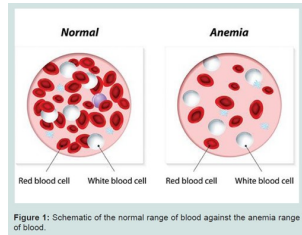




COMPLICATIONS AFTER BIRTH

After birth, the mother's antibodies that were in the child's blood stream can continue to attack and destroy the infant's red blood cells for up to 12 weeks. This can cause anemia for up to 3-4 months of life and jaundice in the neonatal period.



Clip Art, Microsoft

As the red blood cells are broken down after birth, bilirubin is released as a by-product of red cell destruction.

Bilirubin gives a yellow color to skin and sclera and is removed from the body by the liver.

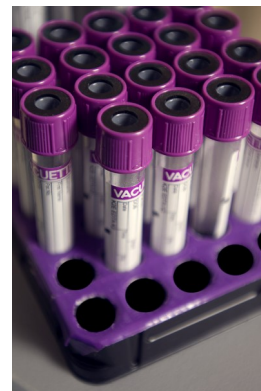
A newborn's liver has a lower ability to remove bilirubin. Hence, large quantities of bilirubin can build up in their circulation and get into other tissues in cases of red cell breakdown. Bilirubin is toxic to newborns brains and can cause lifelong damage.



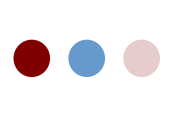
MONITORING REQUIRED

Your baby will require regular blood work to ensure that their anemia is not worsening. Blood work is usually needed at least every 7-14 days. If the baby has severe or worsening anemia, the blood work may be needed more frequently.

The Hematology Nurse Coordinator or Pediatric Hematologist will contact you with the results and a plan going forward.



Clip Art, Microsoft



WHAT YOU SHOULD WATCH FOR

Newborns and infants can have the following symptoms of anemia.

1. Sleeping too much and not waking up for feeds
2. A drop in activity and alertness from usual.
3. Looking very pale
4. Increased fussiness especially if inconsolable
5. Very shallow and fast breaths

If you observe any of the symptoms described above, please call pediatric hematology using the contacts provided for further instructions.



CONTACT INFORMATION

QUESTIONS OR CONCERNS:

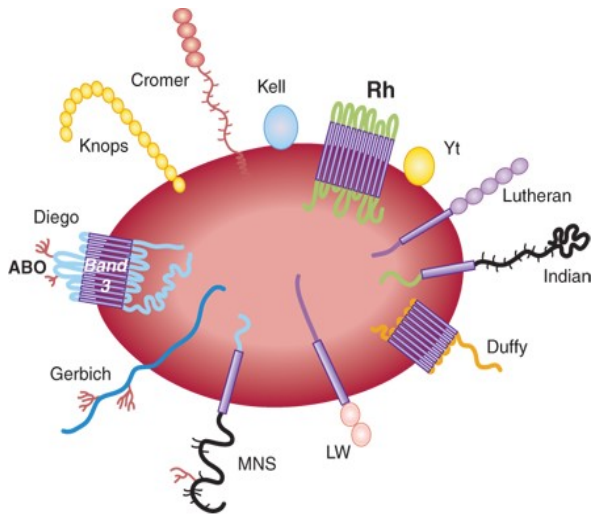
Pediatric Hematology Coordinator, at 1(306) 514-8063 on Tuesday-Thursday between 8:00am – 4:30pm

EMERGENCIES and URGENT CONCERNS, including on evenings and weekends: Call the RUH Switchboard at 1 (306) 655-1000 and ask to have the PEDIATRIC HEMATOLOGIST ON CALL PAGED.



Clip Art, Microsoft

HEMOLYTIC DISEASE OF THE NEWBORN (HDN)



Source: H. Franklin Bunn, Jon C. Aster: Pathophysiology of Blood Disorders
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ANTIGENS (proteins) on RED BLOOD CELLS

WHAT IS HDN?

Red blood cells (RBCs) carry proteins on their surface called antigens which can activate immune system. If a person is exposed to RBCs which carry antigens different from their own (e.g. transfusion), their immune system can produce antibodies which can breakdown the RBCs.

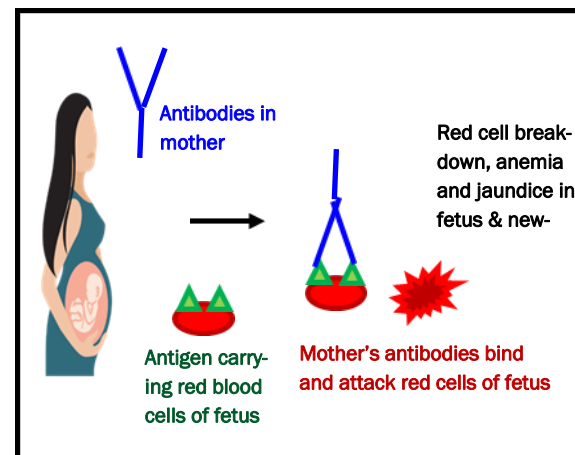
A mother's immune system becomes exposed to fetal blood cells during pregnancy as they enter the maternal circulation. If the antigens on fetal red cells are different from the mothers, the mother's immune system can create antibodies.

These antibodies can then cross the placenta and cause destruction of the fetal red blood cells (hemolysis) leading to low hemoglobin (anemia). **Anemia means lack of healthy red blood cells to carry oxygen.** In severe cases, it can cause heart failure and even fetal death.



Red cell antibodies in the mother can cross placenta during pregnancy and cause red cell break down in the fetus. These antibodies can lead to anemia (low hemoglobin) and jaundice (high bilirubin) both in the fetus and the newborn baby.

As these antibodies can survive in infant's blood for as long as 3 months after birth, the infant is at risk of anemia in that timeframe. Hence, close monitoring of the infant will be needed till 3-4



FOLLOW UP AND TREATMENT

All mothers get tested for red cell antibodies during pregnancy. If a mother is noted to have red cell antibodies (alloimmunization), she gets additional testing and follow up by her healthcare providers.

After birth all babies get tested for jaundice in the first 1-2 days of life. Babies who are at higher risk for jaundice or anemia get more frequent testing.

If a baby develops jaundice, they are admitted to the hospital and placed under blue lights (phototherapy) to get rid of excessive bilirubin. In addition, a red blood cell transfusion may be given to the baby at any time in the first 3-4 months for anemia so that the baby's vital organs are receiving oxygen.

In rare cases, the babies may receive medication to increase the production of red blood cells as well.