**What if there was an additional mutation?**

After completing the activity on Nicholas’ Pain Crisis answer the following question.

**Q. Suppose a second mutation occurs in HbS, which changes the amino acid residue Phe85 to Glu. What effect would this have on sickling of red blood cells? Explain your answer with an illustration to support your reasoning.** (Hint: Use a screenshot from the interactive images in <http://earth.callutheran.edu/Academic_Programs/Departments/BioDev/omm/jsmolnew/hemo/hemoglobina.html> and find a suitable view to explain your answer).