

# Complications: Stroke

## What is a stroke?

A stroke is an injury to the brain. It can happen when blood flow to the brain is blocked. Sickle cells can slow down or block the flow of blood and oxygen to your child's brain, causing brain cells to die. When brain cells die, the parts of the body they control do not work either. Stroke can damage your child's ability to walk, talk, and/or understand. It can also affect their emotions and their memory. In some cases, children with sickle cell have died from a stroke.

## How common is a stroke?

Children with sickle cell disease have a higher risk of having a stroke than children without sickle cell. **Strokes most often occur in children with sickle cell disease type SS and sickle beta zero thalassemia between the ages of 5 and 10 years old.**

There is a test called a Transcranial Doppler (TCD) that uses sound waves to examine the major blood vessels in the brain (See "**Prevention: Transcranial Doppler Ultrasound**"). The test measures blood flow in your child's brain and is completely painless. It will be performed every year starting at age 2 until age 16. Doctors can use this information to help determine if your child is at high risk for a stroke.



## What are the warning signs of a stroke?



If your child is having a stroke or has already had one, he or she might have the following symptoms:

- Sudden weakness in an arm, leg, or entire body without pain
- Difficulty walking, like limping or dragging foot
- Trouble speaking, slurred speech
- Seizures or convulsions
- Changes in vision or difficulty seeing
- Severe headaches
- Strange, abnormal behavior or confusion

**If your child has any of the above warning signs, you should call your sickle cell doctor and go to the Emergency Department immediately. Call 312-227-4000 and ask for the hematologist on call.**

## How is stroke treated?

- A child who has had a stroke will need to have a blood transfusion to help lower the amount of sickle hemoglobin in the blood.
- The doctor will order a brain CT (CAT scan) or an MRI/MRA to look for any damage to the brain.
- Your child will be watched closely in the hospital for new or worsening symptoms.
- Your child may need special medications to control seizures if they occur with stroke.
- To prevent recurring **strokes\***, blood transfusions will be given every 3-4 weeks to help keep sickle hemoglobin levels low.

*\*Children who have had one stroke have a higher risk of having another stroke.*

## What are "silent strokes"?

Sometimes a child may have a stroke but never show the symptoms described above. **This kind of stroke can usually only be detected by a brain MRI/MRA** (see "**Prevention: MRI & MRA**"). Sometimes the only symptoms may be a decline in school performance. Children with sickle cell who have silent strokes have an increased risk of having other types of brain injury in the future.

If your child is experiencing any of the stroke warning signs, **seek care and call** the sickle cell nurse or doctor: **312-227-4813 (M-F 9am to 5pm)**  
**312-227-4000 (After hours, ask for hematologist on-call)**

## The Comprehensive Sickle Cell Program

Division of Hematology, Oncology and Stem Cell Transplantation  
Ann & Robert H. Lurie Children's Hospital of Chicago  
225 East Chicago Avenue, Box 30  
Chicago, IL 60611

