

ADMINISTRATIVE		
Participant ID: ParticID (10)	Patient Participating in STS-Related Clinical Trial: ClinTrial(81)	<input type="checkbox"/> None <input type="checkbox"/> Trial 1 <input type="checkbox"/> Trial 2 <input type="checkbox"/> Trial 3 <input type="checkbox"/> Trial 4 <input type="checkbox"/> Trial 5 <input type="checkbox"/> Trial 6
(If not None →)		STS-Related Clinical Trial ID: ClinTrialPatID(82)

DEMOGRAPHICS		
Patient ID (software generated) PatID (520)	Patient Nat. ID (SSN): PatNationalID (110)	MRN: MedRecN (120)
Last Name: PatLName (140)	First Name: PatFName (150)	Middle Name: PatMName (170)
Region: PatRegion (180)	Postal Code: PatPostalCode (190)	Country: PatientCountry (201)

BIRTH INFORMATION			
Born by IVF: <input type="checkbox"/> Yes <input type="checkbox"/> No BornByIVF (202)			
Patient Adopted: <input type="checkbox"/> Yes <input type="checkbox"/> No PatientAdopted (203)			
Birth Location Known: <input type="checkbox"/> Yes <input type="checkbox"/> No BirthLocKnown (208)			
(If Yes →)	Born at Home <input type="checkbox"/> Yes <input type="checkbox"/> No BornHome (209)		
(If No →)	Birth Hospital Name Known: <input type="checkbox"/> Yes <input type="checkbox"/> No HospNameKnown (210)		
(If Yes →)	Birth Hospital Name: BirthHospName (211)		
(If Yes →)	Birth Hospital TIN: BirthHospTIN (212)		
Birth City: BirthCit (219)	Birth Region: BirthSta (220)	Birth Country BirthCountry (231)	
Mode of Delivery Known: <input type="checkbox"/> Yes <input type="checkbox"/> No DelivModeKnown (232)			
(If Yes →)	Mode of Delivery: DelivMode (233)		
<input type="checkbox"/> Spontaneous onset labor with vaginal delivery <input type="checkbox"/> Spontaneous onset labor with cesarean section <input type="checkbox"/> Induction of labor with vaginal delivery <input type="checkbox"/> Induction of labor with subsequent cesarean section <input type="checkbox"/> Scheduled cesarean section <input type="checkbox"/> Other cesarean section			
Mother's Gravidity and Parity known: <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes ↓) GravParKnown (234)			
Mother's Gravidity: Gravidity (235)		Mother's Parity: Parity (236)	
APGAR Scores Known: <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes ↓) ApgarKnown (237)			
APGAR Score at 1 minute: Apgar1 (238)		APGAR Score at 5 minutes: Apgar5 (239)	
Mother's Name Known: <input type="checkbox"/> Yes <input type="checkbox"/> No MatNameKnown (240)			
(If Yes →)	Mother's Last Name: MatLName (250)	Mother's First Name: MatFName (260)	Mother's Middle Name: MatMName (280)
Mother's National ID Number (SSN) Known: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Refused MatSSNKnown (290)			
(If Yes →)	Mother's National ID Number (SSN): MatSSN (300)		
DOB: (mm/dd/yyyy) ___/___/_____ DOB (310)	Birth Weight Known: <input type="checkbox"/> Yes <input type="checkbox"/> No BirthWtKnown (320)	(If Yes →) Birth Weight (kg): BirthWtKg (330)	
Sex at Birth: <input type="checkbox"/> M <input type="checkbox"/> F <input type="checkbox"/> Ambiguous Gender (340)	Premature Birth: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown Premature (350)		
Gestational Age at Birth Known: <input type="checkbox"/> Yes <input type="checkbox"/> No GestAgeKnown (360)			
(If Yes →)	Gestational age at birth: Weeks: _____ wks GestAgeWeeks (370)	Days: <input type="checkbox"/> 0 <input type="checkbox"/> 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> 6 <input type="checkbox"/> Unknown GestAgeDays (371)	
Multiple Gestation: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown MultGest (372)	Antenatal Diagnosis of Congenital Heart Disease: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown AntenatalDiag(373)		

Pregnancy – related complications: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown PregComplications (375)				
(If Yes →)	Pre-eclampsia: PregCompPreE (377)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	Gestational DM: PregCompGestDM (378)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
	Hypertension: PregCompHTN (379)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	HELLPP: PregCompHELLPP (380)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
	Polyhydramnios: PregCompPolyhydria (381)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	Oligohydramnios: PregCompOligohydria (382)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
	Hydrops: PregCompHydrops (383)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown	Other: PregCompOther (384)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Unknown
Race Documented: RaceDocumented (385) <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Patient declined to disclose				
(If Yes, →)	Caucasian: RaceCaucasian (390)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Black/African American: RaceBlack (400)	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Asian: RaceAsian (410)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Am Indian/Alaskan Native: RaceNativeAm (420)	<input type="checkbox"/> Yes <input type="checkbox"/> No
	Native Hawaiian/Pacific Islander: RaceNativePacific (430)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Other: RaceOther (440)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Hispanic or Latino Ethnicity: Ethnicity (450) <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Documented				
Date of Last Follow-Up: LFUDate (460) (mm/dd/yyyy) ___ / ___ / _____				
Last follow-up NYHA Classification: LFUNYHA (470) <input type="checkbox"/> Not Assessed <input type="checkbox"/> NYHA 1 <input type="checkbox"/> NYHA 2 <input type="checkbox"/> NYHA 3 <input type="checkbox"/> NYHA 4				
Mortality Status at Last Follow-Up: <input type="checkbox"/> Alive <input type="checkbox"/> Dead LFUMortStat (480)				
(If Dead →)	Mortality Date: (mm/dd/yyyy) ___ / ___ / _____ MtDate (490)			

NONCARDIAC CONGENITAL ANATOMIC ABNORMALITIES (select all that apply) NCAA (530)	
<input type="checkbox"/>	None
<input type="checkbox"/>	Major abnormality of head, Choanal atresia
<input type="checkbox"/>	Major abnormality of head, Cleft lip
<input type="checkbox"/>	Major abnormality of head, Cleft palate
<input type="checkbox"/>	Major abnormality of head, Craniosynostosis
<input type="checkbox"/>	Major abnormality of head, Macrocephaly
<input type="checkbox"/>	Major abnormality of head, Microcephaly
<input type="checkbox"/>	Major abnormality of head, Micrognathia
<input type="checkbox"/>	Major abnormality of brain, Hydrocephalus
<input type="checkbox"/>	Major abnormality of brain, Tuberosus sclerosis
<input type="checkbox"/>	Major abnormality of spinal cord, Myelomeningocele
<input type="checkbox"/>	Major abnormality of spinal cord, Spina bifida
<input type="checkbox"/>	Major abnormality of spinal cord, Tethered cord
<input type="checkbox"/>	Major abnormality of spine, Scoliosis
<input type="checkbox"/>	Major abnormality of spine, Hemi-vertebrae
<input type="checkbox"/>	Major abnormality of spine, Butterfly vertebrae
<input type="checkbox"/>	Major abnormality of larynx - trachea - or bronchus, Laryngeal cleft
<input type="checkbox"/>	Major abnormality of larynx - trachea - or bronchus, Laryngomalacia
<input type="checkbox"/>	Major abnormality of larynx - trachea - or bronchus, Congenital tracheal stenosis
<input type="checkbox"/>	Major abnormality of larynx - trachea - or bronchus, Tracheomalacia
<input type="checkbox"/>	Major abnormality of larynx - trachea - or bronchus, Tracheoesophageal fistula (TEF)
<input type="checkbox"/>	Major abnormality of larynx - trachea - or bronchus, Bronchomalacia
<input type="checkbox"/>	Major abnormality of chest wall, Pectus carinatum
<input type="checkbox"/>	Major abnormality of chest wall, Pectus excavatum
<input type="checkbox"/>	Major abnormality of lung, Alveolar capillary dysplasia
<input type="checkbox"/>	Major abnormality of lung, Congenital lobar emphysema (CLE)
<input type="checkbox"/>	Major abnormality of lung, Cystic congenital adenomatous malformation of the lung (CAM)
<input type="checkbox"/>	Major abnormality of lung, Cystic fibrosis

