



STS Congenital Heart Surgery Data Summary
Neonates

STS Period Ending 12/31/2018

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

	STS	
	Last 1 Year Jan 2018 - Dec 2018	Last Four Years Jan 2015 - Dec 2018
Number of Operations/Patients		
Operations in Analysis ¹	7,009	29,050
Patients in Analysis ²	4,695	19,802
Operative Mortality³		
Number of Mortalities	292	1,405
Number Eligible	4,204	17,349
Mortality Percent	6.9%	8.1%
Mortality (95% CI)	(6.2 , 7.8)	(7.7 , 8.5)

¹Analysis includes only operations classified as "CPB" or "No CPB, Cardiovascular"

²Patient Numbers represent distinct patient admissions

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



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Table 2: Primary diagnosis, 35 Most Frequent for Neonates, Last 4 Years (Jan 2015 - Dec 2018)

Primary Diagnosis	N	STS	
			% of All
Open sternum with open skin (includes membrane placed to close skin)	4,421		15.2%
Hypoplastic left heart syndrome (HLHS)	3,204		11.0%
Patent ductus arteriosus	2,219		7.6%
Coarctation of aorta	2,150		7.4%
TGA, IVS	1,915		6.6%
TGA, VSD	1,053		3.6%
Aortic arch hypoplasia	859		3.0%
Miscellaneous, Other	661		2.3%
Pulmonary atresia, VSD (Including TOF, PA)	643		2.2%
VSD + Coarctation of aorta	636		2.2%
Truncus arteriosus	622		2.1%
Total anomalous pulmonary venous connection (TAPVC), Type 1 (supracardiac)	587		2.0%
VSD + Aortic arch hypoplasia	579		2.0%
Cardiac, Other	473		1.6%
Pulmonary atresia, IVS	472		1.6%
Total anomalous pulmonary venous connection (TAPVC), Type 3 (infracardiac)	443		1.5%
DORV, TGA type	432		1.5%
Single ventricle, Tricuspid atresia	426		1.5%
Interrupted aortic arch + VSD	413		1.4%
TOF, Pulmonary stenosis	393		1.4%
Single ventricle, DILV	373		1.3%
Single ventricle, Heterotaxia syndrome	322		1.1%
Open sternum with closed skin	322		1.1%
Interrupted aortic arch	256		0.9%
AVC (AVSD), Complete (CAVSD)	249		0.9%
Single ventricle, Unbalanced AV canal	228		0.8%
Postoperative bleeding	222		0.8%
Single ventricle, Mitral atresia	218		0.8%
Arrhythmia, Heart block, Congenital	183		0.6%
Aortic stenosis, Valvar	173		0.6%
Pericardial effusion	172		0.6%
Total anomalous pulmonary venous connection (TAPVC), Type 2 (cardiac)	152		0.5%
Pulmonary atresia, VSD-MAPCA	139		0.5%
Ebstein's anomaly	136		0.5%
DORV, TOF type	131		0.5%



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Table 3: Primary procedure, 35 Most Frequent for Neonates, Last 4 Years (Jan 2015 - Dec 2018)

Primary Procedure	STS		
	N	% of All	% Mort.
Delayed sternal closure	5,722	21.8%	0.1%
Norwood procedure	2,691	10.2%	13.8%
Arterial switch operation (ASO)	1,825	6.9%	2.0%
Mediastinal exploration	1,634	6.2%	0.4%
Coarctation repair, End to end, Extended	1,471	5.6%	1.5%
Shunt, Systemic to pulmonary, Modified Blalock-Taussig Shunt (MBTS)	1,397	5.3%	7.4%
PA banding (PAB)	1,316	5.0%	8.5%
TAPVC repair	1,184	4.5%	7.8%
Aortic arch repair	1,126	4.3%	3.2%
Aortic arch repair + VSD repair	699	2.7%	2.7%
Arterial switch operation (ASO) and VSD repair	697	2.7%	5.3%
Shunt, Systemic to pulmonary, Central (shunt from aorta)	562	2.1%	8.5%
Truncus arteriosus repair	490	1.9%	8.6%
Interrupted aortic arch repair	462	1.8%	2.8%
Coarctation repair, End to end	314	1.2%	2.9%
Hybrid Approach Stage 1, Stent placement in arterial duct (PDA) + application of RPA & LPA bands	294	1.1%	15.6%
Arterial switch procedure and VSD repair + Aortic arch repair	291	1.1%	14.1%
Hybrid Approach Stage 1, Application of RPA & LPA bands	265	1.0%	32.1%
TOF repair, Ventriculotomy, Transanular patch	236	0.9%	3.0%
PDA closure, Surgical	196	0.7%	5.1%
Sternotomy wound drainage	120	0.5%	0.0%
Shunt, Reoperation	118	0.4%	0.0%
PA, reconstruction (plasty), Branch, Central (within the hilar bifurcation)	117	0.4%	2.6%
Mediastinal procedure	112	0.4%	1.8%
Pulmonary atresia - VSD (including TOF, PA) repair	110	0.4%	2.7%
Pericardial drainage procedure	106	0.4%	2.8%
VSD repair, Patch	105	0.4%	0.0%
Conduit placement, RV to PA	100	0.4%	8.0%
Vascular ring repair	99	0.4%	1.0%
Coarctation repair + VSD repair	99	0.4%	3.0%
TAPVC repair + Shunt - systemic-to-pulmonary	94	0.4%	41.5%
Coarctation repair, Patch aortoplasty	90	0.3%	2.2%
RVOT procedure	84	0.3%	10.7%
Damus-Kaye-Stansel procedure (DKS) (creation of AP anastomosis without arch reconstruction)	82	0.3%	22.0%
Coarctation repair, Subclavian flap	80	0.3%	2.5%