

## GETTING READY FOR TRANSPLANT

When a child is referred for a possible SCT, the family will meet with the Stem Cell Transplant team for testing and evaluation. The Sickle Cell Disease team will work closely with the SCT team to coordinate pre-transplant care.

## WHAT TO EXPECT

In preparation for SCT, low doses of chemotherapy will be used to decrease the child's immune system to prepare the body for new cells. The child will take medicines to suppress the immune system during and for at least 6-9 months after the transplant. Antibiotic, antifungal, and antiviral medicines are given during this time to prevent infections. Children usually require blood and platelet transfusions until the new donor cells start making its own hemoglobin and platelets.

A child undergoing SCT can expect to spend 4-6 weeks in the hospital with frequent clinic visits after discharge for at least one year.

While your child is in the hospital, other members of your care team besides doctors and nurses include occupational and physical therapists, art therapist, music therapist, school teachers, and many more. They will be very active in your child's care before, during, and after the transplant hospital stay.



St. Louis Children's Hospital  
**Hematology/Oncology**  
One Children's Place  
St. Louis, Missouri 63110

**314.454.KIDS (5437)**

StLouisChildrens.org



SLC15564\_7/13

# STEM CELL TRANSPLANT FOR SICKLE CELL DISEASE AND THALASSEMIA



**children's**  
HOSPITAL • ST. LOUIS  
BJC HealthCare

 **Washington**  
University in St. Louis  
Physicians

**children's**  
HOSPITAL • ST. LOUIS  
BJC HealthCare

 **Washington**  
University in St. Louis  
Physicians



## STEM CELL TRANSPLANT FOR SICKLE CELL DISEASE AND THALASSEMIA

Stem Cell Transplant (SCT) can cure Sickle Cell Disease and Thalassemia by stopping the child's body from making abnormal red blood cells and replacing them with stem cells from a donor. The donor stem cells make healthy red blood cells without Sickle Cell Disease or Thalassemia. St. Louis Children's Hospital (SLCH) is a national leader in developing more effective, safer ways to provide SCT to children with blood diseases.



**Gabby,  
6 years old:**

*"My transplant came from an umbilical cord. Its healthy cells replaced my bad cells."*

### REASONS FOR A STEM CELL TRANSPLANT

- Transfusion-dependent Thalassemia
- Sickle Cell Disease with strokes, recurrent pain episodes or acute chest syndrome, or chronic transfusions, or other severe problems

### BENEFITS:

SLCH performs Reduced Intensity Stem Cell Transplants, meaning that lower doses of chemotherapy are used to prepare the child for receiving the new stem cells. The lower doses cause fewer long-term side effects.

Children with Sickle Cell Disease or Thalassemia can be cured by having a SCT. This means they will not have more pain crises or need for chronic transfusions; however, a SCT will not reverse previous problems that have already happened, such as strokes or bone infarctions. New complications will be prevented after a successful SCT.

### THERE ARE TWO TYPES OF DONORS:

- Related – a fully tissue matched brother or sister. This type of transplant is the most likely to be successful with the fewest risks.
- Unrelated – someone not related to the patient, chosen through the National Marrow Donor Program registry

### THERE ARE THREE SOURCES FOR STEM CELLS:

- Bone Marrow (BM)
  - The soft, blood-forming tissue inside of bones
- Peripheral Blood stem Cells (PBSC)
  - Blood-forming cells from the circulating blood
- Umbilical Cord Blood (UCB)
  - UCB is donated by parents after a baby's birth. Stem cells are collected from the umbilical cord and placenta and stored for future use. If not donated, the UCB is thrown away. Donating does not harm the baby.

Once a donor has been chosen, both the donor and recipient must go through testing to be sure their bodies are healthy enough for transplant. These pre-transplant evaluations will look at all your child's major organs (brain, heart, kidneys, liver, and lungs.)



**Alexandria,  
19 years old:**

*"I participated in one of the open clinical studies at SLCH. I don't know who my donor was, but he or she saved my life."*

advances  
IN STEM CELL  
transplantation