<input type="checkbox"/>	Major abnormality of lung, Hypoplastic lung
<input type="checkbox"/>	Major abnormality of lung, Pulmonary lymphangiectasia
<input type="checkbox"/>	Major abnormality of diaphragm, Congenital diaphragmatic hernia (CDH), Bochdalek hernia
<input type="checkbox"/>	Major abnormality of abdominal wall, Gastroschisis
<input type="checkbox"/>	Major abnormality of abdominal wall, Omphalocele
<input type="checkbox"/>	Major abnormality of gastrointestinal system, Esophageal atresia
<input type="checkbox"/>	Major abnormality of gastrointestinal system, Pyloric stenosis
<input type="checkbox"/>	Major abnormality of gastrointestinal system, Biliary atresia
<input type="checkbox"/>	Major abnormality of gastrointestinal system, Duodenal atresia
<input type="checkbox"/>	Major abnormality of gastrointestinal system, Duodenal stenosis
<input type="checkbox"/>	Major abnormality of gastrointestinal system, Jejunal atresia
<input type="checkbox"/>	Major abnormality of gastrointestinal system, Jejunal stenosis
<input type="checkbox"/>	Major abnormality of gastrointestinal system, Ileal atresia
<input type="checkbox"/>	Major abnormality of gastrointestinal system, Ileal stenosis
<input type="checkbox"/>	Major abnormality of gastrointestinal system, Intestinal malrotation
<input type="checkbox"/>	Major abnormality of gastrointestinal system, Hirschsprung's disease (Congenital aganglionic megacolon)
<input type="checkbox"/>	Major abnormality of gastrointestinal system, Stenosis of large intestine
<input type="checkbox"/>	Major abnormality of gastrointestinal system, Atresia of large intestine
<input type="checkbox"/>	Major abnormality of gastrointestinal system, Atresia of rectum
<input type="checkbox"/>	Major abnormality of gastrointestinal system, Stenosis of rectum
<input type="checkbox"/>	Major abnormality of gastrointestinal system, Anal Atresia (imperforate anus)
<input type="checkbox"/>	Major abnormality of genitalia, Ambiguous genitalia
<input type="checkbox"/>	Major abnormality of genitalia, Hypospadias
<input type="checkbox"/>	Major abnormality of genitalia, Rectovaginal fistula
<input type="checkbox"/>	Major abnormality of genitalia, Undescended testis
<input type="checkbox"/>	Major abnormality of kidney, Horseshoe kidney
<input type="checkbox"/>	Major abnormality of kidney, Hydronephrosis
<input type="checkbox"/>	Major abnormality of kidney, Polycystic kidney
<input type="checkbox"/>	Major abnormality of kidney, Single kidney
<input type="checkbox"/>	Other
	(If NCAA is Other→) _____ Major Noncardiac Abnormality- Other- Specify NCAA0thSp (540)

CHROMOSOMAL ABNORMALITIES

Chromosomal Abnormality: (select all that apply) **ChromAb (570)**

<input type="checkbox"/>	No chromosomal or genetic abnormality identified		
<input type="checkbox"/>	Known Mosaicism	<input type="checkbox"/>	11p15.5
<input type="checkbox"/>	1p36 del	<input type="checkbox"/>	11q
<input type="checkbox"/>	1q21.1 del	<input type="checkbox"/>	12p1.21
<input type="checkbox"/>	1q21.1 dup	<input type="checkbox"/>	12p12.1
<input type="checkbox"/>	1q42.1	<input type="checkbox"/>	12q24
<input type="checkbox"/>	2p21	<input type="checkbox"/>	15q11.2 del
<input type="checkbox"/>	3p22	<input type="checkbox"/>	15q21.1
<input type="checkbox"/>	3q dup	<input type="checkbox"/>	16p11.2 del
<input type="checkbox"/>	4p16	<input type="checkbox"/>	17p11.2 del
<input type="checkbox"/>	4q del	<input type="checkbox"/>	17q21.31 del
<input type="checkbox"/>	5p15.2 del	<input type="checkbox"/>	20p12
<input type="checkbox"/>	5p15.33 del	<input type="checkbox"/>	22q11 deletion
<input type="checkbox"/>	6p12	<input type="checkbox"/>	22q11.2 dup
<input type="checkbox"/>	7q11	<input type="checkbox"/>	45X0
<input type="checkbox"/>	7q11.23 del	<input type="checkbox"/>	47,XXY
<input type="checkbox"/>	7q11.23 dup	<input type="checkbox"/>	Monosomy X
<input type="checkbox"/>	7q32	<input type="checkbox"/>	Trisomy 08
<input type="checkbox"/>	7q34	<input type="checkbox"/>	Trisomy 09
<input type="checkbox"/>	8p23.1 del	<input type="checkbox"/>	Trisomy 13
<input type="checkbox"/>	8p23.1 dup	<input type="checkbox"/>	Trisomy 18
<input type="checkbox"/>	8q12	<input type="checkbox"/>	Trisomy 21
<input type="checkbox"/>	9q34.3 del		
<input type="checkbox"/>	Other chromosomal or genetic abnormality		
	(If "Other chromosomal or genetic abnormality" ↓)		

