

Fed is Best Guide to Safe Infant Feeding

Updated August 2020



"Mothers, especially first-time mothers, have told us that they gave up breastfeeding in the days after birth because they felt that they were not making enough milk, when in fact, their milk arrival was simply delayed. If mothers were educated about their risk factors for delayed onset of milk or insufficient milk supply, how to safely supplement while waiting for their milk to come in, how to increase their milk production, or how to sustain a combo-feeding relationship if their supply is limited, they could go on to have a sustainable breastfeeding relationship instead of losing confidence and stopping breastfeeding altogether."

—The Fed Is Best Foundation

Safe Feeding Plan for My Baby

Name of mother:	
Name of baby:	
Date of birth:	
Birth weight:	Discharge weight

Outlined below is my actionable infant feeding plan that identifies my personal risk factors for delayed onset of milk production, chronic low milk supply, and feeding complications. In addition, it outlines how to protect my milk supply if temporary supplementation is necessary. I request assistance from my nurses, doctors and lactation consultants to honor my personal feeding choices and goals while protecting my baby's health.

- I am aware that the most common reason an exclusively breastfed (EBF) newborn is rehospitalized is due to problems with insufficient feeding.
- I am aware that 22% or one in five mothers and up to 44% of first-time mothers have been found to have delayed onset of copious milk production (defined as full milk supply coming in later than 72 hours after delivery), which puts their infants at seven-fold increased risk of excessive weight loss.
- Recent research has also found that <u>5–8% mothers do "not experience lactogenesis II and only produce small volumes of milk."</u>
- I am aware that supplementing <u>will not decrease my milk supply</u> if supplementation occurs only after nursing and my breasts are adequately emptied.

From the World Health Organization (WHO) *Protecting, promoting and supporting* breastfeeding in facilities providing maternity and newborn services guideline, 2017.

Early additional foods or fluids

Summary of evidence

The systematic review on giving additional foods (for instance, artificial milk) or fluids (for instance, water or glucose water) other than breast milk to full-term infants, in the first few days after birth, identified 11 studies with 2542 randomized mother-infant pairs (86). Three studies (with 270 mother-infant pairs) contributed to the evidence. Addition of artificial milk in the first few days after birth probably makes little or no difference to breastfeeding at discharge (RR: 1.02; 95% CI: 0.97 to 1.08; 1 study, n = 100; moderate quality of evidence), compared to those not given additional artificial milk. It was uncertain whether giving artificial milk in the first few days after birth has an effect on breastfeeding at 3 months (RR: 1.21; 95% CI: 1.05 to 1.41; 2 studies, n = 137; very low quality of evidence) or exclusively breastfeeding for the last 24 hours at 3 months of age (RR: 1.43; 95% CI: 1.15 to 1.77; 2 studies, n = 138; very low quality of evidence), as the quality of the evidence has been assessed as very low.

1. My current risk* factors for feeding complications, pathological jaundice, and/or rehospitalization are the following:

*Note: "Risk" means a mother should be followed closely by her medical/lactation professionals for optimal outcomes.

