

Understanding Respiratory Distress Syndrome



Why is my baby having trouble breathing?

Babies breathe to fill their lungs with air. The lungs move oxygen from the air into the blood through tiny sacs called **alveoli**. The alveoli expand when a baby breathes in. They get smaller when a baby breathes out.

The lungs make a fluid called **surfactant** (sur-FAK-tant) to keep the alveoli from collapsing when a baby breathes out. If the alveoli collapse, the baby has to work much harder to open them back up with the next breath.

What is respiratory distress syndrome?

Respiratory distress syndrome, or **RDS**, may occur when a baby does not make enough surfactant. Babies with RDS work hard to breathe every time they take a breath.

RDS symptoms most often occur within the first minutes to a few hours after birth.

They may include:

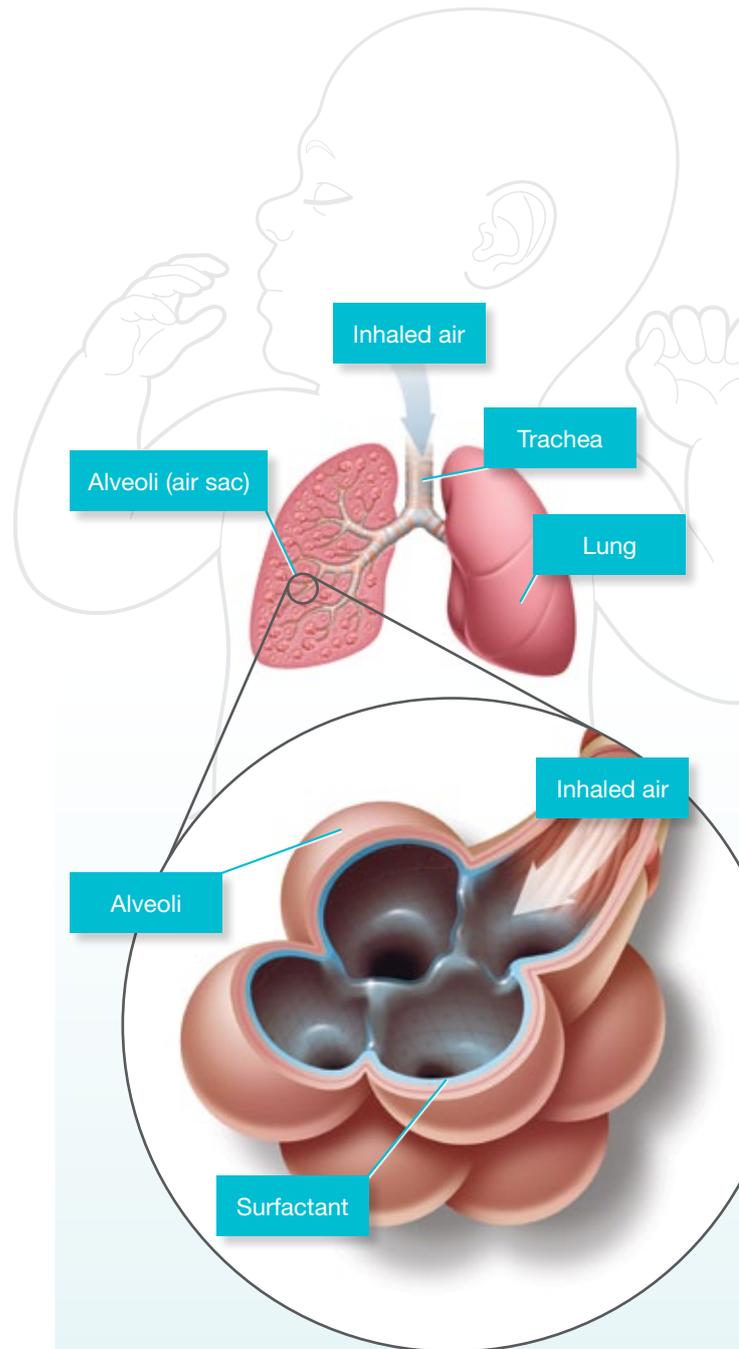
- Rapid shallow breathing
- Grunting sounds when breathing out
- Flaring of the nostrils when breathing in
- Brief stop in breathing (**apnoea**)
- Sharp pulling in of the chest muscles during breathing (**retraction**)

What causes RDS?

The main cause of RDS is prematurity. When babies are born early, their lungs may not be fully developed. These babies need help breathing until they are able to make enough lung surfactant on their own.

How common is RDS?

RDS affects about 1 in every 10 premature babies. It is most common in babies born 6 weeks or more before their due date. Almost all premature babies born before 28 weeks of pregnancy have RDS.



Healthy Alveoli

The lungs make a liquid called surfactant. This liquid helps keep the alveoli from collapsing when a person breathes out.

Treating Respiratory Distress Syndrome

What treatment will my baby receive?

Treatment will depend on how much help your baby needs to breathe. Possible treatments include:

- **Surfactant** – a liquid that helps keep the alveoli open so that oxygen can be used
- **Extra oxygen** – usually given through a nose tube or a mask
- **CPAP (continuous positive airway pressure)** – a treatment that uses pressurised air to keep the alveoli of the lungs open
- **Mechanical ventilation** – a machine that assists your baby to breathe using an endotracheal tube. The tube goes through the baby's nose or mouth and into their wind pipe
- **Antibiotics** – medicines that fight infections

How will I know how my baby is doing?

Your healthcare team will keep you up-to-date on your baby. They have several ways to measure breathing and lung health, including:

- **Vital signs** – heart rate, breathing rate, blood pressure, and oxygen saturation
- **Settings on the mechanical ventilator** – level of breathing support
- **Oxygen saturation** – The level of oxygen in a baby's blood. Oxygen level is measured by a small probe on the baby's hand or foot, also by blood samples. This level tells at a glance how well oxygen is being carried through the body

What will happen next?

The majority of babies will do well however each baby responds differently to treatment. Treatment will continue until the baby's lungs develop and can make enough surfactant. How long this takes depends on how early the baby was born. Talk to the healthcare team as they can answer any questions you have about your baby.

Glossary

Alveoli

tiny sacs in the lungs that move oxygen from the air into the blood

Apnoea

a stop in breathing

CPAP (continuous positive airway pressure)

a treatment that uses pressurised air to keep the alveoli of the lungs open

Mechanical ventilator

a machine that helps your baby breathe by moving air in and out of the lungs

Oxygen saturation

the level of oxygen in a baby's blood. Oxygen level is measured by a small probe on the baby's hand or foot, also by blood samples. This level tells at a glance how well oxygen is being carried through the body

Respiratory distress syndrome (RDS)

baby's lungs do not make enough surfactant. This makes it hard to breathe

Surfactant

a liquid that helps keep the alveoli open so that oxygen can be used

Ask the healthcare team when you have questions – they are there to help.

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