



TRACHEOSTOMY **(TRACH)**

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PURPOSE OF THE TRACHEOSTOMY

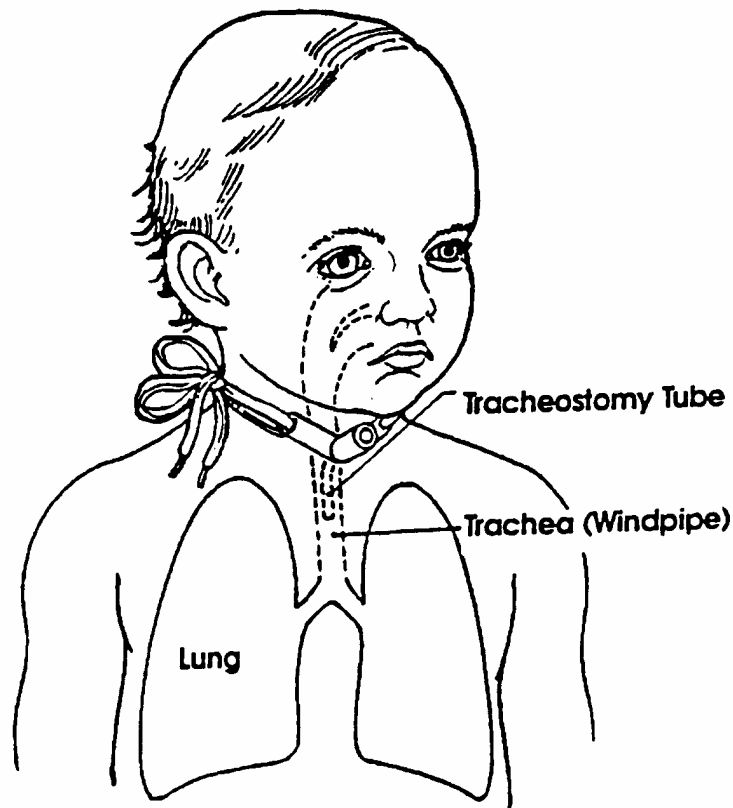
A tracheostomy is an opening in the windpipe (trachea) that your baby breathes through instead of breathing through his nose and mouth. Often the tracheostomy is not permanent and can be removed after the problem has been corrected or the baby grows and no longer needs the tracheostomy. Babies may get a tracheostomy if they:

1. have birth defects that affect the baby's breathing.
2. have noisy breathing caused by a soft breathing tube. This causes difficulty breathing. The noise is called stridor and the problem is called tracheomalacia.
3. Need to be on the ventilator for a very long time.
4. Cannot swallow saliva and have difficulty breathing.



ANATOMY

1. A small opening is made from the skin to the windpipe (trachea) by a cut in the neck.
2. A tracheostomy tube is a short piece of plastic that is placed into the trachea through a hole in the neck. It does not reach into the lung.



3. The baby breathes through this plastic tube instead of through his nose and mouth.
4. You will not be able to hear the baby cry or make sounds with the tracheostomy tube in at first.



COUNTING BABY'S BREATHING

1. Count your baby's breathing rate twice a day when the baby is quiet or asleep. Write the number in a record book you bring to the doctor.
2. Call the doctor if the breathing rate is 15-20 counts higher than usual. Make sure your baby is not too warm or does not have mucus in his trach.
3. One count is a breath in and out. Sometimes babies hold their breath briefly, breathe fast then slow, stretch or move. Count the breathing as best you can.

SIGNS OF BREATHING PROBLEMS

1. Restlessness.
2. Increased breathing (respiratory) rate.
3. Heavy, hard breathing.
4. Grunting, noisy breathing.
5. Nasal flaring (sides of nostrils move in and out with breathing).
6. Retractions (sinking in of breastbone and skin between the ribs with each breath).
7. Blue or pale color.
8. Whistling from the trach tube.
9. Sweating.
10. Bleeding from trach tube.
 - Report to doctor immediately.
 - Irrigate tube with saline and suction.
 - If bleeding continues, replace trach tube with a clean one.



