



WOMEN & INFANTS CENTER

| Lactation Guide

St. Louis Children's Hospital Guide to Breast Pumping



CONGRATULATIONS ON THE BIRTH OF YOUR BABY!

Have you thought about providing breast milk for your baby? You may have planned to breastfeed and wonder if it is still possible. With help and information from St. Louis Children's Hospital staff, you may be able to breastfeed when your baby is feeling better. If you had not planned to breastfeed, know that pumping your milk – even for a few weeks – will be a great help to your baby. Talk with your doctor and other staff about your decision to provide milk for your baby.

TABLE OF CONTENTS

Guide to Breast Pumping the First 3 Days of Life.....	page 3
What to Expect the First Days.....	page 4
Instructions for Hand Expression.....	page 5
Where to Pump.....	page 6
How to use the Ameda Platinum® Breast Pump.....	page 7
Guide to Pumping Once Your Baby is 3 Days Old	page 10
How to Keep Breast Pump Kit Clean at the Hospital.....	page 12
Oral Care with Breastmilk.....	page 14
Breast Milk Storage in the Hospital.....	page 15
Tips for Thawing and Warming Breast Milk	page 16
Caring for Mom	page 17
Visiting your Baby in the Hospital	page 17
Kangaroo Care (Skin-to-Skin).....	page 18
How Can I get a Pump While I'm Away from the Hospital.....	page 20
Breastfeeding Discharge Information	page 21
Pumping Diary.....	page 23

This booklet is for your general information only. This document is not a substitute for your child being seen by a doctor. Always call your child's doctor if you have any questions or problems. If you feel your child is having a medical emergency, call your pediatrician or go to the emergency room.

Guide to Breast Pumping for the First 3 Days of Life

**If you can, start pumping within the first two hours after your baby is born.
To get started, ask your nurse for a pump, pump kit, bottles and labels for milk.**

QUICK GUIDE TO PUMPING BREAST MILK

1. Clean your hands for 15 seconds with soap and water or alcohol foam.
2. Gently massage the breasts and nipples for a few seconds. This helps your brain know to release milk.
3. Use hand expression for three minutes (see page 5).
4. Pump both breasts at the same time, for 15 minutes, using the hospital's electric breast pump (see pages 7 to 12).
5. After pumping, try to hand express for two more minutes.

HOW OFTEN TO PUMP

- Pump every two to three hours or at least eight times in a 24 hour period. This includes one time in the middle of the night. Do not go longer than five hours overnight without pumping.
- Think of pumping as feeding your baby. Babies eat eight to twelve times a 24 hour day.
- It is important to pump often in the first two weeks after your baby is born. Even if your baby is not eating yet.



What to Expect the First Few Days

- Expect to pump nothing or just a few drops of milk. Even a few drops are important to your baby.
- Pumping often sends your body the signal to make more milk.
- Focus on the total number of pumps each day, not the time between pumping.
- Write down what time and volume you pump. Use the Breastfeeding Mother's Pumping Diary. Apps are also available for Apple and Android devices.

WILL I MAKE ENOUGH MILK FOR MY BABY?

DAY OF BIRTH:

Your baby's stomach holds about 3 to 5 milliliters. This is about what would fill a marble. Your colostrum is just the right amount for your baby's first feedings.

Birth

3 DAYS OLD:

Your baby's stomach holds about 0.75 to 1 ounce. This is about the amount that would fill a ping-pong ball.

3 Days Old

AROUND 7 DAYS OLD:

Your baby's stomach now holds about 1.5 to 2 ounces. This is about the amount that would fill an extra-large chicken egg.

7 Days Old

WHAT BREAST PUMP TO USE

- A hospital grade pump is important for creating a milk supply when the baby is not feeding well.
- Mid-sized electric pumps sold for individual use work best for mothers who have created a milk supply and are breastfeeding on a regular basis as well as pumping.
- Small electric/battery operated and hand pumps may work for occasional pumping once the milk supply is well established.



Instructions for Hand Expression

Scan the QR code with your mobile device to open the website in your mobile browser.

WATCH THE VIDEO ON HOW TO HAND EXPRESS

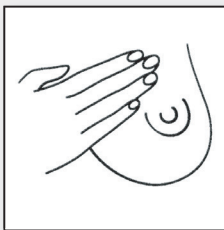
- Dr. Jane Morton has created multiple free videos to establish breastfeeding.
- Put the following search words into your web browser: Dr. Jane Morton, Stanford and hand expression.
- Play the video titled “Hand Expression of Breastmilk” or “Early Hand Expression”.



