



Prenatal Education

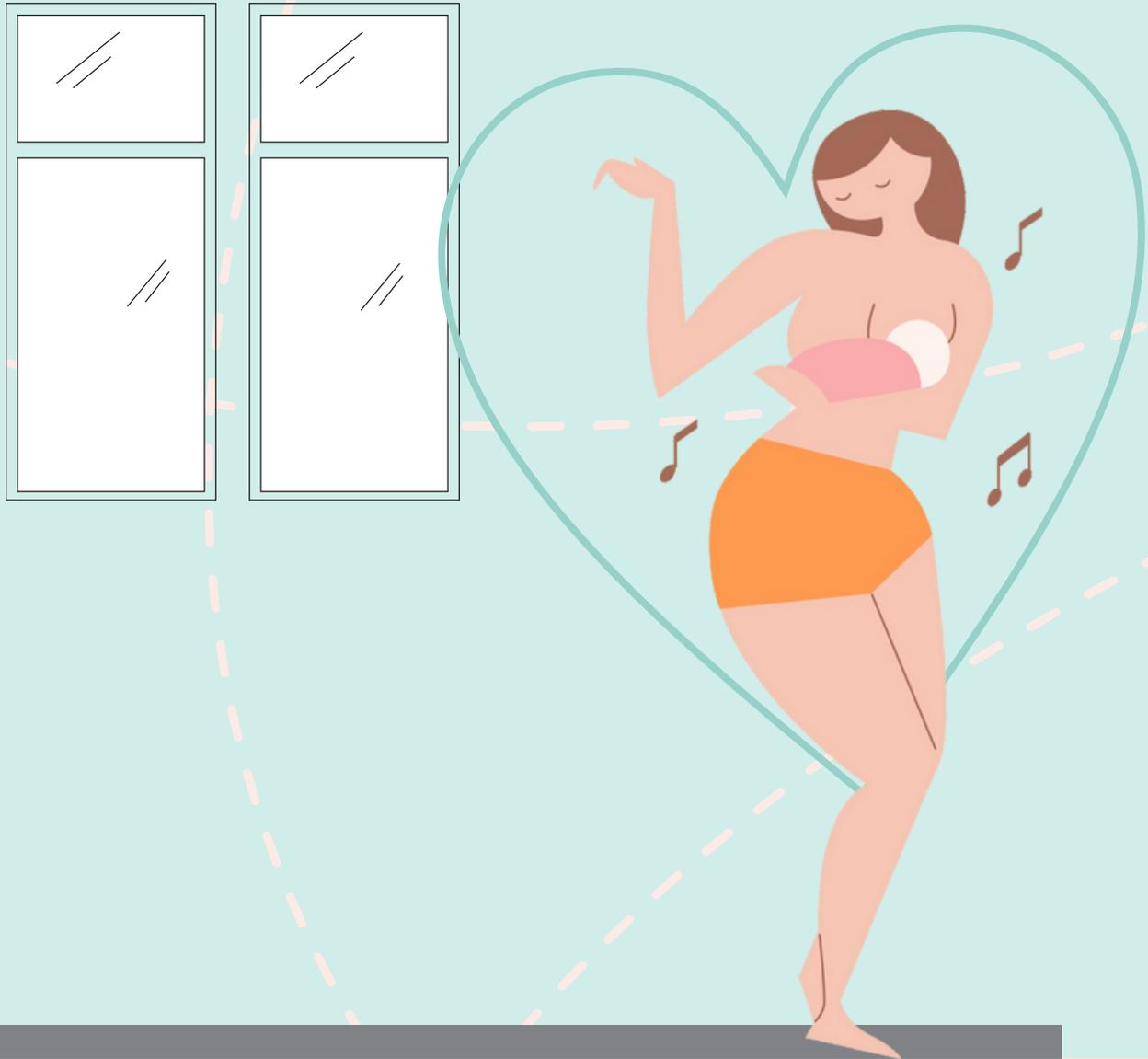
Breastfeeding and maternal self-care

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PHYSICIAN GUIDE
to [breastfeeding.org](https://www.breastfeeding.org)

Welcome!

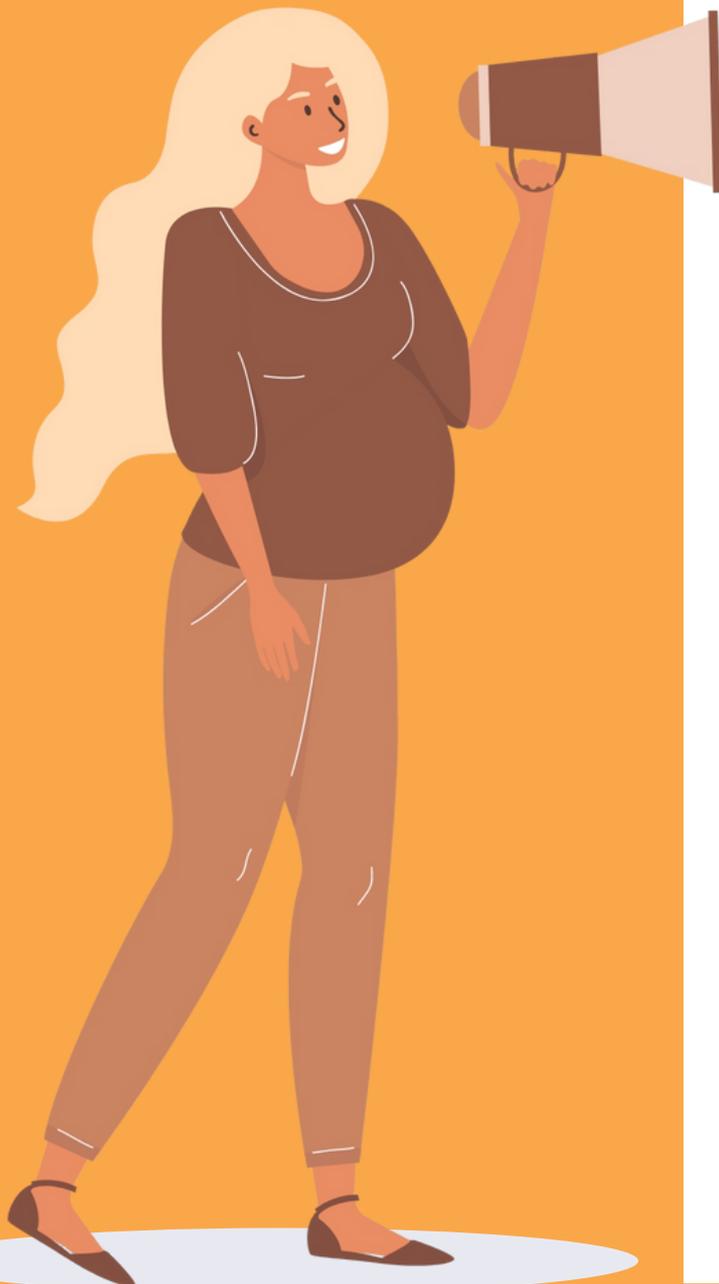


Congratulations to you for preparing to breastfeed your baby. Many parents don't realize how helpful it can be to learn about breastfeeding while they are pregnant.

This program will cover the basics of preparing for the arrival of your baby, breastfeeding during the early postpartum time, and the common changes experienced as your baby grows. We will review tips for handling challenges with breastfeeding and discuss the importance of maternal self-care.

Recommendations regarding breastfeeding can be confusing at times and we hope this written information provides an evidence-based reference for you and your family.

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RESOURCES FOR CARE



Services Available in a Breastfeeding Medicine Program

Lactation Consultations

- Prenatal concerns such as painful breast growth and preparing to breastfeed a baby after challenges with lactation in the past
- Postpartum care
 - Latch and positioning
 - Engorgement
 - Weighted feeds
 - Maintaining or increasing milk supply
 - Pumping
 - Back to work tips

Medical/Surgical

- Complications of lactation
 - Breast pain
 - Mastitis
 - Plugged ducts
 - Nipple blebs
 - Other nipple conditions
 - Breast pump trauma
- Induced lactation and re-lactation
- Treatment for overproduction and low production of milk
- Guidance for patients undergoing surgery, anesthesia and radiology or nuclear medicine procedures
- Medication management for perinatal mood and anxiety disorders

To schedule an appointment:

Visit [physicianguidetobreasfeeding.org](https://www.physicianguidetobreasfeeding.org)
or contact your local breastfeeding medicine provider.



WHY BREASTFEED?



For mothers, breastfeeding reduces the risk of breast cancer, ovarian cancer, diabetes, high cholesterol, cardiovascular disease, depression, and anxiety.

Breastmilk changes to meet the needs of your baby at each stage. Caloric content increases over time, and antibodies, growth hormones, and other essential components of milk also constantly adjust to nurture and protect your baby.

Breastmilk helps to build your baby's immune system. Breastfed babies are less likely to get sick, require medication, or need hospital care.

Breastfeeding is free! It saves money by reducing healthcare costs, missed work, and need for formula products.

Breastfeeding reduces waste and saves energy.

Breastfeeding lowers the risk of many health issues in children, including asthma, childhood leukemia, obesity, ear infections, eczema, diarrhea, lower respiratory tract infections, sudden infant death syndrome (SIDS), inflammatory bowel disease and diabetes.

Breastmilk is all your baby needs for the first 6 months of life, and continues to provide nutrition after introducing solid foods.

Breastfeeding can provide comfort to your baby beyond the nutritional and protective value of the milk itself. You can provide a feeling of security to your baby, help your baby fall asleep, and relieve discomfort when they are sick.

COMPARISON OF HUMAN MILK & FORMULA

HUMAN MILK

WATER

CARBOHYDRATES

(energy source)
Lactose
Oligosaccharides (see below)

CARBOXYLIC ACID

Alpha hydroxy acid
Lactic acid

PROTEINS

(builds muscles and bones)
Whey protein
Alpha-lactalbumin
HAMLET (Human Alpha lactalbumin
Made Lethal to Tumor cells)
Lactoferrin
Many antimicrobial factors (see
below)
Casein
Serum albumin

MINERALS

Calcium
Sodium
Potassium
Iron
Zinc
Chloride
Phosphorus
Magnesium
Copper
Manganese
Iodine
Selenium
Choline
Sulphur
Chromium
Cobalt
Fluorine
Nickel

VITAMINS

Vitamin A
Beta carotene
Vitamin B6
Vitamin B8 (inositol)
Vitamin B12
Vitamin C
Vitamin D
Vitamin E
a-Tocopherol
Vitamin K
Thiamine
Riboflavin
Niacin
Folic acid
Pantothenic acid
Biotin

ENZYMES

(catalysts that support chemical reactions
in the body)
Amylase
Arylsulfatase
Catalase
Histaminase
Lipase
Lysozyme
PAF-acetylthylase
Phosphatase
Xanthine oxidase

METAL

Molybdenum (essential element in many
enzymes)

FATS

Triglycerides
Long-chain polyunsaturated fatty acids
Docosahexaenoic acid (DHA)
-Linoleic acid
-Alph-linolenic acid (ALA)
-Eicosapentaenoic acid (EPA)
-Coniuated linoleic acid (rumenic acid)
Free fatty acids
Monosaturated fatty acids
-Oleic acid

-Palmitoleic acid
-Heptadecenoic acid
Saturated fatty acids
-Stearic
-Palmitic acids
-Lauric acid
-Myristic acids
Phospholipids
Phosphatidylcholine
Phosphatidylethanolamine
Phosphatidylinositol
Lysophosphatidylcholine
Lysophosphatidylethanolamine
Plasmalogens
Sphingolipids
Sphingomyelin
Gangliosides
-Gm1
-Gm2
-Gm3
Glucosylceramide
Glycosphingolipids
Galactosylceramide
Lactosylceramide
Globotriaosylceramide (Gb3)
Globoside (Gb4)
Sterols
Squalene
Lanosterol
Dimethylsterol
Triacylglycerol
Cholesterol
7-dehydrocholesterol
Stigma-and campesterol
7-ketocholesterol
Sitosterol
B-lathosterol
Vitamin D metabolites
Steroid hormones

ANTIPROTEASES

(thought to bind themselves to
macromolecules such as enzymes and as
result prevent allergic and anaphylactic
reactions)
a-1-antitrypsin
a-1-antichymotrypsin