CLEANING THE TRACHEOSTOMY OPENING (STOMA)

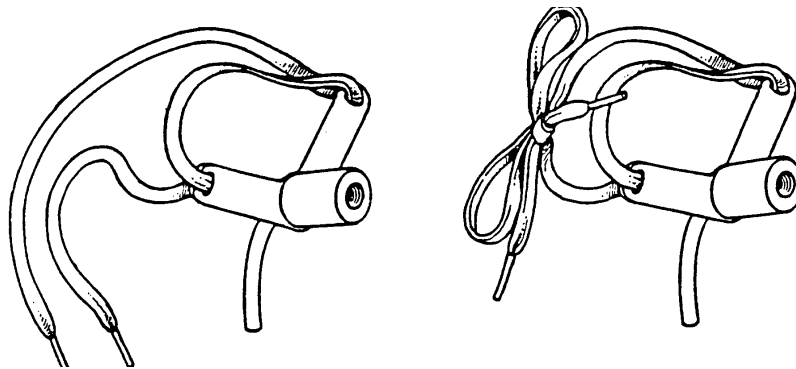
1. Supplies
 - Tap water
 - Q-tips® or cotton swab
 - Hydrogen peroxide mixture in cup (half tap water/half hydrogen peroxide)
 - Basin
2. Cleaning
 - Clean area around tracheostomy opening in neck (stoma) daily.
 - Support tracheostomy tube with a finger while cleaning.
 - Wet Q-tip in half-strength hydrogen peroxide.
 - Roll Q-tip over skin under tracheostomy tube to remove crusted secretions.
 - Rinse with Q-tip dipped in clear water. Pat dry with gauze or clean cloth.
 - Wash skin around neck with a mild non-deodorant soap.
3. Place gauze trach dressing around trach tube. Change dressing as often as needed to keep skin dry.
 - May use pre-cut trach dressings (more expensive).
 - May use 4 x 4 gauze without fiber filling. Fold to fit under trach tube. Do not cut gauze because small fibers can get into the trach tube and windpipe.
4. Clean stoma every 8 hours if an odor is present.
5. Powders and lotions must not be used around this skin.
6. Apply ointments in a thin layer, as ordered, to treat irritations or rashes.



CHANGING TRACHEOSTOMY TIES

1. Supplies
 - Twill tape or bias seam tape
 - Blanket roll for shoulders
 - Scissors
 - Blanket for mummy restraint-it may be necessary to wrap baby snugly to prevent wiggling

2. Changing the ties: Do not change the tracheostomy ties by yourself unless absolutely necessary.



- Change ties daily or when:
 - 4 Ties become loose (should fit snugly when neck is bent forward).
 - 4 Ties become wet or dirty.
 - 4 Knot causes pressure on baby's skin.

- Suction tracheostomy before changing ties. Suctioning decreases the chances of the baby's coughing while the ties are off. Movement of the tube often causes the baby to cough and bring up mucus.

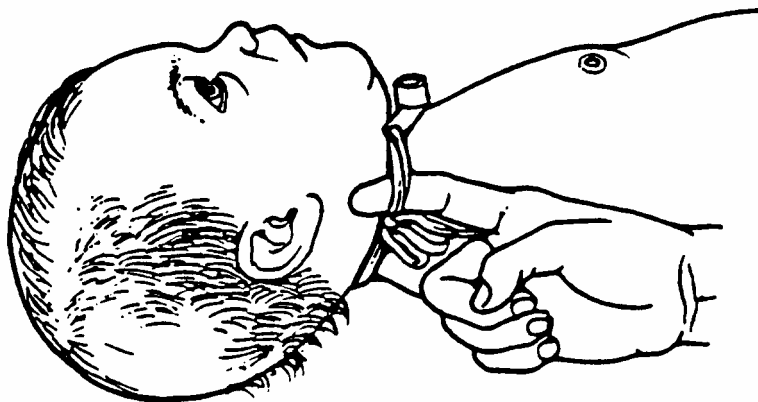
- Changing ties requires two people - one person to hold tube in place and position baby and the other person to change the ties.

- Place a blanket roll under the shoulders to expose the tracheostomy area.

- Slide old ties from center of hole to top on both sides of the tracheostomy tube.



- Insert new ties under old ones.
- Secure new ties with a square knot. Ties should be tight enough to easily slip one finger underneath the tape.



- Cut off old ties and remove. Guard tips of scissors with your fingers.
- Examine the neck daily for redness, skin breakdown or rashes.

