

A Comparison between Outcomes of Prolonged Intubation and Reintubation after Cardiac Surgery

John Taylor¹, Joanne Thanavaro¹, Linda Vitt², Mary Guignon², and Samer Thanavaro²

¹Saint Louis University

²SSM Health

April 28, 2020

Abstract

Background: Early extubation after cardiac surgery results in better postoperative outcomes but the optimal time for extubation remains unclear. Premature extubation may lead to unplanned reintubation that may result in adverse outcomes. The present study was undertaken to compare preoperative and operative risks and outcomes of patients with prolonged intubation >48 hours and reintubation after cardiac surgery. Aims: This is a retrospective chart review of 1259 patients who had cardiac surgery at a community hospital. After excluding patients with either operating room death, extubation <48 hours without reintubation or extubation >48 hours with reintubation, the final sample included 83 patients (6.6%) requiring reintubation after extubation in <48 hours and 100 (8.0%) with prolonged intubation without requiring reintubation. Results: Bivariate analyses revealed few statistically different preoperative and operative risks between patients with reintubation and prolonged intubation. Reintubation patients were older ($p = .033$) and had lower body mass index ($p = .000$), higher preoperative hematocrit ($p = .021$), and more chronic kidney disease stages >2 ($p = .046$) but lower odds for intra-aortic balloon pump ($p = .006$) and emergency surgery ($p = .005$). Reintubation led to worse postoperative outcomes than prolonged intubation: more acute kidney injury stage 1-3 ($p = .014$), coma/encephalopathy ($p = .004$), postoperative transfusion ($p = .003$), increased intensive care unit length of stay ($p = .001$) and hospital mortality ($p = .007$). Based on binary and ordinal logistic regression analyses, the differences in preoperative and operative risks were either inconsistent or trivial contributors and reintubation appears to make the largest independent contribution to poor postoperative outcomes. Conclusion: While early extubation remains the goal, patients with marginal weaning readiness may benefit from more recovery time before extubation. This study suggests that premature extubation may increase unplanned reintubation that could adversely affect postoperative outcomes after cardiac surgery.

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Figure 1 Prolonged Intubation VS Reintubation.docx available at <https://authorea.com/users/310869/articles/441975-a-comparison-between-outcomes-of-prolonged-intubation-and-reintubation-after-cardiac-surgery>

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