

## **BPD (Bronchopulmonary Dysplasia)**

BPD (bronchopulmonary dysplasia (BRON ko PULL mun ary dis PLAY zhuh) is a chronic lung disease. It happens in babies who are born prematurely and who have had breathing problems. The smaller the baby is at birth, the higher the chance of developing BPD.

The lung tissue of premature babies is very soft and fragile. It can be easily damaged and become scarred. In BPD, the lung tissue and air passages are injured from the very things that are used to save your baby's life: oxygen and breathing machines (ventilators). Several other factors also contribute to developing this problem.

At first, babies with BPD may need to be on a ventilator or other breathing aid. After a while they can breathe without this help, but will continue to need extra oxygen, often for several months. This extra oxygen is given by a nasal cannula (a tube in the nose). As your baby grows, new lung tissue grows and the damaged lung tissue has time to heal. For this reason good growth and nutrition are very important for your baby's lungs to improve.

### **How to Tell if your Baby Has BPD**

- If your baby still needs oxygen between 1 and 2 months of age, BPD is a likely cause.
- Your baby may breathe fast, pull the chest muscles inward (retractions) and work hard to breathe.
- He or she may get tired easily when being fed or held.
- You hear noisy breathing, coughing or wheezing. Medicine is needed to help control these symptoms.
- A chest X-ray shows lung changes or damage.

### **The Good News about BPD**

- Your baby will grow new lung tissue quickly over the next year or two.
- With parents and health care providers working closely together, babies with BPD can be cared for at home.

## How BPD Is Treated

- Oxygen by nasal cannula is one of the best “medicines” for the baby. This oxygen may be needed for several weeks or months at home.
- Sometimes medicines like Lasix<sup>®</sup>, albuterol, or Flovent<sup>®</sup> are needed to help your baby get rid of extra water in the lungs and to make breathing easier.
- Growth is the best treatment for BPD. Babies need extra calories to help them grow and heal.
- Keep your baby as infection-free as possible. Continue good hand washing, especially if family members have a cold or illness.
- We ask that you keep your baby at home during the cold and flu season (November to April), and avoid all but necessary contact with others (Picture 1). We know this may be hard to do, but being in places like church, the mall, a busy grocery store or any large crowd can expose the baby to germs that can make him or her very ill.
- Often, a Synagis injection is given every month for at least the first winter at home (November to April). Synagis is the shot that helps to make RSV, a respiratory virus, less severe. We also recommend flu shots for babies over 6 months of age. All family members in contact with your baby should have a flu shot and be up to date on their immunizations, especially for pertussis (whooping cough).
- **A smoke-free environment:** your baby should NEVER be exposed to tobacco smoke. Both second- and third-hand smoke can be very dangerous to your child. Any exposure to smoke can make your baby’s lung disease worse. Any family members who smoke must smoke outside, wear a separate jacket to cover their clothes or change clothes once coming inside. The smoker will need to wash his or her hands and arms before handling the baby. Smoke clings to the skin, clothes and hair of the smoker. This is what the baby breathes. Your child should never ride in a car that someone has smoked in.



**Picture 1** Infants with BPD should be kept home during the winter months.

## When it is Time to Go Home

Most babies go home with an apnea monitor and are on continuous oxygen. They receive the oxygen through a nasal cannula. The apnea monitor helps to make sure your baby is breathing when he or she is sleeping. Some babies will also have a pulse oximeter at home to check oxygen saturations. Many times an infant will also need medicines to help with breathing. Make sure you know the name and phone number of your homecare company to call when you need additional supplies for oxygen and the monitor.

