What is apnea? Apnea [ap-NEE-uh] is a problem in which a baby temporarily stops breathing while sleeping or resting. Many newborns have short pauses in their breathing (less than 20 seconds). But a baby is said to have apnea if he or she stops breathing for at least 20 seconds, or has a slowed heart rate, or has a bluish color to the skin with a shorter pause in breathing.

Apnea occurs in almost all babies weighing less than 2.2 pounds (1,000 grams) at birth because their bodies are not yet fully mature. Babies born before 27 weeks also have a higher risk. The earlier a baby is born, the higher his or her risk for apnea. Short periods of apnea often do not need treatment. But treatment is needed if the apnea occurs often and with long periods of slowed heart rate and decreased levels of oxygen in the blood.

Apnea usually stops by the time an infant is 37 weeks old. However, apnea may last longer in some babies. It has not been linked to other long-term problems, but frequent decreases in oxygen to the brain or to other organs can pose a risk to the baby and may need to be treated.

What causes apnea? Apnea most likely is due to a mixture of problems in premature babies. Because the baby’s network of nerves (the nervous system) is still growing and changing, the part of the brain that controls breathing may not yet be fully mature and ready to take on this task. Apnea also can result from infections that occur in the baby, both before and after birth, as well as several other causes.

In some babies, apnea occurs if the airway becomes blocked. This blockage happens because the muscles in the airway are not strong enough to keep the airway open. Some parents may wonder if their baby’s apnea is related to acid reflux. Acid reflux is common in babies born early and is a normal process. Studies show that acid reflux does not cause apnea or affect apnea in most infants.*

What are the signs of apnea? You can’t always see the signs of apnea simply by watching the baby. Some babies stop breathing (air stops moving in and out of the nose) and the baby’s chest stops moving. In other cases, air stops moving in and out of the nose, but the chest continues to move. This action means there is some sort of blockage in the baby’s airway, or a problem with the airway that is leading to apnea. The neonatal intensive care unit (NICU) staff is trained to watch for any problems using monitors that track heart rate, breathing, chest movement, and the level of oxygen in the blood.

What can be done for apnea? The main concern during periods of apnea is to make sure the baby’s brain and other organs get enough oxygen. This is often done by giving a medicine to make the breathing process more regular. You may hear your doctor refer to this medicine as a *xanthine* [ZAN-theen], which is a certain group of medicines that includes a form of caffeine (called *caffeine citrate*). In some cases, doctors may also treat the baby with continuous positive airway pressure (CPAP) or a ventilator to help with breathing. The baby will need treatment until the doctor advises that it can be stopped.

What can parents do? A key action parents can take in their baby’s care is to partner with the NICU team. This means learning about apnea and talking with doctors and nurses about any questions you may have. Because the details of your infant’s care are so new to you, the questions in the box at the right may help you get started.

Once your baby is feeding and growing well, you may be able to take your baby home. If the baby still has severe problems with apnea, doctors may recommend using an apnea monitor at home. This monitor tracks the baby’s breathing and heart rate, and sounds an alarm if a problem occurs. The monitor includes electrodes that are placed on the baby’s chest to track these signs. In general, parents are advised to keep the baby on the monitor when the baby is asleep or not being directly watched. Parents should keep in mind that an apnea monitor does not detect or prevent sudden infant death syndrome (SIDS). If your baby needs a monitor, someone will show you how to use it. You can use the questions provided below to keep track of key points about the monitor and its use. You also should obtain training and be able to perform cardiopulmonary resuscitation (CPR) on your baby if a problem occurs.

Questions to ask if my baby needs a monitor

Where can I find this monitor?

Who will show me how to use it?

How long will my baby need it?

What should I do if I have problems using the monitor?

Important contact numbers:
Take great care of the patient™

**Notes**

- Take a closer look at these Pediatrix topics
  - Topics A - F can be found online.
  - network of nerves - B2 - How babies' senses develop
  - continuous positive airway pressure - A2 - Tools of the NICU
  - sudden infant death syndrome - C2 - Caring for your baby in the NICU: about sleep

- Find the research
  - NICHD Cochrane Neonatal Review Group
    www.nichd.nih.gov/cochrane
  - National Scientific Council on the Developing Child
    www.developingchild.net
  - Neonatology on the Web
    www.neonatology.org

- Find out more: these websites may be helpful

  **American Heart Association**
  www.americanheart.org

  **Healthy Steps for Young Children**
  www.healthysteps.org

  **National Heart, Lung, and Blood Institute**
  www.nhlbi.nih.gov

  **Medline Plus®**
  www.nlm.nih.gov/medlineplus

  **National Institute of Child Health and Human Development**
  www.nichd.nih.gov/health/education

  **Maternal & Child Health Library at Georgetown University**
  www.mchlibrary.info

  **Sidelines National Support Network**
  www.sidelines.org

  **Early Head Start National Resource Center**
  www.ehsnrc.org

  **U.S. Department of Health & Human Services**
  www.healthfinder.gov

  **World Association for Infant Mental Health**
  www.waimh.org

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.