

# Children with frequent hospitalizations for SCD vaso-occlusion: How are they different?

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**Introduction:** Children with sickle cell disease (SCD) often require hospitalization for painful episodes. Some children with SCD may be repeatedly hospitalized for vaso-occlusive pain, while others will seek medical attention less frequently. We sought to determine how frequency of past hospitalization impacts pain scores, opiate use, and length of admission.

**Methods:** All patients who were admitted for vaso-occlusive episodes secondary to SCD at an urban children's hospital in the years 2004 and 2005 were included. A retrospective medical chart review was conducted for each admission. Key demographic factors, pain assessments, medication utilization, and the use of complementary therapies were recorded. The frequent hospitalization group was defined as greater than 2 admissions in the previous 12 months. Data was analyzed using SPSS version 10.1.

**Results:** 73 patients with a total of 167 admissions were included. 28 (38.4%) patients with 91 (54.5%) admissions had frequent hospitalizations (>2), while 57 (78.1%) patients with 76 (45.5%) admissions had infrequent hospitalizations (≤2). The frequent group was not different from the infrequent group in regards to gender [14 (50%) vs. 26 (47.3%) males (p=.812)], but differed in regards to genotype [28 (100%) vs. 46 (83.6%) with HgbSS (p=.001)] and age [12.0 ± 5.5 vs. 10.0 ± 4.2 years (p=.009)]. Length of hospitalization was similar for the two groups [4.4 ± .3 vs. 3.8 ± .2 days (p=.132)]. Pain scores were significantly higher for the frequent group on the first three days of hospitalization (p=.028, p=.009, p=.003). On days 1,3,5, and 7 of the hospitalization, opiate use was significantly higher for the frequent group (p=.041, p=.038, p=.039, p=.037) (See Table 1).

**Discussion:** Patients frequently hospitalized for SCD are older, are exclusively HgbSS, have higher pain scores upon admission, and higher opiate utilization. Further research should clarify reasons for frequent admission among this group and to help develop strategies to decrease hospitalizations.

Table 1

	Frequent Group (n=91)	Infrequent Group (n=76)	P
Gender [n (% male)]	14 (50%)	26 (47.3%)	p=.812
Age (years±SD)	12.0±5.5	10.0±4.2	p=.009
# of admissions in past 12 months	7.0±4.0	.8±.8	p<.001
Average pain score (Days 1-7)	6.09	4.72	-
Avg. Amount of opiate used (Days 1-7)	1.02 mg/kg	.72 mg/kg	-
Total hospital days	4.42	3.83	p=.125