



Breast Milk Supply and Infant Growth

Inadequate milk production, or the perception of inadequate production, is the most common reason for early termination of breastfeeding. The first few hours after birth are the golden opportunity to establish breastfeeding. Colostrum, considered baby's first inoculation due to high IgA content, is the milk made for the first 48 hours. Also, the baby's strong need to suck facilitates milk production.

The amount of colostrum taken each day is small but significant in terms of health. By 3-4 days after delivery, milk volume increases.

The baby's stomach capacity increases but remains small, necessitating frequent feedings. The combination of the small stomach and frequent feedings may contribute to the mother's perception of having inadequate milk supply. *However, these frequent feedings stimulate milk synthesis and facilitate lactation.*

While most postpartum women can make enough milk, the two most common reasons for low milk supply are:

- Inadequate breast-time (infrequent feedings or inadequate duration)
- Inadequate milk transfer due to improper latch

To evaluate milk intake by an infant, assess ¹

- Milk transfer
- Urine and stool output
- Growth

Assessing Milk Transfer^{1, 2, 3, 4}

- Baby nurses at least 10 times per 24 hours
- During a feeding, the baby's sucking rhythm changes and slows as he or she obtains milk. Swallowing sounds are intermittently audible
- Baby is alert and active with good color, signs of hydration, and adequate weight gain
- Breasts feel softer after feeding

Assessing Urine and Stool Output^{1, 2}

- 1 wet diaper per 24 hours for each day of life up to day 5 and then 6 per day
- ≥ 3 bowel movements per 24 hours after day 5

Assessing Growth^{1, 2, 3, 5}

CDC recommends the use of the WHO charts for children aged <24 months. WHO growth charts are based on healthy, multicultural breastfed infants.

- Weight loss no more than 7%-10%. Greater than 7% weight loss from birth weight indicates possible breastfeeding problems and requires more intensive evaluation of breastfeeding to correct problems and improve milk production and transfer
- Regain birth weight by day of life 10 to 14
- Plot weight on the WHO growth charts

* WHO growth charts are available at
https://www.cdc.gov/growthcharts/who_charts.htm

The science of breastfeeding medicine is an evolving field. Please contact us if you have any suggestions regarding the content of these materials at CDPHWICRBL@cdph.ca.gov or 800-852-5770. To contact your local WIC office please see MyFamily.WIC.ca.gov.

How healthcare providers can support mothers during this critical time:

Promote skin-to-skin contact.⁶

The evidence regarding the benefits of skin-to-skin contact between mother and baby in the first couple of hours of life is significant. Rooting and suckling reflexes are strongest in the first 1-2 hours after birth. Skin-to-skin contact immediately after birth helps to ensure mother-infant bonding and long-term breastfeeding success. Skin-to-skin also helps the infant maintain body temperature, keeps the baby's blood sugar level stable, and can help "normalize" a cesarean birth.

Avoid oral supplements.⁷

Breastfed infants should not be supplemented with formula feedings or water in the hospital unless medically indicated.

Research demonstrates that when hospitals stop promoting infant formula, mothers are more likely to exclusively breastfeed their babies.

Limit use of pacifiers and artificial nipples.

Pacifiers and artificial nipples can decrease milk production. If medically indicated, supplements can be provided by spoon, cup, or with a nursing supplementer.



Encourage frequent feeds.^{3,4}

The most important factor in increasing milk supply is frequent breastfeeding. Empty breasts are stimulated to make more milk. Feedings should be frequent, at least ten times per 24 hours in the first few days after birth. After breastfeeding is well established, the frequency of feeding may decline to approximately 8 times per 24 hours, but the infant may increase the frequency again with growth spurts or when an increase in milk volume is desired. Early signs of hunger include increased alertness, mouthing and rooting. Crying is a late indicator of hunger.

Encourage adequate feeding duration.

Baby should end the feeding, typically after about 10 to 30 minutes of active feeding. The second breast can be offered when the baby slows down or stops.

Assess for effective latch.

Ensure that the infant is properly latched and that the milk is being transferred. Contact a lactation specialist for assessment if indicated.

The American Academy of Pediatrics recommends “exclusive breastfeeding for about 6 months, followed by continued breastfeeding as complementary foods are introduced, with continuation of breastfeeding for 1 year or longer as mutually desired by mother and infant.”³

Risk Factors for Low Milk Supply^{7, 8}

- Insufficient breast development during pregnancy
- Breast surgery
- Delayed lactogenesis to stage II due to maternal pre-pregnancy obesity, pregnancy-induced hypertension, polycystic ovary syndrome, and high androgen conditions during pregnancy (eg, pre-eclampsia)
- Medications that may reduce milk production (eg. dopamine agonists and decongestants)
- Less common are retained placental fragments and pituitary insufficiency of Sheehan syndrome

Breastmilk storage guidelines are listed in the WIC patient education pamphlet “Breastfeeding and Returning to Work or School” at the website below.⁹ Additional information on human milk storage is available from the Academy of Breastfeeding Medicine.¹⁰

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This document is considered a resource, but does not define the standard of care in California. Readers are advised to adapt the guidance based on their local facility's level of care and patient population served and also are advised to not rely solely on the guidelines presented here.