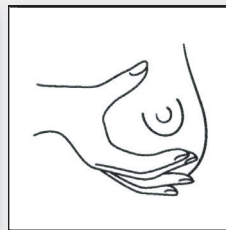
STEPS FOR HAND EXPRESSION

Before you begin find a place where you can sit straight up and have an open colostrum bottle in your reach to collect the milk.

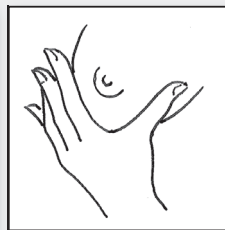
1. **MASSAGE**, brush or stroke your breast to help the milk begin to flow.
2. **PLACE YOUR FINGERS** in the form of the letter “C” on your breasts. Position your fingers about 1 inch back from the edge of the areola with your nipple between your thumb and index (pointer) finger.
3. **PRESS BACK** on the breast, towards your chest.
4. **COMPRESS** your breast with your thumb and index finger. Continue to press backward on your breast. Try to keep your fingers from sliding too close to the nipple.
5. **RELAX** your fingers.



MASSAGE



PLACE FINGERS



PRESS BACK



COMPRESS



RELAX

6. **COLLECT** the milk in a colostrum bottle. Hold a bottle under a breast and catch any drops of milk with the edge of the bottle.
7. **START OVER AGAIN!** Press back...compress...relax... Go back and forth from one breast to the other (right, to left, to right, etc.).

Where to Pump

PUMPING ON A PATIENT FLOOR INSIDE THE HOSPITAL:

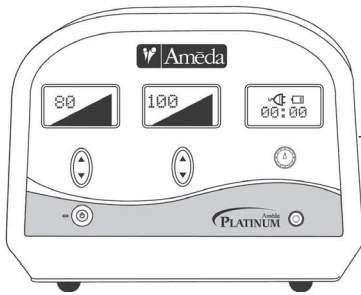
- Ask your nurse for a hospital-grade electric breast pump.
- A pump and pump kit will be delivered to your baby's room.

PUMPING IN THE NEWBORN INTENSIVE CARE UNIT (NICU):

- Your nurse can order a breast pump kit for you.
- There are private pump rooms in the NICU. Please ask your nurse to show you where they are located.
- Hospital-grade electric pumps are in each pump room. Please check with the lactation consultant before using another type of pump.
- **Clean the pump room to protect your baby.** Gloves and germicidal wipes (Super Sani-Cloth®) are available in the pump rooms. Wipe counters, sink handles, arms of chair, breast pump and table top with disposable germicidal wipes before and after pumping. Wipes are provided in the pump room.



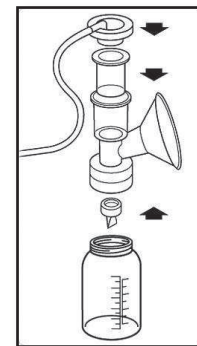
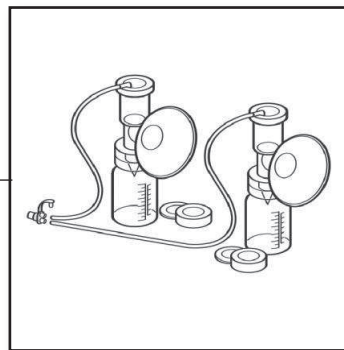
How to Use the Ameda Platinum® Breast Pump



AMEDA PLATINUM® BREAST PUMP

Ameda copyrighted materials are used with permission from Ameda, Inc. 2012

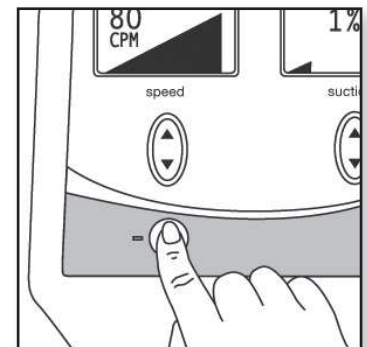
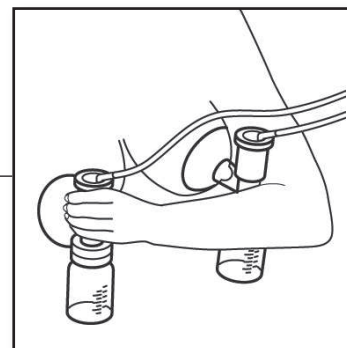
- 1) Wash your hands with soap and water or use alcohol foam. Assemble the milk collection system.



