



Newborn and Infant Breastfeeding

For the best health outcomes, the American Academy of Pediatrics (AAP) recommends exclusive breastfeeding for approximately 6 months followed by continued breastfeeding with complementary foods for at least 2 years and beyond as mutually desired.

The AAP provides detailed information on breastfeeding and breastfeeding support for clinicians [here](#).

**Components of Human
Milk**

**The Benefits of
Breastfeeding**

**Breastfeeding the
Newborn**

**Pediatrician's Role in
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**Managing Conditions
Often Associated with
Breastfeeding**

Components of Human Milk

Human milk contains:

- macronutrients and micronutrients
- active biological components, including
 - immunoglobulins
 - cytokines
 - growth factors

- hormones
- antimicrobial agents
- immune cells
- stem cells
- prebiotic oligosaccharides
- [Probiotic bacteria](#)

Macronutrients in human milk

Nutrient	Amount (per liter of mature milk)
Lactose (g)	67–70
Oligosaccharides (g)	12–14
Total nitrogen (g)	1.9
Nonprotein nitrogen (% total nitrogen)	23
Protein nitrogen (% total nitrogen)	77
Total protein (g)	9
Total lipids (g)	35
Triglyceride (% total lipids)	97–98
Cholesterol (% total lipids)	0.4–0.5
Phospholipids (% total lipids)	0.6–0.8

Note: Mature milk = after 2 week's lactation

The Benefits of Breastfeeding

In addition to benefitting infants [link to “Dose response” table below], breastfeeding offers

- societal benefits
 - environmental, in that it doesn't require manufacturing (which uses energy and produces waste and pollution)
 - parents miss less work because breastfed babies are not sick as often
- maternal benefits
 - reduced risk for excessive bleeding during menstruation
 - reduced risk for several diseases such as
 - rheumatoid arthritis
 - hypertension
 - type 2 diabetes
 - certain cancers

Dose-Response Benefits of Breastfeeding for the Breastfed Infant

Condition	% Lower Risk ^a	Length of Breastfeeding	Comments
Otitis media ¹	23	Any	—
Otitis media ¹	50	≥3 or 6 mo	Exclusive breastfeeding
Recurrent otitis media ²	77	Exclusive BF ≥6 mo ^b	Compared with breastfeeding 4 to <6 mo ^b
Upper respiratory tract infection ³	63	>6 mo	Exclusive breastfeeding
Lower respiratory tract infection ¹	72	≥4 mo	Exclusive breastfeeding
Lower respiratory tract infection ²	77	Exclusive BF ≥6 mo ^b	Compared with breastfeeding 4 to <6 mo ^b
Asthma ¹	40	≥3 mo	Atopic family history
Asthma ¹	26	≥3 mo	No atopic family history
RSV bronchiolitis ⁴	74	>4 mo	—
Necrotizing enterocolitis ⁵	77	NICU stay	Preterm infants; exclusive human milk
Atopic dermatitis ⁶	27	>3 mo	Exclusive breastfeeding; negative family history
Atopic dermatitis ⁶	42	>3 mo	Exclusive breastfeeding; positive family history
Gastroenteritis ^{1,7}	64	Any	—
Inflammatory bowel disease ⁸	31	Any	—
Obesity ¹	24	Any	—
Celiac disease ⁷	52	>2 mo	Gluten exposure when breastfeeding
Type 1 diabetes ^{1,10}	30	>3 mo	Exclusive breastfeeding
Type 2 diabetes ^{1,11}	40	Any	—
Acute lymphocytic leukemia ^{1,12}	20	>6 mo	—
Acute myelogenous leukemia ^{1,13}	15	>6 mo	—
SIDS ¹	36	Any >1 mo	—

^a % lower risk refers to lower risk while BF compared with feeding commercial infant formula or referent group specified.

^b Referent group is exclusive BF ≥6 months.

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Breastfeeding the Newborn

National efforts to promote breastfeeding have [driven improvements in breastfeeding initiation rates](#). The US national average for breastfeeding initiation is approximately 84%. (ref) However:

- by 3 months only [47% of mothers are exclusively breastfeeding](#) and this rate drops to 25% at 6 months.
- Of babies born in 2019, approximately [1 in 6](#) did not receive any breastmilk (ref)
- Breastfeeding initiation rates are [generally higher](#) among infants of Asian and White mothers and lower among Black mothers and AI/AN, though this is not true in all states.
 - Breastfeeding disparities are often state-specific
 - Check updated breastfeeding data by state at the [CDCs interactive trend map](#)

Pediatrician's Role in Breastfeeding

The pediatrician's role in breastfeeding initiation is critical. Pediatricians should:

1. Promote breastfeeding as the norm for infant feeding
 - Recommend exclusive breastfeeding for approximately 6 months.
 - Encourage continuing breastfeeding until at least 12 months of age.
 - Add complementary foods at approximately 6 months of age.
2. Educate parents about the importance of human milk for all infants.
 - Human milk and its components.

