

## Multicultural Beliefs About Colostrum

Amy Gates, RD, CSP, LD  
Pediatric Nutrition Specialist  
Children's Hospital of Georgia  
Georgia Regents University  
Augusta, Georgia

### Expanded Commentary from the Faculty

Colostrum is produced in a mother's breasts from the first hour of birth to the second or third day after delivery. It is highly concentrated and is produced in small amounts. It is gold or bright yellow in color, and has a sticky, thick consistency. Because of its high nutrient content it acts as a primer for breast milk, leading pediatric nutrition specialists like me to refer to it as "liquid gold."

Because it looks so different from mature breast milk, some cultures have traditionally perceived colostrum as "dirty," "unhealthy," or even "infectious."<sup>1</sup> As a result, they may discard it and delay breastfeeding during the production of colostrum, waiting until the expected milk comes in. This deprives a newborn of an important source of nutrients and immunologic properties that protect the gut and can prevent infections and reduce the risk of necrotizing enterocolitis. In fact, delaying the initiation of breastfeeding has been associated with 1 in 4 neonatal deaths in the developing world,<sup>2</sup> while a systematic review of 18 studies found lower rates of neonatal mortality and morbidity among all live births and low-birth-weight babies, and specifically, infection-related mortality, associated with early initiation of breastfeeding.<sup>3</sup>

Swabbing colostrum inside the mouths of premature infants in the NICU can be particularly beneficial. A retrospective cohort study conducted at Duke University Medical Center found that applying 0.1 mL of fresh colostrum to each of a very low-birth-weight premature infant's cheeks every 4 hours for 5 days was both feasible and safe, and resulted in a higher average weight at 36 weeks (1,666 g vs 1,380 g for premature infants who did not receive colostrum).<sup>4</sup> Likewise, in a pilot study conducted at Rush University Medical Center, starting at 48 hours of life, 5 preterm infants received 0.2 mL of colostrum delivered to the oropharynx every 2 hours for 48 hours.<sup>5</sup> There were no adverse effects of the treatment and administration was easy and inexpensive.

At Georgia Regents University, our protocol for administration of colostrum to extremely low-birth-weight infants ( $\leq 1250$  g) via oral swabbing for the first 7 days of life in the NICU is as follows:

- A physician or neonatal nurse practitioner initiates the order.
- Colostrum is collected via a joint effort between the NICU and perinatal services staff.
- Colostrum is pumped by the mother into a sterile hard plastic container with a lid. The colostrum is labeled with date, time, and patient information and then refrigerated within an hour of expression. When refrigerated, it can be used up to 48 hours from the time of collection. If any colostrum remains beyond 48 hours, it can be frozen for later use.
- To administer colostrum to the newborn, a respiratory therapist or nurse provides oral suction if needed prior to swabbing. A NICU nurse (or properly trained and supervised parent) dips a sterile single-use cotton-tip swab into the mother's colostrum and then paints the inside of each of the newborn's cheeks with colostrum. The swab is discarded after use. No swabs should be placed back into the colostrum after contact with the infant.
- Administration is repeated every 3 hours for 7 days.
- Swabbing is discontinued once enteral feedings begin or after the first 7 days of life.

- The NICU nurse documents the swabbing as 0.2 mL of breast milk under “oral feeding” on flow sheets.

Encouraging early initiation of breastfeeding, including supplying colostrum to newborns, is part of national health standard recommendations. Likewise, the World Health Organization advocates early initiation of breastfeeding, meaning within 1 hour of birth, to ensure that newborns receive colostrum.<sup>6</sup>

To overcome barriers to the use of colostrum, health care providers need to understand the populations they serve and their religious and cultural beliefs. I recommend talking with parents as soon as possible about breastfeeding colostrum and having culturally appropriate handouts ready to educate patients who resist feeding colostrum to their newborns.

## Suggested Readings

1. Nommsen-Rivers LA. 50 years ago in the Journal of Pediatrics: breast-feeding, weaning, and acculturation. *J Pediatr.* 2013;152:807.
2. Edmonds KM, Zandoh C, Quigley S, et al. Delayed breastfeeding initiation increases risk of neonatal mortality. *Pediatrics.* 2006;117:e380.
3. Debe AK, Kohli A, Walker N, et al. Time to initiation of breastfeeding and neonatal mortality and morbidity: a systematic review. *BMC Public Health.* 2013;13(Suppl 3):S19.
4. Seigel JK, Smith PB, Ashley PL, Cotten CM, et al. Early administration of oropharyngeal colostrum to extremely low birth weight infants. *Breastfeed Med.* 2013;8:491-495.
5. Rodriguez NA, Meier PP, Groer MW, Zeller JM, et al. A pilot study to determine the safety and feasibility of oropharyngeal administration of own mother’s colostrum to extremely low-birth-weight infants. *Adv Neonatal Care.* 2010;10:206-212.
6. World Health Organization. Early initiation of breastfeeding. E-library of Evidence for Nutrition Actions (eLENA). Available at: [www.who.int/elena/titles/early\\_breastfeeding/en/](http://www.who.int/elena/titles/early_breastfeeding/en/).

## Discussion Guide

- Do we commonly encounter cultural or religious resistance from our patients about feeding colostrum to their babies?
- Do we have culturally sensitive information available to educate patients about the benefits of colostrum?
- What is our current protocol for use of colostrum in the NICU?
- Does the information in this clinical pearl reinforce our current practice?
- If we were to implement or adopt this clinical pearl, what would we do first?
- What are the barriers to adopting this clinical pearl in our institution?
- Are there other problems we haven’t talked about?