



Anemia in Newborns

What is anemia?

A baby who has anemia does not have enough red blood cells. The red blood cells carry oxygen in the blood and deliver it to the rest of the body.

A baby who is anemic:

- looks pale
- may be sleepy or tired
- may get tired when feeding
- may have a fast heart rate and breathing rate when resting.

What causes anemia?

Every baby becomes anemic 4 to 8 weeks after birth. This is called physiologic (or normal) anemia. In adults, red blood cells get old and break down but the body makes new red blood cells to keep the red blood cell count normal. Babies cannot make new red blood cells until they are 6 to 8 weeks old, and so they cannot replace the lost red blood cells and they become anemic. Once the baby starts making new red blood cells, the red blood cell count gradually returns to normal. Most babies do not have any symptoms from this natural process and do not need treatment.

Newborns can become anemic for other reasons, including:

- **Blood loss:** Sometimes the baby loses blood at the time of delivery, either into the mother's bloodstream or into the placenta.
- **Different blood type:** If the mother and baby do not have the same blood type, too many of the baby's red blood cells break down after birth.
- **Lack of iron:** Iron is a mineral that is important in making new red blood cells. Many children and adults do not get enough iron in their diet and are anemic because of the lack of iron. Babies are born with plenty of iron, but they need to have iron in their diet. Formula-fed babies should receive iron-supplemented formula. Breast milk contains some iron, so breast-fed babies do

not normally need extra iron until the age of 4 to 6 months, when they can start eating iron-supplemented cereal.

- **Premature birth:** Premature babies become anemic sooner than full-term infants because they start out with fewer red blood cells. They also lose blood from frequent blood tests. Many premature babies become anemic before their body can make red blood cells. They may need a transfusion of blood. The smaller a premature baby is, the more likely he will need one or more blood transfusions in the first 2 months of life.

What is the treatment?

Anemia is a normal process for newborns and does not need to be treated unless it causes a problem for the baby.

- **Blood test:** Every baby in the special care nursery has a red blood cell count, or hematocrit, several times a week. It is expected that the blood count will gradually fall. A baby is not treated for anemia unless the baby develops symptoms of anemia or the blood count drops too low.
- **Iron supplement:** Iron is needed to make red blood cells. Premature babies need iron added to their diet. When your baby is 2 weeks old, your health care provider may recommend that you give your baby iron drops.
- **Blood Transfusion:** A blood transfusion is a transfer of red blood cells to a baby through the veins. It increases the baby's red blood cell count.

There are many different reasons for a blood transfusion. Sometimes a transfusion is needed as an emergency. If a baby rapidly loses a large amount of blood or if the blood count is so low that the heart and body are under stress from lack of oxygen, a blood transfusion can save the baby's life.

At other times a transfusion is given to treat a specific symptom that is thought to be made worse by anemia. For example, a baby who is weak and tired and has a very low blood count may become stronger and eat better once the blood count is raised by a transfusion. Very premature babies may have low blood counts. Because of their age and prematurity, they are not expected to make blood for several weeks. In these cases a blood transfusion is given to boost the blood count.

If a transfusion is necessary, your baby's doctor will discuss the reasons with you.

How is a blood transfusion given?

Blood to be given is matched against the baby's blood to make sure it is compatible. The blood is also tested to make as sure as possible that it is free of any infection that could be passed through the blood.

The blood is given to the baby into a vein with an intravenous (IV) line. The transfusion lasts about an hour. The baby is watched carefully during the transfusion but can be held during this time. The amount of blood given to the baby is relatively small. It is usually no more than a few tablespoons.

Sources of blood

Blood for transfusion comes from the blood bank in one of two ways. Usually the blood is donated by volunteer donors. This is called blood bank blood. It is also possible for family members to donate blood specifically for the baby. This is called directed-donor blood. Your baby's doctor will tell you if a transfusion is needed and discuss with you your preferences for blood transfusion.

- **Blood bank blood:** All blood collected at the blood bank is donated by volunteers whose health is carefully screened. The blood is tested for infections that could be passed through blood. These infections include syphilis, hepatitis, HIV, and cytomegalovirus (CMV). CMV is a common virus which causes a mild cold in children and adults. However, CMV can be passed through blood transfusion and can cause more serious infections in premature babies. All blood used for premature infants is CMV negative; that is, it is donated by people who have not had CMV infections. HIV is the virus that causes AIDS. Because blood is now tested for HIV, the risk for getting AIDS through transfusion is very low, approximately 1 in 225,000. The risk for getting hepatitis is 1 in 3,300.
- **Directed-donor blood:** Family members can donate blood for their baby. However, mothers cannot donate for their baby until 6 to 8 weeks after delivery. The donor blood must be a compatible blood type. All donors are screened for syphilis, hepatitis, HIV, and CMV. The blood is available for transfusion 24 to 48 hours after the time of donation. If the transfusion needs to be done immediately, there may not be time for donor-specific blood donation. Research has shown that specific donors outside the immediate family (parents, grandparents) do not offer any greater protection from infection than volunteer donors from the blood bank.

How long will the anemia last?

All babies outgrow the anemia during their first 2 months of life. Most babies who receive blood transfusions do not have any problems. Now that donated blood is tested for HIV, follow-up HIV tests are not routinely done in babies who have received blood transfusions in the newborn period because the risk of getting HIV from a transfusion is very low.

*NOTE: This information is provided as a public educational service. The information does not replace any of the instructions your physician gives you. If you have a medical emergency please call the Hospital at (208) 529-6111. If you have questions about your child's care, please call Idaho Falls Pediatrics at (208) 522-4600.