Genes With Identified Abnormalities: *(select all that apply)*

<input type="checkbox"/> ABCC9y	<input type="checkbox"/> ACTC1	<input type="checkbox"/> ADAMTS10	<input type="checkbox"/> AK7
<input type="checkbox"/> ANKRD11	<input type="checkbox"/> ANKS3	<input type="checkbox"/> ANKS6	<input type="checkbox"/> ARID1B
<input type="checkbox"/> ARMC4	<input type="checkbox"/> B3GALTL	<input type="checkbox"/> B9D1	<input type="checkbox"/> B9D2
<input type="checkbox"/> BBIP1	<input type="checkbox"/> BBS1	<input type="checkbox"/> BBS10	<input type="checkbox"/> BBS12
<input type="checkbox"/> BBS2	<input type="checkbox"/> BBS4	<input type="checkbox"/> BBS7	<input type="checkbox"/> BBS9
<input type="checkbox"/> BCOR	<input type="checkbox"/> BRAF	<input type="checkbox"/> C21orf59	<input type="checkbox"/> C2CD3
<input type="checkbox"/> C5orf42	<input type="checkbox"/> CACNA1C	<input type="checkbox"/> CBP	<input type="checkbox"/> CC2D2A
<input type="checkbox"/> CCDC103	<input type="checkbox"/> CCDC114	<input type="checkbox"/> CCDC151	<input type="checkbox"/> CCDC39
<input type="checkbox"/> CCDC40	<input type="checkbox"/> CCDC65	<input type="checkbox"/> CCNO	<input type="checkbox"/> CDK13
<input type="checkbox"/> CDKN1C	<input type="checkbox"/> CEP120	<input type="checkbox"/> CEP152	<input type="checkbox"/> CEP290
<input type="checkbox"/> CEP41	<input type="checkbox"/> CHD4	<input type="checkbox"/> CHD7	<input type="checkbox"/> CITED2
<input type="checkbox"/> COL1A1	<input type="checkbox"/> COL1A2	<input type="checkbox"/> COL5A1	<input type="checkbox"/> CRKL
<input type="checkbox"/> CSPP1	<input type="checkbox"/> DGCR2	<input type="checkbox"/> DHCR7	<input type="checkbox"/> DLL4
<input type="checkbox"/> DNAAF1 / LRRC50	<input type="checkbox"/> DNAAF2	<input type="checkbox"/> DNAAF3	<input type="checkbox"/> DNAAF5 (or HEATR2)
<input type="checkbox"/> DNAH11	<input type="checkbox"/> DNAH5	<input type="checkbox"/> DNAI1	<input type="checkbox"/> DNAI2
<input type="checkbox"/> DNAJB13	<input type="checkbox"/> DNAL1	<input type="checkbox"/> DOCK6	<input type="checkbox"/> DYNC2H1
<input type="checkbox"/> DYX1C1 (aka DNAAF4)	<input type="checkbox"/> EFTUD2	<input type="checkbox"/> EHMT1	<input type="checkbox"/> ELN
<input type="checkbox"/> EP300	<input type="checkbox"/> ESCO2	<input type="checkbox"/> EST-1	<input type="checkbox"/> EVC
<input type="checkbox"/> EVC2	<input type="checkbox"/> FBN1	<input type="checkbox"/> FBN2	<input type="checkbox"/> FGF8
<input type="checkbox"/> FGFR1	<input type="checkbox"/> FLNA	<input type="checkbox"/> FMR1	<input type="checkbox"/> FOXC1
<input type="checkbox"/> FTO	<input type="checkbox"/> GALNT11	<input type="checkbox"/> GANAB	<input type="checkbox"/> GAS8
<input type="checkbox"/> GATA4	<input type="checkbox"/> GATA6	<input type="checkbox"/> GDF1	<input type="checkbox"/> GJA1
<input type="checkbox"/> GPC3	<input type="checkbox"/> GRK5	<input type="checkbox"/> HNRNPK	<input type="checkbox"/> HOXA1
<input type="checkbox"/> HRAS	<input type="checkbox"/> HYDIN	<input type="checkbox"/> IFT122	<input type="checkbox"/> IFT140
<input type="checkbox"/> IFT27	<input type="checkbox"/> IFT43	<input type="checkbox"/> IFT80	<input type="checkbox"/> INPP5E
<input type="checkbox"/> INTU	<input type="checkbox"/> INVS	<input type="checkbox"/> JAG1	<input type="checkbox"/> KAT6B
<input type="checkbox"/> KDM6A	<input type="checkbox"/> KIAA0556	<input type="checkbox"/> KIAA0586	<input type="checkbox"/> KIAA0753
<input type="checkbox"/> KIF7	<input type="checkbox"/> KMT2D (MLL2)	<input type="checkbox"/> KRAS	<input type="checkbox"/> LRRC6
<input type="checkbox"/> LTBP4	<input type="checkbox"/> MAP2K1	<input type="checkbox"/> MAP2K2	<input type="checkbox"/> MAPK1
<input type="checkbox"/> MCIDAS	<input type="checkbox"/> MED12	<input type="checkbox"/> MED13L	<input type="checkbox"/> MEGF8
<input type="checkbox"/> MID1	<input type="checkbox"/> MKKS	<input type="checkbox"/> MKKS (BBS6)	<input type="checkbox"/> MKS1
<input type="checkbox"/> MYH11	<input type="checkbox"/> MYH6	<input type="checkbox"/> MYH7	<input type="checkbox"/> NF1
<input type="checkbox"/> NHS	<input type="checkbox"/> NIPBL	<input type="checkbox"/> NKX2-5	<input type="checkbox"/> NKX2-6
<input type="checkbox"/> NME8 (aka TXNDC3)	<input type="checkbox"/> NODAL	<input type="checkbox"/> NOTCH1	<input type="checkbox"/> NPHP3
<input type="checkbox"/> NR2F2	<input type="checkbox"/> NSD1	<input type="checkbox"/> OFD1	<input type="checkbox"/> PDGFRA
<input type="checkbox"/> PEX1	<input type="checkbox"/> PIBF1	<input type="checkbox"/> PIH1D3	<input type="checkbox"/> PITX2
<input type="checkbox"/> PKD1	<input type="checkbox"/> PKD2	<input type="checkbox"/> PKHD1	<input type="checkbox"/> PQBP1
<input type="checkbox"/> PRKD1	<input type="checkbox"/> PTEN	<input type="checkbox"/> PTPN11	<input type="checkbox"/> RAB23
<input type="checkbox"/> RAD21	<input type="checkbox"/> RAI1	<input type="checkbox"/> RBM10	<input type="checkbox"/> RBPJ
<input type="checkbox"/> RDR2	<input type="checkbox"/> RECQL4	<input type="checkbox"/> ROR2	<input type="checkbox"/> RPGR
<input type="checkbox"/> RPGRIP1L	<input type="checkbox"/> RPL35A	<input type="checkbox"/> RPS10	<input type="checkbox"/> RPS17
<input type="checkbox"/> RPS24	<input type="checkbox"/> RPS26	<input type="checkbox"/> RSK2	<input type="checkbox"/> RSPH1
<input type="checkbox"/> RSPH3	<input type="checkbox"/> RSPH4A	<input type="checkbox"/> RSPH9	<input type="checkbox"/> SALL1
<input type="checkbox"/> SALL4	<input type="checkbox"/> SEMA3E	<input type="checkbox"/> SH3PXD2B	<input type="checkbox"/> SHH
<input type="checkbox"/> SHOC2	<input type="checkbox"/> SHROOM3	<input type="checkbox"/> SMAD2	<input type="checkbox"/> SMAD3
<input type="checkbox"/> SMAD6	<input type="checkbox"/> SMARCA4	<input type="checkbox"/> SMARCB1	<input type="checkbox"/> SMARCE1
<input type="checkbox"/> SMC1L1	<input type="checkbox"/> SMC3	<input type="checkbox"/> SMS	<input type="checkbox"/> SNAP29
<input type="checkbox"/> SOS2	<input type="checkbox"/> SPAG1	<input type="checkbox"/> STRA6	<input type="checkbox"/> TAB2
<input type="checkbox"/> TBX1	<input type="checkbox"/> TBX20	<input type="checkbox"/> TBX5	<input type="checkbox"/> TCOF1
<input type="checkbox"/> TCTEX1D2	<input type="checkbox"/> TCTN1	<input type="checkbox"/> TCTN2	<input type="checkbox"/> TCTN3
<input type="checkbox"/> TFAP2B	<input type="checkbox"/> TGFBR1 or 2	<input type="checkbox"/> TLL1	<input type="checkbox"/> TMEM107
<input type="checkbox"/> TMEM138	<input type="checkbox"/> TMEM216	<input type="checkbox"/> TMEM231	<input type="checkbox"/> TMEM67
<input type="checkbox"/> TRIM32 (BBS11)	<input type="checkbox"/> TSC1	<input type="checkbox"/> TSC2	<input type="checkbox"/> TTC25
<input type="checkbox"/> TTC8 (BBS8)	<input type="checkbox"/> TWIST	<input type="checkbox"/> WDR19	<input type="checkbox"/> ZFPM2 / FOG2
<input type="checkbox"/> ZIC3	<input type="checkbox"/> ZNF423		
<input type="checkbox"/> Unlisted Gene or Chromosomal Anomaly			

(If "Unlisted Gene or Chromosomal Anomaly" ↓)