SUCTIONING THE TRACHEOSTOMY

PURPOSE

Suctioning removes mucus from the baby's airway or breathing passages.

WHEN TO SUCTION

1. Loud gurgles are heard in the tracheostomy tube.
2. Bubbles are noticed in the tracheostomy tube.
3. Rattles are felt on the baby's back or chest.
4. Baby seems agitated, restless, cries and cannot be quieted.
5. Increased breathing rate or increased heart rate.
6. Baby becomes pale or blue.



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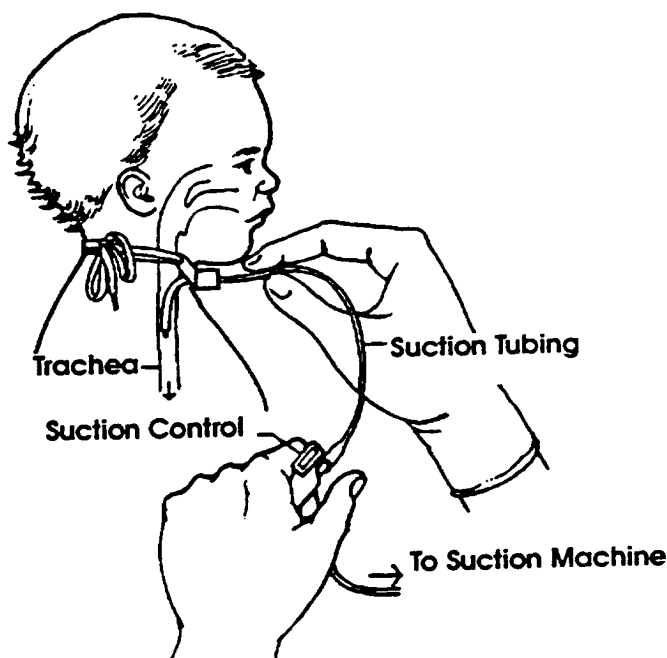
7. Flaring nostrils (move in and out when breathing).
8. **SUCTION ONLY AS NEEDED, USUALLY IN THE MORNING, BEFORE MEALS, AFTER CHEST PHYSIOTHERAPY (CPT) AND AT BEDTIME.**

EQUIPMENT FOR SUCTIONING

- Suction machine (portable or stationary)
- Suction catheter
- Clean glove or freshly washed hands
- Saline
- Cup of water
- Ambu bag

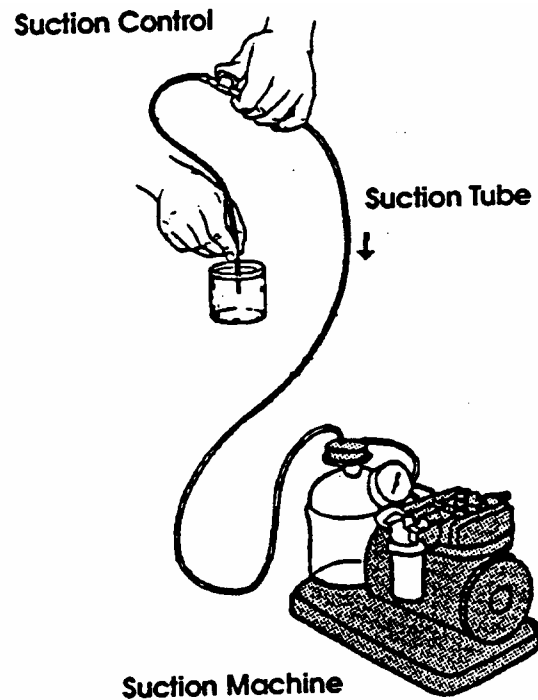
HOW TO SUCTION

1. Wash your hands with soap and water before suctioning, except in emergencies. If soap and water is not available, alcohol or disinfectant foam may be used.
2. Have all equipment together and ready to use.
3. Open catheter package. Place catheter on clean surface. The part of the catheter that goes into the tracheostomy tube should not touch any unclean surface.
4. Glove one hand with clean glove if desired.
5. Pick up catheter and connect catheter to suction tubing.
6. Insert catheter into the trach only the length of the tube. Keep a pre-marked catheter available to check this length against. Most suction catheters have measurement markings on them. You will be shown how far this distance is for your baby. **DO NOT** block the fingerhole when inserting the catheter.



