PROTOCOL/PROCEDURE FOR: Breast Pumping, Breast Milk Use and Storage

POLICY:

1. All women are provided with information about the recommendations for and benefits of breast milk and breastfeeding so that they can make an informed decision regarding how to feed their baby.

    a. Meeting with a lactation consultant at some point during the infant's hospitalization is recommended.

    b. Mothers with anticipated pre-term delivery will be encouraged by all staff to pump and provide human milk.

2. All women who choose to breast feed or provide breast milk to their baby are supported in initiating and maintaining lactation unless it is medically contraindicated.

3. Each patient wishing to breastfeed her infant, but unable to do so due to prematurity or neonatal illness, should be instructed in the use of the (electric) breast pump as soon as possible and within 4 hours of delivery. If a patient is unable to comprehend instructions due to her physical or emotional status, instruction should be offered as soon as the nurse deems appropriate.

4. Breastfeeding is contraindicated if the mother is/has:

    a. Antibody positive for Human Immunodeficiency Virus and not currently receiving treatment.

    b. Antigen positive for Hepatitis B until infant treated.

    c. Culture positive for tuberculosis until treated.

    d. Culture positive for CMV if infant is premature or sick.

    e. Positive for Herpetic lesion on the nipple.

    f. Taking medication contraindicated with breastfeeding.

        i. If the effects of medication are not known, the mother should be instructed to pump and store the milk until the specific medications are researched.

        ii. If the medication is truly contraindicated, options for alternative medical treatment for the mother might be explored

    g. A history of illicit substance use during this current pregnancy who has not entered or is non-compliant in a drug treatment program. Mothers in this category may choose to pump and discard their breast milk until these issues are resolved and their milk is deemed "safe" to feed.

i. Infants of mothers in methadone maintenance programs may have symptoms of withdrawal ameliorated by small amounts of methadone in breast milk.

5. Staff may choose to use universal precautions while handling breast milk but this is not required by OSHA.

6. Preterm infants do not need to demonstrate the ability to bottle feed prior to breastfeeding.

7. Expressed breast milk will be checked by a second RN prior to thawing/preparation and administration. This double check will be documented in the Breast Milk Inventory Form (HCH-1178).

DESIRED PATIENT OUTCOMES:

1. Mother's own milk will be available to all pre-term infants.

2. Mothers of hospitalized infants will be able to use a breast pump to establish and maintain their milk supply while their infants are unable to breast feed.

3. Expressed breast milk will be safely stored and administered to ensure optimal benefit to the infant.

CLINICAL ASSESSMENT AND CARE:

A. Assess the following parameters and adjust care accordingly:

1. Maternal comfort and readiness for pumping (considereffects from narcotic and/or magnesium sulfate administration, C-section, etc.).

2. Infant's medical condition as it affects the ability to breastfeed.

3. Contraindications as listed above. If any present, discuss plan with Physician/Advanced Practitioner, lactation consultant and social worker, as needed.

4. Medications taken on a regular basis should be evaluated for safety with breastfeeding.

B. BREAST MILK SAFETY:

1. If illicit substance use is identified as a contraindication; consult with the social worker and MD/AP. Referrals to outside drug treatment programs for evaluation will be made as appropriate. Until the mother is determined to be drug-free, the breast milk will be pumped and discarded.

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2. Use of breast milk is discouraged in certain other situations such as infant with galactosemia or if mother has active, untreated tuberculosis.

3. The AAP/ACOG Guidelines for Perinatal Care recommend that breast milk expressed by Hepatitis B positive mothers not be stored in health care facilities.

4. If milk contamination is suspected, breast milk may be cultured (MD/AP order is required).

    a. Criteria:

        1. Infant with suspected sepsis or feeding intolerance following initiation of feedings

        2. Mother has an infection.

        3. Proper collection/storage technique is questionable.

    b. To obtain culture have mother pump breasts using a new pump kit.