Unlisted Gene or Chromosomal Anomaly - Specify **ChromAbOthSp (580)**

SYNDROMES

Syndromes: (select all that apply) **Syndrome (610)**

<input type="checkbox"/> No syndromic abnormality identified	<input type="checkbox"/> 1q21.1 duplicaiton syndrome
<input type="checkbox"/> 1p36 deletion syndrome	<input type="checkbox"/> 4q delection syndrome
<input type="checkbox"/> 3q duplication syndrome	<input type="checkbox"/> 8p23.1 deletion syndrome
<input type="checkbox"/> 7q11.23 duplication syndrome	<input type="checkbox"/> 16p11.2 deletion syndrome
<input type="checkbox"/> 15q11.2 deletion syndrome	<input type="checkbox"/> Adams-Oliver syndrome
<input type="checkbox"/> 22q11.2 duplication syndrome	<input type="checkbox"/> Alstrom syndrome
<input type="checkbox"/> Alagille syndrome (intrahepatic biliary duct agenesis)	<input type="checkbox"/> Apert syndrome
<input type="checkbox"/> Alveolar Capillary Dysplasia Syndrome	<input type="checkbox"/> Bardet-Biedl syndrome
<input type="checkbox"/> Baller-Gerold Syndrome	<input type="checkbox"/> Brugada syndrome (Sudden unexplained nocturnal death syndrome) (SUNDS)
<input type="checkbox"/> Beckwith-Wiedemann syndrome	<input type="checkbox"/> Cantu syndrome
<input type="checkbox"/> Brugada/Timothy Syndrome	<input type="checkbox"/> Cardiofaciocutaneous syndrome
<input type="checkbox"/> Carpenter syndrome	<input type="checkbox"/> Cat-eye syndrome
<input type="checkbox"/> Caudal Regression Syndrome	<input type="checkbox"/> Char syndrome
<input type="checkbox"/> CHARGE Association	<input type="checkbox"/> Chiari I Malformation
<input type="checkbox"/> Chromosome 17q12 deletion syndrome	<input type="checkbox"/> Coffin Lowry syndrome
<input type="checkbox"/> Coffin Siris Syndrome	<input type="checkbox"/> Cornelia de Lange syndrome
<input type="checkbox"/> Costello syndrome	<input type="checkbox"/> Cranioectodermal dysplasia (Sensenbrenner syndrome)
<input type="checkbox"/> Cri-du-chat syndrome	<input type="checkbox"/> Dandy Walker Malformation
<input type="checkbox"/> Deletion 10p syndrome	<input type="checkbox"/> Deletion 8p syndrome
<input type="checkbox"/> DiGeorge syndrome (velocardiofacial syndrome) (conotruncal anomaly face syndrome) (22q11 deletion)	<input type="checkbox"/> Distinct disorder
<input type="checkbox"/> Down syndrome (Trisomy 21)	<input type="checkbox"/> Duane Radial Ray (Okhiro) syndrome
<input type="checkbox"/> Duchenne Muscular Dystrophy	<input type="checkbox"/> Edwards syndrome (Trisomy 18)
<input type="checkbox"/> Ehlers-Danlos Syndrome	<input type="checkbox"/> Ellis-van Creveld syndrome
<input type="checkbox"/> Familial atrial septal defects	<input type="checkbox"/> Familial CHD
<input type="checkbox"/> Familial non-syndromic CHD	<input type="checkbox"/> Fetal alcohol syndrome (FAS)
<input type="checkbox"/> Fetal drug exposure	<input type="checkbox"/> Fetal rubella syndrome (Congenital rubella syndrome)
<input type="checkbox"/> Fragile X	<input type="checkbox"/> Goldenhar syndrome
<input type="checkbox"/> Heterotaxy syndrome, Asplenia syndrome	<input type="checkbox"/> Heterotaxy syndrome, Polysplenia syndrome
<input type="checkbox"/> Heterotaxy syndrome, Unknown if asplenia or polysplenia	<input type="checkbox"/> Holt-Oram syndrome
<input type="checkbox"/> Jacobsen syndrome	<input type="checkbox"/> Joubert syndrome
<input type="checkbox"/> Kabuki syndrome	<input type="checkbox"/> Kartagener syndrome (Siewert syndrome) (Primary ciliary dyskinesia)
<input type="checkbox"/> Kleefstra Syndrome	<input type="checkbox"/> Klinefelter syndrome (XXY Syndrome)
<input type="checkbox"/> Koolen-De Vries Syndrome	<input type="checkbox"/> LEOPARD syndrome
<input type="checkbox"/> Loeys-Dietz syndrome	<input type="checkbox"/> Marfan syndrome
<input type="checkbox"/> Marfan-like syndrome	<input type="checkbox"/> McKusick-Kaufman syndrome
<input type="checkbox"/> Meckel-Gruber syndrome	<input type="checkbox"/> Microphthalmia syndromic 9
<input type="checkbox"/> Mowat Wilson Syndrome	<input type="checkbox"/> Mucopolysaccharidosis type IH (Hurler syndrome)
<input type="checkbox"/> Mucopolysaccharidosis type IH/S (Hurler-Scheie syndrome)	<input type="checkbox"/> Mucopolysaccharidosis type II (Hunter syndrome)
<input type="checkbox"/> Mucopolysaccharidosis type IS (Scheie syndrome)	<input type="checkbox"/> Nance Horan syndrome
<input type="checkbox"/> Nephronophthisis	<input type="checkbox"/> Neurofibromatosis
<input type="checkbox"/> Non-syndromic CHD	<input type="checkbox"/> Noonan syndrome
<input type="checkbox"/> Oculofaciocardiodental	<input type="checkbox"/> Oral-facial-digital syndromes (types I-XVI and unclassified)
<input type="checkbox"/> Patau syndrome (Trisomy 13)	<input type="checkbox"/> Peter's Plus syndrome
<input type="checkbox"/> Pierre Robin syndrome	<input type="checkbox"/> Polycystic Kidney Disease
<input type="checkbox"/> Primary ciliary dyskinesia (PCD)	<input type="checkbox"/> Prune Belly Syndrome

<input type="checkbox"/> Rethore syndrome (Trisomy 9)	<input type="checkbox"/> Roberts syndrome
<input type="checkbox"/> Robinow syndrome	<input type="checkbox"/> Rubinstein-Taybi syndrome
<input type="checkbox"/> Saethre Chotzen syndrome	<input type="checkbox"/> Short Rib Polydactyly Type I
<input type="checkbox"/> Short rib thoracic dysplasias including Jeune chondrodysplasia, Saldino Mainzer	<input type="checkbox"/> Sickle cell disease
<input type="checkbox"/> Sickle cell trait	<input type="checkbox"/> Sifrim-Hitz-Weiss syndrome (SIHIWES)
<input type="checkbox"/> Simpson-Golabi-Behmel syndrome	<input type="checkbox"/> Situs inversus
<input type="checkbox"/> Smith Magenis syndrome	<input type="checkbox"/> Smith-Lemli-Opitz syndrome
<input type="checkbox"/> Sotos syndrome	<input type="checkbox"/> Spinal Muscular Atrophy, Type II
<input type="checkbox"/> Sporadic and familial CHD	<input type="checkbox"/> Syndromic CHD
<input type="checkbox"/> TAR syndrome	<input type="checkbox"/> Thalassemia - Major
<input type="checkbox"/> Thalassemia - Minor	<input type="checkbox"/> Townes-Brocks syndrome
<input type="checkbox"/> Trisomy 13	<input type="checkbox"/> Trisomy 18
<input type="checkbox"/> Trisomy 21	<input type="checkbox"/> Turner syndrome (45XO)
<input type="checkbox"/> VACTERL syndrome (VACTER/VATER/VATERR syndrome)	<input type="checkbox"/> VACTERL-H syndrome (VATER association with hydrocephalus) (Briard-Evans syndrome)
<input type="checkbox"/> von Willebrand disease (vWD)	<input type="checkbox"/> Warkany syndrome (Trisomy 8)
<input type="checkbox"/> Williams syndrome (Williams-Beuren syndrome)	<input type="checkbox"/> Wolf-Hirschhorn syndrome
<input type="checkbox"/> X-linked heterotaxy	
<input type="checkbox"/> Other syndromic abnormality	
(If Other Syndromic abnormality, Specify ↓)	
<hr/> Syndrome – Other – Specify SyndromeOthSp (620)	

