STS Congenital Heart Surgery Data Summary
Neonates

STS Period Ending 12/31/2016

Duke Clinical Research Institute

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

	STS	
	Last 1 Year Jan 2016 - Dec 2016	Last Four Years Jan 2013 - Dec 2016
Number of Operations/Patients		
Operations in Analysis[1]	7,261	29,955
Patients in Analysis[2]	4,899	20,682
Operative Mortality[3]		
Number of Mortalities	344	1,511
Number Eligible	4,253	17,516
Mortality Percent	8.1%	8.6%
Mortality (95% CI)	(7.3 , 8.9)	(8.2 , 9.1)

[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 2013 - Dec 2016)

Primary Diagnosis	STS	
	N	% of All
Hypoplastic left heart syndrome (HLHS)	3,341	11.2%
Open sternum with open skin (includes membrane placed to close skin)	3,010	10.0%
Patent ductus arteriosus	2,969	9.9%
Coarctation of aorta	2,175	7.3%
TGA, IVS	1,920	6.4%
Cardiac, Other	1,341	4.5%
TGA, VSD	1,051	3.5%
Aortic arch hypoplasia	750	2.5%
Pulmonary atresia, VSD (Including TOF, PA)	719	2.4%
Miscellaneous, Other	677	2.3%
VSD + Coarctation of aorta	654	2.2%
Truncus arteriosus	646	2.2%
Total anomalous pulmonary venous connection (TAPVC), Type 1 (supracardiac)	581	1.9%
Pulmonary atresia, IVS	569	1.9%
VSD + Aortic arch hypoplasia	524	1.7%
Total anomalous pulmonary venous connection (TAPVC), Type 3 (infracardiac)	459	1.5%
Single ventricle, Tricuspid atresia	457	1.5%
DORV, TGA type	431	1.4%
TOF, Pulmonary stenosis	420	1.4%
Single ventricle, DILV	392	1.3%
Interrupted aortic arch + VSD	379	1.3%
Interrupted aortic arch	332	1.1%
Single ventricle, Heterotaxia syndrome	319	1.1%
Open sternum with closed skin	305	1.0%
AVC (AVSD), Complete (CAVSD)	273	0.9%
Postoperative bleeding	264	0.9%
Single ventricle, Unbalanced AV canal	256	0.9%
Single ventricle, Mitral atresia	213	0.7%
Arrhythmia, Heart block, Congenital	183	0.6%
Ebstein's anomaly	170	0.6%
Aortic stenosis, Valvar	169	0.6%
Pericardial effusion	166	0.6%
Total anomalous pulmonary venous connection (TAPVC), Type 2 (cardiac)	160	0.5%
Pulmonary atresia, VSD-MAPCA	157	0.5%
VSD, Type 2 (Perimembranous) (Paramembranous) (Conoventricular)	146	0.5%

Table 3: Primary procedure, 35 Most Frequent for Neonates, Last 4 Years (Jan 2013 - Dec 2016)

Primary Procedure	STS N	STS % of All	STS % Mort.
Delayed sternal closure	5,589	21.1%	0.0%
Norwood procedure	2,752	10.4%	15.3%
Arterial switch operation (ASO)	1,805	6.8%	2.0%
Mediastinal exploration	1,716	6.5%	0.5%
Shunt, Systemic to pulmonary, Modified Blalock-Taussig Shunt (MBTS)	1,678	6.3%	6.5%
Coarctation repair, End to end, Extended	1,471	5.5%	1.3%
PA banding (PAB)	1,343	5.1%	9.4%
TAPVC repair	1,161	4.4%	8.3%
Aortic arch repair	1,030	3.9%	2.9%
Arterial switch operation (ASO) and VSD repair	646	2.4%	5.1%
Aortic arch repair + VSD repair	639	2.4%	2.8%
Shunt, Systemic to pulmonary, Central (shunt from aorta)	628	2.4%	9.9%
Truncus arteriosus repair	500	1.9%	10.8%
Interrupted aortic arch repair	465	1.8%	3.0%
Coarctation repair, End to end	338	1.3%	1.8%
Hybrid Approach Stage 1, Stent placement in arterial duct (PDA) + application of RPA & LPA bands	317	1.2%	18.0%
Arterial switch procedure and VSD repair + Aortic arch repair	273	1.0%	13.9%
PDA closure, Surgical	243	0.9%	5.3%
TOF repair, Ventriculotomy, Transanular patch	225	0.8%	2.2%
Hybrid Approach Stage 1, Application of RPA & LPA bands	192	0.7%	39.6%
Sternotomy wound drainage	162	0.6%	0.0%
Mediastinal procedure	129	0.5%	1.6%
VSD repair, Patch	120	0.5%	0.8%
Shunt, Reoperation	116	0.4%	0.0%
Coarctation repair + VSD repair	113	0.4%	4.4%
PA, reconstruction (plasty), Branch, Central (within the hilar bifurcation)	108	0.4%	4.6%
Conduit placement, RV to PA	106	0.4%	7.5%
Pericardial drainage procedure	98	0.4%	4.1%
Coarctation repair, Subclavian flap	96	0.4%	1.0%
RVOT procedure	92	0.3%	13.0%
Pulmonary atresia - VSD (including TOF, PA) repair	91	0.3%	4.4%
Damus-Kaye-Stansel procedure (DKS) (creation of AP anastomosis without arch reconstruction)	88	0.3%	21.6%
Ebstein's repair	87	0.3%	26.4%
Coarctation repair, Patch aortoplasty	87	0.3%	3.4%
Vascular ring repair	87	0.3%	1.1%