 per 1,000 in the intermittent auscultation group) (23).

To facilitate the option of intermittent auscultation, obstetrician–gynecologists and other obstetric care providers and facilities should consider adopting protocols and training staff to use a hand-held Doppler device for low-risk women who desire such monitoring during labor (24–30). In considering the relative merits of intermittent auscultation and continuous EFM, patients and obstetrician–gynecologists and other obstetric care providers also should evaluate how the technical requirements of each approach may affect a woman's experience in labor; intermittent auscultation can allow freedom of movement, which some women appreciate. The effect on staffing is an additional important consideration.

Guidelines, indications, and protocols for intermittent auscultation are available from the American College of Nurse–Midwives (30), the National Institute for Health and Care Excellence (31), and the Association of Women's Health, Obstetric and Neonatal Nurses (29).

Techniques for Coping With Labor Pain

Multiple nonpharmacologic and pharmacologic techniques can be used to help women cope with labor pain. These techniques can be used sequentially or in combination. Some nonpharmacologic methods seem to help women cope with labor pain rather than directly mitigating the pain. Conversely, pharmacologic methods mitigate pain, but they may not relieve anxiety or suffering. Data about the relative effectiveness of nonpharmacologic techniques are limited because, until recently, evaluation of labor pain has relied on the use of the numeric pain scale of 1–10, which some have argued is insufficient to assess the complex and multifactorial experience of labor (32). As an alternative, a coping scale has been developed and approved by the Joint Commission. The coping scale asks, "On a scale of 1 to 10, how well are you coping with labor right now?" (33). Use of the coping scale in conjunction with different nonpharmacologic and pharmacologic pain management techniques can help obstetrician–gynecologists and other obstetric care providers tailor interventions that best meet the needs of each individual woman.

Most women can be offered a variety of nonpharmacologic techniques. None of the nonpharmacologic techniques have been found to adversely affect the woman, the fetus, or the progress of labor, but few have been studied extensively enough to determine clear or relative effectiveness. During the first stage of labor, water immersion has been found to lower pain scores without evidence of harm (8, 34). Intradermal sterile water injections, relaxation techniques, acupuncture, and massage may result in reduction in pain in many studies, but methodologies for rating pain and applying these techniques have been varied; therefore, exact techniques that are most effective have not been determined (35, 36). Other techniques, such as childbirth education, transcutaneous electrical nerve stimulation, aromatherapy, or audioanalgesia, may help women cope with labor more than directly affect pain scores (11, 36). The importance of avoiding versus seeking pharmacologic analgesia or epidural anesthesia will vary with individual patient values and medical circumstances. In the hospital setting, pharmacologic analgesia should be available for all women in labor who desire medication (37).

Hydration and Oral Intake in Labor

Women in spontaneously progressing labor may not require routine continuous infusion of intravenous fluids. Although safe, intravenous hydration limits freedom of movement and may not be necessary. Oral hydration can be encouraged to meet hydration and caloric needs. Arguments for limiting oral intake during labor center on concerns for aspiration and its sequelae. Current guidance supports oral intake of moderate amounts of clear liquids by women in labor who do not have complications. However, particulate-containing fluids and solid food should be avoided (38, 39). These restrictions have recently been questioned, citing the low incidence of aspiration with current obstetric anesthesia techniques (40). This information may inform ongoing review of recommendations regarding oral intake during labor. Assessment of urinary output and the presence or absence of ketonuria can be used to monitor hydration. If such monitoring indicates concern, intravenous fluids can be administered as needed. If intravenous fluids are required, the solution and the infusion rate should be determined by individual clinical need and anticipated duration of labor. Despite historic concerns regarding the use of dextrose-containing solutions and the possibility that these solutions may induce neonatal hypoglycemia, recent RCTs did not find lower umbilical cord pH values or increased rates of neonatal hypoglycemia after continuous administration of 5% dextrose in normal saline (41, 42).

Maternal Position During Labor

Observational studies of maternal position during labor have found that women spontaneously assume many different positions during the course of labor (43). There is little evidence that any one position is best. Moreover, the traditional supine position during labor has known adverse effects such as supine hypotension and more frequent fetal heart rate decelerations (44, 45). Therefore, for most women, no one position needs to be mandated or proscribed.

