Briefly Legal: Guidelines for the Management of Labor – Evidence-Based?

Barry Schifrin, MD, Wayne R, Cohen, MD, Maureen E Sims, MD

In January 2024, the American College of Obstetricians & Gynecologists (ACOG) published updated guidelines on labor management (*Guidelines*). (1) In theory, organizational guidelines under the imprimatur of professional medical organizations are an essential and influential resource. They should help bring updated and reliable information to the physicians within their organization and others who practice in the field. In guidelines dealing with obstetrical care during labor, this would include anesthesiologists, nurses, midwives, and nurse practitioners. Such guidelines should be readily accessible and serve as the foundation for many hospital and departmental clinical protocols. As such, they are likely to strongly influence practice modes and likely to be cited in litigation to support the position of one side or the other.

"Because of the many unresolved issues and controversies over how to identify and treat dysfunctional labor in the face of the rising cesarean section rate, in 2014, ACOG issued Guidelines for the management of labor that represented a significant departure from previous guidelines that had stood, with minor alterations, for about half a century. (2) (3)"

Because of the many unresolved issues and controversies over how to identify and treat dysfunctional labor in the face of the rising cesarean section rate, in 2014, ACOG issued Guidelines for the management of labor that represented a significant departure from previous guidelines that had stood, with minor alterations, for about half a century. (2) (3)

The 2014 doctrine spurred considerable controversy with the publication of several studies designed to test the impact of the Guidelines on maternal and fetal outcomes and the cesarean section rate (CSR). (4) Attempting to assess the impact of guidelines for the conduct of labor on the CSR creates insurmountable difficulties. The long-standing attempts to rein in the prohibitively high and rising CSR in much of the world are confounded by wide disparities in CSR among and within countries. (5) (6) There are disparities related to social class, private or public facilities, availability of insurance, income, and even a patient's BMI. There are even disparities among those of low obstetric risk births, especially among more educated women. (5) (6) The question arises: can we use definitions and guidelines for labor conduct to lower the CSR safely? Our primary goal should be determining the cesarean rate associated with optimal maternal and neonatal outcomes and not lowering the rate for its own sake without regard to consequences.

"The 2014 doctrine spurred considerable controversy with the publication of several studies designed to test the impact of the Guidelines on maternal and fetal outcomes and the cesarean section rate (CSR). (4) Attempting to assess the impact of guidelines for the conduct of labor on the CSR creates insurmountable difficulties."

Various studies on the 2014 Guidelines either failed to show benefits or produced contrary results irrespective of any effect on CSR. (7) In 2017, Rosenbloom et al. commented that "Despite significant changes in labor management that have occurred over the initial years since the publication of the new labor curves and associated guidelines, the primary cesarean delivery rate was not reduced and there has been an ***increase*** in maternal and neonatal morbidity in our institution." (8) They called for a randomized controlled trial (RCT). Notably, a theoretical study showed no advantage to substituting the more recent Zhang formulation of progress in labor over the labor curves promulgated over many decades by Friedman. (9) (10)

"These various conceptual and clinical challenges to the 2014 Guidelines made their revision necessary and eagerly anticipated. (4) Regrettably, however, the new Guidelines offer little to quell the issues related to the earlier guidelines. (1)"

These various conceptual and clinical challenges to the 2014 Guidelines made their revision necessary and eagerly anticipated. (4) Regrettably, however, the new *Guidelines* offer little to quell the issues related to the earlier guidelines. (1) With its unbalanced assessment of the literature, they have exacerbated the problems of basic definitions of dysfunctional labor and management considerations in the conduct of both the 1st and 2nd stages of labor. The new *Guidelines* cite certain studies that support their recommendations while ignoring many cogent challenges to their statistical approach and the clinical applicability of their recom-

mendations. (4)

A few examples will illustrate the problem.

"The Guidelines concede biologic variation as to when the latent phase of labor becomes the active phase but then preclude diagnosing an arrest of dilatation until dilatation has reached at least 6 cm without reference to the preceding pattern of cervical dilatation. (1, 11) Moreover, they conflate protraction (slow slope of dilatation) and arrest disorders (cessation of dilatation) despite their demonstrated differences in management and outcome (12). "

Guidelines for the 1st stage of labor:

The Guidelines concede biologic variation as to when the latent phase of labor becomes the active phase but then preclude diagnosing an arrest of dilatation until dilatation has reached at least 6 cm without reference to the preceding pattern of cervical dilatation. (1, 11) Moreover, they conflate protraction (slow slope of dilatation) and arrest disorders (cessation of dilatation) despite their demonstrated differences in management and outcome (12). Some specific clinical situations that would be permissible under the new Guidelines would be contrary, we believe, to the instincts of the competent obstetrician. For example:

