

## **SIGNIFICANCE STATEMENT**

Multicenter studies have shown that mortality rises dramatically as children progress to higher stages of AKI. Currently, pediatricians have no reliable methods to predict which children will progress to higher stages of AKI. This is the first prospective study to evaluate whether blood biomarkers of inflammation or urine biomarkers of tubular injury improve prediction of AKI progression in children after cardiac surgery. Blood biomarkers of inflammation, specifically IL-8, provide the best discrimination for AKI progression. The results suggest that plasma IL-8, a potent proinflammatory cytokine, can be easily measured and predicts AKI progression. Plasma IL-8 has the potential to guide clinical management and enrich enrollment in clinical trials.