

incidence of permanent BPI. It was established more than 50 years ago that permanent injuries decreased by 400% after the introduction of fetal maneuvers in the 1940s.<sup>3</sup> This was during an era when the cesarean delivery rate was <5%. Figure 3 demonstrates multiple other studies that have demonstrated that the incidence of permanent injuries can be reduced with proper training.

The authors raise a valid point that the cost of simulation may be prohibitive and impractical to train 44,000 providers in the United States who deliver neonates. However, focusing simulations on incoming obstetrical trainees and on those who have already experienced a permanent injury is a good place to start. Training incoming interns for 12 years demonstrated a 6-fold decrease in BPIs and a concomitant decrease in permanent BPI claims.<sup>4</sup> ■

Robert H. Allen, PhD  
Edith Gurewitsch Allen, MD, MBA, MEd  
Department of Obstetrics, Gynecology, and Women's Health  
Albert Einstein College of Medicine/Montefiore Medical Center  
1300 Morris Park Ave.  
Bronx, NY 10461  
[Robert.Allen@einsteinmed.org](mailto:Robert.Allen@einsteinmed.org)

The authors are currently funded by the Agency for Healthcare Research and Quality (AHRQ; grant number 1R18HA026689) entitled, "Virtual Reality-Enhanced Haptic Simulation to Improve Self-Regulation of Applied Delivery Force During Shoulder Dystocia."

The opinions expressed herein are those of the authors only and do not necessarily represent the opinions of the AHRQ or the Department of Obstetrics, Gynecology, and Women's Health of the Albert Einstein College of Medicine/Montefiore Medical Center.

The authors report no conflict of interest.

#### REFERENCES

1. Wagner SM, Bell CS, Gupta M, et al. Interventions to decrease complications after shoulder dystocia: a systematic review and Bayesian meta-analysis. *Am J Obstet Gynecol* 2021;225:484.e1–33.
2. Betrán AP, Ye J, Moller AB, Zhang J, Gülmezoglu AM, Torloni MR. The increasing trend in caesarean section rates: global, regional and national estimates: 1990–2014. *PLoS One* 2016;11:e0148343.
3. Adler JB, Patterson RL. Erb's palsy. Long-term results of treatment in eighty-eight cases. *J Bone Joint Surg Am* 1967;49:1052–64.
4. Gurewitsch Allen ED, Will SEB, Allen RH, Satin AJ. Improving shoulder dystocia management and outcomes with a targeted quality assurance program. *Am J Perinatol* 2017;34:1088–96.

© 2022 Elsevier Inc. All rights reserved. <https://doi.org/10.1016/j.ajog.2022.01.013>

## Interventions to decrease complications after shoulder dystocia: a systematic review and Bayesian meta-analysis: a response



We appreciate Dr Robert Allen's and Dr Edith Allen's interest in our systematic review and Bayesian meta-analysis of pre- and postinterventions trials to decrease the complications associated with shoulder dystocia.<sup>1</sup> We disagree with several statements in their letter.

The increase in the diagnosis of shoulder dystocia, without a convincing overall reduction in brachial plexus injury, is not without ill consequences. Aside from being traumatic to both the mother and clinicians,<sup>2</sup> a history of shoulder dystocia may lead to cesarean deliveries in subsequent pregnancies, with associated morbidity and mortality.<sup>3</sup>

Regarding the noted increase in the rate of cesarean delivery before and after the implementation of the intervention, we wrote that "[f]rom the analysis, however, we cannot establish a causal relationship between the intervention and the change in the route of delivery." Nonetheless, clinicians and policymakers who advocate for shoulder dystocia training ought to be cognizant of the possibility that the intervention may unintentionally and unexpectedly increase the rate of cesarean delivery.

Please note that Figure 3 in our article, does not report on the "incidence of permanent injury" before and after the training. The written description for Figure 3 is "[p]roportion

of NBPP [neonatal brachial plexus palsy] per shoulder dystocia case during pre- and postintervention." The word permanent was intentionally not in the descriptor. Subsequently, we summarized the results of the 2 publications, which followed children for at least 12 months, and rightly concluded that "[i]n 2 studies, the persistence of neonatal brachial palsy at 12 months was reported with contradicting conclusions."

We appreciate Dr Robert Allen's and Dr Edith Allen's acknowledgment that we have a "valid point" that training all clinicians in the country may be prohibitive and impractical. However, we are doubtful that their suggestion to focus training on incoming trainees suffices. The only cluster randomized trial on the topic<sup>4</sup> noted no reduction when all faculty and trainees participated in the simulation.