Risk Factors for Feeding Complications:				
Mother - physical	Flat, inverted, large, cracked, bleeding or			
☐ First-time mother	infected nipples. Decreased graspability. Breast reduction or breast augmentation			
☐ Exclusive breastfeeding	0			
☐ Cesarean section delivery	Asymmetric, tubular shaped breasts			
☐ Complicated/prolonged labor > 12 hrs	 Minimal growth of breast tissue during pregnancy (breast hypoplasia, insufficient 			
☐ History of low milk supply, delayed (> 72	glandular tissue, IGT)			
hours) or failed lactogenesis II	Fibrocystic breasts			
☐ Hypertension (elevated blood pressure)	- Fibrocystic breasts			
☐ Pre-pregnancy BMI > 27	Psychological, Social, Mental Health			
☐ Excessive blood loss during delivery (> 500	Considerations			
mL blood, need for transfusion) anemia	Considerations			
☐ Retained placenta and placental fragments	☐ Alcohol and/or drug addiction, smoking			
☐ Diabetes (all types)	☐ PTSD, sexual trauma, domestic abuse			
☐ Thyroid disease	☐ History of depression, bipolar disorder			
☐ Pituitary disease	☐ Anxiety, OCD, chronic stress, poverty			
☐ Smoking/nicotine use	☐ Tactile sensory challenges			
Infertility history	☐ Absent partner and family support,			
☐ Advanced maternal age (≥ 30 years old)	poverty, going back to work before 6 weeks			
Polycystic ovarian syndrome, insulin	D-MER (Dysphoric Milk Ejection Reflex)			
resistance				
☐ Theca lutein cysts	Baby			
☐ Sickle cell disease				
Autoimmune diseases: multiple sclerosis,	☐ NICU admission and separation from			
Crohn's disease, ulcerative colitis, lupus,	mother/medical complications			
rheumatoid arthritis and chronic diseases	☐ Premature or late preterm baby- ineffective			
☐ Epilepsy, visual, auditory and physical	latch and transfer of milk at breast.			
disabilities	Oral anomalies such has clefts, tongue			
☐ Weight loss surgery	restrictions, recessed chin			
Breast and nipple variances	☐ Low tone, suck swallow disorganization			
breast and hippie variances	Non-latching, sleepy at breast full-term			
☐ Injury to the 4th intercostal nerve from	baby.			
breast surgeries, biopsies, injuries,	☐ Familial history of metabolic disorders			
piercings	(e.g., PKU, MCADD)			
t0-	☐ Preterm baby (< 37 weeks gestation)			

Risk Factors for Excessive Jaundice or Hyperbilirubinemia					
	Exclusive breastfeeding	☐ Pre-term baby <37 weeks			
	First-time mother	☐ Gestation 37–38 weeks			
	History of low milk supply, delayed or	☐ Large for gestational age baby			
	failed lactogenesis II	☐ Small for gestational age baby			
		☐ Blood type incompatibility, G6PD			
		deficiency, other hemolytic disease			
	• •	Cephalohematoma or bruising and swelling			
		on the scalp from birth			
	_	☐ Vacuum delivery			
		☐ Discharge at 48 hours or less			
	•	= 2.00mage at 10 moule of 1000			
	•	e First Week of Exclusive Breastfeeding Among			
Infant	<u>s ≥35 Weeks</u>				
 2. My infant feeding goals and choices are: □ Breastfeed while supplementing until my milk comes in, then exclusively breastfeed thereafter □ Exclusively breastfeed from birth □ Extended mixed-feeding with breast milk and formula (combo-feeding) □ Formula-feed exclusively □ Pump and bottle-feed partially or exclusively □ I want to feed my baby colostrum for the antibodies only and then exclusively formula feed 					
3. I would like the following assistance with learning how to feed my child on the <i>first day</i> .					
	, ,	fore every feeding to check for presence of colostrum			
_	milk (video tutorial http://newborns.stanford.edu/Breastfeeding/HandExpression.html)				
<u> </u>					
	and is not actively breastfeeding every 2–3 hours on both breasts for at least 10–15 minutes.				
	I would like to see a lactation consultant				
	I do not want to see a lactation consultant				
	I would like education on safe formula preparation and formula feeding.				
	I would like education on combo-feeding.				

4. I will need assistance tracking my baby's weight loss. I want to know the weight of my baby in pounds/ounces *and* kilograms/grams at birth and at all subsequent weight checks.

Example: 7 *pounds* 4 *ounces* = 3.288 *kg or* 3288 *grams*

(Go here to use a <u>conversion calculator</u>)

5. Normal vs. Excessive Weight Loss

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Early postnatal growth

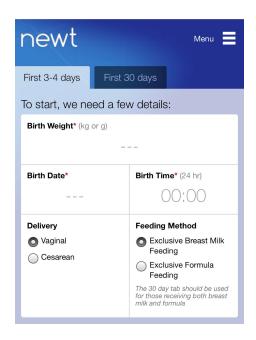
	Usual pattern	Trigger for action
Weight loss	5 to <7 percent	>7 percent
Duration of weight loss	<5 days	5 to 10 days
Time to regain birthweight	One to two weeks	>2 weeks
Intervention	Routine management	Evaluate lactation management
		Rule out primary lactation failure
		Rule out infant oral- motor abnormalities
		Monitor closely, including daily weights
		Consider supplementation