HORMONES

(chemical messengers that carry signals
from one cell, or group of cells, to another
via the blood)
Cortisol
Triiodothyronine (T3)
Thyroxine (T4)
Thyroid stimulating hormone (TSH) (also
known as thyrotropin)
Thyroid releasing hormone (TRH)
Prolactin
Oxytocin
Insulin
Corticosterone
Thrombopoietin
Gonadotropin-releasing hormone (GnRH)
GRH
Leptin (aids in regulation of food intake)
Ghrelin (aids in regulation of food intake)
Adiponectin
Feedback inhibitor of lactation (FIL)
Eicosanoids
Prostaglandins (enzymatically derived from
fatty acids)
-PG-E1
-PG-E2
-PG-F2
Leukotrienes
Thromboxanes
Prostacyclins

NON-PROTEIN NITROGENS

Creatine
Creatinine
Urea
Uric Acid
Peptides (see below)
Amino Acids (the building blocks of proteins)
Alanine
Arginine
Aspartate
Clycine

Cystine
Glutamate
Histidine
Isoleucine
Leucine
Lycine
Methionine
Phenylalanine
Proline
Serine
Taurine
Theronine
Tryptophan
Tyrosine
Valine
Carnitine (amino acid compound
necessary to make use of fatty acids
as energy source)
Nucleotides (chemical compounds that are the
structural units of RNA and DNA)
5'-Adenosine monophosphate (5'-
AMP)
3'5'-Cyclic adenosine
monophosphate (3'5'-cyclic AMP)
5'-Cytidine monophosphate (5'-
CMP)
Cytidine diphosphate choline (CDP
choline)
Guanosine diphosphate (UDP)
Guanosine diphosphate-mannose
3'-Uridine monophosphate (3'-UMP)
5'-Uridine monophosphate (5'-UMP)
Uridine diphosphate (UDP)
Uridine diphosphate hexose (UDPH)
Uridine diphosphate-N-acetyl-
hexosamine (UDPAH)
Uridine diphosphoglucuronic acid
(UDPGA)
Several more novel nucleotides of
the UDP type

ANTIMICROBIAL FACTORS

(are used by the immune system to
identify and neutralize foreign objects, such
as bacteria and viruses)
Leukocytes (white blood cells)
Phagocytes
-Basophils
-Neutrophils
-Eosinophils
Macrophages
Lymphocytes
-B Lymphocytes (also known as B cells)
-T Lymphocytes (also known as C cells)
sigA (Secretory immunoglobulin A) the most
important anti-infective factor
IgA2
IgG
IgD
IgM
IgE
Complement C1
Complement C2
Complement C3
Complement C4
Complement C5
Complement C6
Complement C7
Complement C8
Complement C9
Glycoproteins
Mucins (attaches to bacteria and viruses to
prevent them from clinging to mucosal
tissues)
Lactadherin
Alpha-lactoglobulin
Alpha-2 macroglobulin
Lewis antigens
Ribonuclease
Haemagglutinin inhibitors
Bifidus factor (increases growth of
Lactobacillus bifidus, which is a good
bacteria)
Lactoferrin (binds to iron, which prevents
harmful bacteria from using the iron to grow)
Lactoperoxidase
B12 binding protein (deprives
microorganisms of vitamin B12)
Fibronectin (makes phagocytes more
aggressive, minimizes inflammation, and
repairs damage caused by inflammation)
Oligosaccharides (more than 200 different
kinds!)

FORMULA

WATER

CARBOHYDRATES

Lactose
Corn Maltodextrin

PROTEIN

Partially hydrolyzed reduced minerals
whey protein concentrate (from cow's
milk)

FATS

Palm olein
Soybean oil
Coconut oil
High oleic safflower oil (or sunflower
oil)
M. alpina oil (Fungal DHA)
C. cohnii oil (Algal ARA)

MINERALS

Potassium citrate
Potassium phosphate
Calcium chloride
Tricalcium phosphate
Sodium citrate
Magnesium chloride
Ferrous sulphate
Zinc sulphate
Sodium chloride
Copper sulphate
Potassium iodide
Manganese sulphate
Sodium selenate

VITAMINS

Sodium ascorbate
Inositol
Choline bitartrate
Alpha-Tocopheryl acetate
Niacinamide
Calcium pantothenate
Riboflavin
Vitamin A acetate
Prydoxine hydrochloride
Thiamine mononitrate
Folic-acid
Phylloquinone
Biotin
Vitamin D3
Vitamin B12

ENZYME

Trypsin

AMINO ACID

Taurine
L-Carnitine (a combination of two
different amino acids)

NUCLEOTIDES

Cytidine 5-monophosphate
Disodium uridine 5-
monophosphate
Adenosine 5-monophosphate
Disodium guanosine 5-
monophosphate
Soy Lecithin

PREPARING TO BREASTFEED



BREAST CHANGES DURING PREGNANCY

Breast Growth

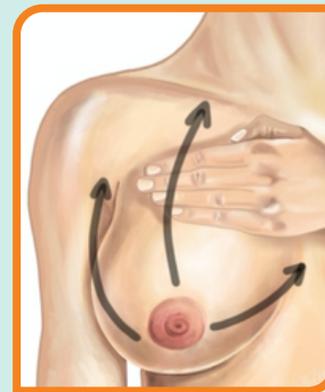
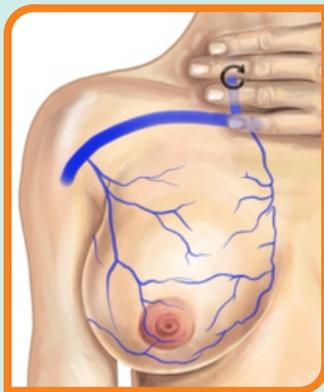
From the beginning of pregnancy, the breasts prepare to make milk after delivery. Breast growth may be the first sign of pregnancy, even before a missed period. Breast growth tends to be the most significant during the first trimester and the last trimester.

Painful or Swollen Breasts (Engorgement)

Significant breast growth can be painful, and cause the lower parts of the breasts to swell and develop a pink or reddish color. This is called breast lymphedema. To find relief, wear a very supportive bra, as tight fitting as you can handle with comfort.

You can also perform light lymphatic drainage (see instructions below) yourself. If this does not resolve, or if you only have one breast that is affected, contact your doctor to be evaluated.

LYMPHATIC DRAINAGE



- Reduces swelling by assisting movement of lymph fluid, decreasing edema
- Technique
 - "Very gentle touch/traction of skin - "like petting a cat"
 - The purpose is to lift skin to allow flow of lymphatic drainage and vascular decongestion
 - Ten small circles at junction of internal jugular and subclavian veins
 - Ten small circles in axilla
 - Continue with light touch massage from ripple towards clavicle, axilla
- Start during pregnancy if experiencing painful rapid breast growth, and use as needed postpartum for engorgement

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Breast growth may be the first sign of pregnancy, even before a missed period

HAND EXPRESSION

Hand expression is when you use your hands to remove milk from your breasts. It is a great tool to promote colostrum secretion in late pregnancy and during the first few days after birth, as well as when a newborn doesn't latch immediately. Hand expression can also be used to relieve swelling and stimulate milk flow before using a pump.

Hand expression gets easier with practice and should feel comfortable. Follow these steps:

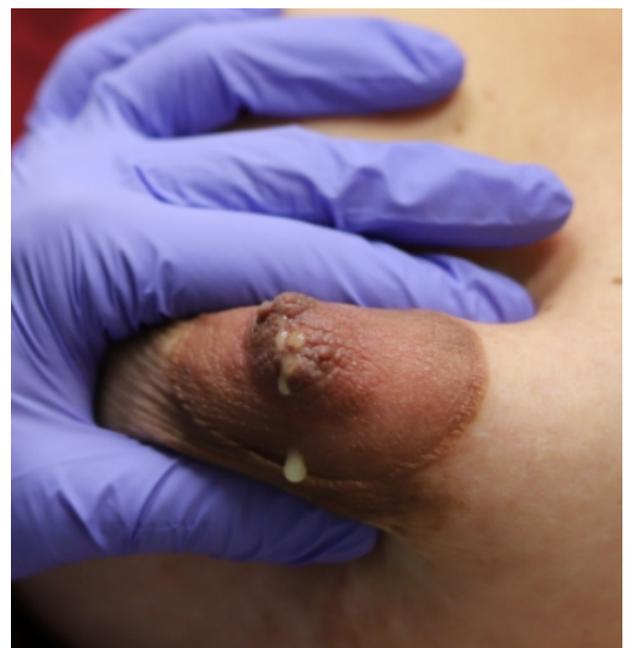
- Use a clean container to collect your milk.
- Position your thumb and index finger on opposite sides of your breast to form a “C” shape.
- Press your fingers and thumbs back towards your chest and gently compress.

The goal is to stimulate the milk-making breast tissue that is deeper in your breast. Try not to slide your fingers toward the nipple, as this will simply compress milk ducts and not help with removing milk. Release and then repeat on a different place around your breast.



COLOSTRUM PRODUCTION

Colostrum is early breastmilk that is clear or yellowish in color. It is normal to notice colostrum in the second or third trimester of pregnancy, and it is a sign that your body is preparing to make milk. Mothers who may be at risk for lower milk production (e.g. diabetes, obesity, infertility, previous breast surgery) can learn hand expression to stimulate their breasts and store colostrum prior to delivery.



A pregnant woman with long dark hair, wearing a bright green turtleneck sweater, a dark grey or black coat, and brown boots, stands in profile on a paved path in a park. She is holding a clear plastic bottle in her left hand. The background is filled with large trees in full bloom with vibrant pink cherry blossoms. In the distance, other people can be seen walking and sitting on a bench. The sky is clear and blue.

SUPPORT DURING PREGNANCY

Breastfeeding support during pregnancy may be helpful for many women.

Seek out prenatal counseling if you have any concerns:

- Physical concerns such as painful breast growth
- Challenges with breastfeeding in the past
- Significant medical history that has required medications
- Cosmetic breast surgery (e.g. implants, reductions, nipple procedures)
- Breast cancer or other cancer history
- Breast surgery (e.g. fibroadenoma removal)
- Infertility

SUPPLIES



NIPPLE AND BREAST CARE

- Organic nipple balm (lanolin provided by hospitals can cause allergy)
- Hydrogel “soothie” pads, polymem “nursicare” pads, mepilex, or hydrocolloid pads
- Reusable breast pads (disposables can cause allergy)
- Hot and cold packs for engorgement
- Silicone breastmilk collector (e.g. Haaka)
- Supportive bras

FEEDING AND PUMPING

- Nursing pillows
- Nursing foot stool
- Pump
- Pump bag
- Hand’s free pump bra
- Breastmilk storage bags
- Bottles with slow-flow nipple

POSTPARTUM CARE FOR MOMS

- Postpartum underwear
- Ice pads for pelvic pain



Pura Kiki: World’s best bottle (stainless steel, leeches fewer nutrients from milk), lids are spill-proof, and it’s founded and owned by a local Santa Barbara family!



TAKE TO THE HOSPITAL

- Pump - Ask the hospital lactation consultant to make sure your flanges fit correctly, and show you the appropriate settings for use
- Nursing bra
- Organic nipple balm
- Hydrogel pads
- Comfortable clothes to wear home - your abdominal muscles regain strength a few weeks to months after birth, so it is helpful to wear your maternity clothes during this time.



MOOD AND ANXIETY

Reproductive psychiatrists and Postpartum Support International recommend that women continue medication for mood and anxiety disorders during perinatal period. The majority of medications are safe during pregnancy. Untreated mood and anxiety disorders are associated with pre-term birth, intrauterine growth restriction (IUGR) and low birth weight (LBW). Additionally, research shows that women with well-controlled mood and anxiety disorders breastfeed for longer durations of time.

When the baby arrives and sleep is disrupted, mood and anxiety disorders will only worsen. If you're experiencing increasing insomnia or symptoms of anxiety and depression during pregnancy, you should speak with your healthcare provider to discuss therapy and/or medication. If birth does not occur in the way you were hoping or if it felt traumatic, it is important to seek care for birth post-traumatic stress disorder (PTSD).

NAVIGATING EARLY POSTPARTUM DAYS



Skin-to-skin is when a bare newborn is laid directly on his mother's bare chest; this helps regulate blood pressure, heart rate, respiratory rate, and temperature for mom and baby, and also prevents excessive bleeding for mom.

