

Bronchopulmonary Dysplasia (BPD)

Or

Chronic Lung Disease of Prematurity (CLD)

What is it?

Bronchopulmonary dysplasia (BPD) is a form of longer lasting lung disease. It occurs in infants who have had severe RDS, lung infection or were extremely premature at birth.

Your baby was not born with BPD. It is something that develops as a consequence of prematurity and progressive lung inflammation and scarring.

“*Broncho*” refers to the airways (bronchial tubes). “*Pulmonary*” refers to the lungs and their tiny air sacs (alveoli). “*Dysplasia*” refers to abnormal changes in the structure of a group of cells. The cell changes in BPD take place in the smaller airways and lung alveoli, making breathing difficult and causing problems with lung function. These terms also refer to disordered or decreased lung growth, which may be a consequence of extreme prematurity, inflammation or infection.

What causes BPD?

BPD is usually diagnosed if a baby continues to have an abnormal chest x-ray and still needs oxygen by the time a baby is 36 weeks of gestation (a month before the due date). However, your baby's doctor may be concerned enough to treat your baby's continuing lung disease long before this date. A baby with BPD may also demonstrate one or more of the following:

- rapid breathing
- more difficult breathing
- wheezing or noisy breathing
- wet or crackling sound to the lungs heard with a stethoscope
- more difficult time growing
- difficulty in weaning off of a ventilator

The majority of BPD cases occur in premature infants that are affected by RDS (respiratory distress syndrome). BPD can occur as a result of inflammation due to a variety of causes, including tissue damage to the lungs from being on a mechanical ventilator or from oxygen therapy, infection in mom at the time of delivery, or infection in the baby. Mechanical ventilation and oxygen therapy may be essential to your baby's survival, but over time can injure a newborn's delicate lungs, leading to an inflammatory response that causes BPD.

How is BPD treated?

No available medical treatment can immediately cure BPD. We try to support the breathing and oxygen needs of the baby and help them to grow and thrive, with the end result that most affected babies grow new, unaffected lung tissue, and thus ‘grow out of’ BPD.

- A baby with BPD may need extra oxygen for a long period of time. This may be several weeks or months, occasionally for more than a year. Babies with BPD may be discharged on home oxygen. You will be instructed on home oxygen use if your baby requires it.
- Some babies are treated with other medications. These might include:
 - ❖ Diuretics - drugs to help the body to get rid of extra water

- ❖ Bronchodilators – drugs to help keep the airways open and make breathing easier.
- ❖ Steroids - drugs to decrease the inflammation in your baby's lungs

What else might happen with my baby with BPD?

Often times, babies with BPD need a higher calorie formula in order to adequately grow. Babies with BPD expend a lot of energy just trying to breathe. If they weren't given a higher calorie formula, they would not grow very well. Sometimes just the eating part is very stressful for the baby, and tube feedings (gavage or indwelling NG) may be best for a time. Rarely, a baby with severe lung problems may need a gastrostomy (surgically placed) feeding tube. If your baby needs one of these, more information will be given to you at that time.

Will my baby ever have normal lungs?

BPD gradually gets better. Lungs continue to grow new tissue until the child is 5-7 years old. Most babies with BPD will recover close to normal lung function; it just takes time.

During this time your baby may be re-hospitalized with RSV (respiratory syncytial virus), other viral respiratory infections, pneumonia, or other asthma-like symptoms. It is important that you follow any guidelines that your doctor gives you regarding infection risks and how to decrease them at home.