

# Let Low-risk Moms Eat During Labor?

Allowing low-risk pregnant women to follow less-restrictive diets during labor may not only make them happier but also shorten labor.

Karen Phelps, MD, Justin Deavers, MD, Dean A. Seehusen, MD, MPH, James J. Stevermer, MD, MSPH

## PRACTICE CHANGER

Allowing low-risk patients planning for a vaginal delivery less-restrictive diets during labor does not seem to increase the risk for aspiration or other harms and may shorten labor.

## STRENGTH OF RECOMMENDATION

**A:** Based on a meta-analysis of 10 randomized controlled trials (RCTs) in tertiary hospitals.<sup>1</sup>

A 23-year-old nulliparous woman at term with an uncomplicated pregnancy presents to labor and delivery. She reports regular contractions for the last several hours and is admitted in labor for an anticipated vaginal delivery. She has not had anything to eat or drink for the past three hours and says she's hungry. What type of diet should you order for this patient? Should you place any restrictions in the order?

Since the first reports of Mendelson syndrome (aspiration during general anesthesia) in the early 1940s, many health care providers managing laboring women restrict their diets to clear liquids or less, with little evidence to support the decision.<sup>2</sup> In a recent survey of Canadian hospitals, for example, 51% of laboring women who did not receive an epidural during the active phase of labor were placed on restricted diets of only clear fluids and/or ice chips; this number rose to 83% for women who did receive an epidural.<sup>3</sup>

Dietary restrictions continue to be enforced despite the fact that only about 5% of obstetric patients require general anesthesia.<sup>1</sup> In a general-population study of 172,334 adults who underwent a total of 215,488 surgeries with general anesthesia, the risk for aspiration

was 1:895 for emergency procedures and 1:3886 for elective procedures.<sup>4</sup> Of the 66 patients who aspirated, 42 had no respiratory sequelae.

Similarly, Robinson et al noted that anesthesia-associated aspiration fatalities have been much lower in more recent studies than in historical ones—approximately 1 in 350,000 anesthesia events compared with 1 in 45,000 to 240,000—and are more commonly observed during intubation for emergency surgery.<sup>5</sup>

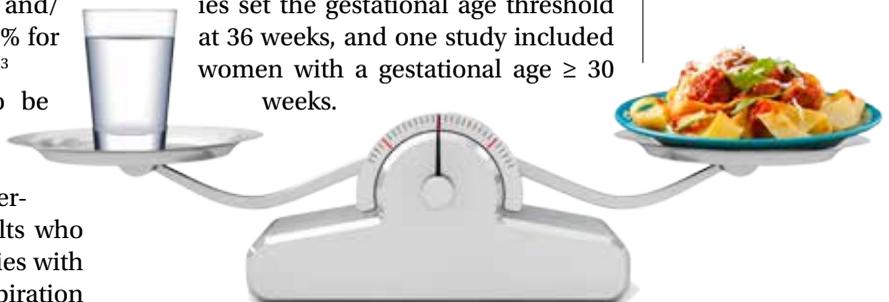
The current American College of Obstetricians and Gynecologists guidance is to restrict oral intake to clear liquids during labor for low-risk patients, with further restriction for those at increased risk for aspiration.<sup>6</sup> The meta-analysis described here looked at the risks and benefits of a less-restrictive diet during labor.

## STUDY SUMMARY

### Not one case of aspiration

This meta-analysis of 10 RCTs, including 3,982 laboring women, analyzed the effect of food intake on labor and the risks and benefits associated with less-restrictive diets for low-risk women in labor.<sup>1</sup> Women were included in the trials if they had singleton pregnancies with cephalic presentation at the time of delivery. The women had varying cervical dilation at the time of presentation. Seven of 10 studies involved women with a gestational age  $\geq 37$  weeks, two studies set the gestational age threshold at 36 weeks, and one study included women with a gestational age  $\geq 30$  weeks.