Suction/Tracheostomy – 2

7. Suction by blocking the fingerhole and pulling out the catheter slowly. Rotate the catheter between your fingers to get better suctioning of the trach. **Suction should not be applied when inserting the suction catheter.**
8. Suctioning should last only 5 seconds during each entry.
9. Your baby may need to be suctioned again after letting him take a few breaths.
10. The catheter may be reinserted for additional suctioning if it has not been dropped or hit on a dirty surface.
11. Stop suctioning when mucus cannot be seen or heard.
12. The mouth and nose may be suctioned using the same suction catheter after the trach is clear.



13. When finished suctioning, throw the glove in the trash. Place the suction catheter in a container for later cleaning.
14. Rinse the suction tubing with tap water and throw out the paper cup.
15. Turn the suction machine off and make sure new supplies are ready for the next time.
16. Clean the suction catheter by:
 - a. Washing and flushing the inside of the catheter with hot, soapy water
 - b. Rinsing the catheter with tap water
 - c. Soaking the catheter in a vinegar and water solution for 3 hours or overnight. (8 ounces tap water plus 8 ounces of distilled white vinegar)
 - d. Rinsing the catheter's inside and out with clean water
 - e. Air-drying the catheter on a clean towel.

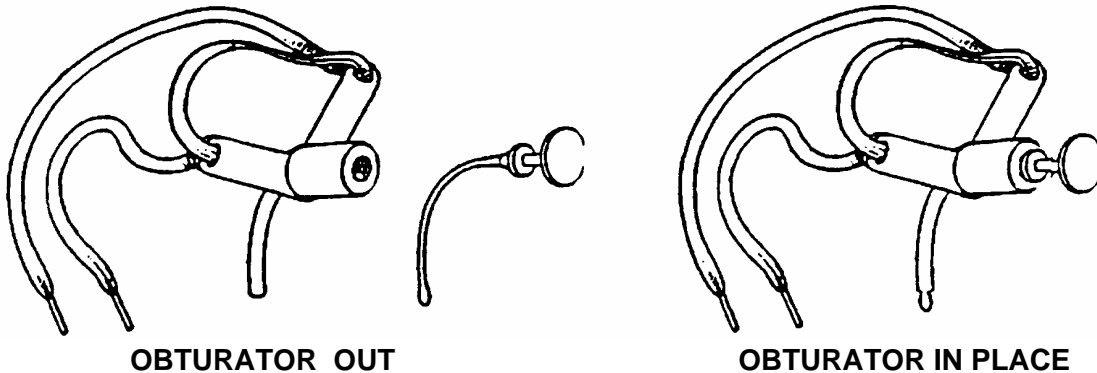


CHANGING THE TRACHEOSTOMY TUBE

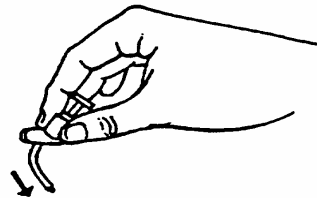
1. Equipment
 - Tracheostomy tube with obturator (guide)
 - Shoestring ties or twill tape
 - Scissors
 - Blanket roll to support shoulders
 - Blanket for mummy wrap baby
2. Changing the tracheostomy tube

WASH YOUR HANDS

- Suction baby before changing trach tube.
- Attach ties to new or clean trach tube with obturator in place. The Obturator serves as a guide to provide easy insertion of the trach tube.



- Place tube in the sterile tray (if new) or on a clean surface until ready to insert. Do not allow the part of the tube that goes into the body to touch any unclean surface.
- Place blanket roll under shoulders to expose neck area.
- A mummy restraint may be necessary to prevent baby from wiggling.
- Cut old ties.



- Remove old trach tube with one hand using an up-and-out motion (follow angle of tube).
 - Insert new or cleaned tube gently. Direct tube back and down.
 - Remove obturator as soon as the tube is in place. He cannot breathe unless the guide (obturator) is removed.
 - Allow baby to breathe until calm (a few seconds), supporting trach tube with your finger.
 - Tie snugly in place.
3. Baby may cough, cry, turn red, or sweat. He is OK. This does not hurt the baby. Calm him by talking and holding. A pacifier may help.



