

The Timing of Planned Delivery: Strengthening the Case for 39 Weeks

Siobhan M. Dolan, MD, MPH, Mary L. Rosser, MD, PhD

Almost 20 years ago, we both finished Ob/Gyn residency training programs and joined obstetrics and gynecology practices in the northeastern part of the United States. We each remember our in-hospital days—Thursday and Friday, because they always began by starting several inductions on the labor floor and then performing 1 or 2 scheduled cesarean deliveries.

Scheduling deliveries was the norm in those days. Patients would eagerly take out their brand new Palm Pilots to pick a date for their induction or cesarean. Once a patient had reached “term,” defined as 37 weeks gestation, everyone agreed that it was fair game to start planning for delivery.

The high rate of planned delivery represented a perfect storm in which patients’ and providers’ interests aligned precisely. What patient didn’t want to schedule her induction or cesarean by the light of a day and avoid a mad dash to the hospital? Wouldn’t it be nice to be able to tell your boss exactly when your maternity leave would start and be sure that Grandma was in town to watch your other kids? And planning was a win-win for providers as well, because it allowed you to personally deliver your patients. Once a woman had reached 37 weeks, delivery was often scheduled on your hospital day and patients were particularly pleased to know you would be the attending.

The perfect storm was predicated on the underlying reassurance that if delivered at term, the infant’s health would be fine. But what was missing from that conversation was outcome

data: short- and long-term outcome data regarding the health of the infant.

In this issue of *Pediatrics*, Bentley et al¹ provide important long-term outcome data from a population-based study in Australia suggesting that planned birth before 39 weeks is associated with poor child development. This study evaluated the physical health, social and emotional maturity, language and cognition, and general knowledge and communication among over 150 000 children in New South Wales at entry to school and revealed that the risk of being developmentally high risk increased with decreasing gestational age at birth. The study also revealed that the risk of being developmentally high risk for planned birth, via labor induction or prelabor cesarean, was 1.26 (95% confidence interval: 1.18–1.34) at 37 weeks and 1.13 (1.08–1.19) at 38 weeks.

These findings are consistent with and expand upon the spectrum of short- and long-term adverse pediatric outcomes associated with what has variously been called early elective delivery, nonmedically indicated delivery, and planned birth (all descriptors of labor induction or prelabor cesarean, without a medical indication, before 39 weeks). Over the past decade, a growing amount of valuable data has been published detailing multiple aspects of short- and long-term outcomes for childhood health and development. The data remind us that gestational age is a continuous variable and that gestational age at delivery follows an inverse dose–response relationship with risk of adverse short- and

FREE

Department of Obstetrics & Gynecology and Women’s Health, Albert Einstein College of Medicine/Montefiore Medical Center, Bronx, New York

Opinions expressed in these commentaries are those of the author and not necessarily those of the American Academy of Pediatrics or its Committees.

DOI: 10.1542/peds.2016-3088

Accepted for publication Sep 20, 2016

Address correspondence to Siobhan M. Dolan, MD, MPH, Montefiore Medical Center, 1695 Eastchester Rd, Suite 301, Bronx, NY 10461. E-mail: siobhanmdolan@yahoo.com

PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275).

Copyright © 2016 by the American Academy of Pediatrics

FINANCIAL DISCLOSURE: The authors have indicated they have no financial relationships relevant to this article to disclose.

FUNDING: No external funding.

POTENTIAL CONFLICT OF INTEREST: The authors have indicated they have no potential conflicts of interest to disclose.

COMPANION PAPER: A companion to this article can be found online at www.pediatrics.org/cgi/doi/10.1542/peds.2016-2002.

To cite: Dolan SM and Rosser ML. The Timing of Planned Delivery: Strengthening the Case for 39 Weeks. *Pediatrics*. 2016;138(6):e20163088

long-term pediatric outcomes, including, but not limited to, neonatal ICU admission, death in the first year of life, respiratory distress syndrome, jaundice, sepsis, and neurodevelopmental delays including poor development at school age.²

To be clear, there is another element to this discussion: maternal or fetal complications that warrant early delivery. Pregnancy complications, such as placenta previa, preeclampsia, or poorly controlled diabetes, often require intervention, and clinical judgment on the part of obstetrician is more important than ever in determining the optimal timing of delivery.³ In such circumstances, a preterm birth may certainly provide the best outcomes for mothers and infants. But, the case for avoiding elective or planned delivery before 39 weeks is strong, and getting stronger with data such as that presented by Bentley et al¹ in this issue. So what can be done to eliminate this practice?

Hospital-based quality improvement efforts that assure a gestational age of at least 39 weeks before scheduling an elective induction or cesarean delivery have been effective in the United States⁴⁻⁷ and are credited with some of the success in decreasing the US preterm birth rate from 12.8% in 2006 to 9.57% in 2014.⁸ Public awareness has been promoted by March of Dimes through programs such as Healthy Babies Are Worth the Wait.^{7,9} The Association of Women's Health, Obstetric and Neonatal Nurses has developed a grassroots public health campaign called Don't Rush Me . . . Go the Full 40¹⁰ that educates women about the benefits of full-term pregnancy for themselves and their infants. Programs such as these, designed for pregnant women, can be adapted and scaled globally to reach the broadest possible audience.

