



STS Congenital Heart Surgery Data Summary  
All Patients



STS Period Ending 12/31/2017

**Table 1: All Patients number submitted, in analysis, and operative mortality**

	STS	
	Last 1 Year Jan 2017 - Dec 2017	Last Four Years Jan 2014 - Dec 2017
<b>Number of Operations/Patients</b>		
Operations Submitted	38,850	157,978
Operations in Analysis <sup>1</sup>	30,130	122,924
Patients in Analysis <sup>2</sup>	25,000	102,256
<b>Operative Mortality<sup>3</sup></b>		
Number of Mortalities	639	2,866
Number Eligible	23,868	97,369
Mortality Percent	2.7	2.9
Mortality (95% CI)	(2.5 , 2.9)	(2.8 , 3.1)
	38,850	157,978

<sup>1</sup>Analysis includes only operations classified as "CPB" or "No CPB, Cardiovascular"

<sup>2</sup>Patient Numbers represent distinct patient admissions

<sup>3</sup>Mortality numbers are patient-based only for admission in the analysis population at sites with adequate mortality data



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 **Duke Clinical Research Institute**

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**Table 2: Primary diagnosis, 35 Most Frequent for All Patients, Last 4 Years (Jan 2014 - Dec 2017)**

Primary Diagnosis	STS	
	N	% of All
VSD, Type 2 (Perimembranous) (Paramembranous) (Conoventricular)	7,649	6.2%
Hypoplastic left heart syndrome (HLHS)	7,233	5.9%
Open sternum with open skin (includes membrane placed to close skin)	6,892	5.6%
Patent ductus arteriosus	5,524	4.5%
ASD, Secundum	4,872	4.0%
TOF, Pulmonary stenosis	4,639	3.8%
Coarctation of aorta	4,349	3.5%
AVC (AVSD), Complete (CAVSD)	4,144	3.4%
Pulmonary insufficiency	2,963	2.4%
Cardiac, Other	2,662	2.2%
Aortic stenosis, Subvalvar	2,326	1.9%
Single ventricle, Tricuspid atresia	2,154	1.8%
TGA, IVS	2,053	1.7%
Conduit failure	1,893	1.5%
Vascular ring	1,859	1.5%
Pulmonary atresia, VSD (Including TOF, PA)	1,819	1.5%
Miscellaneous, Other	1,810	1.5%
Single ventricle, DILV	1,594	1.3%
Mitral regurgitation	1,542	1.3%
Aortic insufficiency	1,531	1.2%
Pulmonary atresia, IVS	1,438	1.2%
ASD, Sinus venosus	1,415	1.2%
TOF	1,374	1.1%
TGA, VSD	1,371	1.1%
Cardiomyopathy (including dilated, restrictive, and hypertrophic)	1,328	1.1%
Aortic arch hypoplasia	1,304	1.1%
Arrhythmia, Pacemaker, Indication for replacement	1,256	1.0%
AVC (AVSD), Partial (incomplete) (PAVSD) (ASD, primum)	1,242	1.0%
Single ventricle, Heterotaxia syndrome	1,194	1.0%
Aortic stenosis, Valvar	1,137	0.9%
DORV, TGA type	1,075	0.9%
Pulmonary atresia, VSD-MAPCA	1,005	0.8%
Truncus arteriosus	980	0.8%
Ebstein's anomaly	962	0.8%
Coronary artery anomaly, Anomalous aortic origin of coronary artery (AAOCA)	954	0.8%



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**Table 3: Primary procedure, 35 Most Frequent for All Patients, Last 4 Years (Jan 2014 - Dec 2017)**

Primary Procedure	STS		
	N	% of All	% Mort.
Delayed sternal closure	9,611	8.2%	0.2%
VSD repair, Patch	7,505	6.4%	0.5%
Mediastinal exploration	4,178	3.6%	0.5%
ASD repair, Patch	3,772	3.2%	0.2%
AVC (AVSD) repair, Complete (CAVSD)	3,324	2.8%	2.5%
Norwood procedure	2,943	2.5%	13.9%
Bidirectional cavopulmonary anastomosis (BDCPA) (bidirectional Glenn)	2,749	2.3%	1.7%
Pacemaker implantation, Permanent	2,720	2.3%	0.8%
Coarctation repair, End to end, Extended	2,611	2.2%	1.3%
PA banding (PAB)	2,530	2.2%	7.3%
RVOT procedure	2,460	2.1%	1.0%
TOF repair, Ventriculotomy, Transanular patch	2,411	2.0%	1.7%
Shunt, Systemic to pulmonary, Modified Blalock-Taussig Shunt (MBTS)	2,248	1.9%	6.5%
Aortic arch repair	2,240	1.9%	3.2%
PA, reconstruction (plasty), Branch, Central (within the hilar bifurcation)	2,138	1.8%	1.5%
Transplant, Heart	1,928	1.6%	4.0%
Fontan, TCPC, External conduit, Fenestrated	1,905	1.6%	1.2%
Arterial switch operation (ASO)	1,899	1.6%	2.2%
Valvuloplasty, Mitral	1,846	1.6%	1.5%
Pacemaker procedure	1,824	1.6%	0.3%
Valve replacement, Pulmonic (PVR)	1,775	1.5%	0.1%
Conduit placement, RV to PA	1,713	1.5%	1.7%
Vascular ring repair	1,692	1.4%	0.3%
TAPVC repair	1,635	1.4%	5.8%
Fontan, TCPC, External conduit, Nonfenestrated	1,374	1.2%	0.7%
Aortic stenosis, Subvalvar, Repair	1,370	1.2%	0.2%
TOF repair, Ventriculotomy, Nontransanular patch	1,357	1.2%	1.3%
PDA closure, Surgical	1,318	1.1%	4.4%
Superior Cavopulmonary anastomosis(es) + PA reconstruction	1,300	1.1%	1.6%
Valvuloplasty, Tricuspid	1,264	1.1%	1.5%
Valve replacement, Mitral (MVR)	1,210	1.0%	3.1%
TOF repair, No ventriculotomy	1,111	0.9%	0.3%
Shunt, Systemic to pulmonary, Central (shunt from aorta)	1,049	0.9%	7.6%
ASD repair, Primary closure	973	0.8%	0.2%
Conduit reoperation	966	0.8%	0.4%