In research studies, it was difficult to isolate the independent effect of position on labor progress. Women are unlikely to stay in a single position during the course of a study and cannot be expected to do so. Nonetheless, a recent meta-analysis that compared upright positioning (including walking, sitting, standing, and kneeling), ambulation, or both, with recumbent, lateral, or supine positions during the first stage of labor found that upright positions shorten the duration of the first stage of labor by approximately 1 hour and 22 minutes (mean difference, −1.36; 95% CI, −2.22 to −0.51), a mean difference that exceeded the effect of amniotomy with oxytocin (mean difference, −1.11 hours). Women in upright positions also were less likely to have a cesarean delivery (RR, 0.71; 95% CI, 0.54–0.94) (43). A second Cochrane meta-analysis of RCTs that examined the effect of position during the second stage of labor found that upright or lateral positions compared with supine positions are associated with fewer "abnormal" fetal heart rate patterns (RR, 0.46; 95% CI, 0.22–0.93), a reduction in episiotomies (RR, 0.75; 95% CI, 0.61–0.92), and a decrease in the incidence of operative vaginal births (RR, 0.75; 95% CI, 0.66–0.86) (46). In this analysis, however, upright positions were associated with a possible

increase in second-degree perineal tears (RR, 1.20; 95% CI, 1.00–1.41) and an increase in estimated blood loss greater than 500 mL (RR, 1.48; 95% CI, 1.10–1.98) (46). A 2017 RCT of upright versus lying positioning during the second stage of labor among nulliparous women with low-dose epidurals demonstrated that fewer spontaneous vaginal births occurred among women assigned to upright positioning (adjusted risk ratio 0.86, 95% CI, 0.78–0.94) without evidence of other associated harms. (47). Frequent position changes during labor to enhance maternal comfort and promote optimal fetal positioning can be supported as long as adopted positions allow appropriate maternal and fetal monitoring and treatments and are not contraindicated by maternal medical or obstetric complications.

Second Stage of Labor: Pushing Technique

Obstetrician–gynecologists and other obstetric care providers in the United States often encourage women in labor to push with a prolonged, closed glottis effort (ie, Valsalva maneuver) during each contraction. However, when not coached to breathe in a specific way, women push with an open glottis (48). A Cochrane review of eight RCTs that compared spontaneous to Valsalva pushing in the second stage of labor found no clear differences in the duration of the second stage, spontaneous vaginal delivery episiotomy, perineal lacerations, 5-minute Apgar score less than 7, or neonatal intensive care admissions, or duration of pushing (49).

A meta-analysis that included three RCTs of low-risk nulliparous women at 36 weeks of gestation or more without epidural analgesia found no differences in the rates of operative vaginal delivery, cesarean delivery, episiotomy, or perineal lacerations. However, the study found a somewhat shorter second stage of labor with Valsalva, although confidence intervals were wide (mean difference −18.59 minutes; 95% CI, −0.46 to −36.75) (50). One of these RCTs found an increased frequency of abnormal urodynamics 3 months after giving birth in association with Valsalva pushing (51). The long-term clinical significance of this finding is uncertain. However, in consideration of the limited data regarding superiority of spontaneous versus Valsalva pushing, each woman should be encouraged to use her preferred and most effective technique (49, 50).

Immediate Versus Delayed Pushing for Nulliparous Women Receiving Epidural Analgesia

Offering nulliparous women receiving epidural analgesia a rest period at 10 cm dilatation before pushing is based on the theory that a rest period allows the fetus to passively rotate and descend while conserving the woman's energy for pushing efforts (52). This practice is called delayed pushing, laboring down, or passive descent. The second stage of labor has two phases: 1) the passive descent of the fetus through the maternal pelvis and 2) the active phase of maternal pushing. Studies that suggest an increased risk of adverse maternal and neonatal outcomes with increasing second-stage duration generally do not account for the duration of these passive and active phases (53, 54).

Two meta-analyses of RCTs compared maternal and neonatal outcomes in women assigned to immediate versus delayed pushing have been published (49, 55). Both studies found that delaying pushing for 1–2 hours extended the duration of the second stage by a mean of approximately 1 hour and was associated with approximately 20 minutes less active maternal pushing efforts. Although both reports noted a significantly increased spontaneous delivery rate, this difference was no longer significant when the analysis was restricted to high quality RCTs (RR, 1.07; 95% CI, 0.98–1.16) (55). However, a recent large retrospective analysis found that delaying pushing by 60 minutes or more was associated with modest increases in cesarean delivery (adjusted odds ratio [AOR], 1.86; 95% CI, 1.63–2.12) and operative vaginal delivery (AOR, 1.26; 95% CI, 1.14–1.40), postpartum hemorrhage (AOR, 1.43; 95% CI, 1.05–1.95), and transfusion (AOR, 1.51; 95% CI, 1.04–2.17), but no increase in adverse neonatal outcomes (56). The study design does not determine causation and was not able to account for important confounders such as the indications for delayed pushing or fetal station at the onset of the second stage of labor that were addressed by the more recent randomized trial (56).