From an obstetric perspective, guidelines relabeling term as

“early term” to describe 37 0/7 to 38 6/7 weeks’ gestation versus “full term,” which includes 39 0/7 to 40 6/7 weeks’ gestation, emphasize the importance of the fetal maturation that occurs until 39 weeks.¹¹ Outcome data and clinical guidelines are being emphasized for obstetricians and other prenatal care providers, and various countries are seeing changes in clinician-initiated deliveries with subsequent improvements in preterm birth rates.¹² Continued efforts to educate both patients and providers should be supported.

From a pediatric perspective, continuing to study outcomes for planned births at various gestational ages will be important. This is only 1 piece of the puzzle, however, and we must broaden the research agenda to look at even longer term health outcomes extending into adulthood such as obesity, heart disease, diabetes, and mental health.

Equally important is that obstetricians and pediatricians provide a unified message to women and families that the optimal timing of planned delivery is at least 39 weeks. Let's continue to work together to insure that patients' and providers' interests align in a new perfect storm, one based on outcome data, where births are not planned before 39 weeks in order to give every child the healthiest start in life and in school.

REFERENCES

1. Bentley J, Roberts C, Bowen J, Martin A, Morris J, Nassar N. Planned birth before 39 weeks and child development: a population-based study. *Pediatrics*. 2016;138(6):e20162002
2. Dolan SM, McCabe ERB. Preterm birth: progress and prospects. *Contemp Ob Gyn*. 2015;60(7):27–33
3. Spong CY, Mercer BM, D'alton M, Kilpatrick S, Blackwell S, Saade G. Timing of indicated late-preterm and

early-term birth. *Obstet Gynecol*. 2011;118(2 pt 1):323–333

4. Donovan EF, Lannon C, Bailit J, Rose B, Iams JD, Byczkowski T; Ohio Perinatal Quality Collaborative Writing Committee. A statewide initiative to reduce inappropriate scheduled births at 36(0/7)–38(6/7) weeks' gestation. *Am J Obstet Gynecol*. 2010;202(3):243.e1–243.e8
5. Clark SL, Frye DR, Meyers JA, et al. Reduction in elective delivery at <39 weeks of gestation: comparative effectiveness of 3 approaches to change and the impact on neonatal intensive care admission and stillbirth. *Am J Obstet Gynecol*. 2010;203(5):449.e1–449.e6
6. Oshiro BT, Kowalewski L, Sappenfield W, et al. A multistate quality improvement program to decrease elective deliveries before 39 weeks of gestation. *Obstet Gynecol*. 2013;121(5):1025–1031
7. March of Dimes. 39+ weeks quality improvement. Available at: www.marchofdimes.org/mission/39-weeks-quality-improvement.aspx. Accessed September 11, 2016
8. Hamilton BE, Martin JA, Osterman MJ, Curtin SC, Matthews TJ. Births: Final Data for 2014. *Natl Vital Stat Rep*. 2015;64(12):1–64
9. March of Dimes. Why at least 39 weeks is best for your baby. Available at: www.marchofdimes.org/pregnancy/why-at-least-39-weeks-is-best-for-your-baby.aspx. Accessed September 11, 2016
10. Bingham D, Ruhl C, Cockey CD. Don't Rush Me . . . Go the Full 40: AWHONN's public health campaign promotes spontaneous labor and normal birth to reduce overuse of inductions and cesareans. *J Perinat Educ*. 2013;22(4):189–193
11. ACOG Committee Opinion No 579: Definition of term pregnancy. *Obstet Gynecol*. 2013;122(5):1139–1140
12. Richards JL, Kramer MS, Deb-Rinker P, et al. Temporal trends in late preterm and early term birth rates in 6 high-income countries in North America and Europe and association with clinician-initiated obstetric interventions. *JAMA*. 2016;316(4):410–419

The Timing of Planned Delivery: Strengthening the Case for 39 Weeks

Siobhan M. Dolan and Mary L. Rosser

Pediatrics originally published online November 7, 2016;

Updated Information & Services

including high resolution figures, can be found at:
<http://pediatrics.aappublications.org/content/early/2016/11/03/peds.2016-3088>

References

This article cites 9 articles, 1 of which you can access for free at:
<http://pediatrics.aappublications.org/content/early/2016/11/03/peds.2016-3088#BIBL>

Subspecialty Collections

This article, along with others on similar topics, appears in the following collection(s):
Developmental/Behavioral Pediatrics
http://www.aappublications.org/cgi/collection/development:behavioral_issues_sub

Permissions & Licensing

Information about reproducing this article in parts (figures, tables) or in its entirety can be found online at:
<http://www.aappublications.org/site/misc/Permissions.xhtml>

Reprints

Information about ordering reprints can be found online:
<http://www.aappublications.org/site/misc/reprints.xhtml>

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN®



PEDIATRICS®

OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

The Timing of Planned Delivery: Strengthening the Case for 39 Weeks

Siobhan M. Dolan and Mary L. Rosser

Pediatrics originally published online November 7, 2016;

The online version of this article, along with updated information and services, is located on the World Wide Web at:

<http://pediatrics.aappublications.org/content/early/2016/11/03/peds.2016-3088>

Pediatrics is the official journal of the American Academy of Pediatrics. A monthly publication, it has been published continuously since 1948. Pediatrics is owned, published, and trademarked by the American Academy of Pediatrics, 345 Park Avenue, Itasca, Illinois, 60143. Copyright © 2016 by the American Academy of Pediatrics. All rights reserved. Print ISSN: 1073-0397.

American Academy of Pediatrics

DEDICATED TO THE HEALTH OF ALL CHILDREN®

