STS Congenital Heart Surgery Data Summary
Neonates

STS Period Ending 12/31/2017

Duke Clinical Research Institute

Table 1: Neonates number submitted, in analysis, and operative mortality

	STS	
	Last 1 Year Jan 2017 - Dec 2017	Last Four Years Jan 2014 - Dec 2017
Number of Operations/Patients		
Operations in Analysis[1]	6,886	29,572
Patients in Analysis[2]	4,723	20,351
Operative Mortality[3]		
Number of Mortalities	309	1,463
Number Eligible	4,153	17,540
Mortality Percent	7.4%	8.3%
Mortality (95% CI)	(6.7 , 8.3)	(7.9 , 8.8)

[1]Analysis includes only operations classified as "CPB" or "No CPB, Cardiovascular"
[2]Patient Numbers represent distinct patient admissions
[3]Mortality numbers are patient-based only for admission in the analysis population at sites with adequate mortality data

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

Primary Diagnosis	STS	
	N	% of All
Open sternum with open skin (includes membrane placed to close skin)	4,077	13.8%
Hypoplastic left heart syndrome (HLHS)	3,254	11.0%
Patent ductus arteriosus	2,615	8.8%
Coarctation of aorta	2,148	7.3%
TGA, IVS	1,917	6.5%
TGA, VSD	1,059	3.6%
Aortic arch hypoplasia	812	2.7%
Pulmonary atresia, VSD (Including TOF, PA)	724	2.4%
Miscellaneous, Other	687	2.3%
Truncus arteriosus	650	2.2%
VSD + Coarctation of aorta	638	2.2%
Total anomalous pulmonary venous connection (TAPVC), Type 1 (supracardiac)	585	2.0%
VSD + Aortic arch hypoplasia	555	1.9%
Cardiac, Other	504	1.7%
Pulmonary atresia, IVS	486	1.6%
Single ventricle, Tricuspid atresia	479	1.6%
Total anomalous pulmonary venous connection (TAPVC), Type 3 (infracardiac)	466	1.6%
DORV, TGA type	452	1.5%
TOF, Pulmonary stenosis	395	1.3%
Interrupted aortic arch + VSD	390	1.3%
Single ventricle, DILV	377	1.3%
Open sternum with closed skin	360	1.2%
Single ventricle, Heterotaxia syndrome	318	1.1%
Interrupted aortic arch	282	1.0%
AVC (AVSD), Complete (CAVSD)	257	0.9%
Postoperative bleeding	252	0.9%
Single ventricle, Unbalanced AV canal	242	0.8%
Single ventricle, Mitral atresia	209	0.7%
Arrhythmia, Heart block, Congenital	185	0.6%
Total anomalous pulmonary venous connection (TAPVC), Type 2 (cardiac)	181	0.6%
Pericardial effusion	176	0.6%
Aortic stenosis, Valvar	173	0.6%
Ebstein's anomaly	155	0.5%
Pulmonary atresia, VSD-MAPCA	150	0.5%
DORV, TOF type	142	0.5%

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

Primary Procedure	STS N	STS % of All	STS % Mort.
Delayed sternal closure	5,665	21.4%	0.1%
Norwood procedure	2,708	10.2%	14.4%
Arterial switch operation (ASO)	1,835	6.9%	2.0%
Mediastinal exploration	1,683	6.4%	0.4%
Shunt, Systemic to pulmonary, Modified Blalock-Taussig Shunt (MBTS)	1,570	5.9%	6.7%
Coarctation repair, End to end, Extended	1,470	5.6%	1.6%
PA banding (PAB)	1,362	5.1%	8.8%
TAPVC repair	1,201	4.5%	7.0%
Aortic arch repair	1,094	4.1%	3.4%
Arterial switch operation (ASO) and VSD repair	667	2.5%	4.5%
Aortic arch repair + VSD repair	655	2.5%	2.3%
Shunt, Systemic to pulmonary, Central (shunt from aorta)	599	2.3%	8.2%
Truncus arteriosus repair	502	1.9%	9.6%
Interrupted aortic arch repair	460	1.7%	3.3%
Coarctation repair, End to end	319	1.2%	3.1%
Arterial switch procedure and VSD repair + Aortic arch repair	298	1.1%	14.8%
Hybrid Approach Stage 1, Stent placement in arterial duct (PDA) + application of RPA & LPA bands	296	1.1%	18.6%
Hybrid Approach Stage 1, Application of RPA & LPA bands	236	0.9%	36.9%
TOF repair, Ventriculotomy, Transanular patch	217	0.8%	2.8%
PDA closure, Surgical	212	0.8%	6.1%
Sternotomy wound drainage	145	0.5%	0.0%
Conduit placement, RV to PA	117	0.4%	9.4%
VSD repair, Patch	114	0.4%	0.9%
Mediastinal procedure	112	0.4%	1.8%
PA, reconstruction (plasty), Branch, Central (within the hilar bifurcation)	109	0.4%	2.8%
Shunt, Reoperation	109	0.4%	0.0%
Pericardial drainage procedure	105	0.4%	3.8%
Coarctation repair + VSD repair	103	0.4%	3.9%
Pulmonary atresia - VSD (including TOF, PA) repair	102	0.4%	3.9%
Vascular ring repair	100	0.4%	1.0%
TAPVC repair + Shunt - systemic-to-pulmonary	97	0.4%	41.2%
Coarctation repair, Subclavian flap	94	0.4%	2.1%
RVOT procedure	91	0.3%	11.0%
TOF repair, RV-PA conduit	86	0.3%	9.3%
Coarctation repair, Patch aortoplasty	83	0.3%	3.6%