

Chronic Lung Disease of Prematurity

Bronchopulmonary Dysplasia (BPD)

What is Chronic Lung Disease of Prematurity?

A normal pregnancy is 40 weeks. This is called 40 weeks gestation. When a baby is born before 37 weeks, they are premature. These babies often have breathing problems. Chronic lung disease of prematurity (CLD) is a general term for long-term breathing problems in babies born early. This has also been called Bronchopulmonary Dysplasia, or BPD.

Babies who are born less than 32 weeks gestation, or weigh less than 1500 grams (3.3 pounds) are at higher risk.

What causes it and how does it affect the lungs?

- In babies who are born premature, the lungs are not fully developed. This makes it harder for the baby to breathe.
- Some of the treatments needed to help a baby get better, such as oxygen and ventilators, can injure the lungs even more.
- Infections like pneumonia can also harm a baby's lungs.
- Most babies recover from chronic lung disease, but a few will have long-term health problems. If the CLD is severe, it could cause asthma or delays in development.

What are the symptoms of CLD?

Some babies have little to no problems. Others have more serious symptoms. Often symptoms are worse when a baby is sick or has a cold.

Symptoms include:

- Breathing faster while resting or with activities such as feeding.
- Coughing more often, sometimes more at night or during feeding.
- A noisy whistle sound with breathing in and/or out. This is called wheezing.
- Pulling in of the skin between the ribs with each breath. This is called chest retractions.
- The nose opening wider. This is called nasal flaring.

What tests might be done to see if my baby has CLD?

A complete physical exam will be done. Tests may include:

- **Chest X-ray.** This is a special picture of the chest, including the lungs and the heart. It helps to see changes in your baby's lungs.
- **Echo (Echocardiogram).** A moving picture of the heart. It looks for changes in the heart. This is done to make sure your baby's heart is not being stressed by the damaged lungs. Damaged lungs can cause the heart to work harder.
- **Blood tests.** A sample of blood is taken to measure certain body functions. They help the health care provider know how your baby is responding to treatment.
- **Pulse oximetry.** Also called Pulse Ox, this test checks the oxygen level in the blood. A small light is attached to a finger or toe. This will help the health care provider make decisions about how much oxygen your baby needs.

How is it treated?

Most of the time CLD gets better as a baby gets older and gains weight. Treatment depends on how premature your baby was and how bad the lung disease is. Treatment may include:

Medicines.

- **Oxygen therapy.** This may be given by nasal cannula or by breathing machine (ventilator).
- **Diuretics.** These help get rid of extra water in the lungs and body.
- **Bronchodilator.** This medicine is inhaled to relax the airway muscles and help air get into the lungs.
- **Antibiotics.** These medicines work to treat bacterial infections like pneumonia.
- **Steroids.** These decrease inflammation or swelling in the lungs.

Nutrition. It is important that your baby gains weight because as your baby grows, the lungs inside are also growing. Higher calorie formula may be needed to help your child get enough nutrition to grow.

What can you do?

Avoid infection. This includes:

- Good hand washing.
- Your baby may need a monthly shot to protect against the Respiratory Syncytial Virus (RSV) infection. Your provider will tell you if your baby should get these shots.
- Immunizations including the influenza vaccine (flu shot) for your baby and other people in your home.
- It will be very important for your baby to get Pertussis vaccines. Anyone else living in your house should also get the vaccines.

Avoid smoke and air pollution. Cigarette and other types of smoke, strong odors, or air pollution will make the chronic lung disease worse. Smoking around oxygen is also very dangerous.

What other help your baby might need?

Your baby needs a primary care doctor so that well visits and immunizations are kept up to date. The primary doctor can be a pediatrician or a family doctor.

Other providers and services your baby may need include:

- A lung doctor, called a Pulmonologist.
- A dietitian to help your baby get the right nutrition to grow.
- The Birth to 3 Program may help your baby meet their developmental milestones.
- A home health nurse.

How do I know when my baby is getting worse and needs to be seen?

Every baby with BPD is different. You need to know what is normal for your baby. Make sure to learn the signs of when you should call your health care provider.

ALERT: Call your child's doctor, nurse, or clinic if you have any questions or concerns or if your child:

- Has breathing, wheezing, or coughing that gets worse, even after taking medicine.
- Is breathing faster and/or harder, such as pulling of the skin between the ribs with each breath or belly sinking in with breathing.
- Does not want to eat, drink, or play.
- Has swelling or puffiness around the eyes.
- Has trouble sleeping.
- Has lips or fingernails that look dark (blue or grey). **If you see this, call 911 right away.**
- Has special health care needs that were not covered by this information.

This teaching sheet is meant to help you care for your child. It does not take the place of medical care. Talk with your healthcare provider for diagnosis, treatment, and follow-up.