        1. Place milk specimen into a sterile specimen container.

        2. Label and date the container.

        3. Send specimen to microbiology laboratory with completed requisition for colony count and organism identification.

    c. Criteria for contamination:

        a. Colony count > 1 x 100,000 (staphylococcal species coagulase negative)

        b. Any presence of pathogens

            1) Staph aureus
            2) Hemolytic streptococci-groups A or B
            3) Other pathogens-gram negative organisms, yeast, other prevalent bacteria (E. Coli, Pseudomonas)

    d. If contamination is found, give mother new pump kit and reeducate about pumping technique, equipment maintenance, milk storage and transport.

        1. Develop plan for repeat cultures with AP/MD and lactation consultant.

C. Interventions for decreased milk supply:

1. Ascertain the following:

   a. Frequency and criteria mother uses to end pumping session.
   b. Type of pump - electric, manual, single, double.
   c. Diet, fluid intake, and sleep patterns.
   d. Baby's milk volume intake - any changes. Question if mother is supplementing with formula.
   e. Changes in the condition of the infant.
   f. Additional issues at home which may increase parental stress.
   g. Visiting patterns to hospital.
   h. Additional work or child care responsibilities.
   i. Any breast feeding support people that are available (family or friends).
   j. Location of pumping set-up:
      1) Is there a relaxed, comfortable atmosphere.
      2) Are baby items used - clothes, pictures, etc.

2. Arrange meeting with lactation consultant to supplement interventions and education by nursing staff.

3. Encourage increased duration or frequency of pumping, if appropriate. Increasing frequency will have a better effect on supply as long as she is emptying her breasts.

4. Increase fluids - suggest that mother make a concentrated effort to drink more fluids. Also recommend bringing a travel bottle of water for the trip to the NICU to ensure adequate intake. Six to eight glasses of water per day are recommended; more if the mother is thirsty.

5. Encourage "time out" for themselves - activities which may be helpful to promote relaxation and decrease stress. Most mothers note a drop in milk supply when they are feeling better and starting to do more activity. Regular naps may increase the milk supply.

6. Suggest double pump set-up if mother is using a single set-up, or electric pump if mother is using a manual pump.

7. Suggest skin-to-skin contact with baby, followed by pumping, if possible. Pumping at the bedside may facilitate relaxation as well.

8. Suggest that the mother keep a log of her pumping schedule and milk volumes. This may be helpful in figuring out her milk supply problems. Forms are available for this purpose.

9. If, after a few days of the above interventions are in place, and the milk supply is still low, you may recommend they consult their obstetrician about being put on Reglan. (Handout available to give them). Reglan works especially well when baby will soon be learning how to nurse and increasing the milk supply will improve the baby's ability to breast-feed. Getting the baby to breast will usually improve the milk supply also.

    a. Reglan should not be used if the mother has a history of depression.

10. A handout is available on the nursing webpage for use of Fenugreek to improve milk supply.

D. COMMUNICATION:

1. Discuss plan collaboratively with nursing, lactation consultants, MD/AP and family.

2. Discuss on a regular basis how the pumping is going and how to support the mother when she is not getting a good milk supply.

PROCEDURE FOR: BREAST PUMPING:

EQUIPMENT:
Breast pump
Breast pump kit (from OB Supply Room)
Milk storage containers
Labels preprinted with baby's identification and TO number (medical record number)
Dishwashing soap
Sanitizing cleaning wipes
Hand hygiene products
Paper towels
Clock
Sink

ACTION	POINTS OF EMPHASIS
1. Select desired breast pumping kit.	1. Pump kits are available for hand (manual), single pumping, or double pumping (electric). Mothers who will be pumping long term should be instructed in double electric breast pumping.
2. Give one complimentary package of breast milk storage bottles to mother.	2. Parents may order more bottles at their own cost. a. Storage bags specifically designed for breast milk are

