

Apnea of Prematurity



What is apnea of prematurity?

Apnea is a term that means breathing has stopped for more than 20 seconds. It can happen in full-term babies, but it's more common in premature babies. The more premature the baby, the greater the chances that apnea will occur.

What causes apnea of prematurity?

In premature babies, the part of the brain and spinal cord that controls breathing is not yet mature enough to allow nonstop breathing. Apnea of prematurity can cause babies to have large bursts of breath followed by periods of shallow breathing or stopped breathing. The condition may have other causes. Some of these include:

- Bleeding in or damage to the brain
- Lung problems
- Infections
- Digestive problems, such as reflux. Reflux is when the stomach contents move back up into the esophagus.
- Too low or too high levels of chemicals in the body, such as glucose or calcium
- Heart or blood vessel problems
- Triggering reflexes that lead to apnea. This might be from feeding tubes, suctioning, or a baby's neck position.
- Changes in body temperature

What are the symptoms of apnea of prematurity?

Apnea of prematurity is when a baby's breathing has stopped for 20 seconds or more. Other signs and symptoms that may happen with apnea include:

- Bluish color to the skin (cyanosis)
- Decrease in heart rate
- Low oxygen levels

The symptoms of apnea of prematurity may look like other health conditions. Make sure your child sees a healthcare provider for a diagnosis.

How is apnea of prematurity diagnosed?

It's important to find out if the apnea is caused by prematurity or if it is caused by another problem. Your baby's healthcare provider will examine your baby. They will check many of your baby's body systems to find out what might be causing the apnea. Your baby's breathing rate, heart rate, temperature, and blood pressure will be continuously checked. Tests used to diagnose the problem may include:

- **Blood oxygen levels.** Babies have their oxygen levels continuously checked.
- **Blood tests.** These check blood counts, blood sugar levels, and electrolyte levels. They also check for signs of infection.

- **Lab tests.** The fluid around the brain and spinal cord, urine, and stool may be checked for infection and other problems.
- **X-ray, ultrasound, or other imaging studies.** The healthcare provider may order X-rays or other pictures of the upper airways and lungs, brain, heart, or digestive system.
- **Sleep studies.** Vital signs and oxygen levels are checked.

How is apnea of prematurity treated?

Many premature babies will “outgrow” the condition by the time they reach the date that would have been the 36th week of pregnancy. If treatment is needed, it may include:

- **General care.** This includes control of body temperature, correct body position, and extra oxygen.
- **Nasal continuous positive airway pressure (CPAP).** A steady flow of air is delivered through the nose into the airways and lungs. Nasal intermittent positive pressure ventilation may be added to CPAP.
- **Medicines.** Methylxanthine is used to stimulate breathing.

Your baby may also need blood transfusions, depending on the cause of apnea.

What are possible complications of apnea of prematurity?

Premature babies may have many problems. They often have to stay in the hospital for long periods of time. Apnea of prematurity is one of the problems of babies born too early. A slow heart rate and decreased oxygen levels in the blood may happen with apnea of prematurity. These babies are at risk for respiratory failure and death. They may also have long-term lung problems.

How is apnea of prematurity managed?

Most premature babies outgrow apnea as they mature. But sometimes your baby may be sent home with an apnea monitor. It should be used whenever you or your infant is sleeping and when you are busy. The apnea monitor alarms are very loud so don't place the monitor next to your baby's head. Check every alarm signal, even if you think it is a false alarm.

Key points about apnea of prematurity

- Apnea is a term that means breathing has stopped for more than 20 seconds. It can happen in full-term babies, but it's more common in premature babies.
- Apnea of prematurity may not have a cause other than your baby's having an immature central nervous system.
- Many premature babies will “outgrow” apnea of prematurity by the time they reach the date that would have been the 36th week of pregnancy.
- Sometimes a baby is sent home with an apnea monitor.

Next steps

Tips to help you get the most from a visit to your child's healthcare provider:

- Know the reason for the visit and what you want to happen.
- Before your visit, write down questions you want answered.
- At the visit, write down the name of a new diagnosis, and any new medicines, treatments, or tests. Also write down any new instructions your provider gives you for your child.
- Know why a new medicine or treatment is prescribed and how it will help your child. Also know what the side effects are.

- Ask if your child's condition can be treated in other ways.
- Know why a test or procedure is recommended and what the results could mean.
- Know what to expect if your child does not take the medicine or have the test or procedure.
- If your child has a follow-up appointment, write down the date, time, and purpose for that visit.
- Know how you can contact your child's provider after office hours and on weekends and holidays. This is important if your child becomes ill and you have questions or need advice.

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