HOSPITALIZATION					
Hospital Name: _____					HospName (630)
Hospital Zip Code: _____ HospZIP (640)		Hospital State: _____ HospStat (650)		Hospital National Provider Identifier: _____ HospNPI (660)	
Primary Payor: PayorPrim (771)			Secondary (supplemental) Payor: PayorSecond (773)		
<input type="checkbox"/> None/self			<input type="checkbox"/> None/self		
(If Primary not None or missing →)		<input type="checkbox"/> Medicare <input type="checkbox"/> Medicaid <input type="checkbox"/> Military Health <input type="checkbox"/> Indian Health Service <input type="checkbox"/> Correctional Facility <input type="checkbox"/> State Specific Plan <input type="checkbox"/> Other Government Insurance <input type="checkbox"/> Commercial Health Insurance <input type="checkbox"/> Health Maintenance Organization <input type="checkbox"/> Non US Plan <input type="checkbox"/> Charitable Care/Foundation Funding (internal) <input type="checkbox"/> Charitable Care/Foundation Funding (external)		(If Secondary not None or missing →)	
(If Medicare →)		Primary Payor Medicare Fee for Service: PrimMCareFFS (772)		<input type="checkbox"/> Yes <input type="checkbox"/> No	
(If Medicare →)		Secondary Payor Medicare Fee for Service: SecondMCareFFS (774)		<input type="checkbox"/> Yes <input type="checkbox"/> No	
Admission date: (mm/dd/yyyy) ___ / ___ / _____ AdmitDt (780)					
Location From which Patient was Admitted: <input type="checkbox"/> Home <input type="checkbox"/> Other acute care center <input type="checkbox"/> Other chronic care center <input type="checkbox"/> Born at operative center AdmitFromLoc (781)					
Surgery date: (mm/dd/yyyy) ___ / ___ / _____ SurgDt (790)					

Height (Cm): _____
 HeightCm (800)

Weight (Kg): _____
 WeightKg (810)

Age at time of surgery (in days): _____
 AgeDays (820)

PREOPERATIVE FACTORS (select all that apply) PreopFactor (850)

<input type="checkbox"/>	No preoperative factors identified	<input type="checkbox"/>	Sepsis
<input type="checkbox"/>	Cardio-pulmonary resuscitation	<input type="checkbox"/>	Sepsis with positive blood culture
<input type="checkbox"/>	Preoperative complete AV block	<input type="checkbox"/>	Preoperative neurological deficit
<input type="checkbox"/>	Preoperative/Preprocedural mechanical circulatory support (IABP, VAD, ECMO, or CPS)	<input type="checkbox"/>	Seizure during lifetime
<input type="checkbox"/>	Shock, Persistent at time of surgery	<input type="checkbox"/>	Seizure within 48 hours prior to surgery
<input type="checkbox"/>	Shock, Resolved at time of surgery	<input type="checkbox"/>	Stroke, CVA, or Intracranial hemorrhage > Grade 2 during lifetime
<input type="checkbox"/>	Diabetes mellitus, Insulin dependent	<input type="checkbox"/>	Stroke, CVA, or Intracranial hemorrhage > Grade 2 within 48 hours prior to surgery
<input type="checkbox"/>	Diabetes mellitus, Non-insulin dependent	<input type="checkbox"/>	Renal dysfunction
<input type="checkbox"/>	Hypothyroidism	<input type="checkbox"/>	Renal failure requiring dialysis
<input type="checkbox"/>	Currently taking steroids as treatment for adrenal insufficiency	<input type="checkbox"/>	Invasive mechanical ventilation to treat cardiorespiratory failure
<input type="checkbox"/>	Currently taking steroids for any reason other than treatment of adrenal insufficiency	<input type="checkbox"/>	Non-invasive respiratory support to treat cardiorespiratory failure
<input type="checkbox"/>	Colostomy present	<input type="checkbox"/>	Respiratory Syncytial Virus
<input type="checkbox"/>	Enterostomy of small intestine present	<input type="checkbox"/>	Single lung
<input type="checkbox"/>	Esophagostomy present	<input type="checkbox"/>	Tracheostomy present
<input type="checkbox"/>	Gastrostomy present	<input type="checkbox"/>	Asthma
<input type="checkbox"/>	Hepatic dysfunction	<input type="checkbox"/>	Bronchopulmonary Dysplasia (BPD)
<input type="checkbox"/>	Necrotizing entero-colitis, Treated medically	<input type="checkbox"/>	ICD (AICD) ([automatic] implantable cardioverter defibrillator) present
<input type="checkbox"/>	Necrotizing entero-colitis, Treated surgically	<input type="checkbox"/>	Pacemaker present
<input type="checkbox"/>	Coagulation disorder, Hypercoagulable state	<input type="checkbox"/>	Tobacco use
<input type="checkbox"/>	Coagulation disorder, Hypocoagulable state not secondary to medication (intrinsic hypocoagulable state)	<input type="checkbox"/>	Transferred from another hospital after undergoing cardiac surgical operation at that hospital during this episode of care.
<input type="checkbox"/>	Coagulation disorder, Hypocoagulable state secondary to medication	<input type="checkbox"/>	Admitted from home after having undergone a cardiac surgical operation within the past 30 days
<input type="checkbox"/>	Dyslipidemia	<input type="checkbox"/>	Other preoperative factors (If Other Preoperative Factors, Specify ↓) _____ PreOpFactorSpecify (851)
<input type="checkbox"/>	Endocarditis		
<input type="checkbox"/>	Family History of Coronary Artery Disease		

DIAGNOSIS

Select ALL diagnosis that apply(↓) Diagnosis (890)	CIRCLE the ONE PRIMARY diagnosis for this operation PrimDiag (900)	Select the ONE FUNDAMENTAL diagnosis for this patient (↓) FundDiagnosis (374)
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Septal Defects	ASD	<input type="checkbox"/>	10=PFO	<input type="checkbox"/>
		<input type="checkbox"/>	20= ASD, Secundum	<input type="checkbox"/>
		<input type="checkbox"/>	30= ASD, Sinus venosus	<input type="checkbox"/>
		<input type="checkbox"/>	40= ASD, Coronary sinus	<input type="checkbox"/>
		<input type="checkbox"/>	50= ASD, Common atrium (single atrium)	<input type="checkbox"/>
		<input type="checkbox"/>	2150= ASD, Postoperative interatrial communication	NA
	VSD	<input type="checkbox"/>	71= VSD, Type 1 (Subarterial) (Supracristal) (Conal septal defect) (Infundibular)	<input type="checkbox"/>