- 2) Push the tubing adapter into the pump.

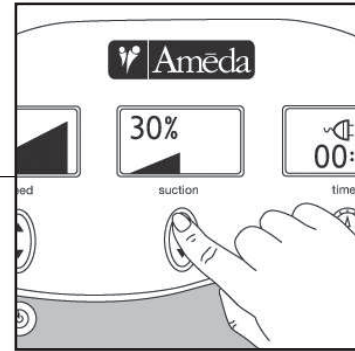


- 3) Center the nipples into the breast flanges. Use your free hand to turn pump on by pressing the RED power button.



4) Set Suction—Press arrow to increase suction until reaching *maximum comfortable level*.

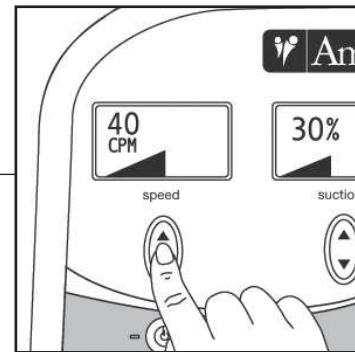
Increase the suction gradually. Once it becomes uncomfortable, turn the suction down to comfort.



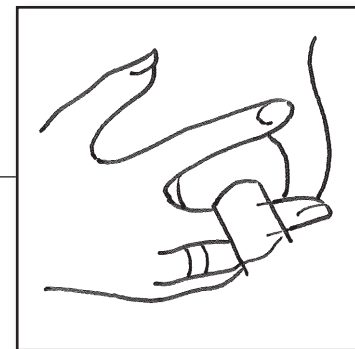
5) Set Speed—Pump starts at fast speed (80cpm).

Note: If the pump kit is not properly connected to the pump during pumping, “Check Kit” will appear in suction window.

From birth until the baby is 3 days old (73 hours old) leave the speed at 80 cpm.

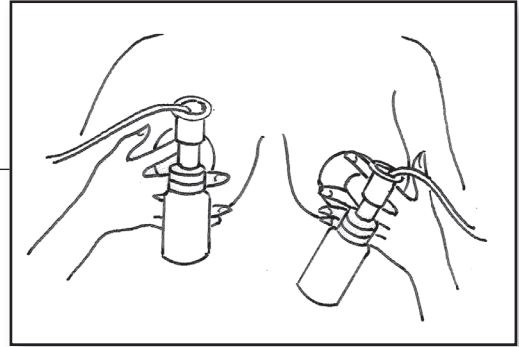


6) Position Hands—Hold your breast and the pump flange at the same time.



NOTE: Here is one way you can position your hands:

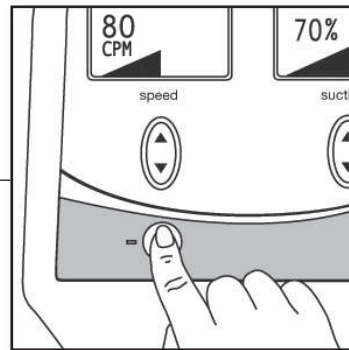
Place your thumb and palm on the breast. Place your pointer finger on the top of flange. Place your middle finger on bottom of flange, like a scissor hold. Place your ring and pinkie finger on the bottom of the breast for support and massage.



7) Pump for 15-20 minutes.

8) Turn off the pump.

9) Hand express for two minutes.



Guide to Hands-on Pumping Once Your Baby is 3 Days Old

- Watch a video on hands-on pumping.
 - Dr. Jane Morton has created multiple free videos to establish breastfeeding.
 - Put the following search words into your web browser: Dr. Jane Morton, Stanford and maximizing milk production.
 - Play the video titled “Maximizing Milk Production” or “How to Use Your Hands When You Pump”.
- Gently massage the breasts and nipples for a minute.
- Double pump: Set speed at 80 cycles per minute (cpm) to start. Increase the suction to maximum comfortable setting.
- Then, when milk starts dripping into bottles, adjust speed to about 50 cpm.
- **Position your hands for pumping.** Pick the option below that works best for you. You will learn the best place to use your hands by feeling for areas of firmness and watching for sprays in the clear plastic connector.



