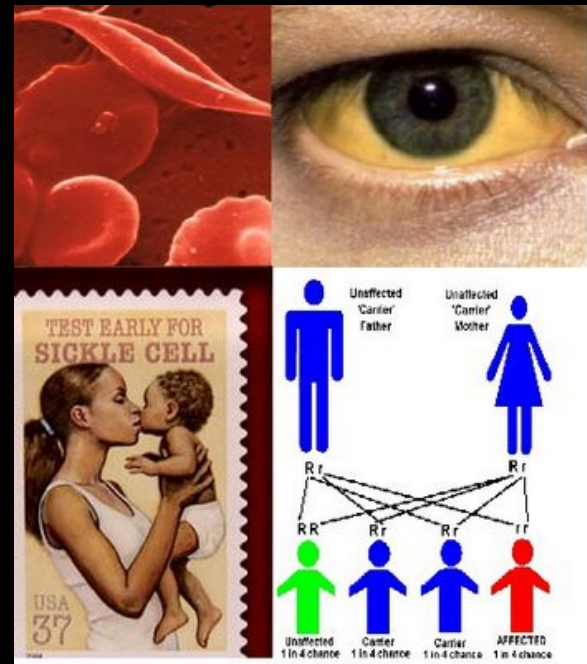


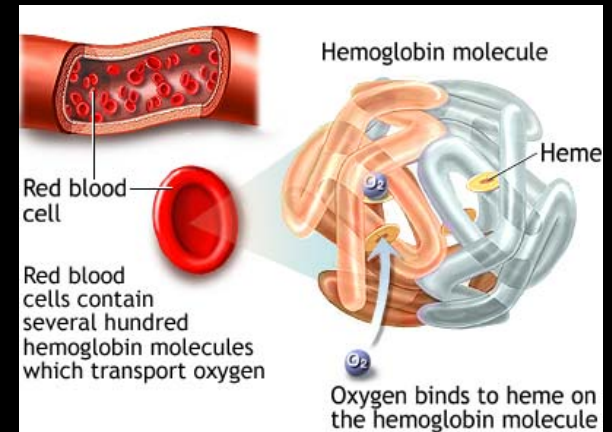
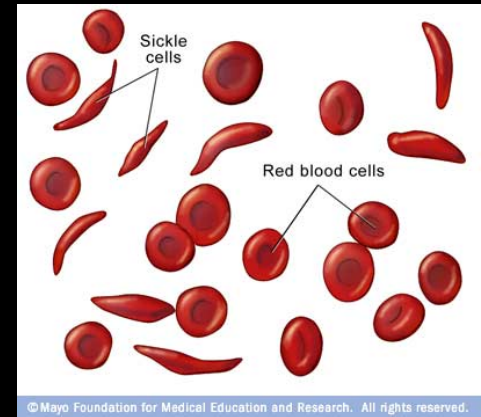
SICKLE CELL ANEMIA