We do agree with Dr Robert Allen and Dr Edith Allen that currently there is insufficient evidence for policymakers—be it at an institution or at a national organization committee—to recommend simulation and shoulder dystocia protocols to decrease persistent neonatal brachial plexus palsy. ■

Steve M. Wagner, MD  
Department of Obstetrics and Gynecology

Alpert Medical School  
Brown University  
Providence, RI

Hector Mendez-Figueroa, MD  
Suneet P. Chauhan, MD, Hon DSc  
Division of Maternal-Fetal Medicine  
Department of Obstetrics, Gynecology, and Reproductive Sciences  
McGovern Medical School  
The University of Texas Health Science Center at Houston  
6431 Fannin St., MSB 3.286  
Houston, TX 77030  
[Suneet.P.Chauhan@uth.tmc.edu](mailto:Suneet.P.Chauhan@uth.tmc.edu)

The authors report no conflict of interest.

#### REFERENCES

1. Wagner SM, Bell CS, Gupta M, et al. Interventions to decrease complications after shoulder dystocia: a systematic review and Bayesian meta-analysis. *Am J Obstet Gynecol* 2021;225:484.e1–33.
2. Beck CT. The obstetric nightmare of shoulder dystocia: a tale from two perspectives. *MCN Am J Matern Child Nurs* 2013;38:34–40.
3. Chauhan RS, Chauhan SP. Montgomery v Lanarkshire Health Board: a paradigm shift. *BJOG* 2017;124:1152.
4. Fransen AF, van de Ven J, Schuit E, van Tetering A, Mol BW, Oei SG. Simulation-based team training for multi-professional obstetric care teams to improve patient outcome: a multicentre, cluster randomised controlled trial. *BJOG* 2017;124:641–50.

© 2022 Elsevier Inc. All rights reserved. <https://doi.org/10.1016/j.ajog.2022.01.011>

## SMFM Consult Series #58: Need for a clear evidence base to guide expanded use of antenatal corticosteroids for individuals at risk for late preterm delivery



**TO THE EDITORS:** We read with heightened anticipation the Society for Maternal-Fetal Medicine (SMFM) Consult Series #58.<sup>1</sup> In this timely document, it is acknowledged that because of the emerging concerns for adverse long-term neurodevelopmental outcomes in exposed children,<sup>2</sup> the practice of administering late preterm corticosteroids is controversial and expert guidelines may vary. For example, support for the administration of late preterm corticosteroids was included in the European guidelines in 2016 but was subsequently reconsidered and removed in 2019.

We were therefore surprised that the SMFM #58 elected to answer the posited question, “Should patients continue to be offered antenatal late preterm steroids?” by suggesting that the only uncertainty is the extent to which beneficence will be experienced (“Given the potential benefit, we recommend select patients continue to be offered late preterm antenatal corticosteroids with the understanding of limitations in the evidence for efficacy to date”). We are concerned about the underlying assumption that any suggestion of potential efficacy in the face of limited evidence would only be hampered by an unknown degree of benefit, rather than true equipoise or harm. In this era of evidence-based medicine, all guidelines should appropriately acknowledge uncertainty in our profession’s framework of beneficence, nonmaleficence, and assumption of equipoise. Indeed, there is a growing body of evidence on the long-term risk among offspring exposed to antenatal corticosteroids, especially when ultimately delivered at term.<sup>2,3</sup> While awaiting anticipated data from several trials, we would argue that any recommendations to expand fetal exposure to antenatal corticosteroids ought not to

overly rely on shared decision-making as a substitute for informed decision-making. This would notably concern select populations excluded from the Antenatal Late Preterm Steroids (ALPS) trial in which most of the gestations will deliver after 37 weeks’ gestation (including twin gestations with a reduction at >14 weeks gestation and gestations categorized into the overly broad category of fetal anomalies). The likelihood that clear and unequivocal communication of largely theoretical long-term and, as yet, poorly defined neurodevelopmental concerns may occur is about as apt as our ability to precisely predict spontaneous delivery within 7 days as a condition for treatment.

Sadly enough, the horse may already have left the barn.<sup>4</sup> We ardently encourage the SMFM #58 to be reframed and to reconsider late preterm corticosteroids in patients excluded from the ALPS trial. It is unprecedented in the current era to assume that the absence of efficacy data is indicative of beneficence when the potential for long-term harm has been experimentally vetted and raised. ■

Alex C. Vidaeff, MD, MPH  
Alireza A. Shamshirsaz, MD  
Kjersti M. Aagaard, MD, PhD  
Division of Maternal-Fetal Medicine  
Department of Obstetrics and Gynecology  
Baylor College of Medicine and Texas Children’s Hospital  
6651 Main St., Ste. F1020  
Houston, TX 77030  
[vidaeff@bcm.edu](mailto:vidaeff@bcm.edu)

The authors report no conflict of interest.