		<input type="checkbox"/> 73= VSD, Type 2 (Perimembranous) (Paramembranous) (Conoventricular)	<input type="checkbox"/>
		<input type="checkbox"/> 75= VSD, Type 3 (Inlet) (AV canal type)	<input type="checkbox"/>
		<input type="checkbox"/> 77= VSD, Type 4 (Muscular)	<input type="checkbox"/>
		<input type="checkbox"/> 79= VSD, Type: Gerbode type (LV-RA communication)	<input type="checkbox"/>
		<input type="checkbox"/> 80= VSD, Multiple	<input type="checkbox"/>
	AV Canal	<input type="checkbox"/> 100= AVC (AVSD), Complete (CAVSD)	<input type="checkbox"/>
		<input type="checkbox"/> 110= AVC (AVSD), Intermediate (transitional)	<input type="checkbox"/>
		<input type="checkbox"/> 120= AVC (AVSD), Partial (incomplete) (PAVSD) (ASD, primum)	<input type="checkbox"/>
	AP Window	<input type="checkbox"/> 140= AP window (aortopulmonary window)	<input type="checkbox"/>
		<input type="checkbox"/> 150= Pulmonary artery origin from ascending aorta (hemitruncus)	<input type="checkbox"/>
	Truncus Arteriosus	<input type="checkbox"/> 160= Truncus arteriosus	<input type="checkbox"/>
		<input type="checkbox"/> 170= Truncal valve insufficiency	<input type="checkbox"/>
		<input type="checkbox"/> 2470= Truncal valve stenosis	NA
		<input type="checkbox"/> 2010= Truncus arteriosus + Interrupted aortic arch	<input type="checkbox"/>
Pulmonary Venous Anomalies	Partial Anomalous Pulmonary Venous Connection	<input type="checkbox"/> 180= Partial anomalous pulmonary venous connection (PAPVC)	<input type="checkbox"/>
		<input type="checkbox"/> 190= Partial anomalous pulmonary venous connection (PAPVC), scimitar	<input type="checkbox"/>
	Total Anomalous Pulmonary Venous Connection	<input type="checkbox"/> 200=Total anomalous pulmonary venous connection (TAPVC), Type1 (supracardiac)	<input type="checkbox"/>
		<input type="checkbox"/> 210=Total anomalous pulmonary venous connection (TAPVC), Type 2 (cardiac)	<input type="checkbox"/>
		<input type="checkbox"/> 220=Total anomalous pulmonary venous connection (TAPVC), Type 3 (infracardiac)	<input type="checkbox"/>
<input type="checkbox"/> 230=Total anomalous pulmonary venous connection (TAPVC), Type 4 (mixed)		<input type="checkbox"/>	
Cor Triatriatum		<input type="checkbox"/> 250=Cor triatriatum	<input type="checkbox"/>
Pulmonary Venous Stenosis		<input type="checkbox"/> 260=Pulmonary venous stenosis	<input type="checkbox"/>
		<input type="checkbox"/> 2480=Pulmonary venous stenosis, Acquired	<input type="checkbox"/>
		<input type="checkbox"/> 2490=Pulmonary venous stenosis, Spontaneous	<input type="checkbox"/>
Systemic Venous Anomalies	Anomalous Systemic Venous Connection	<input type="checkbox"/> 270=Systemic venous anomaly	<input type="checkbox"/>
	Systemic venous obstruction	<input type="checkbox"/> 280=Systemic venous obstruction	<input type="checkbox"/>
Right Heart Lesions	Tetralogy of Fallot	<input type="checkbox"/> 290=TOF	<input type="checkbox"/>
		<input type="checkbox"/> 2140=TOF, Pulmonary stenosis	<input type="checkbox"/>
		<input type="checkbox"/> 300=TOF, AVC (AVSD)	<input type="checkbox"/>
		<input type="checkbox"/> 310=TOF, Absent pulmonary valve	<input type="checkbox"/>
	Pulmonary Atresia	<input type="checkbox"/> 320=Pulmonary atresia	<input type="checkbox"/>
		<input type="checkbox"/> 330=Pulmonary atresia, IVS	<input type="checkbox"/>
		<input type="checkbox"/> 340=Pulmonary atresia, VSD (Including TOF, PA)	<input type="checkbox"/>
		<input type="checkbox"/> 350=Pulmonary atresia, VSD-MAPCA	<input type="checkbox"/>
		<input type="checkbox"/> 360=MAPCA(s) (major aortopulmonary collateral[s]) (without PA-VSD)	<input type="checkbox"/>
	Tricuspid Valve Disease and Ebstein's Anomaly	<input type="checkbox"/> 370=Ebstein's anomaly	<input type="checkbox"/>
		<input type="checkbox"/> 380=Tricuspid regurgitation, non-Ebstein's related	<input type="checkbox"/>
		<input type="checkbox"/> 390=Tricuspid stenosis	<input type="checkbox"/>
		<input type="checkbox"/> 400=Tricuspid regurgitation and tricuspid stenosis	<input type="checkbox"/>
		<input type="checkbox"/> 410=Tricuspid valve, Other	<input type="checkbox"/>
		<input type="checkbox"/> 420=Pulmonary stenosis, Valvar	<input type="checkbox"/>
	<input type="checkbox"/> 430=Pulmonary artery stenosis (hypoplasia), Main (trunk)	<input type="checkbox"/>	

	RVOT Obstruction and/or Pulmonary Stenosis	<input type="checkbox"/>	440=Pulmonary artery stenosis, Branch, Central (within the hilar bifurcation)	<input type="checkbox"/>
		<input type="checkbox"/>	450=Pulmonary artery stenosis, Branch, Peripheral (at or beyond the hilar bifurcation)	<input type="checkbox"/>
		<input type="checkbox"/>	470=Pulmonary artery, Discontinuous	<input type="checkbox"/>
		<input type="checkbox"/>	490=Pulmonary stenosis, Subvalvar	<input type="checkbox"/>
		<input type="checkbox"/>	500=DCRV	<input type="checkbox"/>
	Pulmonary Valve Disease	<input type="checkbox"/>	510=Pulmonary valve, Other	<input type="checkbox"/>
		<input type="checkbox"/>	530=Pulmonary insufficiency	<input type="checkbox"/>
		<input type="checkbox"/>	540=Pulmonary insufficiency and pulmonary stenosis	<input type="checkbox"/>
Shunt failure	Shunt failure	<input type="checkbox"/>	2130=Shunt Failure	NA
Conduit failure	Conduit failure	<input type="checkbox"/>	520=Conduit failure	NA

Left Heart Lesions	Aortic Valve Disease	<input type="checkbox"/>	550=Aortic stenosis, Subvalvar	<input type="checkbox"/>
		<input type="checkbox"/>	2500=Aortic stenosis, Subvalvar, Discrete	<input type="checkbox"/>
		<input type="checkbox"/>	2510=Aortic stenosis, Subvalvar, IHSS	<input type="checkbox"/>
		<input type="checkbox"/>	2520=Aortic stenosis, Subvalvar, Tunnel-like	<input type="checkbox"/>
		<input type="checkbox"/>	560=Aortic stenosis, Valvar	<input type="checkbox"/>
		<input type="checkbox"/>	570=Aortic stenosis, Supravalvar	<input type="checkbox"/>
		<input type="checkbox"/>	590=Aortic valve atresia	<input type="checkbox"/>
		<input type="checkbox"/>	600=Aortic insufficiency	<input type="checkbox"/>
		<input type="checkbox"/>	610=Aortic insufficiency and aortic stenosis	<input type="checkbox"/>
		<input type="checkbox"/>	620=Aortic valve, Other	<input type="checkbox"/>
	Sinus of Valsalva Fistula/Aneurysm	<input type="checkbox"/>	630=Sinus of Valsalva aneurysm	<input type="checkbox"/>
	LV to Aorta Tunnel	<input type="checkbox"/>	640=LV to aorta tunnel	<input type="checkbox"/>
	Mitral Valve Disease	<input type="checkbox"/>	650=Mitral stenosis, Supravalvar mitral ring	<input type="checkbox"/>
		<input type="checkbox"/>	660=Mitral stenosis, Valvar	<input type="checkbox"/>
		<input type="checkbox"/>	670=Mitral stenosis, Subvalvar	<input type="checkbox"/>
		<input type="checkbox"/>	680=Mitral stenosis, Subvalvar, Parachute	<input type="checkbox"/>
		<input type="checkbox"/>	695=Mitral stenosis	<input type="checkbox"/>
		<input type="checkbox"/>	700=Mitral regurgitation and mitral stenosis	<input type="checkbox"/>
		<input type="checkbox"/>	710=Mitral regurgitation	<input type="checkbox"/>
		<input type="checkbox"/>	720=Mitral valve, Other	<input type="checkbox"/>
	Hypoplastic Left Heart Syndrome	<input type="checkbox"/>	730=Hypoplastic left heart syndrome (HLHS)	<input type="checkbox"/>
	Shone's syndrome	<input type="checkbox"/>	2080=Shone's syndrome {CANNOT BE PRIMARY DIAGNOSIS}	<input type="checkbox"/>
Cardiomyopathy		<input type="checkbox"/>	740=Cardiomyopathy (including dilated, restrictive, and hypertrophic)	<input type="checkbox"/>
		<input type="checkbox"/>	750=Cardiomyopathy, End-stage congenital heart disease	<input type="checkbox"/>
Pericardial Disease		<input type="checkbox"/>	760=Pericardial effusion	<input type="checkbox"/>
		<input type="checkbox"/>	770=Pericarditis	<input type="checkbox"/>
		<input type="checkbox"/>	780=Pericardial disease, Other	<input type="checkbox"/>
Single Ventricle		<input type="checkbox"/>	790=Single ventricle, DILV	<input type="checkbox"/>
		<input type="checkbox"/>	800=Single ventricle, DIRV	<input type="checkbox"/>
		<input type="checkbox"/>	810=Single ventricle, Mitral atresia	<input type="checkbox"/>
		<input type="checkbox"/>	820=Single ventricle, Tricuspid atresia	<input type="checkbox"/>
		<input type="checkbox"/>	830=Single ventricle, Unbalanced AV canal	<input type="checkbox"/>
		<input type="checkbox"/>	840=Single ventricle, Heterotaxia syndrome	<input type="checkbox"/>
		<input type="checkbox"/>	850=Single ventricle, Other	<input type="checkbox"/>

