



Blood stem cell transplantation

“Our first child, Alma was born with sickle cell disease. When baby Jaime came along three years later, we saved the blood from his umbilical cord at birth. It turned out Jaime’s cord blood was a match for Alma. His cord blood was transplanted into Alma and she was cured of sickle cell disease. We know of another child, Liza, who had sickle cell disease. Liza got a bone marrow transplant and was also cured. Our doctor said cord blood and bone marrow transplantations are the only two ways to cure this disease. Due to modern medicine, two families now have well children.”

In the past, bone marrow transplantation was the only way to cure sickle cell disease. Today, people with sickle cell are also being cured by another type of blood stem cell transplantation called cord blood transplantation. The chance of success with either method is high—about 8 out of 10 patients getting these transplants are cured.

Blood stem cell transplantation is becoming more common, but it can have health risks. These risks include serious health problems and, sadly, even death. Talk to your doctor about the risks and benefits of each method.

Who can get blood stem cell transplantation

Transplantation is done on patients who have severe sickle cell disease and no major organ damage.

- The person giving the cord blood or the healthy bone marrow is called the donor.
- For these methods to work, the donor and the patient must be a close match. Tests are done first to select a donor that matches the patient. The best donor is a perfect match—usually a full brother or sister.





Blood stems cells come from bone marrow or cord blood

Bone marrow is a soft, spongy area inside certain bones. It makes the stem cells that become red blood cells and other blood cells.

The bone marrow of a person with sickle cell disease makes abnormal sickle red blood cells. That is why the patient will receive healthy stem cells that make normal red blood cells from a donor.

Cord blood has plenty of blood stem cells. That's why it can be transplanted into a person with sickle cell disease.

What the donor can expect

When the cells come from bone marrow:

- First, the donor is put to sleep. Bone marrow is taken from the donor's hipbones with needles. When it is over, the donor will be sore for a few days.

When the cells come from cord blood:

- After a baby is born and the umbilical cord is cut, some blood stays in the placenta and a part of the cord. This blood is called "cord blood." It is not taken directly from the baby (the donor).
-

What the patient can expect

Before transplantation:

- All or part of the patient's own bone marrow must be destroyed through chemotherapy—with or without radiation. The chemo starts a few days before transplantation.

During transplantation:

- The patient is given healthy blood stem cells from the donor. The procedure is similar to a blood transfusion.
-

How can I learn more about blood stem cell transplantation?

Contact the SCDA (Sickle Cell Disease Association of America) at 800-421-8453. Or, go to our website: www.sicklecelldisease.org