The days following childbirth are challenging, and also critical for establishing milk production. Mothers and babies may be tired from birth, or recovering from unexpected or traumatic events. If you are struggling at any point, seek help. Basics of important considerations with breastfeeding are outlined below.

SKIN TO SKIN

The World Health Organization (WHO) and American Academy of Pediatrics (AAP) recommend that skin-to-skin happens immediately after birth. Skin-to-skin is when a bare newborn is laid directly on his mother's bare chest; this helps regulate blood pressure, heart rate, respiratory rate, and

temperature for mom and baby, and also prevents excessive bleeding for mom. When placed on mom's chest, newborns will naturally "crawl" to the breast within approximately 15 minutes to one hour after birth. They use the scent and dark color of the areola to locate the nipple.

It is impossible to overdo skin-to-skin time, and partners can help soothe and introduce the baby to the world from the comfort of cuddling at their chests. If mom is not able to do skin-to-skin immediately after birth, another caregiver can do it. For C-section births, the infant can be placed on mom's chest for skin-to-skin while her incision is being closed.

MILK COMING IN

Approximately 3-5 days following delivery, a mother's first milk, colostrum, will begin to change into mature milk. At this time, mom's breast may become full and firm and the baby will start to consume larger amounts of milk. It is common to experience engorgement when your breasts become heavy, warm and swollen. It is also common to experience nipple pain and scabbing due to the baby struggling to latch because of engorgement. If you have concerns about your milk being delayed, or if your breast fullness does not adjust after a few days, reach out for help.



POSITIONING AND LATCH

In the first days of life, a mother and baby may need to work to find comfortable breastfeeding positions. Moms are often focused on achieving the perfect latch; however, no comfortable latch can be achieved without the right POSITION.



NIPPLE SHAPE

Nipples do not look "picture perfect." Some nipples may look flat, "lipstick shaped" or otherwise look like a baby has been nursing. Unless you have pain, trauma, or the baby is not gaining weight well, do not worry about your nipple shape. It just means your nipple is more elastic (stretchy) than other nipples. If you have pain or trauma, this may be related to position or milk production (either high or low). If the pain continues, reach out for help.

BREASTFEEDING POSITIONS



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Laid back or side lying positions are often the easiest for baby in the early postpartum days when mom's breasts are engorged.

While the cross cradle or cradle hold are most often visualized as the “classic” nursing position, you might find that another position works better for you. In any position, until you become more experienced, it is most comfortable when mom and baby's belly button's are aligned.

Laid back: Mom is lying on her back and baby is lying on her chest, supported by her body. If mom is simply angled back in a reclining position, this can still present latching difficulties in the setting of fast milk flow or large breast. So it is important to have help latching fully “laid back” rather than starting sitting up and then moving back.

This is also called “biological nursing,” as it is the position where newborns naturally migrate to mom's breast (self-latch) when they are placed on mom's chest.



Football Hold

Baby is held alongside mom with legs tucked under mom's arm rather than across the front of her body. Mom uses her arm on the same side as the baby is breastfeeding from to support baby's back and neck. This may be more comfortable for moms who have larger breasts, had a c-section, or has multiples.



Cradle

Baby is lying across mom's lap with mom's arm supporting his head and mom's hand supporting his bottom. For example, if baby is feeding on mom's left breast, baby is cradled in mom's left arm.



Side Lying

Mother and infant are both lying on their sides, facing each other. To feed on the left breast, lie on your left side. Your right arm will support the baby's back.

This position is especially good for larger breasts with nipples that may seem "flat" in the upright position, or with situations of fast breastmilk flow.



Cross Cradle

Baby is lying across mom's lap, breastfeeding on the breast opposite of mom's supporting arm. For example, if baby is feeding on mom's left breast, baby is cradled in mom's right arm and hand.

BASICS OF FEEDING

Feeding Cues

Newborns need to eat often, and it is helpful to look for these signs of hunger as a cue to begin nursing:

Smacking and licking lips

Turning towards any movement by their cheek

Moving hands near mouth

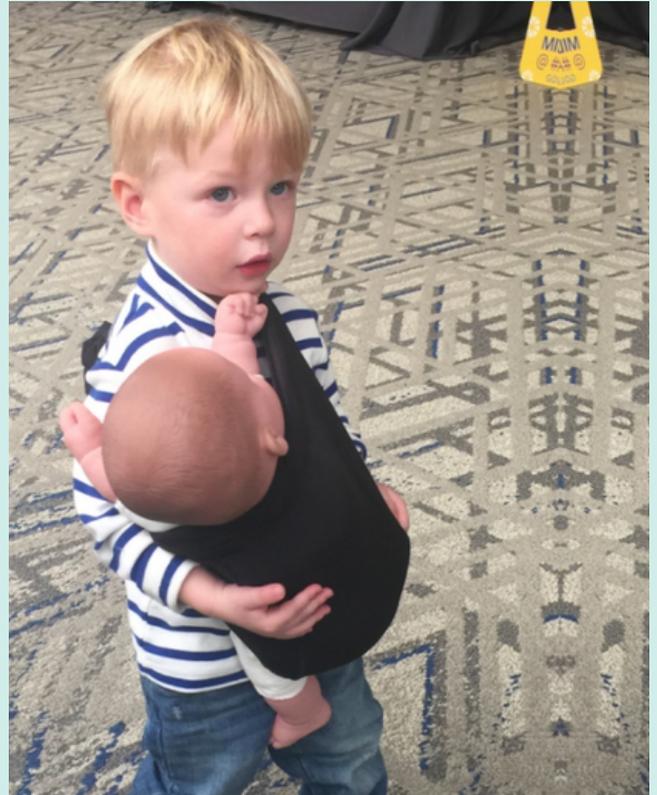
If baby becomes frantic, this is likely a signal that you've waited too long and you may need to calm your baby before beginning to breastfeed

Signs of Getting Enough Milk

A baby who is consuming enough milk should swallow for several minutes at the beginning of breastfeeding, then slows down. Swallowing is the soft, airy sound that can sound more like gulps as your milk increases in volume. A silent baby sucking is not getting milk.

The baby eventually may fall asleep or be awake and not show hunger cues. They should not require stimulation to stay at the breast and suck, as this can be a sign of low milk production. On the other hand, if the baby is swallowing a lot, slowing down, then being put on the other breast and falling asleep, this could be because the baby is too full. If a baby is gaining well, is gassy and spitting up, but appears to be giving frequent "feeding cues," ask for help in recognizing feeding versus holding cues.

If a baby is content after a feed involving good swallows, leave the baby asleep. Breastfed babies do not need to be burped like formula fed babies. Burping will stimulate a content/settled baby and make the baby appear as though he needs to feed again.



Babies Who Love to Be Held

It can be hard recognize hunger cues in babies who love to be held. It is biologically appropriate for infants to want contact with their mother, as this stabilizes their temperature, reduces stress, and improves weight gain and cognitive development.

To help differentiate between hunger and wanting to be held, when baby finishes a feed, hold the baby rather than putting him down on his own. If the baby is satisfied and calm in mom's arms, but wakes up after being put down, or even within 20 minutes, this is likely a comfort and holding cue rather than feeding cue.

These feeding cues are newborn cues. After the first week or two of life, if feeding and weight gain is going well, babies can put their hands in their mouth or "root" simply from curiosity or lack of neck strength.

“

It is biologically appropriate for infants to want contact with their mother, as this stabilizes their temperature, reduces stress, and improves weight gain and cognitive development.

Do Not “Time” Feeds

Babies should swallow milk and be content after a feed. They should be gaining weight, and urinating and stooling appropriately.

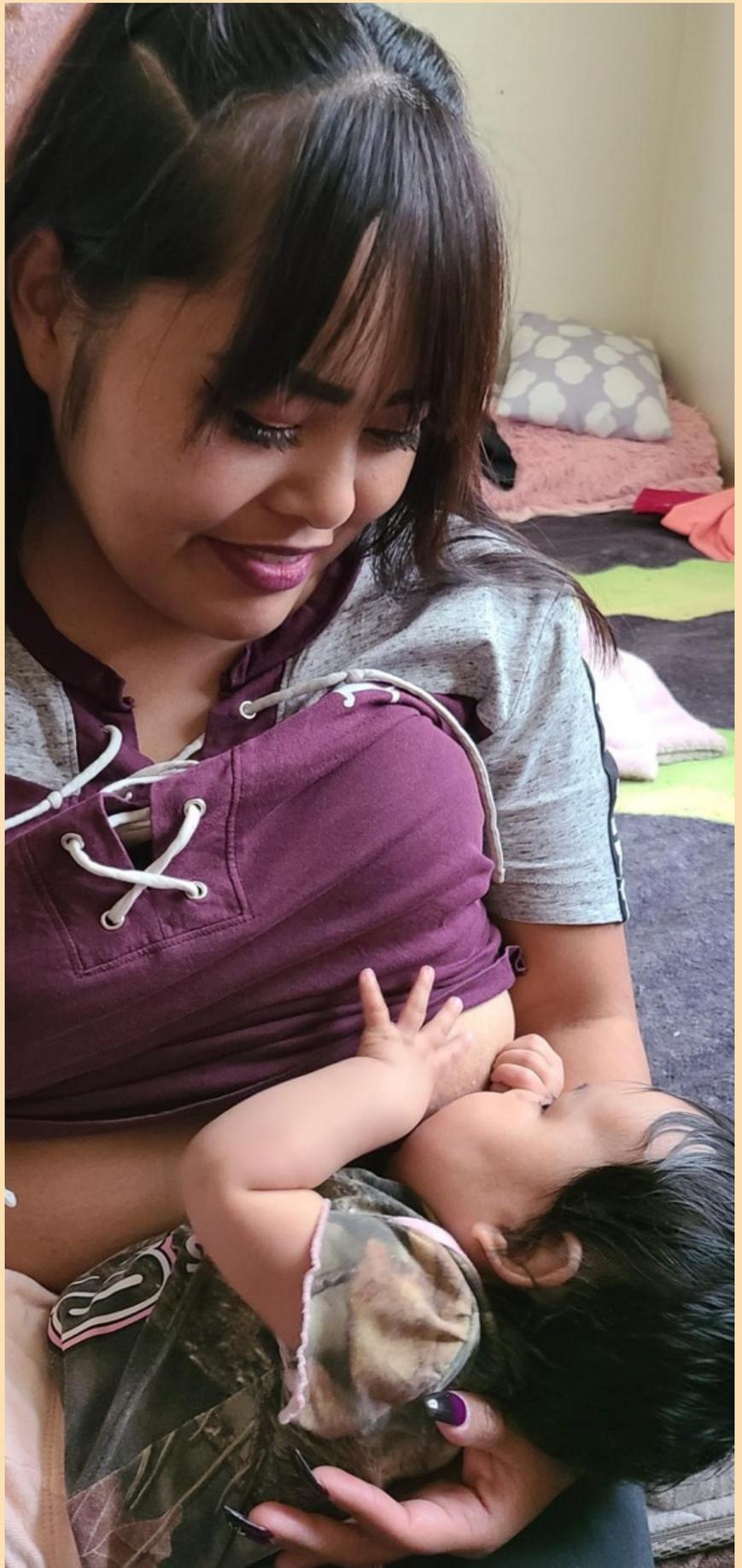
Keep these tips in mind:

- If you have enough milk, or even too much milk, the baby does NOT need to feed off both breasts for a specific period of time.
- If you are struggling to increase your milk production, the baby should only be on the breast to swallow. Once the swallows stops, switch to the other breast. Both mom and baby will become exhausted, and the baby will burn calories and lose weight, if you focus on feeding for a specific amount of time and the baby is not swallowing milk.
- If baby is gaining weight well and sucking and swallowing and then relaxing at the breast, it is ok to let him find comfort this way.

Weight Loss

During the first few days of life, it is normal for babies to lose weight. For exclusively breastfed babies, it is normal to lose up to 7-10% of birth weight by day five. If mom is producing enough milk, baby should regain his birth weight by two weeks. After this point, the goal is for baby to gain approximately one ounce (20-30 grams) per day, until three months of age.

