

## Hands-On or Hands-Off When First Milk Matters Most?

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SINCE THE EARLY 2000s, there has been encouragement in the lactation/midwifery/nursing literature to use a hands-off approach to lactation support, believing this empowers mothers and demonstrates respect for their bodies.<sup>1,2</sup> These recommendations coincide and complement the observational reports from Sweden on first hour “breast crawl.”<sup>3</sup> The authors described nine behavioral phases for “optimal self-regulation”: birth cry, relaxation, awakening, activity, crawling, resting, familiarization, and suckling. This behavior sheds light on the healthy term infant’s innate ability to maintain the olfactory connection between prenatal pheromone priming of nutritive behavior and the last step of the birth process, breastfeeding. The recognition of the unique scent of each mother’s amniotic fluid, the secretions from her Montgomery glands, and early milk, along with the infant’s well-developed sense of smell, led us to recognize that searching for the breast was an olfactory response rather than a visual response. This gave us all pause and a healthy appreciation for “cue-based” lactation support.

With profound respect for nature, our obstetrical practices frequently counter the natural birth process, with drugs, surgery, and other interventions, which compromise the newborn’s ability to complete the breast crawl. For example, in term healthy infants, roughly 75% complete a breast crawl in 60 minutes, given immediate uninterrupted skin-to-skin time on their mothers’ chest (88.01% unmedicated vaginal; 11.21% cesarean).<sup>4</sup> The authors conclude that encouraging breast crawl in all dyads, especially in cesarean births, may unduly delay the infant’s first breastfeed. Even induction of a term vaginal birth impedes this behavior, with 31% induced versus 57% spontaneous births successful.<sup>5</sup> What would studies report if the infants were late preterm infants (34 to  $\leq$ 37 weeks gestation)? Related to the relative immaturity of these infants, over one-third of primiparous mothers discontinue breastfeeding by 1 month.<sup>6</sup>

There are no randomized controlled trials (RCT) to demonstrate any beneficial outcome comparing independent breast crawl with gentle cue-based assistance in term infants without prior interventions (suctioning, separation, etc.). Likewise, there are no RCT to evaluate outcome measures of respectful and gentle hands-on assistance compared with a hands-off approach. Interestingly, concurrent with the popularity of a hands-off approach, there have been documented resurgences of the diagnosis of flat nipples, yeast infections, and tongue-tie, leading to recommendations for nipple shields, frenectomy, antifungals, and topicals, based on marginal evidence.

In addition, there is expanding evidence of the time-sensitive nature of breastfeeding ABCs (attachment, breast milk production, and caloric intake of the infant). Considering attachment (latch and milk transfer), we know that the longer the interval between birth and the first feed, the more likely the infant is to have suboptimal attachment.<sup>7,8</sup> We do not know whether a helping hand early on could reduce the incidence of uncomfortable or ineffective attachment. We do know that when mothers had a low threshold for supplementing breastfeeds with spoon-fed hand expressed colostrum compared with U.S. nomograms,<sup>9</sup> term vaginally born infants had less weight loss, earlier weight gain, and 0% of the 1,760 infants had excessive weight loss (10% loss of birth weight).<sup>10</sup> In this study, empowering mothers with manual skills to support both milk production and infant intake demonstrably flattened the weight loss trajectory curves.

Given that underfeeding contributes to excessive weight loss, hyperbilirubinemia, dehydration, hypernatremia, and failure to establish a protective microbiome,<sup>11,12</sup> potentially serious, even life-threatening consequences; given that complications of suboptimal breast milk intake are major reasons for delayed discharge and readmission within 2 weeks<sup>13</sup>; and given that production is the factor most strongly associated with both the duration and exclusivity of breastfeeding in term<sup>14</sup> and preterm infants<sup>15,16</sup>; and given that the major cause for early cessation in mothers of late preterm infants, complications from suboptimal intake, is not impacted by Baby-Friendly practices (first hour skin-to-skin, rooming-in, no pacifiers),<sup>17</sup> we need to reconsider how to best use these wonderful tools we have as mothers and helpers of mothers—our hands.