Option 1: Keep hands on breasts and flanges and massage breasts with thumbs and fingers.

Option 2: At the same time, use your hands to massage and compress milk out of the breasts, working on one breast, then the other, back and forth.

Option 3: Wear a hands-free pumping bra and use your free hands to massage the breasts. Make your own. Put a mark on the spot where your nipple is. Then cut a small slit where the mark is. Make sure the cut is just big enough to squeeze the flange through. **Shopping Ideas:** Simple Wishes, Pump Ease, Easy Expression (Medela®), Rumina Cross-over.



- At five to 10 minutes, when milk flow slows to a trickle, increase the speed to 80 cpm. This will help start another milk release (let-down). When you see milk flow increase, decrease the speed of the pump to about 50 cpm. This is to help drain milk from the breast.
- Pump for about 20 minutes total. Pump eight times per day. Full breasts make milk slower. Empty breasts make milk faster.

DEVELOP YOUR OWN HANDS-ON PUMPING TECHNIQUE

- You will feel the difference when your breasts are well emptied.
- Using hands-on pumping, not relying only on pump suction alone, will increase milk production and increases the richness of your milk.
- If you choose to pump one breast at a time (not our recommendation for most moms), pump each breast using hands-on pumping for 15 minutes per breast.



ESTABLISHING YOUR MILK SUPPLY

Your goal is about 25 to 35 ounces (750-1050 mL) per baby, per day. This usually happens between two to three weeks.

Tips for once you have a full milk supply:

- You may be able to pump only five to seven times per day, and/or less than 20 minutes at each pumping session. Please speak with your lactation consultant about this first!
- Continue to keep track of how much milk you pump as you make changes.
- Pump at least once during the night. Do not go longer than about five hours between pumping.



How to Keep Breast Pump Kit Clean at the Hospital

BEFORE EVERY USE

1. **Wash your hands** with soap and water or use hand sanitizer.
2. **Clean pumping area** if using a shared pump. Wear gloves while using disinfecting wipes. Wipe outside of breast pump, counter, sink handles and arm rests of chair.
3. Inspect and assemble clean pump parts. If you notice mold on any of your parts or inside the tubing discard the kit and request a new kit from your nurse.

CLEANING AFTER EVERY USE

Clean your pump parts as soon as possible. Wash the pump parts in your baby's room or one of the Lactation Rooms. **Do not** wash your pump parts in the Nourishment area.

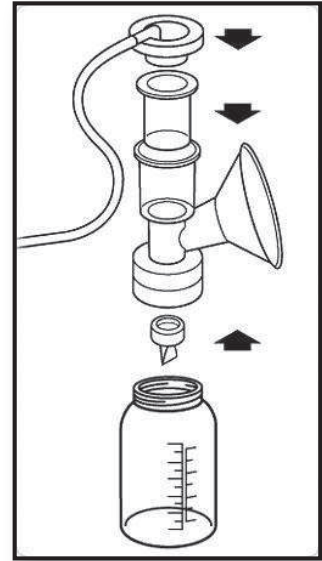
Follow these cleaning steps:

1. Take apart the Ameda HygieniKit®. **Tubing, adapter cap, and tubing adapter should NOT be washed.**
2. Rinse any milk residue from pump parts with cool water.
3. Place pump parts in a clean wash basin used only for infant feeding items. **Do not place pump parts directly in the sink.**
4. Add soap and hot water to basin. Rub all parts thoroughly with your hands.
5. Rinse parts by holding them under running water.
6. Dry all parts with paper towels. Items must be completely dry to prevent germs or mold from growing.

SANITIZE AFTER CLEANING

For extra germ removal, sanitize pump parts and wash basin at least once a day.

- Sanitizing is very important if your baby is less than 3 months old, was born prematurely, or has a weakened immune system due to illness or medical treatment (such as chemotherapy for cancer).
- Microwave steam bags are the easiest way to sanitize your pump parts at the hospital. Ask your nurse to contact Lactation for a steam bag.
- Once a day sanitize your wash basin with a germicide wipe (Sani-Cloth®). Wait two minutes, rinse basin with water, towel dry and store in a covered location.



DIRECTIONS FOR USING DR. BROWN'S® MICROWAVE STEAM STERILIZER BAGS

Complete directions are on each steam bag.