According to the AAP, babies normally lose 5–7% of their birth weight before starting to gain again. Greater than 7% weight loss is associated with an increased risk for hyperbilirubinemia and hypernatremic dehydration. They state that if a baby loses more than 7%, action should be taken to evaluate feeding, as described in the table. (Source: UpToDate guidelines, 2020). Excessive weight loss can be detected earlier by the newborn early weight loss tool (NEWT) and that similar actions can be taken before 7% weight loss if it is greater than the 75th percentile. For example, 7% weight loss was believed to be normal and safe for all newborns, but if they lose this amount in the first 24 hours, this would be considered excessive by the NEWT. Using 10% as the accepted weight loss threshold is now out of date and may increase risk to an infant. Alternatively, the NEWT may provide mothers reassurance that their infant is getting sufficient breast milk.

We recommend practicing using the Newborn Weight Loss Tool before delivery. We have
provided <u>a few examples here</u> to help you practice using the tool.

[☐] Tutorial: How to Use the Newborn Weight Loss Tool

This is the <u>NEWT website link</u> and an example of how the NEWT can detect early excessive weight loss.



This baby had a 9.7% weight loss at 36 hours of age.

Using the NEWT tracking tool, this baby was identified to have excessive weight loss at discharge. He had lost much more weight than 95% of vaginally born babies, placing him at risk for complications of insufficient feeding.



Note: This NEWT weight loss nomogram has not been tied to long-term clinical outcomes. Therefore, a child at the 50th percentile can still experience complications. Every child has their own tolerance for weight loss. A child who is crying inconsolably or not waking up and staying awake while nursing (lethargic) is displaying signs of distress and may in fact require supplementation at less than 7% weight loss or 75%ile weight loss. In fact, lead author of the Academy of Breastfeeding Medicine (ABM) Supplementation Guidelines, Dr. Casey Rosen-Carole has stated that, "If the baby is hungry and they're not getting enough milk out of the mother's breast, then they need to be supplemented," she says. "If lactogenesis hasn't happened and you're at day 2 or 3 and the baby is not acting full at the breast, they have excess weight loss, or they are not peeing or pooping appropriately, then I think every breastfeeding expert is going to agree that it's time to develop an infant feeding plan that includes supplementation."

6. I re	quest my baby to be weighed on the following schedule:
<u> </u>	Twice daily to closely monitor weight loss (recommended for exclusively breastfed babies) Once daily (may be sufficient for combo-fed and formula-fed babies)
7. I w	sh for my child to lose no more than (select all that apply):
	4.5% in the first 24 hours 7% of birth weight at any time >75%ile of the Newborn Weight Loss nomogram
	the event that my child reaches 4.5% weight loss in the first 24 hours, 7% weight loss time, or >75%ile on the NEWT, I would like to:
0	Express colostrum/transitional milk and feed it to my child by syringe/spoon/cup/bottle If little to no milk is present, I would like to be offered screened and pasteurized donor milk if available and if my child has a medical indication for it (prematurity) If little to no milk is present, I would like to supplement my child with formula I wish for my child to be supplemented to their satisfaction and lose as little weight as possible (for breastfeeding mothers, supplementation must occur only after nursing to stimulate milk production additional milk expression may also be recommended). I would like an immediate glucose check (recommended)
hypern	7% birth weight loss has been associated with increased rates of hyperbilirubinemia and atremia. Birth weight should be measured immediately after delivery. [Resource: IV Fluids Do Not Weight Loss]
insuff	rould like additional screening to protect my baby from complications due to cient milk intake while exclusively breastfeeding. I would like my child to be ored by (select all that apply):
00 00	Once daily transcutaneous skin checks (or serum bilirubin test if necessary) for jaundice levels Glucose monitoring (hypoglycemia in healthy, full-term, exclusively breastfed babies has been shown to occur in 1 in 10 babies overall and 1 in 4 first-born babies in the first 48 hours) Glucose (blood sugar) check at my request if my baby is showing signs of persistent hunger Screening for dehydration and high sodium (hypernatremia \geq 145 mEq/L, which has been recently shown to occur to as many as 36% of exclusively breastfed newborns and can occur by 4.77% weight loss) Weight, glucose, sodium and bilirubin check within one hour of discharge
* N	Tote: (No weight loss threshold protects a newborn from hypoglycemia and its negative effects on the

brain. Only glucose checks and providing sufficient calories protect against hypoglycemia. Newer data suggests

that even early, transitional hypoglycemia (<40 mg/dL) within six hours of birth, even without symptoms, can be associated with long-term impaired brain development. The Pediatric Endocrine Society recommends maintaining glucose levels above 50 mg/dL the first 48 hours and above 60 mg/dL thereafter. While oral dextrose (sugar water) has been used to correct hypoglycemia in the hospital, it has been shown to be less effective than donor breast milk or formula at correcting hypoglycemia.

