



NATIONWIDE CHILDREN'S
When your child needs a hospital, everything matters.

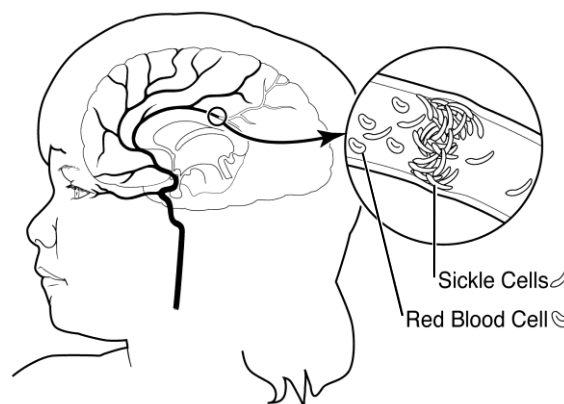
Helping Hand™

Health Education for Patients and Families

Sickle Cell Disease and Stroke

Children with sickle cell disease (SCD) are at risk of having strokes. A stroke happens when the blood flow to or in the brain is blocked. This blockage slows down or stops oxygen to the brain. This can cause damage to the brain.

In SCD, the blood vessels in the brain can be damaged by sickling causing blood vessels to scar and narrow (Picture 1). This can affect the blood supply to the brain and cause a stroke.



Picture 1 Sickle cells are blocking blood flow in the brain.

Signs and Symptoms

Call 911 for emergency help if your child has any of these symptoms:

- Seizure – could be over the whole body or just one body part
- Headache, with or without throwing up (vomiting)
- Hard time breathing
- Difficulty walking
- Drooping of the face
- Hard time speaking or understanding others
- Vision changes
- Weak or can't move one side of the body
- Extreme sleepiness
- Cannot be woken up

Some children with SCD can have silent strokes. This means there are no signs and symptoms of a normal stroke before or while it happens. Instead, silent strokes may cause behavior changes and problems with memory or learning. Please talk to your sickle cell team if you have concerns about sudden behavior changes or difficulty at school.

Risk Factors

- If your child has hemoglobin SS or sickle beta zero thalassemia, they are at higher risk for stroke. The risk is about 10%. The risk of a silent stroke is about 30%.
- There's a high chance your child will have another stroke if they have had one in the past. The risk of a second stroke happening is 60 to 80%.

Prevention

- A transcranial Doppler (TCD) ultrasound is a test that measures the risk of stroke. A TCD measures the speed of blood flowing to the brain. The test does not hurt (Picture 2).
- If the TCD shows your child is at risk for a stroke, they may need to have TCDs done more often. Other treatment options to prevent stroke may be discussed with you, such as blood transfusions and hydroxyurea.



Picture 2 The TCD uses a small wand called a probe on the outside of your child's head.

Treatment

A blood transfusion will be given to your child if they are having a stroke.

- The blood transfusion dilutes the sickle cells and helps the blood flow better to the affected area of the brain. This is done to help prevent any further damage to the brain.
- Your child's brain will be looked at by having a special X-ray test like a computed tomography (CT) or magnetic resonance imaging (MRI).
- If a child with sickle cell disease has had a stroke, they're much more likely to have another stroke unless steps are taken to prevent it. Your sickle cell team will discuss preventative treatment with you.

When to Call the Doctor

If your child becomes sick, call the sickle cell nurses at (614) 722-8914 Monday through Friday from 8 a.m. to 4:30 p.m.

- If they are not available, please call the Sickle Cell Clinic at (614) 722-3250.
- For evenings, weekends, and holidays, call (614) 722-2000 and ask for the hematologist on call.