- Clean and rinse flanges, diaphragms and valves.
- Add 2 ounces of water to bag.
- Place flanges, diaphragms and valves in bag. Make sure pump parts are taken apart before placing in bag.
- Seal bag tightly.
- Put bag into microwave on center of turn table. Microwaves are on each floor in the Nourishment area. Ask a staff member to show you where the closest microwave is.
- Microwave on high power for 3 minutes (using hospital's 1000 watt microwave).
- **WARNING:** Be careful as steam and water will be very hot. Let bag cool **10 minutes**. Use an oven mitt or pot holder remove the bag from the microwave.
- Use drain spout to pour out excess water before removing sterilized parts.
- Dry parts with clean paper towels.
- Check a box on the bag after each use. Bag can be used for up to 20 times.
- Your nurse can help you get more steam bags.

Store Safely. Place wash basin with pump parts and soap in a drawer in your baby's room **OR** put pump parts, bottle of soap and basin in personal belonging bag. Place bag on a shelf under your baby's bed or near your baby.



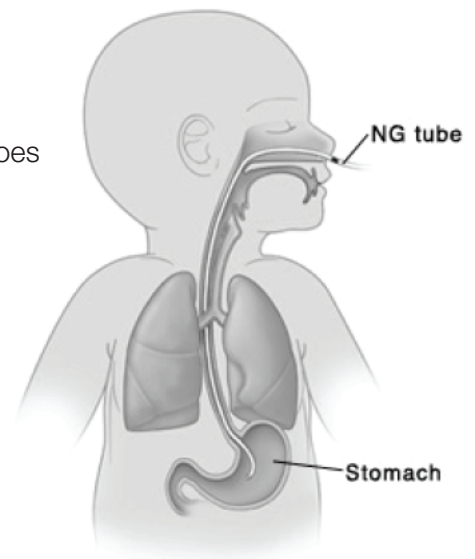
Oral Care Using Breast Milk

BREAST MILK MAY PROTECT YOUR BABY FROM INFECTION.

It has proteins, fats, vitamins, carbohydrates, antibodies, and infection fighting cells.

When a baby is not able to breast or bottle feed, a feeding tube may be used to give breast milk directly to the stomach. When the milk goes through the tube and into the stomach, it does not enter the mouth.

By doing oral care with breast milk, important tissues in the mouth absorb the milk. This may help protect your baby from infection.



HOW IS ORAL CARE WITH BREAST MILK GIVEN?

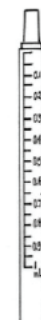
- 0.2 ml (milliliters) of breast milk is drawn up in a 1 ml syringe.
- 0.1 ml is gently applied to the inside of each cheek.

HOW OFTEN DOES MY BABY RECEIVE ORAL CARE?

- Every 3 to 4 hours with nursing care or when breast milk is available.
- Oral care is not needed if your baby is nuzzling, breast feeding or bottle feeding with breast milk.

CAN I MAKE MILK SYRINGES FOR MY BABY?

Most baby's use 6 to 8 syringes a day. Talk with your nurse about how many to make and how you can help with oral care.



1 ml oral syringe

Steps to make milk syringes:

1. Wash your hands.
2. Draw up 0.2 ml of fresh breast milk into the syringe.
3. Put a cap on the syringe.
4. Label the syringe with the date and time.
5. Put syringes in the Ziploc bag and give the bag to your baby's nurse.

Breast Milk Storage in the Hospital

- Pump directly into the bottles provided to you by the hospital.
 - Use empty, clean bottles each time you pump.
- Place hospital labels on each bottle.
 - Ask your baby's nurse for labels.
 - Write the date and time pumped on the label.
 - Give your milk to your baby's nurse for storage.
- Save all of the milk from each pumping.
 - Do not mix fresh milk with already cold or frozen milk.
- Fresh expressed milk can be stored in the refrigerator.
 - It must be used within 96 hours (four days) after pumping.
 - Freeze milk if it will not be used within 96 hours (four days).
- Frozen milk can be stored in the hospital deep freeze for **up to one year**.
- Thawed milk can be used for **24 hours** after removing it from the freezer.
- These storage times will be different once your baby is discharged home. We will provide written instructions for storage at that time.
- Keep breast milk cold when bringing it to the hospital.