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	sterile and suitable for storing beast milk at home but not in the hospital.
	b. Extra empty formula bottles may be given to parents to clean and store milk in.
3. Demonstrate for mother the procedure of wiping clean the hospital breast pump before each use using an approved sanitizing agent.	
4. Using instructions located in package, attach parts to pump. It is not necessary to clean the pump parts before the first use. They are sterile when opened.	
5. Prepare the patient for pumping:	
a. Wash hands thoroughly prior to pumping.	a. Poor hand hygiene can lead to contaminated breast milk.
b. Apply warm, wet washcloths to breasts for 1 to 2 minutes before pumping, or take a warm shower.	b. This promotes let down to get milk flowing. Mothers do not need to clean the breasts before pumping.
c. Hand massage nipple/areola area for 1 to 2 minutes.	
d. Select a comfortable chair and/or area for pumping. Use pillows for good body mechanics.	
6. Give the mother pump instructions:	
a. Make sure suction lever is on minimum setting prior to turning machine on.	a. Patient needs to adjust slowly to increased machine suction.
b. Place appropriate sized flange on one or both breasts, making sure flange opening is centered over nipple.	b. Improper positioning of flange can lead to nipple trauma.
c. Turn machine on after flange/ flanges are in place.	c. If using double pumping kit, you may place second flange on breast after machine is turned on.

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ACTION	POINTS OF EMPHASIS
d. Remove flange only after machine has been turned off.	d. Trauma may result if removed with machine running.
e. Position upper body slightly forward to facilitate milk flow into receptacle.	e. Improper posture will allow milk to flow back into flange causing moisture to form on flange resulting in decreased suction.
f. Instruct mother to express milk every 2 to 3 hours during the day and night or at least 8 times in 24 hours which approximates the feeding pattern of a newborn.	f. Frequent breast stimulation and milk removal stimulate milk production.
7. Timing of Pumping:	
a. If single pumping, pump one side then the other for approximately 10 minutes each side.	a. The duration of pumping is not as critical as assessment of milk transfer. More or less pumping time may be needed.
b. If double pumping, pump both breasts simultaneously for about 10 minutes during the first few days of lactation.	b. Double pumping may stimulate more milk production.
c. When milk has transitioned, pump until the milk flow stops. Instruct mother to pump for an additional 2 minutes after cessation of milk flow to ensure that the breasts have fully emptied.	c. The degree of breast emptying stimulates the breast to make more milk.
8. Storage of Milk:	
a. Teach mother to store and use milk according to guidelines:	
1) Label milk bottle with breast milk, infant's name, TO #, date and time of pumping, number of bottles pumped, and medications taken by the mother Computer labels are to be given to parents. All bottles are to be numbered sequentially, for example 1, 2, 3, and 4.	1) Bottle numbers are used by nursing staff to track usage and as a double heck for correct identification of breast milk.

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2) Fill bottles with 1 to 2 ounces. As the baby grows and takes more volume per feed, larger volumes may be stored in each bottle.	2) Do not fill the bottle completely. Allow head space for expansion of liquid during freezing. a. Mothers of VLBW infants are advised to store small amounts of milk in multiple bottles to avoid waste.
3) Do not add milk to bottles from earlier pumping. Addition of milk at body temperature may produce thawing and bacterial overgrowth.	3) Use a new container each time the mother pumps.
4) Refrigerate or freeze milk immediately after pumping.	4) Temperatures of nursery refrigerators and freezers should be checked on a regular basis to ensure that they are in the proper range.
a. If the baby is using fresh milk, instruct the mother to refrigerate milk that will be brought to the hospital in the next couple of hours.	a. Frozen milk may be kept in a standard home freezer (attached to refrigerator) at 0°, or an upright chest or freezer for 6 months.
5) Fresh milk, if available, should be used prior to frozen milk.	5) Fresh milk may be used for up to 4 hours at room temperature after pumping.
6) Freshly refrigerated milk must be used within 24 hours while baby is in the nursery.	
7) Transporting Breast Milk	
a. Transport breast milk According to the following guidelines.	
1. Transport frozen breast milk to the hospital in a tightly packed cooler without ice.	1. A clean towel, newspaper, or freezer gel pack may be used to fill dead air space. Ice is warmer than frozen milk and may actually contribute to thawing.

