Safety, Outcomes, and Cost Effectiveness: Comparison of Circumcisions Procedure at Boston Children’s Main Campus vs. Satellite Campus

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Background:
Healthcare in the United States varies in practice, outcomes, and cost of care (1). The aim of this study is to compare patients undergoing circumcision at Boston Children’s main, teaching campus to those undergoing the procedure at the Hospital’s satellite campus in Waltham, MA which has significantly fewer trainees, to identify any practice differences that might affect outcomes and cost of care.

Methods:
After IRB approval, all circumcisions performed from 2016 through June of 2017 (n=679) were queried. The data set was then separated by campus (Waltham n=393 Boston n=286). Only patients with an ASA status of I and II were included. Surgery time, Surgical End to Transport (SET) time, PACU duration, overall Length of Stay (LOS), pain scores, and cost of care were compared between the main and satellite locations. Pain scores were assessed on a scale from 0-10. Cost analysis at both locations was also conducted (this data is inclusive of hospital costs only and does not account for professional fees). Mann Whitney tests were then conducted to compare these outcome variables at the two locations.

Results:
A statistically significant difference (p<0.001) in SET time, PACU duration, and LOS was determined, all of which were shorter in duration at the satellite location. The mean Surgery time, SET time, PACU duration, and LOS in the satellite campus are: 39 min, 6 min, 68.9 min, 234.8 min, respectively, compared to 45.9 min, 10.8 min 88.4 min and 278.1 min, at the main campus. Comparison of pain scores also yielded statistical significance (p<0.001), with a mean score of 1.7 at the satellite campus and 2.6 at the main campus. 150 patients were classified ASA 1, while 114 were classified as ASA 2 in Boston; comparatively, 266 patients were classified as ASA 1 and 109 were classified as ASA 2 in Waltham. Average cost of care on the satellite campus was $3,207 as compared to Boston at $3,839.

Discussion:
This study demonstrated shorter: Surgery time, SET time, PACU duration, LOS, pains scores, and cost of care at the Hospital’s satellite location in Waltham, MA. These results suggest advantages to the care model in our satellite location. However, special consideration has to be
given for the main campus as a teaching hospital, where training and mentoring of hundreds of trainees takes place for the benefit of the healthcare industry. Further investigation is needed to determine if these differences are due to anesthetic management techniques or the addition of training responsibilities.