

Chronic lung disease

What is chronic lung disease?

Chronic lung disease (CLD) is the medical term for breathing problems that affect premature babies. It occurs more often in babies born before 27 weeks gestation. This condition is also called Bronchopulmonary Dysplasia (BPD).

What causes CLD?

Chronic lung disease is caused by damage to the lungs.

A premature baby's lungs are not fully developed. They are fragile and can be injured easily. Damage to the lungs causes inflammation and scarring. This makes breathing difficult and prevents the lungs from working well.

Lung damage may be caused by:

- **Breathing machines:** Machines, such as a ventilator, use air pressure to keep the baby's airways open. Over time, this can affect the baby's lungs.
- **Oxygen therapy:** Many premature babies need extra oxygen to help with breathing. Oxygen, when given in high concentrations, can damage the cells of the lungs.
- **Infections:** Infections cause inflammation which may harm the lungs.

How do you know my baby has CLD?

CLD develops gradually. Babies with CLD have difficulty breathing (rapid breathing, working harder to breathe) and continue to need oxygen longer than expected. Chest x-rays show certain changes in their lungs.

How is CLD treated?

Although we cannot prevent CLD, we try to reduce the chances of it developing or reduce the effects by:

- Using the ventilator for the shortest possible time. As soon as possible, we will take your baby off the ventilator and support his or her breathing with other methods. Nasal CPAP (Continuous Positive Airway Pressure) and NIPPV (Non-invasive Positive Pressure Ventilation) can be used to deliver air and oxygen through small plastic tubes (prongs) placed in your baby's nostrils. The amount of oxygen is carefully matched to your baby's needs.
- Using medications called diuretics (furosemide or spironolactone or hydrochlorothiazide) to reduce excess fluid in the lungs.
- Using medications called steroids (dexamethasone or hydrocortisone) to reduce inflammation and scarring in the lungs. This medication can only be used for a short time.
- Providing the best nutrition for your baby. This will help to repair your baby's lungs and is needed for growth.

How can CLD affect my baby?

Most babies recover or outgrow their breathing problems, but CLD can be a long-term condition.

Some babies with CLD need oxygen through nasal prongs for a long time. They may continue to need oxygen after they leave the hospital. If your baby will need oxygen at home, we will help you learn how to do this and connect you with these services in your community.

Some babies with CLD develop wheezing. They may need "puffers" such as salbutamol (Ventolin) to keep airways open and steroids to reduce lung inflammation.

Babies with CLD have a greater risk of getting lung infections, such as bronchiolitis or RSV (respiratory syncytial virus). To prevent infections, make sure that everyone who has contact with your baby washes their hands. Keep your baby away from people who have cold symptoms. To prevent RSV, a series of antibody needles may be recommended for your baby. If your baby has cold symptoms or looks unwell, have him or her checked by your family doctor or pediatrician.

Babies with CLD need to have their growth and development checked regularly. After you leave the hospital, your baby's care will continue at the Neonatal Follow-up Clinic. The health care team at the clinic can also connect you with any community services your baby may need.