## When it is Time to Go Home, continued

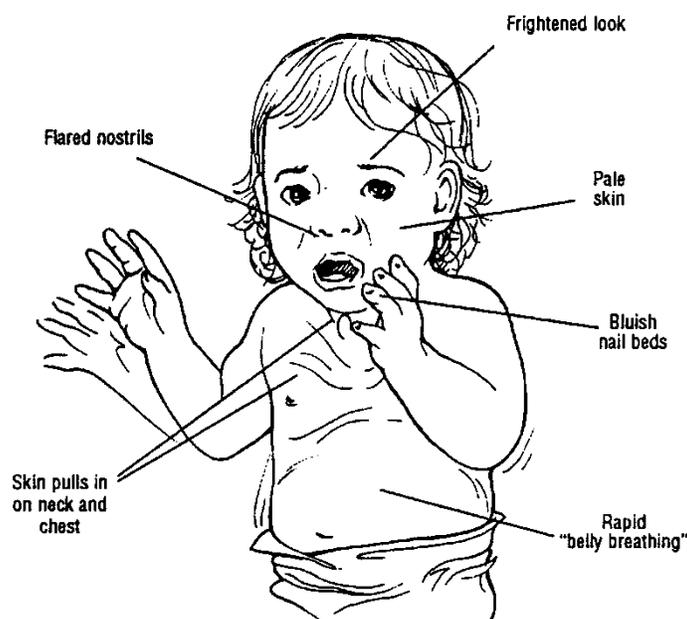
Oxygen is also a “medicine” babies with BPD need. **It is very important to follow your doctor’s orders for keeping oxygen on your baby.** Do NOT take your baby off the oxygen unless directed by your baby’s doctor and the BPD team. If you are concerned that your child needs a change in the oxygen please call the BPD Clinic team to discuss. **Be sure to give the medicines exactly as you were taught.** Some babies with BPD can quickly become very ill without their oxygen and medicines. At first your baby may look and act fine without oxygen or medicines. However, over time the heart will have to work harder to get blood through the lungs. If the heart has to do this for a long time, there could be permanent damage to your baby’s heart.

Babies with BPD usually have trouble growing. Besides oxygen and medicines, your baby will most likely go home on a special formula. You will be taught how to mix this special formula. It will have the added calories and nutrients that your special baby needs to grow new lung tissue.

## When to Call Us

By now you are probably a “pro” at telling how your baby is doing (Picture 2). This is an important skill. When you notice a change in any of the signs listed below, call the BPD clinic nurse at (614) 722-4509. The nurse will tell you what to do. If you have concerns for your child during non-business hours you can reach the BPD doctor on call by calling the hospital operator at 614-722-2000. Ask to speak to the BPD doctor on call.

- Color - What is normal color for your child? Has it changed?
- Respiratory rate - How many times a minute does your baby breathe? Is this faster than normal?
- Signs of difficult breathing – Retractions (sucking in at ribs), nasal flaring (nostrils that widen with breathing), abnormal, noisy breathing (wheezing or grunting)
- Cough - More than usual? Does it interfere with sleeping or eating?
- Activity and mood - Is your baby sluggish? Hard to wake up? Very irritable and not able to be soothed?
- Feeding - Is your child not eating well or having problems with eating? Does feeding take longer than 30 minutes?
- Use of inhalers and frequency of breathing treatments – more than usual?



**Picture 2** Signs of respiratory distress.

**Any time you feel you have a life-threatening emergency, call 911.** Make sure you have a list of your baby’s medicines.

## **If your Baby Is Taken to the Emergency Room or Hospital**

Your baby will get the best care if you have a copy of his hospital history, medicine list and any special needs to give to the emergency room doctor.

**Be sure to tell the emergency room doctor that your child is being cared for by the BPD Clinic and to contact the BPD team.**

## **Follow-Up**

Your baby will need to be followed very closely for a while after going home from the NICU. Usually an appointment in BPD clinic will be made for your baby for one to two weeks after leaving the hospital. At that time, a team of specially-trained doctors, nurses, therapists and nutritionists will evaluate the baby. They will see whether your infant has adjusted well since leaving the hospital. At this appointment, your baby's oxygen need, growth, diet and development will be carefully checked. We would also like you to have your pediatrician see the baby within the first week at home. It is very important that you keep your appointments with all the clinics that take care of your child. Please call if you need to cancel or change your baby's appointment.

REMEMBER – The most important person caring for your child is YOU. We value your input and the excellent care you give your baby at home. We consider you an important part of our team. Working together we can make sure your baby receives the best care possible.

## **Important Phone Numbers**

Home Care Company name \_\_\_\_\_ Phone # \_\_\_\_\_

Pharmacy name \_\_\_\_\_ Phone # \_\_\_\_\_

BPD Clinic phone number - (614) 722-4509

Pediatrician's name \_\_\_\_\_ Phone # \_\_\_\_\_