It is common for first-time moms, particularly those with a difficult labor or c-section birth, to have some delay in their milk coming in. If you are concerned that you may struggle with milk production based on your medical or surgical history, you may want to hand express colostrum prior to delivery and store it for use at the hospital (see Preparing to Breastfeed section). You can ask your doctor about the availability of donor milk.





Early Supplementation

If more than a week has passed and you still are experiencing low milk production, it's important to get help with next steps. Donor breastmilk or formula may be necessary. Breasts that are unequal in size and have less fullness as shown in this image may be at risk for producing less breastmilk.

Common Low Production Scenarios:

- First-time moms may have a delay in their milk coming in and may notice a continued increase each day.
- Some moms may produce some, but not all, of the milk required for their infant's growth.
- Some moms may experience significant low milk production despite frequent pumping and use of galactagogues (herbs or foods that increase milk production).

Triple Feeding (Use CAUTIOUSLY)

"Triple feeding" means breastfeeding for a period of time, then pumping, and then giving the pumped milk back to the baby (sometimes adding donor milk or formula as well). If you are discharged from the hospital triple feeding, you should schedule a outpatient follow up. Triple feeding is exhausting for mom and infant.

The most ideal approach is putting the baby at the breast for familiarity and swallows, but otherwise pump to stimulate your breasts and feed a bottle to provide nutrition to the infant. Things can change on a daily basis in the first few weeks, and feeding plans may need to change to protect both mom's mental health and baby's consumption.

Short feeds

If mom has a lot of milk, the baby may feed for short periods of time. As long as the baby is sucking and swallowing, is satisfied after breastfeeding, and is gaining weight well, short feeds are ok. If you have fast breastmilk flow, try the side lying position to slow it down, and consider evaluation for treatment of oversupply (hyperlactation). If a baby feeds for a short period of time without sucks and swallows, and then falls asleep quickly, this can be a sign of low milk production and mom and baby should be evaluated.

Cluster Feeding

Cluster feeding is when a baby wants to nurse more often and the feedings bunch together. This can feel like continuous breastfeeding. If you experience cluster feeding, keep the following things in mind:

- If mom has normal colostrum and milk production and baby is stooling appropriately, cluster feeding is normal and is helping to establish mom's milk production to keep up with baby's needs.
- If baby is losing too much weight and is not stooling appropriately, be cautious with cluster feeding as it could be a sign that baby is hungry and desperate at the breast.
- If baby is gaining weight very well and seems to be cluster feeding, it can be helpful to learn the difference between feeding cues and comfort cues.



STOOLING – NEWBORN BOWEL HABITS

A newborn's bowel habits change drastically in the first days of life. Along with weight gain, keeping an eye on diapers can be helpful in knowing that your baby is getting enough milk.

What to expect the first week:

Babies should finish passing their meconium (dark, tarry stools that occur just after birth) by day 3 of life. After this, they will experience transitional stool (brownish yellow) and then move to bright yellow, seedy stools.

Newborns should have approximately the number of stools corresponding to their day of life (e.g. five stools on day five of life). Less stooling than expected in the initial first week or two postpartum is a sign of a baby not consuming enough breastmilk and it is important to have the baby evaluated for feeding and weight gain.

Wet diapers (urine) are a less reliable measure of consumption, as babies will naturally urinate more after birth, regardless of their breastmilk consumption.



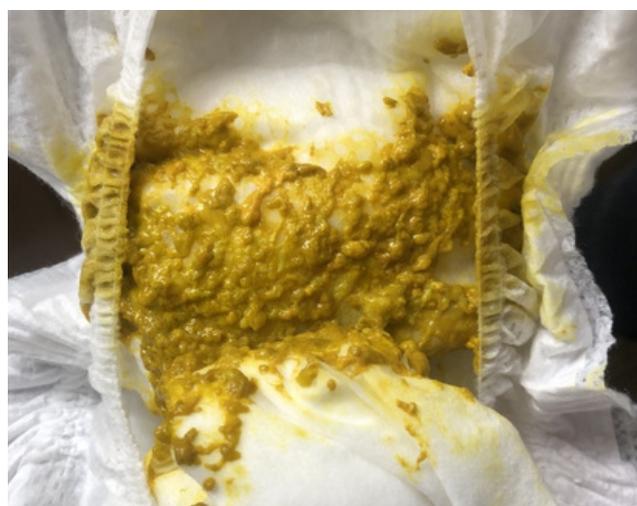
Newborns should have approximately the number of stools corresponding to their day of life



Meconium: A newborn's stool changes through the first week, starting with meconium, which is black, tar-like, and sticky in appearance.



Transitional Stool: By day three, you should see transitional stool, which is brown or green and less sticky.



Mustard Yellow: By day five, baby's stool should be yellow, and may be "mustard-like," watery and seedy. These stools indicate baby is getting plenty of milk.



***Gas is normal.
If baby is gaining
weight well and being
fed on demand, this is
not a problem.***

As your baby gets older:

Stools most often vary from day-to-day in color and consistency. After the first two weeks of life, babies may start to stool less frequently. It is normal for exclusively breastfed babies to go four to five days and sometimes even longer without having a stool. Look for general patterns, and pay attention to the baby's comfort.

Gas is normal. If baby is gaining weight well and being fed on demand, this is not a problem. Excessive gas and spitting up can be an infant symptom of mom having overproduction of milk. Diapers with overproduction include green, watery green diapers, mucous-like, or even have a blood streak.

Laxatives are commonly used with formula feeding, as cow and soy milk can cause constipation. In exclusively breastfed babies, do not give laxatives as they can cause harm with excessive diarrhea and diaper rash.

If a baby spits up excessively, appears to have belly pain, and has frequent, very full diapers throughout the day, mom may have overproduction of breastmilk. It is important to seek professional guidance to help resolve any symptoms for the baby such as diarrhea, reflux, and excessive gas.

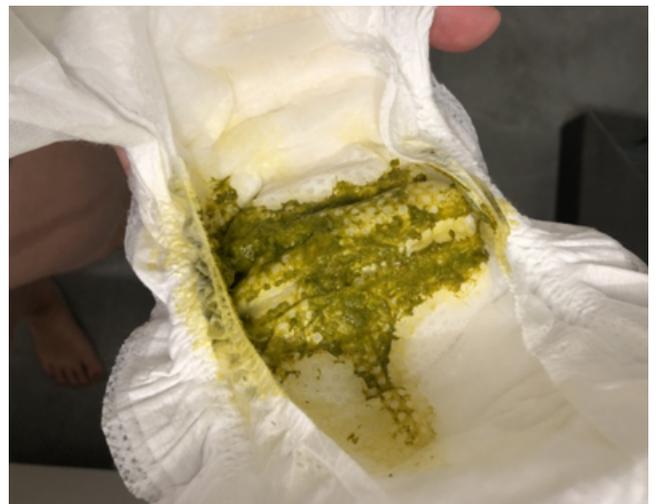
Diaper Rashes

Babies with frequent stools like those are susceptible to diaper rash. You may be instructed to dry the area, but wounds in fact heal faster if they are covered with an appropriate barrier like thick zinc paste.

Use a high zinc concentration without petroleum (Burt's Bee's has a 40% zinc formulation without petroleum), as petroleum can cause allergic dermatitis and worsen irritation. As with treating a burn or other skin injury, keep the area covered 24/7 with thick zinc. This reduces pain and decreases the time it takes to fully heal (humans generally heal wounds within 7-10 days).



Streaks of mucous in overproduction.



Green stool in overproduction.



Watery green stool in overproduction.

HOW TO KNOW YOUR BABY IS GETTING ENOUGH MILK

WHEN TO SEEK HELP

Sometimes, babies show signs that they are not getting enough milk. This can happen for a variety of reasons. Baby may be struggling to latch or having trouble with removing milk from mom's breast. Sometimes, milk does not come in or production is too low after it comes in.

Get help right away if you see any of these signs in your baby:

- Days 2-5: fewer than the minimum number of wet or soiled diapers (see table)
- By days 4-5: not gaining weight
- Lethargic
- Will not nurse, or nurses very little
- Showing signs of dehydration: urine is absent or dark and smells strong, dry mouth, sunken fontanel (soft spot) or urate crystals in diaper with very little urine
- Is inconsolable and cries even when being held
- Still seems hungry after feeding (distinguish hunger from holding cue if baby only cries when put down)



Urate crystals in diaper.

	WEEK 1	WEEK 2-6
Weight Gain	Newborns may lose 7-10% of their body weight in the first 48 hours of life. Most regain their birth weight by 10-14 days.	Babies usually gain 5-7 ounces (142-198 grams) weekly. Weight checks can reassure you that baby is doing well.
Number of Wet Diapers	At least one wet diaper for each day of life (1 on day 1, 2 on 2), and 6+ by day 4.	At least 6 wet diapers in a 24 hour period.
Number of Stools	One stool for each day of life. Meconium (first stools) will pass with frequent feedings. Stool will change in color and consistency when your milk increases.	3-4 or more stools a day. After 6 weeks, it is normal for a breastfed baby to go several days or more without a bowel movement as their body becomes more efficient at processing milk.
Frequency	Feed on demand, 8-12 times a day or more. Newborns may feed frequently then sleep a longer stretch.	Baby might be able to go longer between feedings but be sure he is consuming milk well. May nurse more frequently during growth spurts or illness.

BREASTMILK CHANGES

Breastmilk provides all of the nutritional needs of an infant until six months of age. Breastmilk changes on a weekly, daily, and even minute-by-minute basis in response to various factors in both the baby and mom.

The newborn stomach is very small.

- It holds approximately 5 ml of fluid at birth (marble sized).
- By day three, it expands to hold approximately 25 ml (ping pong ball sized).
- By day 10, it holds approximately 60 ml (chicken egg size).
- Breastmilk digests quickly and easily, so breastfed infants generally feed more frequently than formula fed infants.

Here are some of the changes that occur in breastmilk:

- **Colostrum** is a very thick, yellow milk that begins to be made in the later weeks of pregnancy and the first few days after birth. It is high in protein, vitamins, minerals and antibodies. Colostrum is low in volume to accommodate the newborn's very small stomach size.
- **Transitional milk**, which is produced approximately day 2-3 through the first few weeks after birth, contains high levels of fat and vitamins and is higher in volume than colostrum.
- **Mature milk** begins several weeks after birth, and contains more carbohydrates than transitional milk. It can look more watery at the beginning of a feed and creamier toward the end. It has many different colors ranging from blue to very white. While moms are often concerned that they have too much "foremilk" or "hindmilk," an infant will grow regardless.



Colostrum is the first milk produced.



Mature milk increases in volume and is more white in color.



Nipple Care

Nipple pain and wounds are common in the early postpartum time due to engorgement and learning to breastfeed. It is very important to care for your nipples properly during the early breastfeeding days. If you experience any wounds, they should be lubricated and covered to heal effectively, just like burns or other wounds on the body. Women may be instructed to “dry out” their nipples or use saline soaks for traumatized, sore nipples. This worsens the pain and can increase discomfort due to cracking of dry skin.

Caring for your nipples:

- Organic, lanolin-free nipple balms are recommended as lanolin can cause allergy in many women.
- Once you apply nipple balm, cover it in a hydrogel “soothie” pad, much like a bandaid. This can be removed before breastfeeding and reapplied after.
- Polymem or mepilex covers can also be applied, though they should not be used with nipple balm because they are meant to be more absorptive and less moisturizing than hydrogel combined with a balm.
- The side lying position is also very helpful for moms who have experienced engorgement and have nipple trauma from the baby struggling to latch.



Engorgement

Engorgement can cause extreme breast pain and redness, sweating, fever and chills. Engorgement peaks at five days postpartum, and generally starts to improve after that time. Lymphatic drainage (see “Preparing to Breastfeed” section), ice, heat, and Advil and Tylenol can help relieve pain. While removing small amounts of milk for comfort is safe, you want to avoid pumping or emptying both breasts because this will cause your breasts to make more milk and worsen the engorgement.