Tips for Thawing and Warming Breast Milk

- A breast milk warmer may be available on your unit. Ask your nurse for more information.
- Thaw in a refrigerator. Do not thaw breast milk at room temperature.
- Lukewarm water is used for thawing and warming because it is about the same temperature as the human body, 98.6°F.
- The water level should not be higher than the top of the bottle or syringe to prevent infection.
- Do not use hot water or a microwave. The higher temperatures destroy antibodies in the milk.
- Partially thawed milk (less than 50% thawed) that will not be used within **24 hours** may be refrozen.
- Fully thawed milk must be used within **24 hours** and cannot be refrozen.
- Any remaining fully thawed milk needs to be discarded after **24 hours**.

Caring for Mom

- Rest as often as possible.
- Drink enough fluids throughout the day to avoid becoming thirsty.
- Meal trays, up to three trays, are provided for you while you are providing breast milk for the majority of your baby's nutritional needs (feedings).
 - Please ask your nurse how to order your meals.
- Relax and think of your baby while pumping.
 - Bring a picture of your baby or an item that has your baby's scent on it.
- Even if you are not able to put your baby to the breast right now, you are still feeding your baby with the milk you provide.
- Breast pumping should never be painful. If your nipples or breasts become sore, ask for a lactation consultation.



VISITING YOUR BABY IN THE HOSPITAL

- Keep your breast pump kit at your baby's bed side.
- Bring a cup with a lid so you can have something to drink while you are here.
- Wear a loose top or button down shirt for holding your baby skin-to-skin. You may want to bring a shirt and leave it at your baby's bedside.

Kangaroo Care (Skin-to-Skin)

KANGAROO CARE IS A SPECIAL WAY OF HOLDING YOUR BABY.

It is skin-to-skin contact between your baby and you, dad, grandparent, or significant other. Since the NICU is a high-tech world with many things that separate you from your baby, it is a way for you to spend special time bonding with your baby.

Research has shown that Kangaroo Care has many benefits for babies and parents.

- It increases breast milk supply.
- It helps with the continued success of breastfeeding.
- It increases bonding between you and your baby.
- It helps your baby get better faster.
- Premature babies gain weight faster.
- It helps you gain confidence in caring for your baby.
- It supports development of your baby's brain.

HOW IS KANGAROO CARE DONE?

Kangaroo Care is easiest done when you wear a shirt that opens to the front. This is because your baby is held chest-to-chest in an upright position (on his or her belly, lying on your chest). Shirts such as a low cut scoop neck, v-neck, spaghetti strap, stretchy shirts or button up shirts work well. If this form of clothing is not available, your nurse can supply you with a hospital gown that can be worn backwards. We encourage you to remove your bra.

Babies wear only a diaper and may wear a hat. A screen can be placed around you for privacy. Your shirt is opened and your baby is placed skin-to-skin against your chest. Your warmth will keep your baby warm and adjust according to your baby's needs. If your baby is very small a heat source will be available to help keep your baby warm.

HOW WILL MY BABY REACT TO KANGAROO CARE?

It may take a few minutes for your baby to settle in and become comfortable. Your nurse will be able to help you and will be monitoring your baby's heart rate, oxygen saturation, breathing rate and temperature during this transition. Once settled, most babies get very comfortable and fall asleep. Kangaroo care is encouraged for at least 30 minutes. One hour is recommended to permit your baby to complete one cycle of sleep. It can continue though as long as you and your baby are comfortable. Kangaroo care can be done as often as your baby tolerates.



TIPS FOR SUCCESSFUL KANGAROO CARE

- Make sure you have gone to the bathroom prior to Kangaroo Care.
- Have your water ready and with you.
- Make sure you have eaten prior to Kangaroo Care.
- Keep a button down shirt at your baby's bedside for easy changing.
- Choose a comfortable chair or recliner to sit in while holding your baby.
- Let your family know when you are Kangarooing so you can have this private bonding time with your baby.
- It is recommended that you should not wear strong perfume or smoke prior to Kangaroo Care, as this can irritate your baby's lungs.

There may be a time when your baby may not be able to participate in Kangaroo Care. Please discuss this with your baby's nurse and doctor.

How Can I Get a Pump While I'm Away from the Hospital

If you are not staying at the hospital, loaner pumps may be available. Some mothers of hospitalized infants qualify for a double electric breast pump through their health insurance or from a WIC office. To find out if your health insurance provides a breast pump, call the customer service number on the back of your insurance card.

