

Financial Cost Analysis of Combining Cardiac Catheterization and Electrophysiology Procedures in an Outpatient Setting

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Background: Pediatric patients with congenital heart disease require multiple procedures over their lifetime. The accumulation of these separate procedures becomes costly and time-consuming. Previous studies in fields outside of cardiology have shown combining care is an effective tool for saving both time and money.

Objective: This study aims to compare combined cardiac catheterization (cath) and electrophysiology (EP) outpatient procedures against separate cath and EP outpatient procedures to determine cost and time savings.

Methods: Outpatient combination procedures performed in the pediatric cardiac cath lab from 2013 – 2016 were matched to two or three similar single outpatient procedures from 2009 – 2016 for patients of similar age and cardiac anatomy. Procedure duration, recovery duration, length of stay, equipment charges, physician charges, all other hospital charges and total admission charges were analyzed for both study and control groups. The two groups were compared using an unpaired t-test. A p-value less than 0.05 was considered as statistically significant. All costs were adjusted for inflation to the 2016 fiscal year.

Results: A total of 92 subjects, 32 study subjects and 60 control subjects, were included in this study. Average age, height, and weight of study subjects were similar to the control group (p-values 0.56, 0.99, and 0.95, respectively). Study group procedures were statistically significant for a shorter recovery duration (p-value 0.04) and length of stay (p-value 0.01). Study group procedure duration was shorter on average but statistically insignificant (p-value 0.20). Estimated total mean savings for patients undergoing combined procedures in the study group was \$13,669.

Conclusions: Combining cath and EP outpatient procedures saves a significant amount of time while providing an economical advantage. Further large scale prospective studies are needed to assess the financial burden on patients undergoing separate procedures.