Case #1:

> A nullipara presents in labor at term with her cervix 2 cm dilated and thin with the station of the fetal head at -2. One hour later, with strong contractions coming every 2-3 minutes, the cervix is found to be 5 cm dilated. She has progressed to 4 cm of dilatation in 1 hour. Five hours later, there is considerable molding without further descent, and the dilatation is only 5-6 cm.
>
> Comment: Thus, according to the new guidelines, despite the very rapid dilatation from 1 to 5 cm, this labor is still considered as being in the latent phase - a designation that requires no further evaluation or intervention. (1) Experienced clinicians have observed problems with labor progress that will benefit from interventions prior to 6 cm of dilatation. (11) In Friedman's formulation, the latent phase ends with the upslope in the rate of cervical dilatation and not some arbitrary dilatation. (3)

Guidelines for the 2nd stage of labor:

The Guidelines recommend that pushing begin with the determination of full dilatation and that the duration of the 2nd stage should consider only the time when the patient is pushing. How, specifically, is the duration of the 2nd stage to be measured? "Laboring down" is no longer recommended as an acceptable alternative and does not count for time in the 2nd stage. Since laboring down does not count, how shall we apply the new definition? Should bedside nurses track "pushing time" episodes separately and then add up the episodes to determine 2nd stage duration? This seems impractical, inaccurate, and wasteful of nursing time. It also compares with all the previously published literature that has defined the 2nd stage as the interval from full dilatation until delivery.

Assessment of the 2nd stage is governed by the critical notion that there should be progress in descent after full dilatation, irrespective of whether or not the patient is pushing. (13) What concessions the Guidelines make to the need to demonstrate true progress with pushing are confusingly and non-strategically, embedded within the document. The Guidelines establish definitions for "arrest in the 2nd stage of labor as greater than 3 hours in nulliparas and 2 hours in multiparas, with an additional hour if the patient is receiving epidural anesthesia. (1) The *Guidelines* suggest that the "diagnosis of 2nd stage arrest can be identified earlier if there is lack of fetal rotation or descent despite adequate contractions, pushing efforts, and time." Ultimately, the Guidelines recommend an "individualized approach to diagnose 2nd stage arrest, incorporating …progress, clinical factors… and patient preference." These statements seem interpretable as allowing the practitioner to use any desired definition or treatment while ignoring this or any other guideline.

"Assessment of the 2nd stage is governed by the critical notion that there should be progress in descent after full dilatation, irrespective of whether or not the patient is pushing. (13) What concessions the Guidelines make to the need to demonstrate true progress with pushing are confusingly and non-strategically, embedded within the document."

Guidelines for the management of labor – evidence-based?

Case #2:

> The cervix eventually becomes fully dilated in a nullipara at term in slow, active labor. The position of the fetal head is occiput posterior (OP) with marked molding (overlapping of the cranial bones). The leading edge of the fetal head is at station 0. The biparietal diameter (BPD) is easily felt above the symphysis pubis. The fetal head is **not** engaged in the mother's pelvis, which has android features, including convergent sidewalls. According to the new Guidelines, this woman would be encouraged to push for at least three hours even if there were no further progress in descent.
>
> Comment: In this case, while a brief period of pushing may be attempted, there can be little optimism for the feasibility of safe vaginal delivery. At the beginning of the 2nd stage of labor, the fetal head is unengaged, malpositioned (OP) with an unfavorable maternal pelvic architecture. The *Guidelines* offer no guidance on the duration of pushing without true descent. Pushing for 3 hours (about 90 contractions) with no progress in descent seems excessive and brutal and increases the risk of adverse outcomes (14). On the other hand, what is the indication for operative delivery if an arrest of descent is acted upon before the prescribed time?

The new *Guidelines* ignore evaluation of the maternal pelvic anat-

omy or cephalopelvic relations in the management of labor. Long-standing pillars of intrapartum observation, such as the position of the fetal head, its attitude, the presence of molding, caput, and asynclitism, and the bony architecture of the maternal pelvis, are mainly unconsidered. (15) (16, 17) The normality of the 2nd stage is determined purely by the duration of pushing. They draw no inferences from the pattern of descent over time. Parenthetically, although descent can occur without rotation, rotation cannot occur without descent.

