

# Sickle Cell disease: Understanding the Facts

## Sickle Cell disease affects red blood cells

Red blood cells carry oxygen throughout the body. Sickle cell disease changes the shape of the red cell to a hard, sickle shaped cell. This makes it harder for the blood to flow and deliver the oxygen. Also, the cells break up easily, causing anemia.

## Sickle Cell is not restricted to one group

People in many ethnic groups can have sickle cell trait or disease. It is most common among African Americans, but also in people from the Caribbean, Middle East, Mediterranean, India, South and Central America.

## Sickle Cell disease can cause serious health problems

It is very important for people with sickle cell disease to be followed by a comprehensive sickle cell program.

## Sickle Cell disease is not contagious

A person cannot catch sickle cell disease through the air, water, skin, etc. The only way to get it is to have it passed on from your parents.

## Other forms of Sickle Cell Disease

There are different types of sickle cell disease: Sickle cell disease (SS); Sickle-Hemoglobin C Disease (SC); Sickle Beta-Plus Thalassemia (SB<sup>+</sup>) and Sickle Beta-Zero Thalassemia (SB<sup>0</sup>).

### For more information contact:

COMPREHENSIVE PEDIATRIC SICKLE CELL PROGRAM/  
COMMUNITY BASED SICKLE CELL PROJECT  
One Brookdale Plaza, Rm 346 CHC  
Brooklyn, New York 11212-3198  
Tel. (718) 240-5904 • Fax: (718) 240-6730  
[www.sicklecellbrooklyn.org](http://www.sicklecellbrooklyn.org)

Brookdale University  
Hospital and Medical Center

Division of Pediatric  
Hematology/Oncology

COMPREHENSIVE PEDIATRIC  
SICKLE CELL PROGRAM/  
COMMUNITY BASED SICKLE CELL PROJECT

Kusum Viswanathan, M.D.  
Director, Pediatric Hematology/Oncology  
Vice-Chairman, Department of Pediatrics

Donna M. Boruchov, M.D.  
Pediatric Hematologist/Oncologist

Yana Pennant, LMSW  
Social Worker/Care Coordinator

Verna DuBerry Ademu-John, M.S.  
Program Coordinator

Lynette Smith, B.A., MPH  
Health Educator

Community-Based  
Sickle Cell Project Partners

Scott Miller, M.D.  
SUNY Downstate Medical Center/  
Kings County Hospital Center

Miren Blackwood, B.A.  
Interfaith Medical Center

Adrienne Mercer, M.A.  
Caribbean Women's Health Association, Inc.

Colette Pean, MPA  
Brownsville Multi-Service Family  
Health Center

Supported in part by Project #2 H46 MC00240-04-00  
Department of Health & Human Services/  
Health Resources and Services Administration (HRSA)  
/Maternal and Child Health Bureau



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# Sickle Cell Trait



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Hospital and Medical Center  
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Tel. (718) 240-5904 • Fax: (718) 240-6730

### What is Sickle Cell Trait?

Sickle Cell Trait (AS) is an inherited condition where the person has a normal red cell (A) gene and a sickle (S) gene.

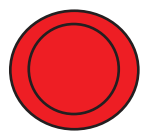
### What is a Gene?

A gene is a portion of a chromosome (DNA) that parents pass to their children. Genes determine physical traits – for example, eye and hair color and other features.

### What is a Sickle Gene?

The sickle gene changes the hemoglobin which is a protein in the red blood cell. This protein carries the oxygen to the body.

### What do the red cells look like?



Normal Red Blood Cells



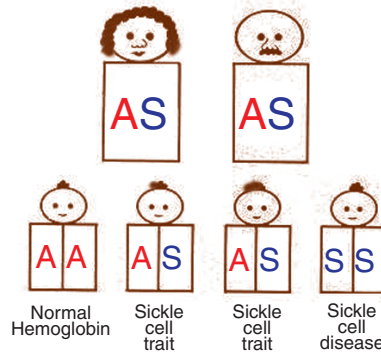
Sickle Red Blood Cells

### How do you know if you have sickle trait (AS) or disease (SS)?

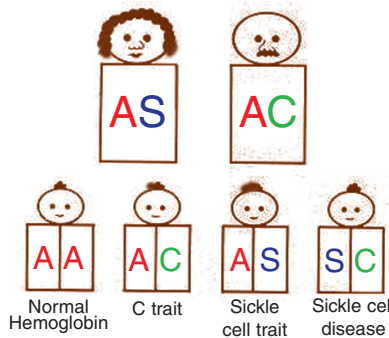
By a simple blood test called hemoglobin electrophoresis. This test can also find other hemoglobin traits like AC or Beta-thalassemia.

### Why is it important to know if you have the Trait?

If two people have sickle cell or another trait, they are at risk of having a baby with sickle cell disease – *So, get your partner tested.*



*Here, both parents carry S trait.*



*Here, one parent carries S trait and the other parent carries C trait.*

If both partners have the trait, there is a 1 in 4 chance of having a baby with sickle cell disease with each pregnancy.

### What you should know if you have the trait...

- You will carry the trait all your life.
- It is not a disease and cannot become the disease.
- The trait will not make you anemic.
- The trait will not cause pain.
- The trait will not make you sick.
- You should alert your doctor about your trait if you are going to have surgery.
- Avoid extreme exercise, flying in unpressurized aircrafts or deep sea activities.
- You can have hematuria or blood in the urine, but if this happens, make sure that other causes are considered.
- If only *one* parent carries the trait or disease, a couple cannot pass the disease to their child.

*Get yourself tested.*

*Do a Hemoglobin Electrophoresis.*