4. Change the trach tube once a week or for:
 - Distressed infant who does not respond to suctioning or usual calming methods.
 - Bleeding from tracheostomy tube.
 - Difficulty inserting suction catheter.
 - Whistling through trach is not relieved by suctioning.
5. Change tube before feeding or at least 2 hours after feeding.
6. Inspect removed tube for color change, mucus plugs or odor.

CLEANING THE TRACHEOSTOMY TUBE

1. Equipment
 - Mild liquid detergent and water
 - Pipe cleaners
 - Vinegar solution
 - Paper cup and small basin
2. Cleaning with vinegar solution (acetic acid)
 - Wash trach tube thoroughly in a mild liquid detergent (such as Dove®) and warm tap water. **DO NOT USE SOAP.** Use pipe cleaner to remove mucus from inside the tube.
 - Rinse with tap water.
 - Soak tube in white distilled vinegar mixture (1:1 mixture – 1 cup (8 ounces) of tap water and 1 cup (8 ounces) of distilled vinegar) for 3 hours or overnight.
 - Remove tube from vinegar mixture. Rinse with tap water and air dry. Avoid handling tube portion (part inserted in trachea). Place on clean gauze to dry. Store in a clean, covered container after dry.
 - Throw away used vinegar and water mixture.
 - Make a new vinegar and water mixture each day.



MOISTURE REQUIREMENTS

1. A nebulizer and tracheostomy collar (trach collar) are used to filter and moisten air entering the windpipe (trachea) because the baby does not breathe through his nose and mouth.
2. Baby may have trach collar and humidity off during the day.
3. Use trach collar and humidity during naps and at night to keep trach moist and prevent mucus plugs.
4. Windpipe (trachea) of baby is small and easily plugged with mucus so nebulizer with trach collar provides a direct source of moisture that a vaporizer cannot.
5. Nebulizer jar, trach collar and tubing should be changed daily.
6. If mucus becomes thick, move the numbered ring on the nebulizer to increase the humidity. The usual setting is 50%. Increasing the baby's fluid intake may help thin the mucus.

CHEST PT

The nurse will show you how to do Chest Physiotherapy (CPT) if it is ordered by the doctor.

CALL THE DOCTOR IF . . .

1. Liquid comes through the trach.
2. There is a rash, drainage or unusual odor around the trach opening.
3. Mucus becomes green or foul smelling (normal color is clear or whitish).
4. Bleeding occurs from the trach tube.
5. There is difficulty breathing, which is not relieved by suctioning or changing trach.
6. You are unable to replace trach tube.
7. Your baby stops breathing.



EMERGENCIES AND TREATMENTS

1. Plugged trach
 - Suction.
 - Change trach tube if your baby does not improve.
2. Coughing out trach tube
 - Insert new clean trach tube as soon as possible.
 - Reinsert old trach tube until clean trach tube is available.
3. Vomiting
 - Suction if you think vomit has gone down tube.
 - Watch for coughing, respiratory distress, fever.
 - Call your baby's doctor.
4. Unable to replace trach tube. Remember, the trach opening (stoma) will not close up suddenly.
 - Try to insert smaller trach tube.
 - Call Emergency Team.
 - Give mouth-to-trach opening CPR if not breathing **or** block trach opening and use mouth-to-mouth CPR.

APNEA MONITOR

1. Your baby will go home on a home apnea and heart monitor. The monitor counts the baby's breathing rate and heart rate.
2. The monitor alarms to tell you if the baby is not breathing (apnea) or if the heart beat is too slow (bradycardia).



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SAFETY TIPS

1. Animals with fine hair should not be in the house.
2. Keep your home as free from lint and dust as possible.
3. Do not use powders, chlorine bleach, ammonia or aerosol sprays in the same room as the baby. Particles and fumes get into the lungs through the trach. This will cause a “burning feeling” and breathing problems.
4. Do not smoke around your baby. Smoke is irritating to the baby’s windpipe (trachea).
5. Watch play with other children so that toys, fingers and food are not put into trach tube.
6. Do not buy toys with small parts that can easily be removed.
7. Always carry your “GO BAG” supplies when you leave home.