		<input type="checkbox"/> 851=Single ventricle + Total anomalous pulmonary venous connection (TAPVC)	<input type="checkbox"/>
Transposition of the Great Arteries	Congenitally Corrected TGA	<input type="checkbox"/> 870=Congenitally corrected TGA	<input type="checkbox"/>
		<input type="checkbox"/> 872=Congenitally corrected TGA, IVS	<input type="checkbox"/>
		<input type="checkbox"/> 874=Congenitally corrected TGA, IVS-LVOTO	<input type="checkbox"/>
		<input type="checkbox"/> 876=Congenitally corrected TGA, VSD	<input type="checkbox"/>
		<input type="checkbox"/> 878=Congenitally corrected TGA, VSD-LVOTO	<input type="checkbox"/>
	Transposition of the Great Arteries	<input type="checkbox"/> 880=TGA, IVS	<input type="checkbox"/>
		<input type="checkbox"/> 890=TGA, IVS-LVOTO	<input type="checkbox"/>
		<input type="checkbox"/> 900=TGA, VSD	<input type="checkbox"/>
		<input type="checkbox"/> 910=TGA, VSD-LVOTO	<input type="checkbox"/>

DORV		<input type="checkbox"/> 930=DORV, VSD type	<input type="checkbox"/>
		<input type="checkbox"/> 940=DORV, TOF type	<input type="checkbox"/>
		<input type="checkbox"/> 950=DORV, TGA type	<input type="checkbox"/>
		<input type="checkbox"/> 960=DORV, Remote VSD (uncommitted VSD)	<input type="checkbox"/>
		<input type="checkbox"/> 2030=DORV + AVSD (AV Canal)	<input type="checkbox"/>
		<input type="checkbox"/> 975=DORV, IVS	<input type="checkbox"/>

DOLV		<input type="checkbox"/> 980=DOLV	<input type="checkbox"/>
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Thoracic Arteries and Veins	Coarctation of Aorta and Aortic arch hypoplasia	<input type="checkbox"/> 990=Coarctation of aorta	<input type="checkbox"/>
		<input type="checkbox"/> 1000=Aortic arch hypoplasia	<input type="checkbox"/>
		<input type="checkbox"/> 92=VSD + Aortic arch hypoplasia	<input type="checkbox"/>
		<input type="checkbox"/> 94=VSD + Coarctation of aorta	<input type="checkbox"/>
	Coronary Artery Anomalies	<input type="checkbox"/> 1010=Coronary artery anomaly, Anomalous aortic origin of coronary artery (AAOCA)	<input type="checkbox"/>
		<input type="checkbox"/> 1020=Coronary artery anomaly, Anomalous pulmonary origin (includes ALCAPA)	<input type="checkbox"/>
		<input type="checkbox"/> 1030=Coronary artery anomaly, Fistula	<input type="checkbox"/>
		<input type="checkbox"/> 1040=Coronary artery anomaly, Aneurysm	<input type="checkbox"/>
		<input type="checkbox"/> 2420=Coronary artery anomaly, Ostial atresia	<input type="checkbox"/>
		<input type="checkbox"/> 1050=Coronary artery anomaly, Other	<input type="checkbox"/>
	Interrupted Arch	<input type="checkbox"/> 1070=Interrupted aortic arch	<input type="checkbox"/>
		<input type="checkbox"/> 2020=Interrupted aortic arch + VSD	<input type="checkbox"/>
		<input type="checkbox"/> 2000=Interrupted aortic arch + AP window (aortopulmonary window)	<input type="checkbox"/>
	Patent Ductus Arteriosus	<input type="checkbox"/> 1080=Patent ductus arteriosus	<input type="checkbox"/>
	Vascular rings and Slings	<input type="checkbox"/> 1090=Vascular ring	<input type="checkbox"/>
<input type="checkbox"/> 1100=Pulmonary artery sling		<input type="checkbox"/>	
Aortic Aneurysm	<input type="checkbox"/> 1110=Aortic aneurysm (including pseudoaneurysm)	<input type="checkbox"/>	
Aortic Dissection	<input type="checkbox"/> 1120=Aortic dissection	<input type="checkbox"/>	

Thoracic and Mediastinal Disease	Lung Disease	<input type="checkbox"/> 1130=Lung disease, Benign	<input type="checkbox"/>
		<input type="checkbox"/> 1140=Lung disease, Malignant	<input type="checkbox"/>
	Tracheal	<input type="checkbox"/> 1160=Tracheal stenosis	<input type="checkbox"/>
		<input type="checkbox"/> 2430=Tracheomalacia	<input type="checkbox"/>
		<input type="checkbox"/> 1170=Airway disease, Other	<input type="checkbox"/>
	Pleural Disease	<input type="checkbox"/> 1430=Pleural disease, Benign	<input type="checkbox"/>
		<input type="checkbox"/> 1440=Pleural disease, Malignant	<input type="checkbox"/>
		<input type="checkbox"/> 1450=Pneumothorax	<input type="checkbox"/>
		<input type="checkbox"/> 1460=Pleural effusion	<input type="checkbox"/>
		<input type="checkbox"/> 1470=Chylothorax	<input type="checkbox"/>

	<input type="checkbox"/>	1480=Empyema	<input type="checkbox"/>
Esophageal Disease	<input type="checkbox"/>	1490=Esophageal disease, Benign	<input type="checkbox"/>
	<input type="checkbox"/>	1500=Esophageal disease, Malignant	<input type="checkbox"/>
Mediastinal Disease	<input type="checkbox"/>	1505=Mediastinal disease	<input type="checkbox"/>
	<input type="checkbox"/>	1510=Mediastinal disease, Benign	<input type="checkbox"/>
	<input type="checkbox"/>	1520=Mediastinal disease, Malignant	<input type="checkbox"/>
Diaphragmatic Disease	<input type="checkbox"/>	1540=Diaphragm paralysis	<input type="checkbox"/>
	<input type="checkbox"/>	1550=Diaphragm disease, Other	<input type="checkbox"/>

Thoracic and Mediastinal Disease	Chest Wall	<input type="checkbox"/>	2160=Rib tumor, Benign	<input type="checkbox"/>
		<input type="checkbox"/>	2170=Rib tumor, Malignant	<input type="checkbox"/>
		<input type="checkbox"/>	2180=Rib tumor, Metastatic	<input type="checkbox"/>
		<input type="checkbox"/>	2190=Sternal tumor, Benign	<input type="checkbox"/>
		<input type="checkbox"/>	2200=Sternal tumor, Malignant	<input type="checkbox"/>
		<input type="checkbox"/>	2210=Sternal tumor, Metastatic	<input type="checkbox"/>
	Pectus Excavatum, Carinatum	<input type="checkbox"/>	2220=Pectus carinatum	<input type="checkbox"/>
		<input type="checkbox"/>	2230=Pectus excavatum	<input type="checkbox"/>
	Thoracic Outlet	<input type="checkbox"/>	2240=Thoracic outlet syndrome	<input type="checkbox"/>