The *Guidelines* do not comment on the pitfalls of determining fetal head engagement by pelvic examination, where such an important determination is confounded by position, attitude, and the amount of caput and molding of the fetal head. (18) There would be universal agreement that applying a vacuum device or forceps to an unengaged head would represent conduct below a reasonable standard of care.

In an article by Grobman, et al, cited by the *Guidelines*, the authors acknowledge the increase in maternal and fetal complications with prolongation of maternal pushing. Irrespective, both the Guidelines and Grobman et al. justify prolonged pushing because the absolute numbers of babies suffering adverse outcomes, including hypoxic-ischemic encephalopathy (HIE) and seizures related to prolonged pushing, are small! (1) (14)

The new Guidelines fail to address concerns about the maternal emotional or traumatic consequences of the prolonged labors they embrace. They fail to consider the associated risks of infection, injury to the birth canal or pelvic floor, exhaustion, disordered maternal-infant bonding, or their potential long-term maternal and fetal consequences, including the impact on subsequent deliveries and the willingness to undertake a trail of labor after a cesarean section. (8) (19) (20) (21) (7)

"Finally, we must consider the use of Guidelines in litigation where proper estimates of the progress in labor and feasibility of safe vaginal delivery are important considerations in determining the genesis of intrapartum fetal injury and subsequent outcome of the newborn."

In their comments on the "individualized approach to diagnosing 2nd stage arrest, " the *Guidelines* disavow any unique or coherent definition of abnormalities of descent of the 2nd stage, falling back on the singular notion of " arrest of 2nd stage". The *Guidelines* make no distinction between protracted descent (progress is slow), arrest of descent (cessation of descent after initial progress), and failure of descent where there is no descent initially despite full dilatation. These distinctions provide essential insights into the prospects of safe vaginal delivery. (12) The restricted terminology seemingly allows the practitioner to use whatever definition or treatment he or she desires. It encumbers conversations between obstetrical nurses and physicians in which each has a different understanding of the meaning and implications of the various terms used.

Finally, we must consider the use of *Guidelines* in litigation where proper estimates of the progress in labor and feasibility of safe vaginal delivery are important considerations in determining the genesis of intrapartum fetal injury and subsequent outcome of the newborn. Given the breadth of options seemingly permissible under the new *Guidelines*, the allegations and counter-allegations of actions that are or are not permissible under "the standard of care" can confuse any judge or jury. The litany of disturbing disclaimers in the Guidelines throws this issue into bold relief. For example, "the publication is provided 'as is' without any warranty of accuracy, reliability, or otherwise…". In these disclaimers, designed for defending allegations of negligence, the Guidelines have diminished their value and the value of enlightened care. They seem more concerned about avoiding culpability than maintaining safety. Ultimately, we are concerned by the promulgation of guidelines dealing with the conduct of labor whose unstated purpose is to reduce CSR. Such conflating makes the route of delivery (CSR) more important than safety for the fetus and mother.

"We believe the current Guidelines are poorly conceived, poorly written, inconsistent, and contradictory, with a biased interpretation of the available research. Optimal management of labor may or may not reduce the number of cesarean sections. Intelligible, teachable, coherent Guidelines will provide patient safety and physician respect."

We believe the current Guidelines are poorly conceived, poorly written, inconsistent, and contradictory, with a biased interpretation of the available research. Optimal management of labor may or may not reduce the number of cesarean sections. Intelligible, teachable, coherent Guidelines will provide patient safety and physician respect. They will decrease the risks of labor, the urgency of interventions, and the risk of allegations of malpractice. They can provide meaningful communication among obstetrical care providers and honorable and defensible posture should allegations of negligence arise.

"Considering the above (abbreviated) litany of concerns, we fear that unless the Guidelines are replaced with more balanced, evidence-based terminology and recommendations for management, the problems of adverse maternal and fetal outcomes will persist, and the inconsistencies embedded in the CSR statistics will continue."

Considering the above (abbreviated) litany of concerns, we fear that unless the *Guidelines* are replaced with more balanced, evidence-based terminology and recommendations for management, the problems of adverse maternal and fetal outcomes will persist, and the inconsistencies embedded in the CSR statistics will continue. Until then, we believe that practitioners should be cautious about embracing these *Guidelines,* and pregnant women

should be fearful of their implementation.