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2. Transport non frozen breast milk in a chilled state.	2. Ice may be used if desired.
3. If partial thawing of less than 50% of the milk volume occurs during transport, the milk can be refrozen.	3. If more than half the milk volume is thawed, the milk should be used within 24 hours.
9. Thawing Breast Milk	
a. Wash hands before handling breastmilk.	
b. Document on the Breast Milk Inventory Form (HCH-1178) the bottle numbers of milk thawed. Have a second RN verify the identifying information and the bottle numbers and sign the form.	
c. Thaw frozen milk in the refrigerator or under cool running water.	c. Do not submerge the cap in water.
d. Label thawed milk with date and time thawed and expiration date (24 hours from time of thawing.)	d. Do not refreeze breast milk that has been thawed.
10. Warming Breast Milk for Feeding	
a. Wash hands before handling breastmilk.	
b. Place milk container into cool water or warm water bath.	b. Overheating may cause considerable loss of nutrients and may adversely affect anti-infective factors.
1) Do not place in hot or boiling water.	
2) Do not heat in microwave.	
3) Do not submerge the cap in water.	
c. At the bedside, verify that	c. Breast milk that has been

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the identification of the prepared breast milk matches the infant. Document on Breast Milk Inventory Form (HCH-1178).	warmed may be returned to the refrigerator and must then be used within 4 hours, as long as not in a bottle from which the baby drank.
d. Use warmed milk within the hour of starting to feed the infant.	
11. Fortification of Breast Milk – Prepare in Formula Preparation area only	
a. Use human milk fortifier (HMF) packets or Neosure powder as ordered to provide optimal nutrition for premature or compromised infants.	a. Some powders are not sterile.
b. After the fortifier is added, gently swirl the milk – do not shake vigorously.	b. Gentle mixing is needed to avoid breaking of the fat globules. This can cause fat to stick to the sides of the container which can decrease the calories in the milk.
c. Label the fortified milk with the final caloric density or amount of fortifier or Neosure powder added.	
12. Pump Purchase or Rental:	
a. Inform mother of necessity for pump rental arrangements or purchase to be secured prior to discharge.	a. Once pumping has been initiated, it is important to pump on a regular schedule to promote adequate milk supply and prevent engorgement.
b. Using available parent handouts as resource, i.e. 1-800 number, list of LaLeche League members and area lactation consultants, assist mother with rental plans.	b. Breastfeeding packet contains information about pump rental.
c. Inform mother that pumps on unit will be available for their use while they visit their baby after mother is	c. Mothers must bring their pump parts with them after their discharge.

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ACTION	POINTS OF EMPHASIS

discharged.

13. Equipment Care:

    a. Always wash breast pump parts that come in contact with milk in hot, soapy water after each use. Allow to air dry on a clean towel after washing.

    b. Wipe the pump itself with the sanitizing wipes that are available on the unit.

DOCUMENTATION:

1. In the case of a multiple birth, documentation of teaching should occur on each infant's Patient and Family Teaching Record.

   a. Each infant requires his/her own breast milk inventory form.

2. For well-born infants with mothers hospitalized, use the Well Newborn Patient and Family Teaching Record for documentation.

3. Lactation consultants will document in progress notes and on patient family teaching records as appropriate to the interaction.

APPROVAL: Nursing Standards Committee

EFFECTIVE DATE: 5/91

REVISION DATES: 8/92, 6/93, 1/94, 5/94, 7/94, 12/94, 5/96, 6/97, 2/98, 7/99, 10/01, 3/05, 7/09

REVIEWED DATES: 11/06, 11/07