CHALLENGES: MOM

EARLY CHALLENGES

Pain

Pain during breastfeeding can result from a variety of factors, and if you experience persistent pain, contact your doctor. The more common reasons for pain include the following:

- High or low production of breastmilk
- An infant clamping on heavier breasts or breast with a fast flow of milk
- Dermatitis (eczema on the nipple/areola resulting from allergy to balms, bras, etc.)
- Nipple blebs (ductal inflammation that sits on the surface of the nipple)
- Functional pain (pain with no clear cause, likely due to changes at cellular level of nerve cells)
- DMERs (Dysphoric Milk Ejection Reflex): Condition in which the milk letdown can cause feelings including nausea, anger, pain, and nursing aversion
- Vasospasm of the nipple (changes in blood flow and worsened pain with cold temperatures)



Severe allergic dermatitis with secondary irritation from anti-fungal cream.



Resolution after steroid crème for 24 hours.



Nipple bleb.



Vasospasm of the nipple.



Allergic contact dermatitis.

LATER CHALLENGES

Mastitis

Mastitis is localized tissue inflammation and that does not require antibiotics most of the time. As with engorgement and “plugging,” start with ice, Advil, and Tylenol to help with the pain. Do not overfeed or overpump. Do not massage, as massaging will make it more painful and cause tissue inflammation and damage. If it does not improve, call your doctor for evaluation.



Redness, streaking, pain.



48 hours later after ice, advil, and not pumping or overfeeding on breast.



Bacterial mastitis requiring antibiotics.

Plugging

Despite common lactation recommendations, deep massage only hurts the breast rather than helps it. Women may massage their breasts deeply and vigorously in an attempt to relieve a “plug.” This can cause injury, bleeding swelling, and increased pain.

A plug is actually just blood vessels and milk-making tissue swelling in a specific region of the breasts. If you are experience “plugging,” find relief by using ice, Advil, Tylenol, and feeding the baby at the breast instead of pumping. Do not overfeed on the side with the plugging as this can worsens the swelling. Feed normally starting with the softer breast first to allow the fuller breast to rest.



Left breast engorgement when patient pumped too much to try to relieve a “plug”.

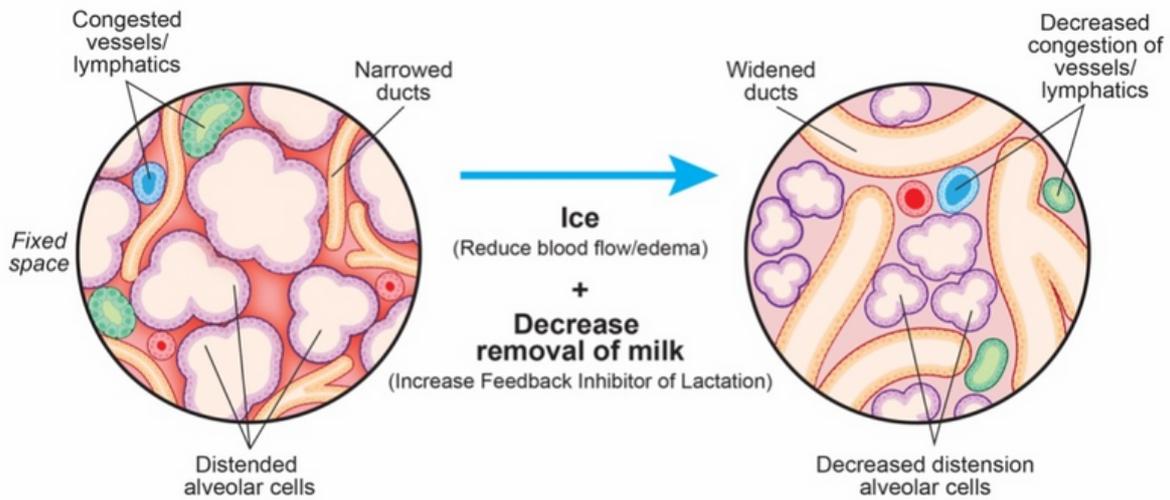


Illustration representing “plugs” and how they are relieved.

Lopsided Breasts

Moms may unconsciously favor one breast, or may be told to relieve engorgement from one “overactive” breast by pumping it or continually feeding the baby on it. This unfortunately worsens the imbalance: the breast that is “less productive” will be less and less stimulated, and the overstimulated breast will continue to make more milk as a result of more feeding. An easy way to maintain equal production and breast size is to always feed the baby off the less full breast first. This allows the overproducing side to remain full and tells the breast producing less to produce more. Despite common lactation advice, there is no risk to leaving a breast full aside from transient pain and engorgement before production starts to downregulate.



This mom experienced severe overproduction, pain, and redness on her right breast from being told to “keep it empty.” Once she was instructed to feed mostly on the left breast to downregulate the right breast, she became even and comfortable with no further issues.

CHALLENGES: BABY

Baby Likes to Be Held

If your baby struggles to stay asleep once put in a bassinet and you end up holding them while they sleep, this could lead to extreme exhaustion and frustration. If you are struggling with this situation, ask for help from your partner, family or friends. Taking shifts can prevent the unsafe situation where a parent becomes too exhausted that they risk falling asleep with the baby on a couch, rocker, or recliner.

It's also important for both parents to have a break in general. Sometimes these very alert babies decrease their need for stimulation if they have a variety of different people caring for them, and they learn to relax over time.



Babies may or may not like pacifiers. For those breastfeeding babies who love pacifiers and are gaining weight well, giving a pacifier can help distinguish hunger from suckling needs.



Baby carriers or slings can give parents more freedom to move around while comforting the baby. This can help fussy babies looking for frequent breastfeeds to declare feeding versus holding cues more clearly.



Yoga balls are a great trick for bouncing a baby and sparing your legs from exhaustion.



Breastmilk jaundice.

Jaundice

Infant jaundice is a condition that occurs because the baby's blood contains too much bilirubin, leading to a yellow discoloration of baby's skin and eyes. Some babies are more likely to develop jaundice, such as those with a different blood type than their mother, as well as those of Asian and Native American descent.

Breastfed babies who are having difficulty nursing may also be at higher risk for jaundice. Keep the following in mind:

If a newborn has jaundice and is not urinating or stooling appropriately, and has lost excessive weight, this is a dangerous situation. Work with your healthcare team to supplement with donor milk or formula and ensure baby is getting enough to eat and is adequately hydrated.

If a newborn more than week old, is urinating and stooling normally, gaining weight well, and is



Pathologic jaundice requiring bilirubin lights.

exclusively breastfed, then this is most likely breastmilk jaundice. This is not dangerous and is related to an enzyme variation in the liver. Infants experiencing this may remain jaundiced for a longer period of time (weeks). The jaundice will gradually clear, usually by two months of life, and giving formula to "treat and diagnose" the breastmilk jaundice can cause complications in the baby and mom both and should be avoided.

Infant Thrush

Thrush is an oral yeast infection that may cause white patches in your baby's mouth. This is uncommon in full-term, healthy infants who are exclusively breastfed. However, it is very often overdiagnosed in an infant when a mom presents with pain during breastfeeding. Thrush is not contagious. Therefore, an infant does not "give mom" thrush, and other causes of her pain should be evaluated. It is important to thoroughly discuss your breastfeeding and symptoms with your healthcare provider as antifungal treatment for breastfeeding moms can cause increased irritation, allergic reaction, and wounds.



Infant thrush.



Infant thrush.



Milk tongue.



Baby cries or fusses while feeding

Crying or fussing at the breast is usually due to an overproduction of breastmilk or low production of breastmilk.

With overproduction, babies may initially latch comfortably. When flow increases after letdown, they may clamp, pull back and arch, cough, choke, and cry. This can be alarming and difficult to handle. If you are experiencing this, try breastfeeding in the side lying position to slow down your flow of breastmilk. If the situation persists, seek help in downregulating your milk production.

With low production, babies may latch initially. They quickly stop swallowing (due to low production) and will fall asleep or cry. Babies may respond to gentle breast compressions to promote flow. They also may respond to supplementing with a bottle prior to the breast.

Clicking sounds – Mothers are often concerned by an infant making a clicking sound at the breast. This is related to the baby pulling away from the breast due to overproduction or low production of milk. Follow the tips above.

Nipple shields

A nipple shield is a silicone nipple that hospitals may use to help a baby who is having difficulty breastfeeding. A nipple shield is not a long-term solution and can have negative impact on breastfeeding. If you have been told to use a nipple shield, it is important to get help to evaluate positioning and other possible concerns such as engorgement or fast or slow milk flow.

Baby noise

Babies make noise! Some babies might not enjoy sleeping on their backs and therefore might grunt, protest, and struggle to get comfortable. Additionally, you might hear sounds like choking or gurgling up breastmilk. If breastmilk is refluxed into the mouth, it is not dangerous -- and it can actually help prevent upper respiratory infections and ear infections.

If you are hyperaware of these sounds and unable to sleep, consider meditation, yoga and essential oils for relaxation. If this persists, it could be a sign of anxiety, and therapy and/or medication can help.



Anterior Tongue Tie

Occasionally, a baby may have an attachment from the tip of their tongue to the lower gum. This can affect the baby's ability to breastfeed and is called an "anterior frenulum" or "anterior tongue tie." A simple division of this band can be performed in the hospital.

NEXT STEPS: 3-6 WEEKS



Babies Who Sleep More At Night

If you're lucky, you may have a baby who starts to sleep in 5-7 hour stretches or longer overnight as they get older. This is not common, but possible if you have a lot of milk, baby is gaining well, and has a laid back personality. Often, this scenario results from mom having higher production of milk. Dropping feeds due to a baby sleeping can help decrease production naturally to a level more comfortable for baby.

Mothers may be told to wake up and pump to maintain their milk production. This is not recommended as it drives breastmilk production higher. Needing to pump at night to maintain production is different if you have sleep trained a baby (i.e. baby not instinctively sleeping longer stretches on its own) or if mom has more average or lower milk production to start.

Mothers may be concerned about developing mastitis if they sleep longer stretches overnight without breastfeeding or pumping. If your baby starts to sleep longer stretches at night and you let your breast rest (not pump), your body will naturally decrease production at night so that you are in sync with your baby. If you wake up and pump when your baby is sleeping and not needing a feeding, you will be less in sync with your baby and at risk of persistent overproduction of milk. Babies who sleep more

“

Babies will begin to smile, interact with people and things around them

overnight may feed very frequently during the day, as they need to make up for the calories they are not taking in at night.

Colic and Evening Cluster Feeding

From 4-6 weeks, babies will develop “colic,” which is a period of important brain development. After this time period, babies will begin to smile and interact with people and things around them. The 4-6 week period can be difficult mostly in the afternoon and evenings when babies seem inconsolable. They may want to cluster feed as they search for comfort, but are sometimes unable to comfort themselves even at the breast. This is a time, if breastfeeding is well established, to introduce a pacifier and take a baby outside for fresh air to calm them.

Birth Control and Breastfeeding

Contraception is safe with breastfeeding; however, some forms can impact milk production.

- **Estrogen-containing oral contraceptives** will decrease breastmilk production.
- **Progesterone-containing oral contraceptives (mini-pill)** or IUD are the preferred choice for breastfeeding women when a hormonal contraceptive is necessary.
- Moms with lower production notice a decrease in milk volume with **progesterone-containing contraceptives, hormonal IUDs, injectable or long-acting implantable birth control**. This is worsened by the fact that many moms may return to work at six weeks, and may be pumping more than breastfeeding. If you are in this situation and notice a drop in production, seek assistance.



Exclusive Breastfeeding / Lactation Amenorrhea Method (LAM)

Lactation Amenorrhea Method, or LAM, refers to the natural infertility that occurs when a woman is not menstruating due to breastfeeding.

Strict criteria must be met for LAM to be effective in preventing pregnancy: Mom must be breastfeeding baby on demand, around the clock.

- Baby only receives breastmilk, no supplementation.
- Mom is less than six months postpartum and menstruation has not returned.
- Baby is not sleeping overnight. If baby sleeps overnight, LAM is not effective.