A recent 2018 multicenter RCT of more than 2,400 nulliparous women receiving epidural analgesia, assigned participants to begin pushing at the start of the second stage of labor or to delay pushing for 60 minutes unless the urge or health care provider recommendation to push occurred sooner. The trial was stopped before the intended recruitment was complete because of concern for excess morbidity in the delayed pushing group (57). No differences in rates of spontaneous vaginal births were noted even after consideration of fetal station and head position. Women assigned to push at the start of the second stage had lower rates of chorioamnionitis (RR, 0.7; 95% CI, 0.6–0.9) and postpartum hemorrhage (RR, 0.6; 95% CI, 0.3–0.9), and had neonates with lower risk of acidemia (overall risk 0.8% versus 1.2%, RR, 0.7; 95% CI, 0.6–0.9) (57). Collectively, and particularly in light of recent high-quality study findings (57), data support pushing at the start of the second stage of labor for nulliparous women receiving neuraxial analgesia. Delayed pushing has not been shown to significantly improve the likelihood of vaginal birth and risks of delayed pushing, including infection, hemorrhage, and neonatal acidemia, should be shared with nulliparous women receiving neuraxial analgesia who consider such an approach.

Family-Centered Cesarean Birth

Although the delivery goal for many low-risk women is vaginal birth, delivery by cesarean is sometimes the

result, whether for obstetric indications or by maternal request. Recent attention has focused on the description and implementation of techniques in the operating room to promote increased involvement of the family in the procedure itself. One 2008 study, described the "natural cesarean" (58). Various institutional protocols have adopted some or all of the principles, which include preparation of the operating room itself with low lighting and minimal extraneous noise, positioning women to best allow access to the neonate after delivery (eg, not securing the upper extremities to arm boards, placing pulse oximetry probes on nondominant hands, or on toes rather than fingers), allowing women and their partners to view the birth (by lowering the drapes or using drapes with specially-designed viewing windows), slowed delivery of the neonate through the hysterotomy to allow autoresuscitation, delayed umbilical cord clamping, and early skin-to-skin contact (58, 59). A large body of evidence to support efficacy of these techniques, whether each on its own or in combination, is lacking, though the merits of delayed umbilical cord clamping and early skin-to-skin contact have been extensively reviewed elsewhere. One randomized trial of a number of family-centered cesarean birth interventions demonstrated greater parental satisfaction in the intervention group; skin-to-skin care was achieved in 72% of women assigned to the intervention, and the intervention was associated with higher breastfeeding rates than in the traditional cesarean group (60).

In one U.S. academic medical center, the family-centered cesarean birth was introduced in 2013 and the efforts studied. Skin-to-skin care in the operating room increased from 13% to 39% of cases, with exclusive breastfeeding rates among neonates born by cesarean similarly increasing from 35% to 64%. An increase in neonatal hypothermia associated with skin-to-skin care, a theoretic concern given the ambient temperatures in operating rooms, was not noted (59). In a cohort study that compared women who gave birth by cesarean delivery after the introduction of family-centered cesarean delivery with historical controls, unplanned nursery admission, but not respiratory morbidity or hypothermia, increased (unplanned admission in 21% in the period of study compared with 7% of historical controls).

Absent better-quality evidence of benefit or harms of these interventions, birthing units should carefully consider adding family-centric interventions (such as lowered or clear drapes at cesarean delivery) that are otherwise not already considered routine care and that can be safely offered, given available environmental resources and staffing models. These family-centric interventions should be provided in recognition of the value of inclusion in the birthing process for many women and their families, irrespective of delivery mode.

Conclusion

Many common obstetric practices are of limited or uncertain benefit for low-risk women in spontaneous labor. In addition, some women may seek to reduce medical interventions during labor and delivery. Satisfaction with one's birth experience also is related to personal expectations, support from caregivers, quality of the patient–caregiver relationship, and the patient's involvement in decision making (61). Therefore, obstetrician–gynecologists and other obstetric care providers should be familiar with and consider using low-interventional approaches, when appropriate, for the intrapartum management of low-risk women in spontaneous labor.

For More Information

The American College of Obstetricians and Gynecologists has identified additional resources on topics related to this document that may be helpful for obgyns, other health care providers, and patients. You may view these resources at www.acog.org/More-Info/LimitInterventionDuringLabor.

These resources are for information only and are not meant to be comprehensive. Referral to these resources does not imply the American College of Obstetricians and Gynecologists' endorsement of the organization, the organization's website, or the content of the resource. The resources may change without notice.

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