SCM
SICKLE CELL MINISTRIES

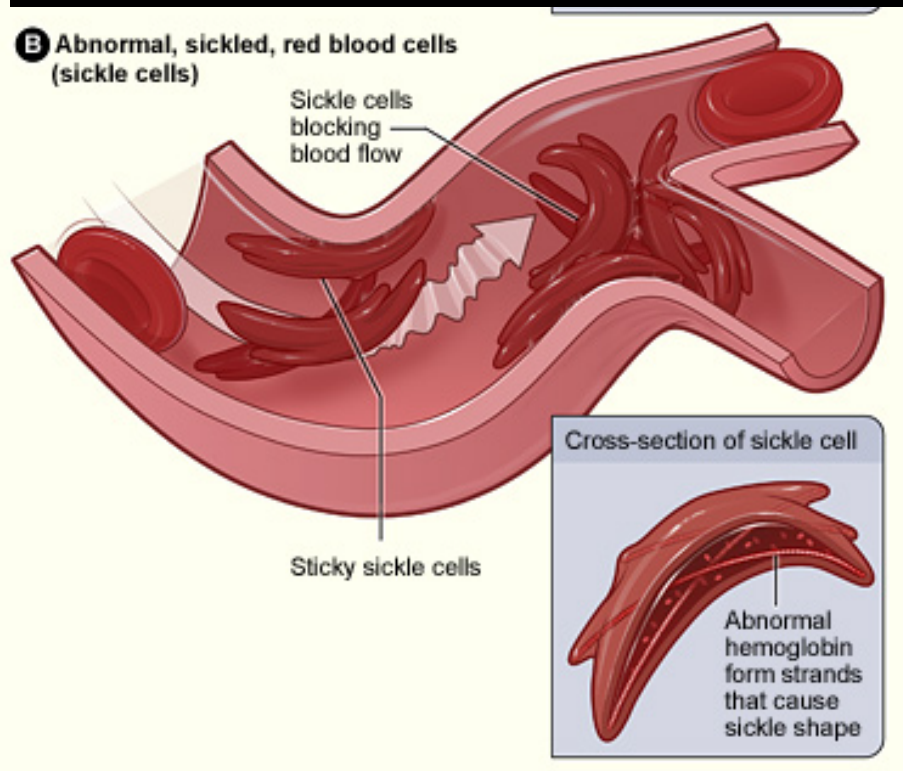
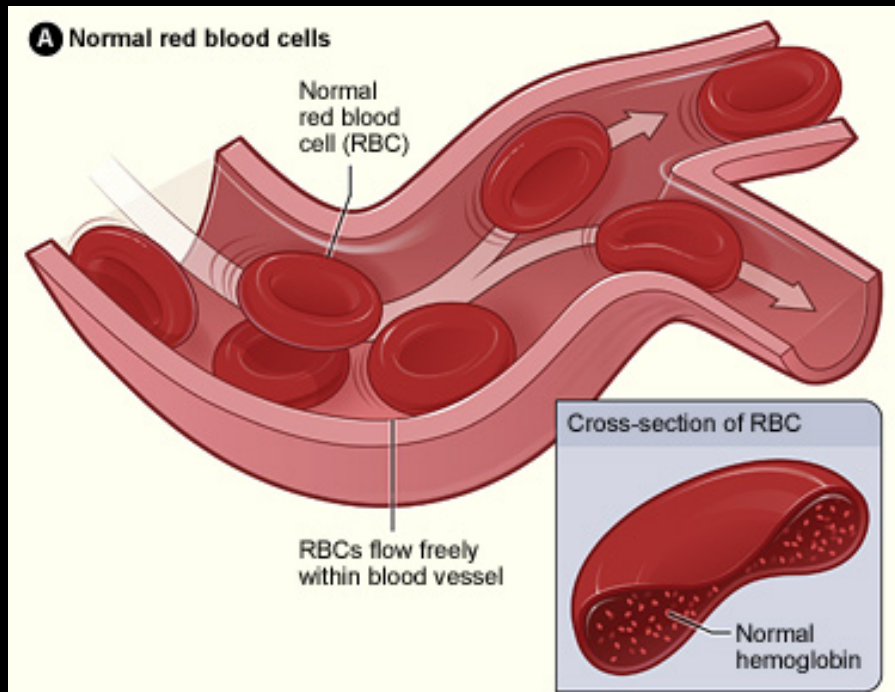


What is Sickle Cell Anemia?

- A serious condition in which red blood cells can become sickle-shaped
- Normal red blood cells are smooth and round. They move easily through blood vessels to carry oxygen to all parts of the body.
- Sickle-shaped cells don't move easily through blood. They're stiff and sticky and tend to form clumps and get stuck in blood vessels.
- The clumps of sickle cell block blood flow in the blood vessels that lead to the limbs and organs. Blocked blood vessel can cause pain, serious infection, and organ damage.



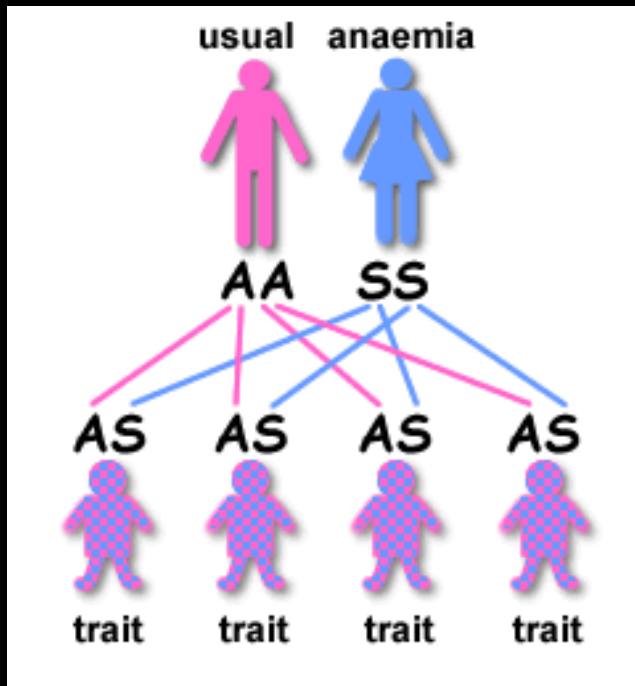
Normal and Sickled Red Blood Cells in Blood Vessels



