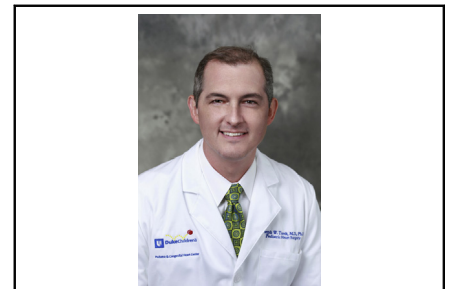


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Commentary: Just because we can, doesn't always mean we should

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CENTRAL MESSAGE

Smaller innovative series need to be published. Surgeons need feedback to ensure that the risks and benefits of new repairs always favor the patient. Without feedback, errors in judgment can occur.

The article by Farias and colleagues,¹ “Clinical updates on the hybrid comprehensive stage II operation,” highlights a common issue within pediatric heart surgery—improving outcomes for low-frequency, high-impact operations. The volume–outcome relationship in pediatric heart surgery is well established. Greater-volume centers are associated with reduced length of stay, cost of care, morbidity, and mortality.^{2–6} And despite the evidence, 117 of the 119 programs that participate in public reporting perform STAT-5 cases, with the average program only performing 8 cases per year.⁷ As surgeons, we understand that practice makes perfect, but with more than 60% of programs located within 25 miles of one another, programmatic volume isn't always under our control.⁸ Therefore, as surgeons, we start exploring innovative approaches to traditional repairs hoping to find a safer way forward.

In this issue of *JTCVS Open*, Farias and colleagues¹ describe their experience performing the hybrid comprehensive stage II procedure for patients with hypoplastic left heart syndrome. The authors developed the approach to simplify the procedure and avoid cardioplegia, arch reconstruction, and Damus–Kaye–Stansel creation for patients with adequate antegrade native aortic flow. While the first patient died, the following 3 patients successfully underwent Fontan and are doing well 3 and a half to 6 years later. The authors should be commended

on their approach and their willingness to share their experience.

Learning curves exist, and early complications shouldn't hold back innovative approaches, particularly those in complex pediatric heart surgery. The authors appropriately addressed the complication with their first case and acknowledge that the high reintervention rate (14 catheterizations, 14 dilations, and 13 stents between three patients) is concerning. No program has the volume to detect a 2-fold increase, let alone a 5% increase in mortality for any repair.⁹ Therefore, at the individual surgeon level, the decision to offer these repairs will always be subjective, emphasizing the importance of supporting this conversation in a public forum.

The authors should be cautious, however, in that the complications that originally prompted development of the hybrid comprehensive stage II repair may not be technical in nature. The volume–outcome relationship can be either surgeon-specific (eg, the arterial switch operation) or center-specific (eg, neonatal open heart or the Norwood).^{2–4} Without careful analysis of the underlying relationship, new and at times dangerous surgical alternatives might be inappropriately used, potentially increasing the complication rate. If outcomes for the comprehensive stage II procedure are like the Norwood, then the postoperative care a patient receives is more influential in their outcome than the technical nuances of their case. In which case, best practice implementation in the intensive care unit may

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have greater impact than a novel surgical approach. Although regardless of the underlying relationship, if the authors are only performing 4 cases every 6 years, it may be more reasonable to develop a regional referral strategy, as experienced centers have reported 5% operative mortality and minimal catheter-based reintervention rates following comprehensive stage II repair.¹⁰

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