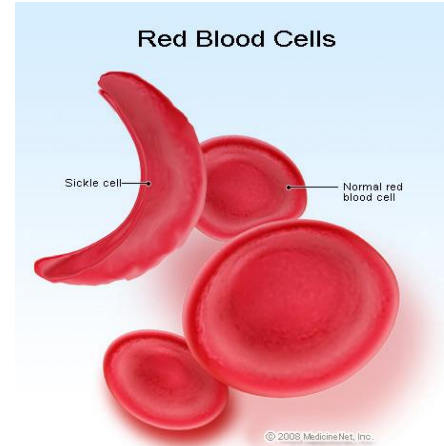


NAME _____

3.1 Review

3.1 a. What is sickle cell disease? 3.1 d What is sickle cell anemia?

- Sickle Cell Disease is when red blood cells have a sickle shape
 - Sickle Cell Anemia is the same thing, but we call it this because sickle cell patients often have low hemoglobin (low hematocrit)
1. How do sickled cells and healthy red blood cells differ?
 - Refer to 3.1.1 for help.

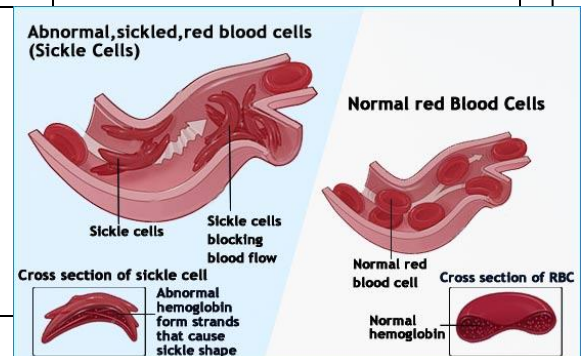


3.1 b. Why does the sickling of RBCs cause health problems?

1. What are the common names and functions of each of the blood components below:

Component	Common Name	Function
Erythrocyte		
Leucocyte		
Thrombocyte		
Plasma	X	

2. Describe blood flow through vessels if RBCs are sickled.

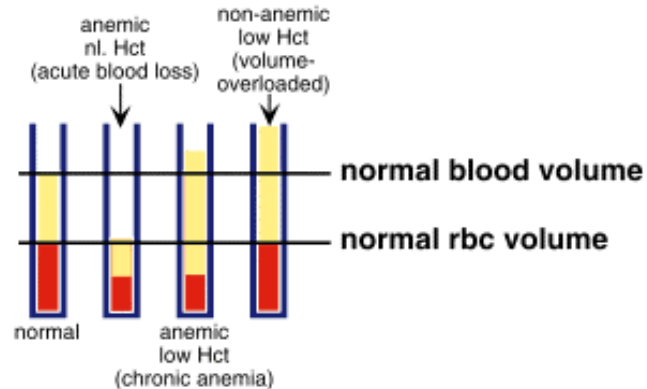


3.1 c. How is Sickle Cell Disease diagnosed?

- Microscopically looking at the blood for sickle shaped blood cells
- Measuring the hematocrit (% of red blood cells in blood) – low numbers means sickle cell

$$\left(\frac{\text{Red Blood Cell Level}}{\text{Total Blood Level}} \right) \times 100 = \text{Percent Red Blood Cell Volume} = \text{Hematocrit}$$

- Blood oxygen and complete blood count (CBC) can also be done



3.1 e. How does Sickle Cell Disease affect daily life? Refer to 3.1.2 Diary Entries for help.

- Loss of spleen – Sickle cells can block the blood flow to spleen and cause necrosis (it dies), which leads to increased susceptibility to infections
- Strokes are prevalent due to blood clots to the brain
- Breathing is often difficult due to blood movement impediment through the lungs
- Anemia (low iron) since sickle cells die quickly
- Pain, especially in the joints due to lack of blood flow

1. Identify 3 potential treatments for Sickle Cell Disease.