**Case Study 2:** (*Sickle Cell Anemia)*

Sarah is a 2-month-old baby, like all other babies Sarah cried a lot! Sarah would cry and cry; nothing seemed to calm her down. Her mother also noticed that her hands and feet were swollen. After a few weeks of constant crying and swollen hands and feet, Sarah’s mom noticed that her eyes had a yellow tint to them. Sarah’s mom immediately rushed her to the hospital; the doctor diagnosed her with Sickle Cell Anemia. Sickle Cell Anemia is an inherited disease that causes red blood cells to be abnormally shaped.

Answer the following questions on your own sheet of paper:

You are Sarah’s emergency room doctor who diagnosed her.

1. Given his symptoms and current condition, what do you think will happen to Sarah’s body with abnormally shaped red blood cells? Do you think they can carry oxygen?
2. What are all the parts of Sarah’s body system that are affected?
3. What will you do to help Sarah or treat her condition?
4. What do you think would happen to Sarah if she went untreated?
5. What do you think is happening at the molecular level that is causing this disease?