**Karen Phelps, Justin Deavers, and Dean A. Seehusen** practice at Eisenhower Army Medical Center in Fort Gordon, Georgia. **James J. Stevermer** is in the Department of Family and Community Medicine at the University of Missouri-Columbia. Disclosure: The opinions and assertions contained herein are those of the authors and are not to be construed as official or as reflecting the views of the US Army Medical Department, the Army at large, or the Department of Defense.



In the intervention groups, the authors studied varying degrees of diets and/or intakes, ranging from oral carbohydrate solutions to low-fat food to a completely unrestricted diet. One study accounted for 61% of the patients in this review and compared intake of low-fat foods to ice chips, water, or sips of water until delivery. The primary outcome of the meta-analysis was duration of labor.

**Results.** The authors of the meta-analysis found that the patients in the intervention groups, compared with the control groups, had a shorter mean duration of labor by 16 minutes. Apgar scores and the rates of Cesarean delivery, operative vaginal delivery, epidural analgesia, and admission to the neonatal ICU were similar in the intervention and control groups. Maternal vomiting was also similar: 37.6% in the intervention group and 36.5% in the control group (relative risk, 1.00). None of the 3,982 patients experienced aspiration pneumonia or pneumonitis.<sup>1</sup>

## WHAT'S NEW

### An outdated practice, per the data

For years, women's diets have been restricted during labor without sufficient evidence to support the practice. In this systematic review and meta-analysis, Ciardulli and colleagues did not find a single case of aspiration pneumonitis—the outcome on which the rationale for restricting diets during labor is based. A 2013 Cochrane review by Singata et al also found no harm in less-restrictive diets for low-risk women in labor.<sup>7</sup> Ciardulli et al concluded that dietary restrictions for women at low risk for complications/surgery during labor are not justified based on current data.

## CAVEATS

### Underpowered and missing information

This meta-analysis found no occurrences of aspiration pneumonia or pneumonitis; however, it was underpowered to identify

these rare complications. This is partially due to the unusual need for general anesthesia in low-risk patients, as noted earlier. Data on the total number of women who underwent general anesthesia in the current review were limited, as not every study within the meta-analysis included this information.

## CHALLENGES TO IMPLEMENTATION

### Stemming the cultural tide

One challenge to implementation is changing the culture of practice regarding low-risk pregnant women in labor, as well as the opinions of other health care providers and hospital policies that oppose less-restrictive oral intake during labor. **CR**

## REFERENCES

1. Ciardulli A, Saccone G, Anastasio H, Berghella V. Less-restrictive food intake during labor in low-risk singleton pregnancies: a systematic review and meta-analysis. *Obstet Gynecol.* 2017;129(3):473-480.
2. Mendelson CL. The aspiration of stomach contents into the lungs during obstetric anesthesia. *Am J Obstet Gynecol.* 1946;52:191-205.
3. Chackowicz A, Spence AR, Abenheim HA. Restrictions on oral and parenteral intake for low-risk labouring women in hospitals across Canada: a cross-sectional study. *J Obstet Gynaecol Can.* 2016;38(11):1009-1014.
4. Warner MA, Warner ME, Weber JG. Clinical significance of pulmonary aspiration during the perioperative period. *Anesthesiology.* 1993;78(1):56-62.
5. Robinson M, Davidson A. Aspiration under anaesthesia: risk assessment and decision-making. *Cont Educ Anaesth Crit Care Pain.* 2014;14(4):171-175.
6. American College of Obstetricians and Gynecologists Committee on Obstetric Practice. ACOG Committee Opinion No. 441. Oral intake during labor. *Obstet Gynecol.* 2009;114:714. Reaffirmed 2017.
7. Singata M, Tranmer J, Gyte GM. Restricting oral fluid and food intake during labour. *Cochrane Database Syst Rev.* 2013;(8):CD003930.

## ACKNOWLEDGEMENT

The PURLs Surveillance System was supported in part by Grant Number UL1RR024999 from the National Center For Research Resources, a Clinical Translational Science Award to the University of Chicago. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Center For Research Resources or the National Institutes of Health.

Copyright © 2018. The Family Physicians Inquiries Network. All rights reserved.

Reprinted with permission from the Family Physicians Inquiries Network and *The Journal of Family Practice* (2018; 67[6]:379-380).