

Echocardiogram performed as an outpatient during the first year of life for ASO patients	
Measure Description: Proportion of Arterial Switch Operation (ASO) patients, 3-12 months, with at least one echocardiogram that reports on left ventricular function, aortic root dimensions, the degree of aortic regurgitation, the patency of the systemic and pulmonary outflow tracts, the branch pulmonary arteries, and the coronary arteries.	
Numerator	Number of patients who had at least one echocardiogram between 3-12 months that reports on left ventricular function, aortic root dimensions, the degree of aortic regurgitation, the patency of the systemic and pulmonary outflow tracts, the branch pulmonary arteries, and the coronary arteries. Note: <i>Echocardiogram must report on ALL the above elements to meet the numerator criteria.</i>
Denominator	Number of ASO patients, 12-36 months old, who had at least one outpatient cardiology clinic visit during the measurement period.
Denominator Exclusions	Patients/parents who refuse the test.
Denominator Exceptions	None
Definitions/Notes	None
Measurement Period	Quarterly
Sources of Data	Medical Record, or echocardiographic archiving system.
Attribution	This measure should be reported by the departmental quality manager.
Care Setting	Outpatient
Rationale	
Patients after ASO are at risk of myocardial dysfunction, aneurysm of the ascending aorta, aortic regurgitation, systemic and pulmonary outflow obstruction and branch pulmonary arterial stenosis.	
<ol style="list-style-type: none">1. Schwartz ML, Gauvreau K, del Nido P, Mayer JE, Colan SD. Long-term predictors of aortic root dilation and aortic regurgitation after arterial switch operation. <i>Circulation.</i> 2004;110(11 Suppl 1):II128-32.2. Massin MM, Nitsch GB, Däbritz S, Seghaye MC, Messmer BJ, von Bernuth G. Growth of pulmonary artery after arterial switch operation for simple transposition of the great arteries. <i>Eur J Pediatr.</i> 1998 Feb;157(2):95-100.3. Losay J, Touchot A, Capderou A, Piot JD, Belli E, Planché C, Serraf A. Aortic valve regurgitation after arterial switch operation for transposition of the great arteries: incidence, risk factors, and outcome. <i>J Am Coll Cardiol.</i> 2006;47(10):2057-62.4. Hutter PA, Thomeer BJ, Jansen P, Hitchcock JF, Faber JA, Meijboom EJ, Bennink GB. Fate of the aortic root after arterial switch operation. <i>Eur J Cardiothorac Surg.</i> 2001;20(1):82-8.5. Khairy P, Clair M, Fernandes SM, Blume ED, Powell AJ, Newburger JW, Landzberg MJ, Mayer JE Jr. Cardiovascular outcomes after the arterial switch operation for D-transposition of the great arteries. <i>Circulation.</i> 2013;127(3):331-9.	

Clinical Recommendation(s)		
<u>ACC/AHA Guidelines</u> N/A		
<u>Other guidelines:</u> N/A		
Challenges to Implementation		
It may not be possible to obtain all of the information in all patients, for these, comments should be made that attempts had been undertaken to obtain all of the information.		
Authors		
Dan Penny, FACC Karina Carlson, Affiliate K. Anitha Jayakumar, NMI Matthew Park, FACC	Nikola Tede, FACC Karen Uzark, NMI Carissa Baker Smith, Affiliate Craig Fleishman, FACC	David Connuck, FACC Jose Ettedgui, FACC Maggie Likes, NMI Takeshi Tsuda, FACC