



**STS Congenital Heart Surgery Data Summary
Neonates**

STS Period Ending 06/30/2018



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

	STS	
	Last 1 Year Jul 2017 - Jun 2018	Last Four Years Jul 2014 - Jun 2018
Number of Operations/Patients		
Operations in Analysis ¹	6,706	29,076
Patients in Analysis ²	4,566	19,924
Operative Mortality³		
Number of Mortalities	264	1,356
Number Eligible	3,842	16,525
Mortality Percent	6.9%	8.2%
Mortality (95% CI)	(6.1 , 7.7)	(7.8 , 8.6)

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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Duke Clinical Research Institute

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Table 2: Primary diagnosis, 35 Most Frequent for Neonates, Last 4 Years (Jul 2014 - Jun 2018)

Primary Diagnosis	STS	
	N	% of All
Open sternum with open skin (includes membrane placed to close skin)	4,238	14.6%
Hypoplastic left heart syndrome (HLHS)	3,199	11.0%
Patent ductus arteriosus	2,369	8.1%
Coarctation of aorta	2,130	7.3%
TGA, IVS	1,889	6.5%
TGA, VSD	1,026	3.5%
Aortic arch hypoplasia	830	2.9%
Miscellaneous, Other	686	2.4%
Pulmonary atresia, VSD (Including TOF, PA)	684	2.4%
VSD + Coarctation of aorta	638	2.2%
Truncus arteriosus	634	2.2%
Total anomalous pulmonary venous connection (TAPVC), Type 1 (supracardiac)	585	2.0%
VSD + Aortic arch hypoplasia	565	1.9%
Cardiac, Other	492	1.7%
Pulmonary atresia, IVS	482	1.7%
Single ventricle, Tricuspid atresia	464	1.6%
Total anomalous pulmonary venous connection (TAPVC), Type 3 (infracardiac)	440	1.5%
DORV, TGA type	437	1.5%
Interrupted aortic arch + VSD	407	1.4%
TOF, Pulmonary stenosis	382	1.3%
Single ventricle, DILV	366	1.3%
Open sternum with closed skin	353	1.2%
Single ventricle, Heterotaxia syndrome	290	1.0%
AVC (AVSD), Complete (CAVSD)	265	0.9%
Interrupted aortic arch	261	0.9%
Single ventricle, Unbalanced AV canal	244	0.8%
Postoperative bleeding	233	0.8%
Single ventricle, Mitral atresia	217	0.7%
Pericardial effusion	182	0.6%
Arrhythmia, Heart block, Congenital	181	0.6%
Aortic stenosis, Valvar	175	0.6%
Total anomalous pulmonary venous connection (TAPVC), Type 2 (cardiac)	167	0.6%
Pulmonary atresia, VSD-MAPCA	142	0.5%
Ebstein's anomaly	138	0.5%
DORV, TOF type	132	0.5%



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Table 3: Primary procedure, 35 Most Frequent for Neonates, Last 4 Years (Jul 2014 - Jun 2018)

Primary Procedure	STS		
	N	% of All	% Mort.
Delayed sternal closure	5,489	21.9%	0.1%
Norwood procedure	2,587	10.3%	14.1%
Arterial switch operation (ASO)	1,753	7.0%	1.9%
Mediastinal exploration	1,566	6.2%	0.3%
Shunt, Systemic to pulmonary, Modified Blalock-Taussig Shunt (MBTS)	1,371	5.5%	7.2%
Coarctation repair, End to end, Extended	1,363	5.4%	1.6%
PA banding (PAB)	1,317	5.2%	8.6%
TAPVC repair	1,109	4.4%	7.2%
Aortic arch repair	1,064	4.2%	3.4%
Aortic arch repair + VSD repair	658	2.6%	2.4%
Arterial switch operation (ASO) and VSD repair	634	2.5%	4.7%
Shunt, Systemic to pulmonary, Central (shunt from aorta)	550	2.2%	8.4%
Truncus arteriosus repair	470	1.9%	9.4%
Interrupted aortic arch repair	436	1.7%	3.0%
Coarctation repair, End to end	296	1.2%	3.4%
Hybrid Approach Stage 1, Stent placement in arterial duct (PDA) + application of RPA & LPA bands	288	1.1%	17.7%
Arterial switch procedure and VSD repair + Aortic arch repair	286	1.1%	13.3%
Hybrid Approach Stage 1, Application of RPA & LPA bands	228	0.9%	33.8%
TOF repair, Ventriculotomy, Transanular patch	211	0.8%	2.4%
PDA closure, Surgical	198	0.8%	5.1%
Sternotomy wound drainage	118	0.5%	0.0%
Mediastinal procedure	110	0.4%	1.8%
Shunt, Reoperation	107	0.4%	0.0%
Conduit placement, RV to PA	106	0.4%	7.5%
PA, reconstruction (plasty), Branch, Central (within the hilar bifurcation)	103	0.4%	2.9%
Pulmonary atresia - VSD (including TOF, PA) repair	101	0.4%	4.0%
Pericardial drainage procedure	100	0.4%	4.0%
VSD repair, Patch	98	0.4%	1.0%
Vascular ring repair	97	0.4%	1.0%
TAPVC repair + Shunt - systemic-to-pulmonary	86	0.3%	41.9%
Coarctation repair + VSD repair	84	0.3%	4.8%
RVOT procedure	84	0.3%	10.7%
Coarctation repair, Patch aortoplasty	82	0.3%	2.4%
Ebstein's repair	79	0.3%	22.8%
Coarctation repair, Subclavian flap	76	0.3%	2.6%