Whatever our preferred style, our intentions are aligned; that is, to help mothers reach their breastfeeding goals. The important question is whether one style is more effective than the other. Rather than advocate a strict hands-off approach in the first hours, should we normalize and enable mothers with manual skills from the beginning? Even before delivery? The safety of hand expression when practiced in the ninth month of pregnancy has recently been demonstrated.<sup>18</sup>

Would a hands-on or hands-off approach better correlate with four early objective predictors of optimal production and milk intake? Consider milk biomarkers, the infant’s weight loss trajectory, jaundice, and stool color. *Biomarkers*: by 72 hours, compositional changes in colostrum, reflecting paracellular junction closure directly relate to early, frequent, and effective colostrum removal and are predictors of the adequacy of future production and infant intake.<sup>19–21</sup>

Nomograms predicting *weight loss* per hour of life can help determine infants at the extremes for excessive weight loss. As early as 6 hours, weight loss differentials for term infants at risk for excessive weight loss (>10%) are evident. By 24 hours, weight loss  $\geq 5\%$  predicts eventual excessive weight loss.<sup>22</sup> Weight loss in cesarean births has been shown to be greater than in vaginal births.<sup>9</sup> Maternal intrapartum intravenous fluids have been implicated, potentially increasing the infant's birth weight.<sup>23</sup> If the evidence for maternal-infant fluid transfer is convincing, a higher threshold for percentage weight loss would indicate risk. An alternative explanation for discrepant weight loss is that compared with vaginal births, cesarean births typically do not successfully receive first hour feeds,<sup>24</sup> and their intake is consistently less over each of the first six postpartum days.<sup>25</sup> So significant weight loss differentials might simply reflect suboptimal intake in cesarean births compared with vaginal births. Large volumes of antepartum IV fluids may cause edema in both cesarean and vaginally delivered mothers. The extent to which her newborn's weight may be affected has not been clarified. Recommending supplementation with expressed colostrum would be a risk-free strategy for any baby with  $\geq 5\%$  weight loss at 24 hours.

Likewise, nomograms for *jaundice* correlate with optimal intake. The Academy of Breastfeeding Medicine protocol recommends "the first and best supplement to prevent hyperbilirubinemia is hand expressed spoon/cup-fed colostrum ... In this way, breastfeeding is best supported."<sup>26</sup> By 3–5 days, *stool color* has long been recognized as a marker of intake adequacy.<sup>27</sup>

If mothers became comfortable with manual techniques prenatally, possibly there would be less reliance on the helping hands of professionals. A pilot study, conducted at Stanford and soon to be published, demonstrates that teaching mothers to hand express in the first hour not only improves exclusive breastfeeding at discharge in both vaginal and cesarean births but also reduces attachment problems (Susan D. Crowe, 2018, personal communication).

Many low risk infants beautifully and independently complete the breast crawl and consume a robust feed as the last step of the birth process. Respect for a hands-off approach makes perfect sense for these dyads. But we can provide mothers with tools to enable them to protect their own breastfeeding experience. By understanding there is a short window of opportunity in the first hours after delivery to prevent problems, with early guideposts along the way, mothers learn how and when their babies need a little hands-on help. From the start, as "the guide by the side," we can identify infants with greater needs, teach, and recommend simple manual techniques to (1) facilitate a comfortable and effective attachment, even with the first feed, (2) boost production, and (3) increase colostrum intake. A combination of science and heightened respect for the boundaries of mothers and the cues of infants could help us refine our approach to supporting the personal goals of each mother.

A nonprofit website was designed to facilitate this preventative approach and support future research ([www.firstdroplets.com](http://www.firstdroplets.com)).

#### Disclosure Statement

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