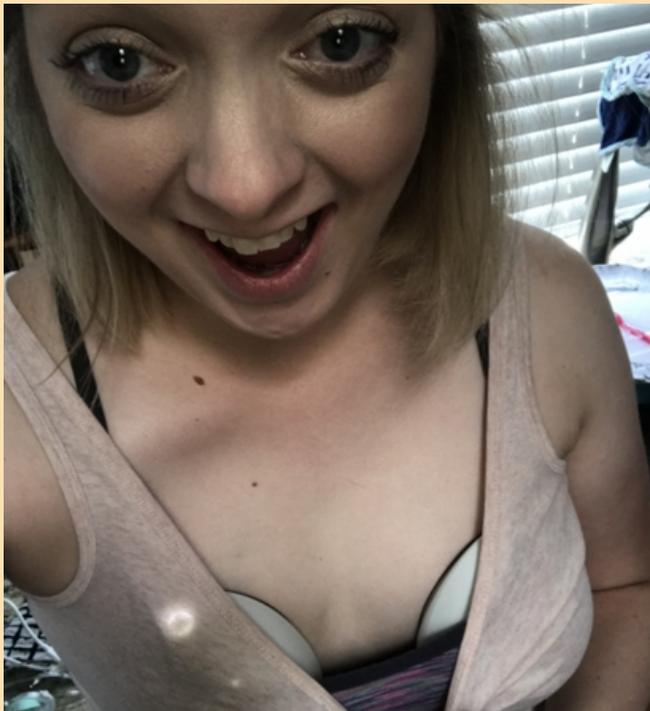
PUMPING AND MILK STORAGE

Reasons you may want to pump or hand express breastmilk:

Babies in the NICU can receive life-saving breastmilk
 Separation of mom and baby for work or travel
 Providing breastmilk to babies who do not latch to breast

Types of Pumps

- A **manual pump** is useful for expressing small amounts of breastmilk to soften the breast before your baby latches.
- A **double electric pump** attaches to both breasts at one time. Use this for return to work or baby in the NICU.
- There are hundreds of different types of **commercial breast pumps**. The Medela Symphony pump is used in medical settings and is available for rental outside the hospital. It is built to be used by hundreds of different users and lasts for years. Other commercial pumps are not meant to be used in this way, so it is important to read the package insert about the “lifetime” of the pump.
- **“Hands free” pumps** are becoming more popular. These can provide options for additional pumping time, such as in a car commute. However, if you have a lower production of milk and are just pumping enough for your baby, these pumps do not remove milk as efficiently as traditional pumps.



Using a Pump

- It is best for milk production and breast health to pump for shorter durations (e.g. 10-15 minutes) more frequently, rather than longer durations, less frequently.
- The highest volume of breastmilk is



expressed within the first 10 minutes of pumping, and much lower milk volume is removed from then on.

- “Power pumping” is pumping for very short durations, e.g. 5-10 minutes, with 10 minute breaks, over the course of one hour. This only temporarily raises prolactin levels (the milk-making hormone) and can be exhausting. This is not recommended.
- Electric pumps have suction and speed levels that you can customize. Very high suction levels and speeds can damage your nipple and breast tissue, and also will result in less volume expressed rather than more. It is most important that you find a speed and suction level that is comfortable for you.
- They do not need to be sterilized unless a baby has a strict health need for this, such as NICU situations.

Be Cautious

- Breast pumps are necessary for a breastfeeding mom who wants to continue providing breastmilk while being separated from her infant. However, it is important to approach pumping cautiously in other situations, such as pumping to prevent mastitis or to empty your breast. Because pumping stimulates milk production, it can worsen engorgement and lead to plugs, mastitis and abscesses.
- Some moms may be recommended to pump for 24 hours or even longer to “assess their breastmilk production” or to give bottles to “allow the infant to control flow” for a mom with fast flow at the breast. This can result in the infant not returning to the breast. Underlying issues such as overproduction or low production of milk should be treated first.

Milk Storage Guidelines

- Thaw frozen milk in a refrigerator or by using warm water. Do not use a microwave.
- Use thawed milk within 24 hours.
- Not refreeze thawed milk.
- Use milk storage bags to freeze milk.
- Store the amount of milk you’ll need for one feeding per container.
- There is no scientific evidence to support the concept of high lipase milk from the freezer. Milk may smell after thawing, but it is from general breakdown of fatty acids rather than an abnormally high content of lipase.
- Avoid large “freezer stashes” of milk, as it is important to give your baby current antibodies (e.g. preferably milk pumped just prior to a feed or the day before). Freezing breastmilk reduces fat content, calories, antibodies, and key nutrients.
- If you anticipate needing to bottle feed, you can begin “introducing” a bottle at approximately 2-3 weeks to familiarize baby with it. You should pump the milk to feed the baby rather than pumping in addition to a feed that was just completed (which will increase milk production unnecessarily).



Paced bottle feeding with infant held nearly upright and bottle horizontal to slow flow and mimic the pace of feeding at the breast.

Room Temperature	Up to 4 hours
Insulated freezer bag	24 hours
Refrigerator 40 F (4°C)	4 days
Freezer 0 F (-18°C) or colder	6-12 months
Rule of Six	Six hours on counter, six days in refrigerator, six months in freezer.

STARTING SOLIDS

The World Health Organization recommends exclusive breastfeeding until six months of age, at which point babies can start eating complementary foods (“solids”). Baby-led weaning means you provide your infant with much of the same food that you are eating as a family. The infant explores tastes and textures, and does not need to be fed pureed food with a spoon.



MATERNAL SELF-CARE

There are several bodily changes that may be surprising during the postpartum time



The early postpartum days are a whirlwind and can be difficult, both physically and emotionally. There are a few physical concerns in the postpartum period that are important to review:

PELVIC PAIN

There are several bodily function changes that may be surprising during the postpartum time. If you've had a vaginal birth, it may be very difficult to walk normally for a week or more. This is due to the swelling in the vaginal area as well as repair of tears from birth. This can be helped considerably by frequent ice, Advil, and Tylenol. If you've had a c-section birth, you will have a surgical incision to heal and also may be in pain and need to protect the incision from too much strain. If you have any concerns, please contact your obstetrician.

ABDOMINAL WEAKNESS

Because of the chronic stretching of your abdominal muscles, you will still "look" pregnant for several weeks or more after giving birth. Gradually, your muscles regain their "memory" and strength, but your tummy won't ever look 100% like it did before pregnancy! If you have persistent weakness in your abdomen, ask your physician for a referral to a physical therapist.



BOWEL MOVEMENTS

Whether you have had a vaginal or c-section birth, you want to make sure you are not straining with bowel movements. Your pelvic floor muscles are very fragile after birth, and you want to put as little stress on this area as possible. You may be given a stool softener like colace and/or a laxative like senna in the hospital. Continue to use these as needed, once you get home. If you need something stronger, you can consider milk of magnesia if you aren't taking pain medication, or miralax if you are taking pain medication. In addition, odansetron (Zofran), used as anti-nausea medication, can cause additional constipation.

HEMORRHOIDS

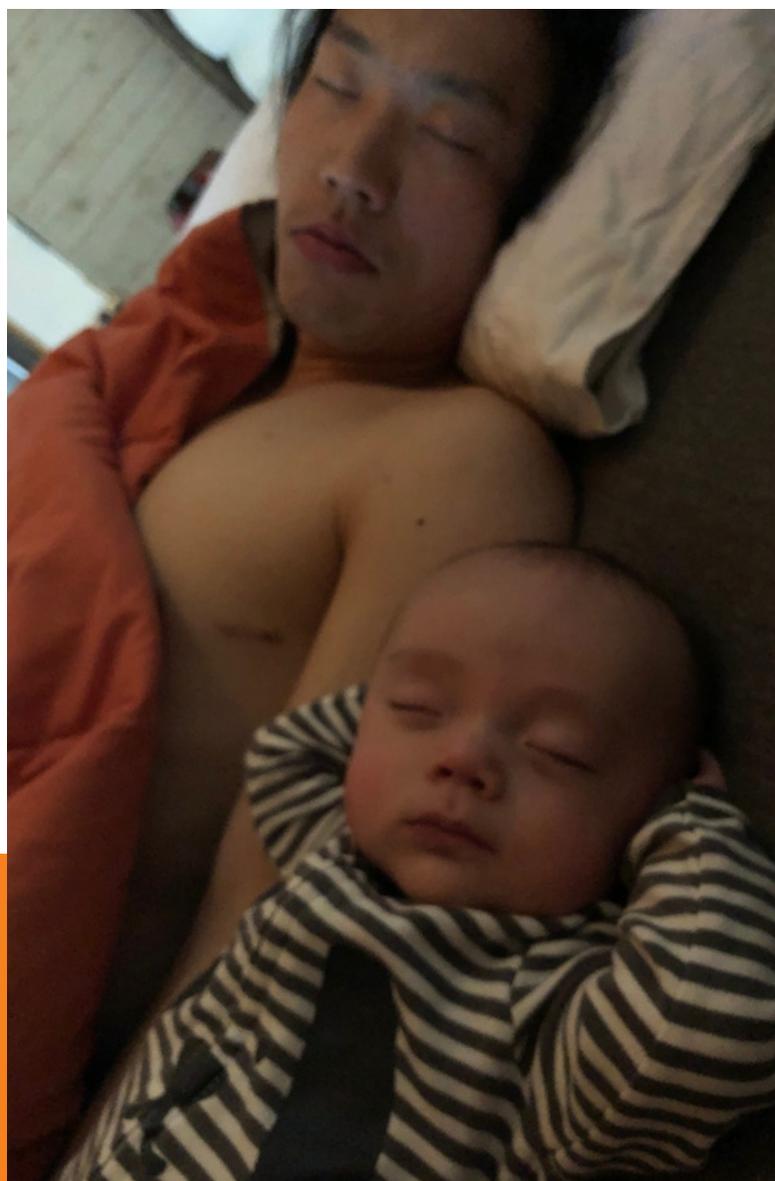
Hemorrhoids are extremely common after childbirth, and can be very painful. In addition to keeping your stool very soft, topical gels and Sitz (salt water) baths can be helpful for reducing pain. If it hemorrhoids become more problematic, ask for a referral to a colorectal surgeon for further management.

EXHAUSTION

The postpartum time period is both life-changing and utterly exhausting. Sleep deprivation can worsen anxiety and depression. If you are struggling, it is important to seek professional help, as well as develop a plan with your partner and/or family and friends for support. What is best for mom is best for baby, so caring for yourself is paramount. This means help with laundry, errands, food preparation, caring for older children, and giving yourself a mental break for a nap or pleasure activity.

PELVIC FLOOR DISORDERS

Childbirth can contribute to the development of pelvic floor disorders including bladder control, bowel control, and pelvic organ prolapse. Talk with your obstetrician if the problem continues for six weeks or more after birth. Ask for a referral to urogynecologist or female urologist.



**What is best for
mom is best for
baby, so caring for
yourself is
paramount.**

”

VAGINAL DRYNESS DURING LACTATION

Because your estrogen and progesterone levels are naturally low during lactation, it is very common to experience symptoms of vaginal dryness. Vaginal dryness may present itself as pain during sex, itching, general pain, and urinary symptoms. If you are experiencing these concerns, call your physician for evaluation. Vaginal estrogen is safe with breastfeeding and can alleviate these symptoms.

SEXUALITY

It is very common to have reduced or non-existent libido after giving birth, particularly in the setting of extreme exhaustion. It can be further affected by untreated anxiety and depression. Even parents with a relatively uncomplicated postpartum experience nevertheless have undergone a major life and relationship change with the birth of a baby. Though women will be offered birth control at their six week postpartum visit, this does not mean that she has to feel ready to have sex from both a physical and emotional standpoint. These changes occur for all new parents, regardless of whether they were the birthing parent or not.



NUTRITION

Food trains and assistance with grocery shopping can be extremely helpful after the birth of a baby, when sleep and time for preparing meals is limited. Many women have questions about supplements in the postpartum period to assist in recovery, mood, and milk production.



Specific herbs may be utilized to increase milk production, but these can also stimulate overproduction (hyperlactation) in some individuals and should be used with professional guidance. Placental encapsulation should be avoided, as this increases progesterone levels ("pro-gestation," or "pro-growing a baby") and decreases prolactin (the milk-making hormone - "pro-lactation").

Be cautious with weight loss drugs, as these are not always safe or regulated. Nutritionists generally recommend a well-balanced diet, adequate water to thirst, and keeping healthy snacks handy such as fruit, veggies, seeds/nuts, and whole grains. The occasional donut or treat is not prohibited! :)



EXERCISE

Remember that giving birth is a huge physical and emotional experience, and it is completely normal to not feel interested in exercise for a long period after birth.

However, know that if exercise previously provided mood benefits for you (such as relief of anxiety), finding ways to include light exercise (stroller walks, gentle hikes with baby in carrier) can be helpful.