References

1. First and Second Stage Labor Management: ACOG Clinical Practice Guideline No. 8. Obstet Gynecol. 2024;143(1):144-62.
2. Caughey ABF, Cahill AG, Guise JM, Rouse DJ. Safe prevention of the primary cesarean delivery. Obstet Gynecol. 2014;123(1097-6868 (Electronic)):693-711.
3. Friedman EA. Use of labor pattern as a management guide. Hosp Top. 1968;46(8):57-9.
4. Cohen WR, Friedman EA. Perils of the new labor management guidelines. Am J Obstet Gynecol. 2015;212(4):420-7.
5. Boerma T, Ronsmans C, Melesse DY, Barros AJD, Barros FC, Juan L, et al. Global epidemiology of use of and disparities in cesarean sections. Lancet. 2018;392(10155):1341-8.
6. Cohen WR, Robson MS, Bedrick AD. Disquiet concerning cesarean birth. J Perinat Med. 2023;51(5):591-9.
7. Sapir A, Friedrich L, Gat R, Erez O. Cesarean section in the second stage of labor is associated with early-term and late preterm birth in subsequent pregnancies. J Matern Fetal Neonatal Med. 2023;36(1):2175658.
8. Rosenbloom JI, Stout MJ, Tuuli MG, Woolfolk CL, López JD, Macones GA, et al. New labor management guidelines and changes in cesarean delivery patterns. Am J Obstet Gynecol. 2017;217(6):689 e1- e8.
9. Caughey AB. Is Zhang the new Friedman: How should we evaluate the first stage of labor? Semin Perinatol. 2020;44(2):151215.
10. de Vries BS, McDonald S, Joseph FA, Morton R, Hyett JA, Phipps H, et al. Impact of analysis technique on our understanding of the natural history of labour: a simulation study. BJOG. 2021;128(11):1833-42.
11. Rosenbloom JI, Woolfolk CL, Wan L, Stout MJ, Tuuli MG, Macones GA, et al. The transition from latent to active labor and adverse obstetrical outcomes. Am J Obstet Gynecol. 2019.
12. Cohen WR, Friedman EA. Guidelines for Labor Assessment: Failure to Progress? Am J Obstet Gynecol. 2020.
13. Cohen WR. Influence of the duration of second stage labor on perinatal outcome and puerperal morbidity. Obstet Gynecol. 1977;49(3):266-9.
14. Grobman WA, Bailit J, Lai Y, Reddy UM, Wapner RJ, Varner MW, et al. Association of the Duration of Active Pushing With Obstetric Outcomes. Obstet Gynecol. 2016;127(4):667-73.
15. Caldeyro-Barcia R. Adverse Perinatal Effects of Early Amniotomy During Labor. Modern Perinatal Medicine1974. p. 431-49.
16. Gilboa Y, Kivilevitch Z, Spira M, Kedem A, Katorza E, Moran O, et al. Head progression distance in prolonged second stage of labor: relationship with mode of delivery and fetal head station. Ultrasound Obstet Gynecol. 2013;41(4):436-41.
17. Gilboa Y, Kivilevitch Z, Spira M, Kedem A, Katorza E, Moran O, et al. Pubic arch angle in prolonged second stage of labor: clinical significance. Ultrasound Obstet Gynecol. 2013;41(4):442-6.
18. Lindgren L. The engagement of the foetal head in the uterus when the vertex presents. Acta Obstet Gynecol Scand. 1972;51(1):37-45.
19. Knigin D, Ezra Y, Ben-David A, Elami-Suzin M. The continuum of a prolonged labor and a second stage cesarean delivery. J Matern Fetal Neonatal Med. 2022;35(25):6425-9.
20. Lipschuetz M, Guedalia J, Cohen SM, Lewkowicz AA, Amsalem H, Karavani G, et al. Unplanned Cesarean Delivery in the Second Stage of Labor Holds Higher Odds of Complications than in the First Stage, while Similar in Primiparas and Multiparas. Fetal Diagn Ther. 2020:1-7.
21. Naqvi M, Jaffe EF, Goldfarb IT, Bryant AS, Wylie BJ, Kaimal AJ. Prolonged Second Stage of Labor and Anal Sphincter Injury in a Contemporary Cohort of Term Nulliparas. Am J Perinatol. 2022;39(9):937-43.

Disclosures: *There are no reported disclosures*

NT

Corresponding Author



Barry Schifrin, M.D.
Western University of Health Sciences
Pomona, California
formerly, Professor of Obstetrics and Gynecology
Keck School of Medicine
University of Southern California
Los Angeles, California



Wayne Cohen, MD
The University of Arizona College of Medicine
Tucson, USA

Corresponding Author



Maureen E. Sims, M.D.
Professor of Pediatrics
Geffen School of Medicine
University of California, Los Angeles
Los Angeles, California
email: mes@g.ucla.edu