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## **FAST-TRACK EXTUBATION IN INFANCY AND EARLY CHILDHOOD FOLLOWING HEART SURGERY: OUTCOME ANALYSIS AND PREDICTORS OF FAILURE**

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# Fast-Track Extubation in Infancy and Early Childhood Following Heart Surgery: Outcome Analysis and Predictors of Failure

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## ABSTRACT

Early extubation (EE) has become a critical determinant in perioperative management following congenital heart surgery (CHS) during early childhood. Fast track (FT) strategies and EE, when feasible, can have beneficial effects on clinical outcomes. The authors sought to determine the impact of EE on clinical outcomes, total hospital costs, identify predictors of failure and suggested criteria for new patients. A retrospective chart review of children  $\leq 6$  years old ( $n=64$ ) who underwent CHS between January-December 2017 was performed. EE was defined as successful removal of the endotracheal tube in the operating room or upon arrival in intensive care unit (ICU). Groups were identified as (A):EE/Fast track and (B):no EE. Determinants for EE failure were assessed, and cost analysis pursued. The authors found 39 patients with EE compared to 25 that were not. Children who were EE (mean=6.795 days,  $sd= 4.250$ ) spend significantly less ( $p < 0.0001$ ) overall time in the ICU compared to non-EE patients (mean=19.960 days,  $sd=13.081$ ). The authors also found that the total hospital stay for patients who were EE (mean=6.976 days,  $sd=4.090$ ) was significantly reduced compared to those who were not (mean=21.783 days,  $sd=13.450$ ) ( $p < 0.0001$ ). Furthermore, the authors found that children who were EE had a significant reduction ( $p < 0.0001$ ,  $sd= 23,196.203$ ) in total hospital cost than patients who were not EE. Based on our analysis, we concluded that EE is feasible following CHS during early childhood but requires team approach and thoughtful use of FT protocols.

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