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10	Normal	TIC	abnormal	intant	tooding	cianc
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	I am aware that wet and dirty diapers do not indicate adequate breast milk intake, and urate crystals				
	or concentrated urine in the diaper may indicate dehydration.				
	I am aware that "cluster feeding" occurs after the onset of full milk supply. The Academy Of				
	Breastfeeding Medicine defines cluster feeding as "several short feedings close together." However,				
	constant and prolonged feeding around the clock before full milk comes in can be mistaken for				
	"cluster feeding," which has resulted in infant harm. I am aware that constant and prolonged feeding				
	are signs of insufficient breast milk and/or insufficient transfer of milk and those signs must be taken				
	seriously for the health and safety of my baby.				
	I am aware there is no evidence showing that "second night syndrome" or "cluster feeding" in				
	breastfed newborns before the onset of full milk supply is normal or safe.				
	I am aware that research has shown that <u>hearing of swallows</u> in the first days of life is not a reliable				
	indicator of how much colostrum milk a baby is ingesting.				
11. If 1	my child appears HUNGRY and unsatisfied <i>after</i> breastfeeding, coming on and off the				
breast	crying, persistently falling asleep at the breast despite parents' efforts to stimulate				
him, cı	rying and cueing to feed (select all that apply):				
	I would like to supplement until my child is satisfied and no longer crying or lethargic (15 mL at a				
	time, repeated until satisfied)				
	I would like to supplement with my own expressed breast milk first				
	I would like to supplement with screened and pasteurized donor milk if available to my child				
	I would like to supplement with formula				
	I would like to supplement <i>after</i> nursing sessions to continue stimulation of milk production				
	I would like assistance with manual expression to evaluate for presence of milk				
	If my newborn is sleepy and/or not breastfeeding well, I would like to supplement to provide energy				
	to improve my baby's ability to breastfeed; in this situation, I would like to express or pump my				
	breast milk if adequate removal of milk cannot be accomplished through direct nursing.				



Recent data trends show a concerning rise in hospitalizations of exclusively breastfed newborns. This is due to feeding complications from insufficient breast milk intake, including jaundice, hypoglycemia, and dehydration, which can impair a newborn's future brain development.

Know the signs to look for when your newborn baby is HUNGRY, in the first days of life and watch your baby for:



Hypoglycemia (low blood sugar) jittery hands, low body temperature, inconsolable and high-pitched crying, turning blue and seizures



Unsatisfied nursing, lasting longer than 30 minutes and occurring more frequently than every 2 hours, crying despite prolonged breastfeeding



Not waking for feeding every 3 hours, difficult to arouse and very sleepy, not maintaining latch, limpness, lethargy



Growth or weight loss exceeding 7% at any time, which increases risk of high sodium levels (hypernatremia) and excessive jaundice



Reduced wet and dirty diaper counts (no wet diapers in 6 hours), Red brick dust on diapers, dry lips and mouth, crying without tears



Yellowing of the skin or eyes, especially below the face, known as hyperbilirubinemia or excessive jaundice

If you see the signs that your baby is HUNGRY, seek medical assistance from your pediatrician immediately. Supplementation may be needed if evaluation is not immediately available.

For more resources about how to safely breastfeed your newborn baby, click on parent resources at: https://fedisbest.org/resources-for-parents/feeding-plan/

The Fed is Best Foundation is a registered 501(c)3 tax-exempt non-profit organization of health professionals and parents who study the science of infant feeding and work to identify dangerous gaps in current breastfeeding protocols, guidelines, and education programs in order to provide families and health professionals the most up-to-date evidence-based resources to practice safe infant feeding with breast milk, formula, or a combination of both.