Woman Infant and Children's (WIC) Office

- For Missouri, call 1.800.392.8209
- For Illinois WIC, call 1.800.843.6154
- Or visit wicprograms.org to find WIC office locations and local contact number by state and county.

BREASTFEEDING RESOURCES ARE AVAILABLE

- St. Louis Children's Hospital lactation consultants.
- Visit the Center for Families and Ronald McDonald Family Room on the 3rd floor. Call 314.454.3512.
- For metro St. Louis and Kansas City, check out mobreastfeeding.org for information on breastfeeding classes, places to buy/rent pump, WIC locations, support groups, etc.
- For Illinois, check out edwardsvilleregionbreastfeeding.org.



Breastfeeding Discharge Information

- Your baby is getting enough milk if he or she has **six or more wet diapers** a day and **three to four bowel movements** a day.
- Breasts should feel softer after feeding.
- Normal breast tissue swelling decreases after the first week. Your breasts may not feel as full. This is normal and not a sign of low milk supply.
- All breastfeeding infants should start 1 ml Di-Vi-Sol(R) Vitamin D supplement when they are 2 to 3 days old. Talk to your child's doctor about a prescription for D-Vi-Sol(R). (This vitamin can also be purchased over the counter without a prescription.)



HOW DO I STORE FRESH BREAST MILK AT HOME?

- At room temperature for four hours.
- In the refrigerator for five to seven days at 39°F.
- In a refrigerator freezer up to six months.
- In a deep freezer up to 12 months if kept at -4°F.
- Refer to the thawing and warming tip section on page 16.

CRYING IS THE LAST SIGN OF HUNGER

Here are some early signs:

- Stretching
- Hand to mouth
- Eye blinking
- Making sucking noises
- Rooting



Early baby feeding cue



Late baby feeding cue

TIPS IF YOUR BABY IS SLEEPY

- Undress your baby.
- Change his or her diaper.
- Hold your baby skin-to-skin.
- Rub your baby's hands, feet, legs.
- Massage your baby's cheeks, lips and mouth.
- Wipe your baby's face with a wet wash cloth.



TIPS FOR YOUR FIRST 2 WEEKS AT HOME

- Breastfeed every two to three hours, at least eight to 10 times in 24 hours.
- Feed on one breast completely, and then offer the second breast.
- Massage breasts before and during feeding to help the milk flow.
- Drink enough fluids throughout the day to avoid becoming thirsty, about two to four quarts in 24 hours.
- Rest when the baby rests.
- For tender nipples, review proper positioning for good latch.
- For dry or cracked nipples, use a small amount of expressed milk or lanolin after feeding. If it does not heal within two to three days, call your obstetrician (OB).

WHEN TO CALL YOUR BABY'S DOCTOR

- Will not wake up to eat after four hours. (After trying wake up techniques).
- Has less than six wet diapers or two stools in 24 hours.
- Is still having dark brown or black stools after day 4.
- Will not stay latched on and is not swallowing/feeding for at least 10-15 minutes, for two feedings in a row.
- Has yellowing of the skin that spreads below the waist.
- You are worried about your baby or have questions about feeding.
- You have problems with your nipples or breasts.

Pumping Time	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
12 AM							
1 AM							
2 AM							
3 AM							
4 AM							
5 AM							
6 AM							
7 AM							
8 AM							
9 AM							
10 AM							
11 AM							
12 PM							
1 PM							
2 PM							
3 PM							
4 PM							
5 PM							
6 PM							
7 PM							
8 PM							
9 PM							
10 PM							
11 PM							
24 hour total							

Pumping Time	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
12 AM							
1 AM							
2 AM							
3 AM							
4 AM							
5 AM							
6 AM							
7 AM							
8 AM							
9 AM							
10 AM							
11 AM							
12 PM							
1 PM							
2 PM							
3 PM							
4 PM							
5 PM							
6 PM							
7 PM							
8 PM							
9 PM							
10 PM							
11 PM							
24 hour total							



Barnes-Jewish Hospital, St. Louis Children's Hospital and Washington University Physicians comply with applicable federal civil rights laws and do not discriminate on the basis of race, color, national origin, age, disability or sex.

Atención: hay servicios de asistencia de idiomas disponibles a su disposición sin costo. Llame al 314-747-5682 (TTY: 1-800-735-2966).

注意：免费提供语言协助服务，如有需要敬请致电 314-747-5682 (TTY: 1-800-735-2966)。