Getting outside and enjoying sunlight can also help mood. More intensive training is possible if your c-section or vaginal birth incisions have healed, but professional guidance can assist you in navigating body changes and adapting previous routines.

SWEATING

Moms can experience fevers in the postpartum period for a variety of reasons, including infection in the uterus, to urinary tract infection, or mastitis. It is important to seek medical care if you experience a fever above 101.5 degrees. However, low grade fevers associated with engorgement and/or plugging often resolve with ice, Advil, and Tylenol. Women are often prescribed antibiotics over the phone for mastitis without a physician or other healthcare provider examining them. This can result in antibiotic resistance, and antibiotics can most often be avoided with simple measures as above.

Other sweating such as night sweats is normal in the postpartum period as hormones fluctuate considerably and moms have low estrogen similar to perimenopause. Panic attacks from anxiety may result in feelings of flushing, sweating, heart palpitations, nausea, and dizziness. In the same way that people can sweat and elevate their core body temperature in stressful situations such as public speaking, postpartum women can develop this as well. If you are experiencing anxiety and sweating, contact your physician to be evaluated.

GENERAL CAUTIONS

As much as possible, I encourage patients to avoid internet searches, apps that track feeding, and everything else that may distract them from simply being present with their baby and their own experience. If moms are struggling, it is best to seek in-person medical or lactation care, and meet with groups of other moms in-person.



PERINATAL MOOD AND ANXIETY DISORDERS (PMADS)

The weeks and months following the birth of your baby can be exhausting and overwhelming, especially with the lack of sleep, hormonal changes, and discomfort you may experience after delivery.

Postpartum mood and anxiety disorders can occur at any time point during pregnancy after the birth of a new child, and symptoms may be different than those of women not in the perinatal period. Insomnia, guilt, and intrusive thoughts about the safety of the baby are very common. Moms can experience new feelings of rage toward partners and family members. Feeling disconnected or not bonded to the baby is also common.

A condition called "DMER" (Dysphoric Milk Ejection Reflex) involves feelings of breast pain, nausea, doom, pit in stomach, sadness, wanting to "crawl out of my skin" or other unique symptoms before the milk letdown. Nursing aversion or not wanting to be touched can overlap with DMERs or be present separately. However, both respond extremely well to medication, and therapy can help a mom process these feelings.

Depression and anxiety are more prevalent in those moms who experience challenging breastfeeding complications or struggle with baby weight gain or other health concerns. If you are suffering, please reach out to your healthcare team for help. It is important to recognize and treat depression and anxiety as it can intensify the feelings of overwhelm during this time.



Insomnia, guilt, and intrusive thoughts about the safety of the baby are very common. Moms can experience new feelings of rage toward partners and family members.

PHONE HOLIDAY

Your baby will be a toddler before you know it, and you don't to look back and realize how much you missed while absorbed with social media, text messaging, internet surfing, or tracking each hour of the day with an infant app. Take a "phone holiday," where you put your phone away for at least 12 hours and let friends and family know that you will not be using social media or text messaging during that time.



Postpartum Support International - www.postpartum.net/
The Postpartum Stress Center - www.postpartumstress.com
The Periscope Project - www.the-periscope-project.org/
The Blue Dot Project - www.thebluedotproject.org/
2020 Mom - www.2020mom.org/
Kelty's Key - www.keltyskey.com/
Birth of a Mother Podcast - www.thebirthofamother.org

Helpful Books:

Good Moms Have Scary Thoughts by Karen Kleiman, MSW
What About Us? by Karen Kleinman, MSW
Why Breastfeeding Grief and Trauma Matter by Amy Brown, PhD
Anxiety Workbook for Pregnancy and Postpartum by Pamela S. Wiegartz, PhD and Kevin L. Gyoerko, PSY.D
Safe Infant Sleep by James McKenna, PhD

SAFE INFANT SLEEP AND SIDS

Safe Sleep

When babies are in their “4th trimester” and adjusting to life outside the womb, early infancy is particularly challenging for sleep. Humans are biologically wired to crave constant contact from parents and caregivers during this time—which is why they will cry, grunt, squirm, and fight against a swaddle when separated from their mother. Yet healthcare providers and the infant industry warn to “never bedshare.” This places exhausted parents in a difficult position when their breastfed baby won’t sleep alone, but parents can’t continue the frustrating nighttime cycle of trying to make this happen.

A patient of mine once said, “bedsharing “everyone’s dirty little secret – people are afraid to talk about it because of the stigma or lectures, but everyone is doing it.” However, if we don’t talk about safe bedsharing, parents end up in unsafe situations on a couch or recliner because they are so fearful of bringing a baby into bed. I tell patients it’s like talking about teenage sex – either we can hope that teenagers aren’t having sex, or we can talk to them about how to do it safely if it does occur. The American Academy of Pediatrics (AAP) has a statement in its guidelines that they recognize parents will sleep with their infants, and they acknowledge a safer bed is much safer than anywhere else. The image to the right shows how to bedshare in a safe way (that in fact, is also beneficial to infant health and development). Information on SIDS below is reproduced with permission from James McKenna, PhD, Safe Infant Sleep.



A sketch of safe bedsharing shows parents who do not smoke, are sober, have chosen to bedshare, and are breastfeeding their baby. The bed frame has been completely removed and the mattress has been placed at the center of the room away from walls and furniture. Light blankets and firm, square pillows are being used. No older children, pets, or stuffed animals are in bed.

Reproduced with permission from James McKenna, PhD, Safe Infant Sleep.



Image by Chloe Trayhurn

SIDS

Bedsharing is not a risk factor for SIDS. In fact, breastsleeping (breastfeeding and safe bedsharing) infants have the lowest risk of SIDS. What does cause SIDS? The infant’s failure to arouse from a deep sleep is a major contributing factor. Infants do not have the same self-arousal mechanisms that older children and adults have. It is possible for a baby to fall asleep and not wake up without external stimulation, because his or her body has not yet developed the ability to wake itself. SIDS rates declines significantly at four months as infants begin to develop these capabilities, and decline even more so at six months.

External risk factors exacerbate underdeveloped arousal mechanisms. This include the following:

- Maternal smoking during pregnancy
- Formula
- Parental smoking in general
- Lack of bodily contact and stimulation
- Deep, uninterrupted sleep
- Infant sleeping on their stomach
- Prematurity
- Overheating
- Infants sleeping in a separate room from parents

COMMON INTRUSIVE THOUGHTS IN THE POSTPARTUM PERIOD

Everyone says they are so in love with their babies. What is wrong with me that I don't feel bonded to my baby at all?

I am exhausted and I have absolutely zero motivation to do anything.

They have checked my thyroid, my blood counts – everything. They say this is just being a new mom. But it feels like more than that.

Breastfeeding is a miserable experience. My body is failing me. No one can seem to help. I'm in constant pain and my baby screams when I put her near my breast. I want to stop, but I feel so guilty and I'm sure all the other moms will judge me for using formula.

I have this repeated vision of me smothering the baby with the blanket. I am horrified by this and never would do it, but it's stuck in my head. I am afraid to tell anyone for fear that my baby would be taken away and I would be sent to jail.

I feel like a failure. I don't know why I had this baby. I'm so used to being good at everything, and I'm a total mess. Everyone else is going to playdates, and I'm walking around the house half naked still wearing postpartum underwear because every time I cry, I pee.

I feel awful about my postpartum body. I can't imagine what my partner thinks. The other moms look so good.

I started hemorrhaging after birth and they took my baby away to the NICU. I didn't get to see her for days. I can't even look at pictures of moms doing skin-to-skin – I was forever robbed of this experience.

I can't make any decisions to save my life. Even basic things like grocery shopping, I find my brain feeling totally foggy or spinning out.

I need a break, but I can't give up control of taking care of my baby.

"Self care"? That doesn't even begin to explain what I actually need.

Everyone says I should ask for help, but I feel like I can't ask. I wish people would offer, or do things without me asking (like my partner).

I've been through therapy and made peace with my childhood, but now these past traumas are creeping back and won't go away.

I get panic attacks about driving. I constantly double check the car seat or have images of us being hit by a truck.

I find myself cleaning all the time and am paralyzed with worry about my baby getting sick.

Insomnia. I haven't slept my entire pregnancy.

It's my second baby, and I feel the same breastfeeding problems setting in again. I feel sad and alone while other moms feed their babies without worry. How long will this go on? Months again?

I feel like I cry or am constantly about to cry all the time.

I feel resentful towards everyone – including my baby.

I have a history of infertility, but now that I had this "rainbow" baby, I didn't realize I would feel so conflicted about motherhood.

My birth experience was so traumatic. I literally feel like damaged goods. I don't think I will ever be myself again.

I find myself browsing social media at 3 am and feeling more and more bad.

I got so freaked out when someone suggested I could be starving my baby that I have a scale to check my baby's weight after every feed – even though his weight gain is great.

If one more person touches me, I may scream.

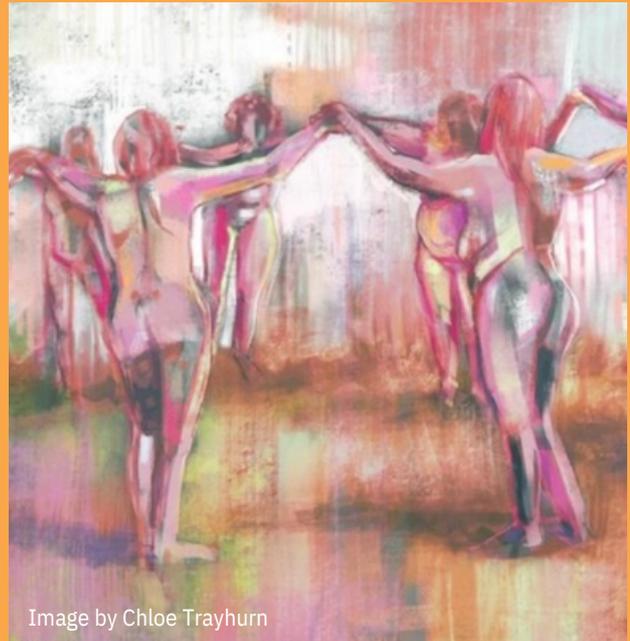


Image by Chloe Trayhurn

PMADs (Perinatal Mood and Anxiety Disorders) are the most common complication of childbirth, and this period is your lifetime highest risk for developing depression or anxiety. Standardized maternal mental health screening tests do not always capture the range of complicated emotions moms can experience in real life. This page is a compilation of common thoughts I have heard patients describe over the years.

After multiple miscarriages, I now have a viable pregnancy. But I am paralyzed with fear that something will go wrong and I keep going to the doctor's to get checked. I'm sure they think I'm crazy.

Everything my partner does is aggravating or stupid. I fly into a rage multiple times a day. I'm not depressed -- I'm just mad. I feel scared that I am going to lose control one day with the baby.

I need to take a shower, clean, cook, and spend time with my spouse/other kids. But I feel guilty not spending it all with the baby.

I can't help myself from checking to make sure my baby is breathing, and I can't ever relax. I feel like I'm constantly on edge worrying.

I have really strange and often disturbing thoughts. It can be anything from standing at the top of the stairs with my stroller and imagining us falling down the stairs, or looking at my baby on the changing table and worrying I may molest him. There is no way I would ever do this, and I find the thought repulsive. But I can't get it out of my head. I've started to have my partner give the baby his bath because I'm so afraid I may drown or hurt him.

I have a "high needs" baby, one that cries the second I put her down. The nights are the worst. I am absolutely losing my mind with exhaustion. I'm so jealous of friends with "easy" babies.

I fantasize about walking out the door and not coming back.

I get nauseated and want to crawl out of my skin when I feel a milk letdown.

I can't ever get my mind to shut off and I feel more and more lost.

Holding the baby or nursing the baby literally makes me feel like I am suffocating and can't breathe.

TRASH THE PUMP AND DUMP!