How to supplement your baby:



Step By Step Guide For Supplementing

- · Supplementing does not ruin your chances for establishing breastfeeding!
- Early, limited, and temporary supplementation has been shown to encourage breastfeeding duration.
- 1 in 5 mothers (especially first time mothers) will have delayed onset of milk production which can lead to serious
 complications of jaundice, hypoglycemia and dehydration from insufficient breast milk intake.
- Temporary supplementation if indicated, will protect your baby from hunger, thirst and complications of insufficient breastfeeding.
- It is imperative to pump when supplementing for optimal stimulation of your milk making hormones, while waiting for your milk arrival.



1 Be informed of your individual risk factors for delayed onset of breast milk production and how to manually self express to check for colostrum presence

Knowing your risk factors can help determine if timely supplementation is indicated. Delayed lactogenesis II is defined as breast milk coming in greater than 72 hours post delivery. Manual self expression before every breastfeeding session will confirm the presence of colostrum.



9 Breastfeed your baby on both breasts

Breastfeeding on both breasts for 15 minutes every 2-3 hours. Effective latch and milk transfer should be confirmed by your lactation professional.



3 Hunger signs and cues and excessive weight loss

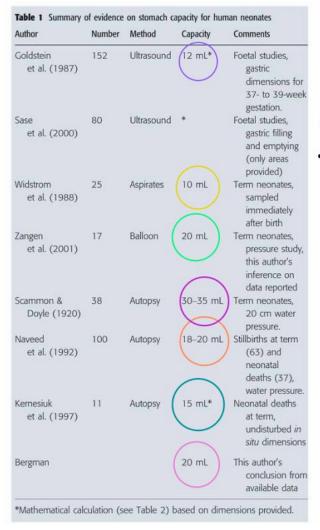
If your baby continues to exhibit hunger cues after breastfeeding, or is not nursing effectively, supplement with 15 ml of expressed milk, banked donor milk or formula until your baby is satisfied.

If your baby is losing excessive weight according to the NEWT online tool, supplementation is also indicated.

You may use a syringe, tube on your breast, spoon, cup or bottle to supplement.

For additional resources please download our infant feeding plan for detailed guidelines. https://fedisbest.org/resources-for-parents/feeding-plan/

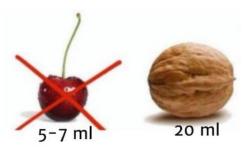
The newborn stomach size myth:



Is the newborn stomach size really 5-7 ml?

This summary table comes from a literature review published in Acta Pediatrica (Bergman, 2013)

Five of the studies indicate the anatomical stomach size is at *least 20 ml on day*one for a full term baby.



- The stomach is a highly expandable and muscular organ; its biological function is to hold food and fluids, while secreting digestive enzymes.
- The stomach continuously churns and empties into the small intestine where nutrient absorption takes place.

Feeding your baby drops of colostrum is not enough; 1 teaspoon (5 mL) of colostrum <u>has 3 calories and 1 teaspoon of mature breast milk has 5 calories.</u>

12. If I am supplementing, I would like to supplement by:

- ☐ Cup
- ☐ Spoon
- Syringe
- ☐ Supplemental nursing system
- Bottle (slow-flow, nursing-friendly preferred if breastfeeding)

Note: According to the <u>Academy of Breastfeeding Medicine</u>, "there is no evidence that any of these methods are unsafe or that one is necessarily better than the other."

(((Standard formula
	Pacifier choices:
	No pacifiers I want a pacifier for my baby [Note: the 2017 WHO breastfeeding guidelines no longer discourage pacifier use given evidence that it does not interfere with breastfeeding and protects infants from SIDS]
Г	I brought my own pacifier
_	I want to use a pacifier after nursing for my baby's comfort I want to use a pacifier after nursing for my baby's comfort
•	I want to use a pacific after fluishing for my baby's conflort
15. N	Jursery care:
1011	
Ç	Rooming in with my baby at all times.
_	Option to sleep during the day/night when requested by sending my child to the nursery, so I may
	recover from delivery, for the safety of my baby
Ç	■ I do not want to be left alone to breastfeed after delivery until I say that I feel safe doing so
Ę	If I have a surgical delivery I do not want to be left alone to provide care for my baby until I say I am
	safe to do so.
Ç	I do not want to be <u>left alone while doing skin-to-skin while recovering</u> or until I am stable to safely
	hold my baby. (Maternal immobility, pain medication effects, and falling asleep <u>have caused</u>
	accidental infant suffocation and falls.)
16. E	Discharge follow-up care
Ę	I want my baby to be seen for an exam and weight check at my pediatrician within 24 hours after
	discharge.
Ę	I want a follow-up weight check and assessment appointment with a lactation consultant after
	discharge.
Ç	I would like a pre-and post-breastfeeding weight ("weighted feed") with a lactation consultant to
	measure the amount my child is transferring in a feeding session after my milk comes in.
Ę	I would like community or hospital lactation support group information.
Ę	■ I would like pump and scale rental information

