

#### Scenario 4: Sickle Cell

- 1) What is the relationship between fluid and oxygen therapy in the treatment of sickle cell anemia?

**By decreasing the plasma osmolality, this helps to increase the intracellular free water and therefore decrease the hemoglobin concentration which helps to relieve pain, Oxygen therapy may prevent the vaso-occlusion and disruption of tissue oxygenation that often leads to painful sickle cell disease crises.**

- 2) What complications might Brittany Long face if her symptoms are not recognized and treated in a timely manner?

**Sickle Cell Shaped cells can block small vessels in the body, small complications range from acute chest syndrome, fever, cough, tachycardia, dyspnea, etc all the way to Pulmonary Emboli. (Clot).**

- 3) Document the patient teaching that you would provide for Brittany Long and her family before discharge, including disease process, nutrition, signs and symptoms of crises, prevention of infection and dehydration, and pain management.

**An Autosomal Recessive Genetic Disorder That Results In The Formation Of Abnormal Hemoglobin Chains, Normal Adult Hemoglobin A (HbA) Is Partly Or Completely Replaced By Abnormal Sickle Hemoglobin (HbS), Under Certain Circumstances, The Abnormal RBC "Sickles" Resulting In Occlusion Of Small Blood Vessels, Ischemia, And Damage To Affected Organs, General signs: Chronic hemolytic anemia, Frequent infections, Fatigue, Delayed physical growth, Avoid strenuous exercise, Avoid high altitudes, Avoid being around anyone who is sick and seek care at first sign of infection, Use prophylactic penicillin if prescribed (erythromycin if allergic to PNC), Keep child well hydrated (do not withhold fluids at night).**

- 4) Reflecting on Brittany Long's case, were there any actions you would do differently? If so, what were these actions, and why would you do them differently?

**Provided more parent and pt education**

- 5) Describe how you would apply the knowledge and skills that you obtained in Brittany Long's case to an actual patient care situation.

**For my pt's that are experiencing a pain crisis resulting from sickle cell anemia, I'd apply a warm compress bc coldness is contraindicated due to vasoconstrictions occurs= makes it harder for RBC to travel through vessels.**

**Hydroxyurea: increases fetal Hgbs (HCP Order verification) and lastly be aware that, O2 therapy is not always effective in reducing sickling or reducing pain. Doesn't help w/ reversing.**