Sickle Cell Anemia vs. Sickle Cell Trait

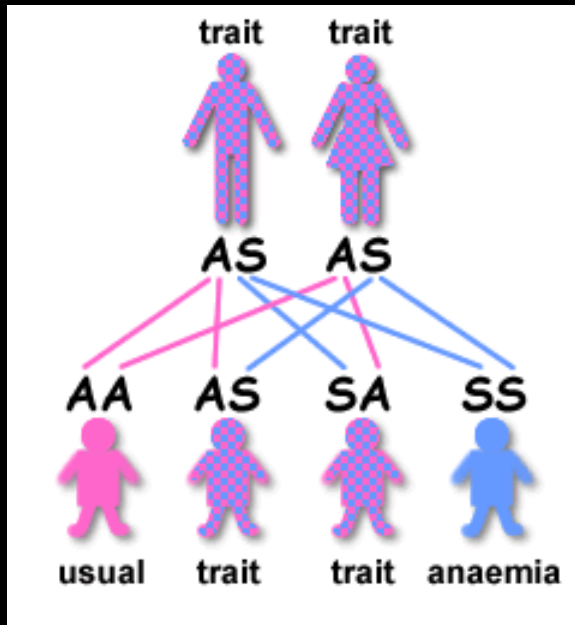
- People who have sickle cell anemia are born with it; means inherited, lifelong condition.
- They inherit two copies of sickle cell gene, one from each parent.
- Sickle cell trait is different from sickle cell anemia. People with sickle cell trait don't have the condition, but they have one of the genes that cause the condition.
- People with sickle cell anemia and sickle cell trait can pass the gene on when they have children.

Inheritance of Sickle Cell Anemia



- If one parent has sickle cell anaemia (HbSS) and the other is completely unaffected (HbAA) then all the children will have sickle cell trait.
- None will have sickle cell anemia.
- The parent who has sickle cell anemia (HbSS) can only pass the sickle hemoglobin gene to each of their children.

Inheritance of Sickle Cell Anemia



- If both parents have sickle cell trait (HbAS) there is a one in four (25%) chance that any given child could be born with sickle cell anemia.
- There is also a one in four chance that any given child could be completely unaffected.
- There is a one in two (50%) chance that any given child will get the sickle cell trait.

Why Anemia?

- Anemia is a condition in which a person's blood has a lower than normal number of red blood cells, or the red blood cells don't have enough hemoglobin. Hemoglobin is an iron-rich protein that gives blood its red color and carries oxygen from the lungs to the rest of the body.
- Normal red blood cells last about 120 days in the bloodstream and then die. Their main role is to carry oxygen, but they also remove carbon dioxide (a waste product) from cells and carry it to the lungs to be exhaled.
- In sickle cell anemia, a lower-than-normal number of red blood cells occurs because sickle cells don't last very long. Sickle cells die faster than normal red blood cells, usually after only about 10 to 20 days. The bone marrow can't make new red blood cells fast enough to replace the dying ones. The result is anemia.



Did You Know?

Sickle cell anemia may be the result of a genetic mutation that happened in malaria-prone regions like Africa thousands of years ago. People with sickle cell trait may have been more likely to survive malaria epidemics - and because they survived when others did not, this allowed the trait to be passed down through generations.



Signs and Symptoms



- Individual signs and symptoms varies. Some have mild symptoms, others have very severe symptoms and may be hospitalized for treatment
- Present at birth, many infants doesn't show signs until after 4 months of age
- Anemia: Fatigue (tiredness), pale skin and nail beds, jaundice, and shortness of breath
- Pain (Sickle Cell Crisis): Sudden episode of pain throughout the body. Common sites: bones, lungs, abdomen, and joints. Lack of blood flow can cause pain and organ damage.

Complication of Sickle Cell Anemia

- Hand-Food Syndrome
- Splenic Crisis
- Infections
- Acute Chest Syndrome
- Delayed growth and puberty in children
- Stroke
- Eye problem
- Priapism
- Gallstone
- Ulcers on the legs
- Pulmonary Arterial Hypertension
- Multiple Organ Failure

Treatments

- Effective treatments are available to help relieve the symptoms and complications of sickle cell anemia, but in most cases there's **no cure**.
- The goal is to relieve the pain; prevent infections, eye damage, strokes and control complications if they occur.
- Pain medicine: acetaminophen, nonsteroidal anti-inflammatory drugs (NSAIDs), and narcotics such as meperidine, morphine, oxycodone, and etc.
- Heating pads
- Hydroxyurea, Folic Acid
- Blood Transfusions



The information provided in this powerpoint is for educational purposes and should not be substituted for doctor's advice, so consult your doctor

Prevention

- Identify what can trigger the “Crisis” such as stress, avoid extremes of heat and cold weather, don’t travel airplane that is pressurized
- Maintain healthy lifestyle habits
 - ✦ Eating healthy
 - ✦ Avoid dehydration
 - ✦ Exercise regularly
 - ✦ Get enough sleep and rest
 - ✦ Avoid alcohol and don’t smoke
- Regular medical checkups and treatment are important

