What is air leak syndrome? Air leak syndrome is a term used to describe problems that happen when air collects within a baby’s chest, but outside the normal air cells of the lungs. The air then creates pressure on the lungs and makes breathing very difficult. It is a serious problem that can damage the lungs and other organs. Air leak can happen in babies born full-term, but it is more common in babies born early (premature) because their lungs are very fragile. The risk for air leak is higher if the baby needs to be given oxygen to help him or her breathe. But air leak also can happen on its own at the time when the baby is born. Sometimes air leak can be a result of surgery.

What happens in air leak syndrome? Air leak happens if the small sacs that hold the air inside the lungs (called alveoli) are torn. Air then leaks from inside these sacs into areas inside the lung(s) or around the lung(s) (see pictures below). The air pushes against the lung(s) and/or heart, causing breathing and heart problems.

There are four types of air leak:

What are the signs of air leak syndrome? The baby may not breathe in a regular pattern. It may sound like the baby is grunting or is taking very quick and shallow breaths. The baby’s skin may look bluish or purplish in color. Other signs the doctors and nurses monitor, such as heart rate and blood pressure, may get worse. As a quick test to find out if air leak might be a problem, doctors may shine a special light on the baby’s chest, right at his or her bedside or request an x-ray.
What can be done about air leak syndrome? Treatment depends on the cause of the air leak. Doctors may increase the amount of oxygen given to the baby or put a thin needle into the baby’s chest to drain out the air that has leaked out of the baby’s lungs so the lungs can expand better. The doctor or advanced practitioner may put a tube into the baby’s chest (called a chest tube) to drain the air. Another treatment may be to place the baby on a ventilator (a machine that helps the baby breathe), if the baby is not already on one. In some cases, doctors may not take any action right away, but instead follow the baby closely. For babies with PIE (air inside one or both lungs), doctors and nurses might be able to solve the problem by changing the settings on the ventilator and/or changing the baby’s position in his or her bed.

Are there any lasting effects? Air leak may cause more lung problems such as chronic lung disease (CLD) and can cause death. If the air leak affects the amount of blood or oxygen reaching the baby’s brain, the baby may have long-term problems with learning, walking, or talking, though this degree of problems is not typical.

Can air leak syndrome be prevented? Air leak syndrome can occur in both term and preterm infants. However, preterm babies are at higher risk for air leak syndrome. Women at risk for giving birth early may be given medicine (called a steroid) to help the baby’s lungs mature faster. This treatment may help reduce the baby’s risk for lung problems after birth. If your baby is born early, doctors might give him or her a liquid (called surfactant) to help reduce lung problems such as respiratory distress syndrome (RDS). Studies show these treatments may prevent air leak syndrome in some babies.*

What can parents do? The best thing you can do right now is to learn about air leak syndrome and talk to the people caring for your baby. Getting answers to your questions can help you know what to expect.


This information is for educational purposes only and is not intended to substitute for professional medical advice. Always consult with a health care professional if you have any questions about the health of your baby.

F1 - Air leak syndrome