

Title: Quality Indicators for Adults with Congenital Heart Disease: A Single Program Assessment of Current Practice

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Background: In 2013, experts in adult congenital heart disease (ACHD) developed the first set of quality indicators (QIs) for outpatient management of patients with single ventricle status post Fontan operation. These Fontan QIs include 8 process indicators and 2 structure indicators.¹ The goal of this project was to use Fontan QIs to measure quality of care provided at our ACHD program, identify areas of practice that are not adequately met, and develop initiatives to advance the care for this population.

Methods: All patients with history of Fontan procedure followed in our ACHD Program were identified. Patients that relocated, died, or underwent cardiac transplantation were excluded. Outpatient medical records were retrospectively assessed for compliance with published Fontan QIs. QIs with < 90% compliance were considered inadequate and were analyzed for development of quality improvement initiatives.

Results: A total of 54 Fontan patients were included. For the 2 structure QIs, both were adequately received by $\geq 90\%$ of patients, including (1) annual and comprehensive cardiac imaging read by CHD cardiologist, and (2) cardiac catheterization performed by CHD specialist only. Of the 8 process QIs, 4 were adequately received in $\geq 90\%$ of patients. These QIs included yearly visit/referral to ACHD expert in patients not followed by an ACHD expert; annual measurement of oxygen saturation at rest; anticoagulation if documentation of atrial shunt, atrial thrombus, or atrial arrhythmia. Four process QIs were received in < 90% of patients, and included minimum of yearly scheduled return visit with an ACHD cardiologist (80%); documentation of annual pregnancy or contraception counseling (61%); annual measurement of liver function (79%); and documentation of hepatitis C status (61%). For each QI that did not meet the 90% compliance standard set by our ACHD team, a quality improvement initiative was identified. Planned interventions include: formation of a multi-disciplinary work group to facilitate transition of complex CHD patients to ACHD care, modification of clinic note template to prompt reassessment and documentation of pregnancy / contraceptive counseling yearly, and modification of diagnostic testing section of Fontan clinic note template to include yearly liver function assessment and documentation of hepatitis C status.

Conclusion: Measurement is the first step to quality improvement. This project illustrates the use of the newly published ACHD quality indicators to measure the quality of care received at an ACHD institution and identify opportunities for improvement of healthcare delivery. After implementing quality initiatives, we plan to repeat measurements of QIs in 6-12 months to assess for improvement.

¹ Gurvitz et al. JACC Vol.62, No. 23, 2013