13. If I am supplementing, I would like to supplement with:

I have additional concerns and requests:							
Respectfully,							
arent's name							
ignature				I	Date & Time ₋		
nform parents ewborns from	of the most re	ecent data regi nemia, dehyd	arding infant Iration, hyperi	feeding and to natremia, hypo	increase their glycemia and d	nent. This doc knowledge on h extended or rep NSURE SAFI	ow to protect to eat hospitaliza
Hours/ Time	Birth	12 hrs	24 hrs	36 hrs	48 hrs	60 hrs	72 hrs
Weights* (kg)/% loss							
Bilirubin† (mg/dl)							
Glucose (Normal > 50 mg/dl)							
To calculate th	=			v.newbornweig tool.org	tht.org.	I	I
ave any correl nilk production liminating non	lation with ac n. It is importe rmally.	tual breast mi ant to track w	lk intake or pi et and dirty d	revention of ex	cessive weight	ise they have no loss prior to the to be sure your	onset of copio
	To Breastfee	ed The First			- From New Y	York Times Pa	arenting

☐ Feeding Your Baby—When Supplementing Saves Breastfeeding and Saves Lives

PRINTABLE RESOURCES: CRIB CARD AND WALL OR DOOR SIGN

Our Infant Feeding Plan



Length:
feeding is the best choice for our family.
Yes/No Lactation Consultant: Yes/No
: Yes/No Mixed Feeding Education: Yes/No
:
Formula Feeding: Yes/No Mixed Feeding: Yes/No
red donor milk or formula until my milk comes in: Yes/No
'es/No SNS for supplementing: Yes/No
Feeding : Yes/No Pacifier: Yes/No
rsery if requested: Yes/No

Informed Consent Regarding Risks of Insufficient Feeding

I understand that the risks of exclusive breastfeeding before onset of copious milk production are caused by insufficient breast milk intake due to either low/delayed breast milk supply and/or insufficient transfer of milk. The complications include increased incidence and severity of the following:

- excessive jaundice (yellow skin; hyperbilirubinemia occurs to <u>10–25%</u> of exclusively breastfed newborns)
- excessive weight loss (>75th percentile weight loss according to the <u>NEWT</u> nomogram
- dehydration (>7% weight loss increases the risk of hyperbilirubinemia and hypernatremia and occurs to >50% of EBF newborns)
- hypernatremia (high blood sodium >145 mEq/L occurs to 36% of EBF newborns)

71	dium >145 mEq/L occurs to 36% of EBF newborns)
	a, glucose < 40 mg/dL occurs to 10% of EBF newborns) (Note: ≥47
	ly validated glucose level that has been shown to protect newborns al delay. The Pediatric Endocrine Society recommends maintaining
_	e first 48 hours and above 60 mg/dL thereafter.)
gracose above 50 mg, an in the	initials
I understand the above-mentioned con hospitalization in order to protect my o	nplications from insufficient feeding can result in the need for child's health.
	initials
can subsequently result in developmen	inplications from insufficient feeding can result in brain injury, which stal delays; disabilities; lower cognitive development; lower academic earing, motor, sensory, language, and behavioral development; and ral palsy and rarely, death. initials
	Tuids and nutritional supplementation with properly handled and/or nor milk and/or formula, depending on my child's unique nutritional are above complications.
1	initials
	ion include insufficient breast milk supply if my child is supplemented ling (or self expression or bilateral breast pumping, if indicated) needed
	initials
Parent's name	
Signature	Date & Time