

Respiratory Distress Syndrome (RDS)

To learn about Respiratory Distress Syndrome, you need to know what these words mean:

Premature	Babies born more than 3 weeks early are called premature.
Alveoli	Alveoli are tiny air sacs in the lungs. Alveoli fill up or expand when air goes into the lungs. When air leaves the lungs, the alveoli become smaller but do not collapse. The baby's blood gets oxygen in these tiny air sacs.
Surfactant	Surfactant is a fatty substance that coats the inside lining of the alveoli in the lungs. This coating makes it easier for the alveoli to expand during breathing. It also keeps the alveoli from collapsing and sticking together when air leaves the lungs.
Retractions	When breathing in is hard, the baby's chest seems to be sucked inward. This is seen just below and in between the ribs.
Endotracheal tube or ETT	The endotracheal tube is a small plastic tube, which is passed through the baby's nose or mouth into the trachea, or windpipe.
Ventilator	The ventilator is a machine that helps babies breathe. The ventilator gently blows oxygen into the lungs while giving breaths. Between breaths, the ventilator keeps the alveoli slightly open so they do not collapse.
CPAP	CPAP gives baby oxygen through short tubes called prongs that fill the baby's nostrils. As your baby breathes, the CPAP provides a gentle pressure that keeps the alveoli slightly open so they do not collapse.

What is Respiratory Distress Syndrome?

Respiratory Distress Syndrome is a breathing problem common in premature babies. It is also called RDS.

RDS can be caused by:

- not enough alveoli, or immature (not fully developed) alveoli
- not enough surfactant to evenly coat the alveoli

What is Respiratory Distress Syndrome (continued)?

With fewer alveoli and an uneven surfactant coating, the alveoli collapse and stick together when the baby breathes out. With each breath, the baby must work hard to open the alveoli. Soon the baby becomes very tired.

What are signs of RDS?

Signs of RDS are:

- your baby's breathing is fast and hard
- you can see retractions on your baby's chest
- you can hear a grunting sound when your baby breathes out
- your baby's skin has a blue colour from not enough oxygen in the blood

A chest x-ray also shows signs of RDS.

How is RDS treated?

Your baby's breathing problem may be helped by these treatments:

Oxygen	Oxygen flows to the baby through a thin plastic tube with 2 small ends called nasal prongs that fill the baby's nostrils. The tube is taped to the baby's face to hold it in place. This is called "low-flow" oxygen.
CPAP	CPAP can give the baby oxygen and provide a gentle pressure to keep alveoli from collapsing and sticking together. This can make breathing easier.
Ventilator	The ventilator can be used to blow oxygen into your baby's lungs while giving breaths.
Surfactant Replacement	Surfactant can be put into your baby's lungs through the ETT. The surfactant coats the alveoli and makes breathing easier.

Will RDS cause any long term lung problems?

There can be a few lasting lung problems from RDS. Your baby's lungs will develop more alveoli and keep growing until age 8. Any areas damaged by being premature will end up being a very small part of mature lungs. Sometimes chronic lung disease (CLD) occurs as a result of a combination of prematurity, the need to be on a ventilator and receiving oxygen.