WEATHER

1. During freezing temperature, avoid allowing baby to breathe cold air directly into the trach. This can cause tracheal spasm and form small ice particles in the mucus if exposed to cold for long periods of time. Keep your baby’s head and neck loosely covered with a blanket.
2. Protect the tracheostomy on dusty windy days when dust particles may enter the trachea and cause drying or crusting mucus.

BROTHERS AND SISTERS

1. It is important to help older brothers/sisters to understand why and how the baby breathes through a trach.
2. This is usually a frightening situation for older brothers/sisters, and it requires parents’ support and teaching to ease their initial discomfort and fear.
3. It may be helpful to involve brother and sister’s help in small tasks such as holding the baby still, helping clean equipment, etc.
4. Watch young brothers and sisters around the baby!!!



24-HOUR SCHEDULE

1. You will be very busy at home.
2. It helps to have a calendar with your day's activities clearly marked. We will help you make this.
3. Some things you will do several times a day and some things you do several times a week. Organization and a schedule are important. Help from family members may be needed.
4. It is important to teach several people to care for the baby so you can have a break and get out by yourself.

BABY'S WEEKLY SCHEDULE

Daily

1. Stoma care:
 - 1-2 times a day using soap and water. Dry thoroughly.
 - Use 1/2 strength hydrogen peroxide and water for crusted secretions. Rinse with water and dry thoroughly.
 - Do more often if skin breaks down or odor noticed.
 - Avoid ointments and creams.
 - Replace trach ties when wet (may use bias tape purchased at any sewing store or shoelaces).
2. Wash suction bottle with hot soapy water
3. CPT: 2-3 times a day if ordered by the doctor.
 - Before feeding or at least 2 hours after feeding.
4. Change trach collar and tubing.
5. Change water for humidifier.



Weekly

1. Change trach:
2. Always suction before changing trach.
3. Change before feeding or at least 2 hours after feeding.

“GO BAG” FOR TRAVELING

1. De Lee suction catheter.
2. Bulb syringe.
3. Suction catheters-disposable.
4. Trach tube with tie and obturator (same size and size smaller).
5. Scissors.
6. Water soluble lubricant-sterile.
7. Saline (2-3 5-cc vials).
8. 4 X 4 trach sponges.
9. Portable suction machine.
10. Emergency phone numbers.

RECIPES

Saline

1. 1/2 teaspoon of table salt added to 8 ounces of boiled water.
2. Add salt when water is warm.
3. Cool before using.
4. Store in sterile bottle (bottle boiled in pan of water 10 minutes after water begins to roll).
5. Make new every day.



Sterile distilled water

1. Boil tap or bottled water 10 minutes after the water begins to roll.
2. Store in sterile bottle.

Vinegar solution

1. Soak dirty supplies in white distilled vinegar mixture (mix 1 cup (8 ounces) of tap water 1 cup (8 ounces) of distilled vinegar) for 3 hours or overnight.
2. Throw away used vinegar and water mixture.
3. Make a new vinegar and water mixture each day.

GENERAL CARE

Feeding

1. Baby can be fed as normal baby.
2. Burp well and place on right side or in infant seat after feeding.
3. **DO NOT PROP THE BOTTLE.**
4. Do not let baby have a bottle unless you are present in case choking occurs.

Bathing

1. Baby can be bathed in tub, but do not let water get into the trach.
2. **NEVER LEAVE BABY ALONE IN THE TUB.**

Clothing and bedding

1. You do not need to buy special clothing for your baby.
2. Clothing that covers the trach should not be worn.
3. Necklaces, strings, fuzzy clothing, fuzzy blankets and stuffed animals should be avoided. Tiny beads or fibers from these articles can get into the trach.
4. Bibs with plastic back should not be used.



Making sounds and talking

1. At first you will not be able to hear your baby cry or make sounds. This is because the air from the lungs does not pass through the vocal cords.
2. Later, he will learn to talk around the trach tube.
3. It is important that you talk to him as you would any other baby.
4. Some parents tie a bell on the baby's ankle so they can hear when he "calls" or moves.

Baby-sitters

1. A baby with a trach needs to be watched closely all day. Plans must be made to teach another person how to care for the baby.
2. It is important that parents be able to rest and go out without the baby!

CPR Training

Classes in Infant and Child CPR for you, and people who will be taking care of your baby, are available monthly. Sign up for classes in the family waiting area.