- Benefits of breastfeeding.
 - Correct any false beliefs about infant feeding.
3. Prepare mother for hospital experience and recommend that:
 - Baby goes skin-to-skin at delivery
 - Routine nursery care and preventive treatments such as neonatal eye prophylaxis
 - and vitamin K should be administered, but can be delayed up to 6 hours to allow
 - for first nursing
 - 24-hour rooming-in is practiced
 - Elective procedures (eg, bathing, circumcision) are delayed until infant is feeding well
 4. Encourage unrestricted nursing.
 - Baby should nurse whenever interested (8–12 times per day).
 - Educate parents about norms in baby feeding, weight, stooling, and voiding.
 5. Avoid unnecessary supplements or pacifiers until breastfeeding is well established.
 6. Address parental questions and concerns.
 7. Avoid any promotion of commercial infant formula or feeding equipment in the hospital or office.

8. Implement breastfeeding-supportive [office practices](#).

Establish office practices that support breastfeeding

1. Have a written breastfeeding-friendly office policy.
2. Train staff in breastfeeding support skills.
3. Discuss breastfeeding during prenatal visits and at each well-child visit.
4. Encourage exclusive breastfeeding for 6 months.
5. Provide appropriate anticipatory guidance that supports the continuation of breastfeeding as long as desired.
6. Incorporate breastfeeding observation into routine care.
7. Educate mothers on breast milk expression and return to work.
8. Provide noncommercial breastfeeding educational resources for parents.
9. Encourage breastfeeding in the waiting room but provide private space on request.
10. Eliminate the distribution of free formula.
11. Train staff to follow telephone triage protocols to address breastfeeding concerns.
12. Collaborate with the local hospital or birthing center and obstetric community regarding breastfeeding care.
13. Link with breastfeeding community resources.
14. Monitor breastfeeding rates in your practice.

Managing Conditions Often Associated with Breastfeeding

Hypoglycemia

Hypoglycemia in breastfed infants is a commonly cited concern among physicians

- Healthy full-term infants with normal feeding patterns have adaptations to prevent problematic hypoglycemia.
- Infants most at risk are small or large for gestational age, late preterm, or born to diabetic mothers
- Reducing the occurrence of hypoglycemia can be facilitated by
 - Encouraging skin-to-skin care
 - Improving milk intake by early and frequent breastfeeding
- AAP [recommends](#) screening for hypoglycemia in symptomatic or at-risk infants only.
 - Routine supplementation of healthy, asymptomatic breastfed infants to prevent hypoglycemia is not indicated.
 - Manage mild hypoglycemia with prompt feeding

Breastfeeding Jaundice

- Newborns who are not feeding well are at risk of breastfeeding jaundice, sometimes called suboptimal intake jaundice
Usually occurs in the first week of life

- low milk intake, relative dehydration, delayed passage of bilirubin-rich meconium, and an active enterohepatic circulation of bile may lead elevated bilirubin.
- Infants with increased rates of bilirubin production caused by hemolytic processes (eg, ABO incompatibility, glucose-6-phosphate dehydrogenase [G6PD] deficiency), bruising, or ingested maternal blood may be at increased risk
- infants with immaturities in conjugating bilirubin (typically seen in Asian or late preterm infants or those with Gilbert syndrome) may also have jaundice in the early days after birth
- [Prevention of breastfeeding jaundice](#) is key.
 - Encourage exclusive and frequent breastfeeding at least 8 to 12 times per day, avoid water or unnecessary formula supplements, and teach mothers proper latch technique to help prevent poor intake, excessive weight loss, and jaundice
- There is never a need to interrupt breastfeeding
 - an appropriate response is to optimize intake by improving milk transfer, by having the mother express milk to increase milk intake, or with the judicious use of pasteurized donor milk or formula supplements for infants with significant hyperbilirubinemia
 - supplementation is not routinely indicated.

Breast Milk Jaundice

Jaundice that occurs in healthy thriving breastfed infants usually beyond the 2nd week of life is known as breast milk jaundice (BMJ).

- In BMJ, serum unconjugated bilirubin remains elevated, and a few infants may have elevated concentrations for as long as 6 to 12 weeks
 - by week 3, two-thirds of healthy, thriving breastfed infants have serum [bilirubin concentrations above 1.5 mg/dL, and 30% are clinically jaundiced.](#)
 - in contrast, formula fed infants serum bilirubin declines to less than 1.5 mg/dL by day 11 or 12 after birth
- This elevation in serum bilirubin is a normal response to breastfeeding, and other than the presence of jaundice, infants with BMJ seem healthy
- The cause of breast milk jaundice is unknown, but factors in human milk that increase the enterohepatic cycle of bilirubin or genetic variations that impair bilirubin hepatic conjugation may play a role.

Breastfeeding should be continued, and in most cases the parent or parents should be reassured.

Source American Academy of Pediatrics

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