

# Identifying Common Risk Factors for Prolonged Length of Stay in Patients with Sickle Cell Pain Crisis

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## Abstract

### Objective

Patients with sickle cell anemia (SCA) face a lifelong disease known for significant chronic pain and decreased quality of life. SCA pain crisis is a relatively common occurrence that often requires hospitalization and high doses of analgesics to treat. The mean length of stay for SCA pain crisis is 5 days in the United States, although in practice some patients require a length of stay of 7 days or longer. The purpose of this study was to identify patient characteristics that correlate with longer hospital length of stay for SCA pain crisis.

### Methods

A retrospective chart review was performed on patients admitted to St. Luke's Hospital with SCA pain crisis between 1/1/2018 - 12/31/2021. Patients were divided into short length of stay (<5 days) or extended length of stay (≥5 days). The primary outcome was identification of patient risk factors associated with prolonged hospital length of stay. A logistic regression was performed, with alpha set at 0.05 to determine statistical significance.

### Results

A total of 68 admission records were analyzed: 35 shorter admissions and 33 extended admissions. Several patient characteristics were found to have a significant relationship to length of stay. Home hydroxyurea use, PCA use, and male sex were all associated with longer stay.

### Conclusions

Few patient factors showed a significant relationship with SCA pain crisis length of stay in this study. The factors that did show significance are commonly associated with more severe SCA, and more effective disease control is expected to reduce hospital length of stay. This study wasn't able to identify factors for direct modification, but was able to identify several avenues for further research.