Very few situations require moms to interrupt breastfeeding, discard their breastmilk, or stop breastfeeding altogether. Skin creams/gels, eye drops, hair dyes, botox and fillers, lasers, facial peels and retin-A, teeth whitening, tattoos, numbing medications for dental work, acupuncture, and reasonable caffeine and alcohol consumption is safe with breastfeeding. Surgery, colonoscopies, anesthesia, and most radiology tests and medications are safe. Travel and airport security scans are safe. Breastfeeding should not be interrupted with Covid-19 infection or other viral illness. Exceptions include herpes on the breast, in which you should pump and discard milk until lesions develop scabs. Vaccines are safe, except smallpox and yellow fever. Marijuana and recreational drugs are not safe.

MEDICATIONS

General principles

- Most medications, including antibiotics, are safe during lactation. The exception list is extremely short and includes codeine, tramadol, chemotherapeutic agents, 1-131, statins, amiodarone, tetracyclines if used > 3 weeks, some novel oral anticoagulants, phenindione, and recreational drugs.
- Avoid medications that decrease milk production, such as estrogen-containing birth control pills, decongestants, sedating antihistamines, bromocriptine, and cabergoline

Resources

- LactMed (National Institute of Health Toxnet medications and lactation database): <https://www.ncbi.nlm.nih.gov/books/NBK501922/>
- **'Medications and Mother's Milk'** by Dr. Thomas Hale. Online at MedsMilk.com
- Infant Risk Center Physician hotline (research center for medication safety during pregnancy and lactation):
- **+1-806-352-2519, infantrisk.com**
- e-lactancia (a comprehensive medication and herbal medicine database, in English and Spanish): e-lactancia.org
- Organization of Teratology Information Specialists (information on medications during pregnancy and lactation, with free online chats and phone calls): mothertobaby.org

RADIOLOGY AND NUCLEAR MEDICINE

General principles

- No interruption of breastfeeding is required for X-ray, CT scan with iodinated intravenous contrast, or MRI with gadolinium-based contrast
- Nuclear medicine study recommendations most often do not require interruption of breastfeeding; iodine-based compounds are an exception and most often do require interruption and/or cessation
- PET CT requires separation of the mother-baby dyad for 12 hours, but the milk itself is safe
- Diagnostic and screening mammography is safe

Resources

- American College of Radiology 'ACR Manual on Contrast Media' Version 10.3 2017: Chapter 19, Administration of Contrast Media to Women who are Breast-Feeding, page 102-3
- Nuclear Regulatory Commission Regulation of Nuclear Medicine 'Guide for Diagnostic Nuclear Medicine' Chapter 2.4.1: Radionuclides in Pregnancy and Breast-Feeding, page 4
- The International Commission on Radiological Protection 'Radiation Dose to Patients from Radiopharmaceuticals' Addendum 3 to ICRP Publication 53. ICRP Publication 106, 2008: Annex D, Recommendations on Breast-feeding Interruptions
- Mettler, Fred: 'Essentials of Nuclear Medicine Imaging', 6th Edition, Appendix G: Pregnancy and Breastfeeding
- American College of Radiology, Imaging of Pregnant and Lactating Women 2018

ANESTHESIA AND ANALGESIA

General principles

- Mothers with healthy term or older infants generally can resume breastfeeding as soon as they are awake, stable, and alert after anesthesia. Normal mentation indicates that medications have redistributed from the plasma and milk compartment.
- Opioids do transfer into breastmilk and may cause infant sedation or apnea, but judicious use for short periods is safe
- IV: Due to poor oral bioavailability, Morphine and hydromorphone (Dilaudid), are preferred over other opioids
- PO: Hydrocodone (Vicodin, Norco) is preferred
- Avoid tramadol and codeine. Some mothers are ultra-rapid metabolizers of these medications, increasing the risk of over-sedation of the infant

Resources

- Academy of Breastfeeding Medicine Clinical Protocol #15: Analgesia and Anesthesia for the Breastfeeding Mother, Revised 2017: <https://abm.memberclicks.net/assets/DOCUMENTS/PROTOCOLS/15-analgesia-and-anesthesia-protocol-english.pdf>
- Food and Drug Administration Use of Codeine and Tramadol Products in Breastfeeding Women April 2017- <https://www.fda.gov/Drugs/DrugSafety/ucm118113.htm>



POSTPARTUM SUPPORT

BASIC NEEDS

- These people can help with holding the baby when the baby doesn't want to be put down:
- This is the carrier I will use when I am alone and the baby doesn't want to be put down:
- I am someone who needs sleep to function. This is who can help with naps and overnights:



- This is where I will sleep and where my baby will sleep:
- If I find that my baby doesn't like being in a bassinet and I am exhausted from up and down all night long, this is how I will prepare a safe bed for sharing if I am at risk for falling asleep on a sofa or chair:
- I am ok with less sleep, but these are other things I absolutely need to get through the day (shower, bath, yoga, coffee, etc):
- These are random things that make me happy and perk me up:
- I am going to be spending a lot of time recovering, resting, and feeding/holding the baby at home, and these are my favorite shows and/or books/magazines to pass the time on the couch:



FOOD, LAUNDRY, AND MORE

- I love having regular meals. This is how I will get help with this:
- I am a snacker. This is what I plan to have for quick fuel:
- My favorite healthy foods are these:
- My favorite comfort/splurge foods are these:



- This is my grocery list of common items we may need (e.g. toilet paper) if friends/family offer to shop for us (can prepare separate list and have ready to give out!):
- These are my favorite delivery options (consider printing menus and highlighting favorite foods if friends/family want to help):
- I have experienced a complicated relationship with food and/or substances in the past, and this is what I do to help myself when feelings resurface:
- These people can help with dishes, laundry, cleaning, and other household chores:
- These people can help with walking the dog and caring for other pets:
- These people can help with errands:



RELATIONSHIPS

- These are the ways I will spend special time with my older children and/or partner:
- These are things that my partner can do/say to help, and things that may be less helpful. My partner can also list ways I communicate well and not so well:
- I am a single parent and I can find support in my village with these people:
- When needing a break from family and friends, I will say/do this to give myself some space/grace:
- I have made my phone holiday box and this is my plan for using it when I feel overwhelmed:
- Other ways I can comfortably make space for people I love (knowing I need space/grace before anything else) are these (including limits on visiting times and other "house rules")



EXERCISE/FRESH AIR

- This is how I am going to get of the house for fresh air/sun , even for a few minutes:
- Exercise and/or being in nature is a huge stress reliever for me. This is how I will find time for it, even if it's just a little:
- When I am reaching my limit, I need to do these things to decompress:



PROFESSIONAL HELP

- I have seen a therapist in the past, and I have made a postpartum appointment with that person for this date:
- If I find I need a therapist for the first time, I would reach out to these providers:
- If I am feeling guilty about not spending enough time with my older children, or my relationship with my partner and/or family and/or friends is struggling, these are resources for marriage and family therapy:
- I had and/or currently have abuse and/or trauma in my life. These are my resources for getting help, particularly if birth and motherhood reactivates old memories:
- I have financial stress. Priority items/bills are these:
- If I have a chronic health condition and/or I know my baby has a condition identified prenatally (or something unexpected is discovered postpartum), I can reach out to hospital social workers and/or these other people for assistance in navigating these challenges:
- If I think I need medication for anxiety and/or depression, these are my resources:
- These are my care providers (ob, lactation, doula etc) and my baby's (pediatrician etc):



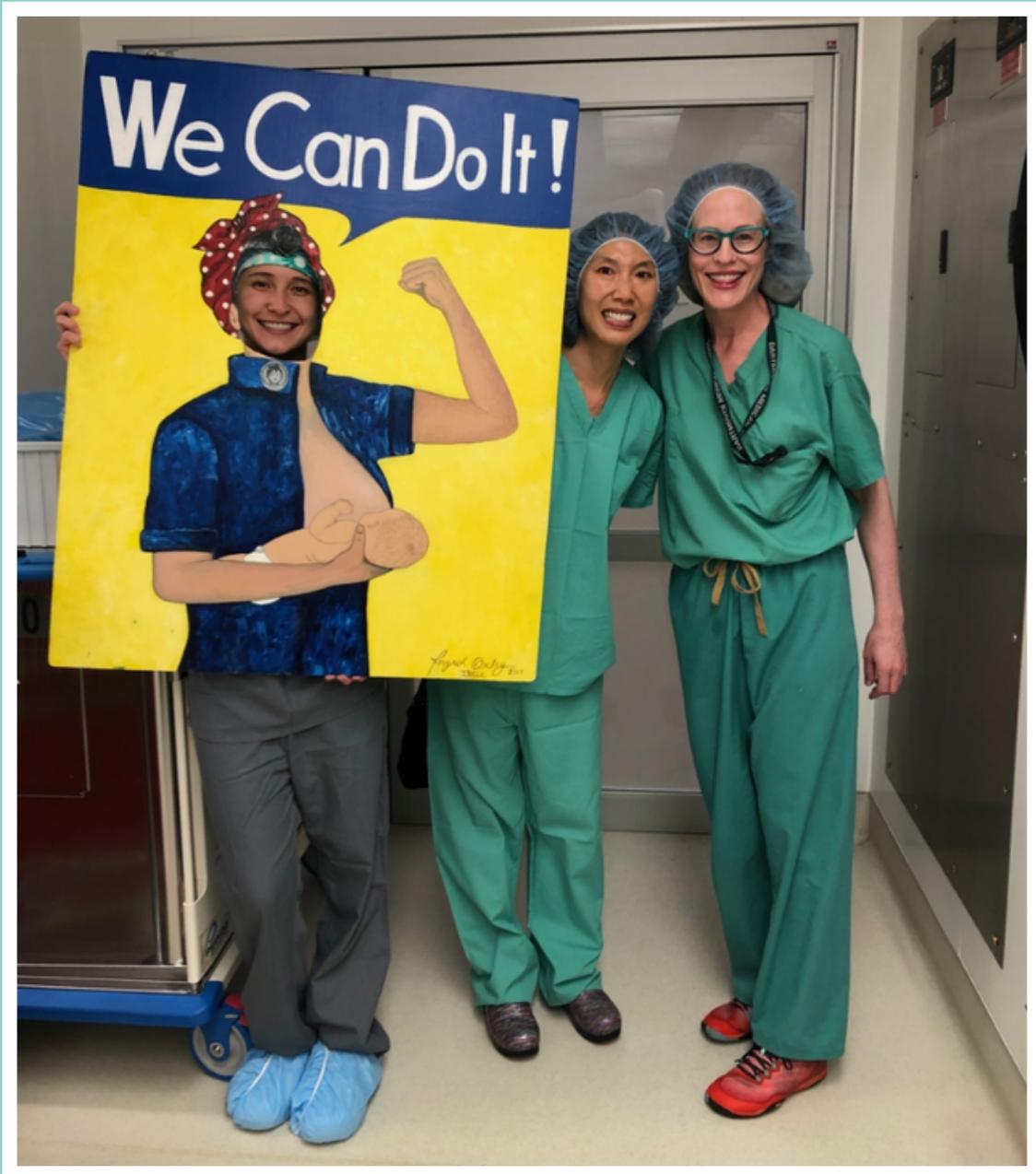


OBSTETRIC PROVIDER

QUESTIONS FOR MY OBSTETRIC PROVIDER

- Help processing my birth experience:
- Vaginal dryness, itching, UTI symptoms:
- Incontinence (urinary or stool):
- Pelvic pain/strength and/or my abdominal wall strength:
- Mood/anxiety and/or DMERs (when breastfeeding feels bad and/or weird):
- Sexuality/intimacy concerns:
- Contraception (if I have lower production of breastmilk, I need to discuss this):
- Exercise:
- Nutrition:
- Extending disability if my mental or physical health needs it:





Please reach out with questions anytime!
You've got this, mama!

MATERNAL MENTAL HEALTH MATTERS



PHYSICIAN GUIDE
to *breastfeeding.org*

24/7 SAMHSA Hotline: 800-662-HELP (4357)

Postpartum Support International ([Postpartum.net](https://www.postpartum.net))

Postpartum Stress Center ([postpartumstress.com](https://www.postpartumstress.com))

2020 Mom ([2020mom.org](https://www.2020mom.org))

Birth of a Mother Podcast ([thebirthofamother.org](https://www.thebirthofamother.org))

What about Us? (Karen Kleiman)

Good Moms Have Scary Thoughts (Karen Kleiman)

The Postpartum Depression Workbook (Abigail Burd)

The Pregnancy and Postpartum Anxiety Workbook (P. Wiegartz)

Cover art: Chloe Trayhurn