What is chronic lung disease (CLD) or bronchopulmonary dysplasia (BPD)? Chronic lung disease is one of the most common problems that can affect babies born early (premature). It occurs if growth in parts of the baby’s lungs are disrupted, which then alters lung structure and function. CLD also is known as bronchopulmonary dysplasia or BPD. CLD can lead to continued lung problems for some children. Because severe CLD can cause decreased oxygen to parts of the baby’s body, it also can lead to problems with the baby’s heart, and with hearing, motor skills, speech, and learning.

What causes CLD? A complex mix of events can lead to CLD including things that may happen both before and after birth.

Before birth, an infection in the womb called chorioamnionitis may disrupt the baby’s lung growth. This infection causes a process in which the baby’s own body (the immune system) fights off the infection. This process may injure the baby’s lung tissue and can disrupt lung growth that still needs to occur.

After birth, two factors can disrupt lung growth.

- Insufficient nutrition: an inability to give the baby all of the energy and nutrients needed for growth and development.
- Need for a ventilator: breathing with a ventilator is different than normal breathing. Babies who need help from a ventilator may have a higher risk of injury to the lungs, and possibly CLD.

How can I tell if my baby has CLD? The signs of CLD may not always be clear. Often, premature babies need a ventilator to help them breathe until their lungs can grow and mature. One sign that CLD may be present is if the baby continues to need the ventilator help for a prolonged period of time, and also has problems with growth and weight gain. Tools to identify CLD may include an x-ray of the baby’s lungs; some types of blood tests; tracking the baby’s breathing rate and oxygen levels; and listening to the baby’s lungs. Infants with a blood relative who has asthma are more likely to have CLD. It is not yet known why this happens, but it may be due to immune system factors that are passed through families.
What can be done for CLD? Doctors may take the steps below to decrease the risk for CLD:

• give the mother medicine (called a steroid) before the baby is born. This is done if doctors think the baby will be born early (before 34 weeks). This medicine may help speed up development of the baby’s lungs before birth.
• give the baby surfactant soon after birth to keep the lungs supple
• try to avoid or minimize the time the infant needs a breathing tube by using other types of respiratory support
• give the baby extra nutrients to help the body grow and repair lung tissue

After leaving the neonatal intensive care unit, some babies may need treatment at home to help with breathing. Some infants also may need medicines and/or nutrients added to their diet. Talk with your baby’s doctors and nurses about your baby’s unique needs, and how you may help at home.

What are the long-term effects of CLD? About 50 percent of children with CLD develop later lung infections that require hospital treatment. This occurrence often declines around age 2 or 3. Severe breathing problems also can disrupt some areas of the child’s development.

What can parents do? The most important thing you can do right now is to be an active member of your baby’s care team. To do this, you can:

• learn about CLD and how it is treated
• watch for signs of lung infection in your baby at home, such as a runny nose, fever, cough, and wheezing
• avoid crowded areas and places where people are ill
• avoid placing your baby in day care for the first few months
• avoid cigarette smoke
• find out where to seek special help if your baby has problems with motor skills, learning, hearing, or speech
• take your baby for all medical checkups advised by the doctor

Find the research

NICHD Cochrane Neonatal Review Group
www.nichd.nih.gov/cochrane/default.cfm
National Scientific Council on the Developing Child
www.developingchild.net
Neonatology on the Web
www.neonatology.org

Find out more: these websites may be helpful

American Lung Association
www.lungusa.org
Centers for Disease Control: facts about RSV
www.cdc.gov/rsv/index
Healthy Steps for Young Children
www.healthysteps.org
Medline Plus®
www.nlm.nih.gov/medlineplus

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