Electrophysiological	<input type="checkbox"/>	1180=Arrhythmia	<input type="checkbox"/>
	<input type="checkbox"/>	2440=Arrhythmia, Atrial, Atrial fibrillation	<input type="checkbox"/>
	<input type="checkbox"/>	2450=Arrhythmia, Atrial, Atrial flutter	<input type="checkbox"/>
	<input type="checkbox"/>	2460=Arrhythmia, Atrial, Other	<input type="checkbox"/>
	<input type="checkbox"/>	2050=Arrhythmia, Junctional	<input type="checkbox"/>
	<input type="checkbox"/>	2060=Arrhythmia, Ventricular	<input type="checkbox"/>
	<input type="checkbox"/>	1185=Arrhythmia, Heart block	<input type="checkbox"/>
	<input type="checkbox"/>	1190=Arrhythmia, Heart block, Acquired	<input type="checkbox"/>
	<input type="checkbox"/>	1200=Arrhythmia, Heart block, Congenital	<input type="checkbox"/>
	<input type="checkbox"/>	1220=Arrhythmia, Pacemaker, Indication for replacement	NA
	<input type="checkbox"/>	2530= Short QT syndrome	<input type="checkbox"/>
	<input type="checkbox"/>	2540= Long QT syndrome (Ward Romano syndrome)	<input type="checkbox"/>
	<input type="checkbox"/>	2550= Wolff-Parkinson-White syndrome (WPW syndrome)	<input type="checkbox"/>

Miscellaneous, Other	<input type="checkbox"/>	1230=Atrial Isomerism, Left {CANNOT BE PRIMARY DIAGNOSIS}	NA
	<input type="checkbox"/>	1240=Atrial Isomerism, Right {CANNOT BE PRIMARY DIAGNOSIS}	NA
	<input type="checkbox"/>	2090=Dextrocardia {CANNOT BE PRIMARY DIAGNOSIS}	NA
	<input type="checkbox"/>	2100=Levocardia {CANNOT BE PRIMARY DIAGNOSIS}	NA
	<input type="checkbox"/>	2110=Mesocardia {CANNOT BE PRIMARY DIAGNOSIS}	NA
	<input type="checkbox"/>	2120=Situs inversus {CANNOT BE PRIMARY DIAGNOSIS}	NA
	<input type="checkbox"/>	1250=Aneurysm, Ventricular, Right (including pseudoaneurysm)	<input type="checkbox"/>
	<input type="checkbox"/>	1260=Aneurysm, Ventricular, Left (including pseudoaneurysm)	<input type="checkbox"/>
	<input type="checkbox"/>	1270=Aneurysm, Pulmonary artery	<input type="checkbox"/>
	<input type="checkbox"/>	1280=Aneurysm, Other	<input type="checkbox"/>
	<input type="checkbox"/>	1290=Hypoplastic RV	<input type="checkbox"/>
	<input type="checkbox"/>	1300=Hypoplastic LV	<input type="checkbox"/>
	<input type="checkbox"/>	2070=Postoperative bleeding	NA
	<input type="checkbox"/>	1310=Mediastinitis	<input type="checkbox"/>
	<input type="checkbox"/>	1320=Endocarditis	<input type="checkbox"/>
	<input type="checkbox"/>	1325=Rheumatic heart disease {CANNOT BE PRIMARY DIAGNOSIS}	<input type="checkbox"/>
	<input type="checkbox"/>	1330=Prosthetic valve failure	NA

- | | | |
|--------------------------|--|--------------------------|
| <input type="checkbox"/> | 1340=Myocardial infarction | <input type="checkbox"/> |
| <input type="checkbox"/> | 1350=Cardiac tumor | <input type="checkbox"/> |
| <input type="checkbox"/> | 1360=Pulmonary AV fistula | <input type="checkbox"/> |
| <input type="checkbox"/> | 1370=Pulmonary embolism | <input type="checkbox"/> |
| <input type="checkbox"/> | 1385=Pulmonary vascular obstructive disease | <input type="checkbox"/> |
| <input type="checkbox"/> | 1390=Pulmonary vascular obstructive disease (Eisenmenger's) | <input type="checkbox"/> |
| <input type="checkbox"/> | 1400=Primary pulmonary hypertension | <input type="checkbox"/> |
| <input type="checkbox"/> | 1410=Persistent fetal circulation | <input type="checkbox"/> |
| <input type="checkbox"/> | 1420=Meconium aspiration | <input type="checkbox"/> |
| <input type="checkbox"/> | 2250=Kawasaki Disease | <input type="checkbox"/> |
| <input type="checkbox"/> | 1560=Cardiac, Other | <input type="checkbox"/> |
| <input type="checkbox"/> | 1570=Thoracic and/or mediastinal, Other | <input type="checkbox"/> |
| <input type="checkbox"/> | 1580=Peripheral vascular, Other | <input type="checkbox"/> |
| <input type="checkbox"/> | 2260=Complication of cardiovascular catheterization procedure | NA |
| <input type="checkbox"/> | 2270=Complication of cardiovascular catheterization procedure, Device embolization | NA |
| <input type="checkbox"/> | 2280=Complication of cardiovascular catheterization procedure, Device malfunction | NA |
| <input type="checkbox"/> | 2290=Complication of cardiovascular catheterization procedure, Perforation | NA |
| <input type="checkbox"/> | 2300=Complication of interventional radiology procedure | NA |
| <input type="checkbox"/> | 2310=Complication of interventional radiology procedure, Device embolization | NA |
| <input type="checkbox"/> | 2320=Complication of interventional radiology procedure, Device malfunction | NA |
| <input type="checkbox"/> | 2330=Complication of interventional radiology procedure, Perforation | NA |
| <input type="checkbox"/> | 2340=Foreign body, Intracardiac foreign body | NA |
| <input type="checkbox"/> | 2350=Foreign body, Intravascular foreign body | NA |
| <input type="checkbox"/> | 2360=Open sternum with closed skin | NA |
| <input type="checkbox"/> | 2370=Open sternum with open skin (includes membrane placed to close skin) | NA |
| <input type="checkbox"/> | 2380=Retained sternal wire causing irritation | NA |
| <input type="checkbox"/> | 2390=Syncope | NA |
| <input type="checkbox"/> | 2400=Trauma, Blunt | <input type="checkbox"/> |
| <input type="checkbox"/> | 2410=Trauma, Penetrating | <input type="checkbox"/> |
| <input type="checkbox"/> | 2560=Cardio-respiratory failure not secondary to known structural heart disease | <input type="checkbox"/> |
| <input type="checkbox"/> | 2570=Myocarditis | <input type="checkbox"/> |
| <input type="checkbox"/> | 2580=Common AV valve insufficiency | <input type="checkbox"/> |
| <input type="checkbox"/> | 2590=Protein-losing enteropathy | <input type="checkbox"/> |
| <input type="checkbox"/> | 2600=Plastic bronchitis | <input type="checkbox"/> |
| <input type="checkbox"/> | 7000=Normal heart | <input type="checkbox"/> |
| <input type="checkbox"/> | 7777=Miscellaneous, Other | <input type="checkbox"/> |

STATUS POST (No "Status post – diagnoses" can be a primary diagnosis or fundamental diagnosis)

Septal Defects

ASD

- | | |
|--------------------------|--|
| <input type="checkbox"/> | 4010=Status post - PFO, Primary closure |
| <input type="checkbox"/> | 4020=Status post - ASD repair, Primary closure |
| <input type="checkbox"/> | 4030=Status post - ASD repair, Patch |
| <input type="checkbox"/> | 4040=Status post - ASD repair, Device |
| <input type="checkbox"/> | 6110=Status post - ASD repair, Patch + PAPVC repair |
| <input type="checkbox"/> | 4050=Status post - ASD, Common atrium (single atrium), Septation |
| <input type="checkbox"/> | 4060=Status post - ASD creation/enlargement |

		<input type="checkbox"/>	4070=Status post - ASD partial closure
		<input type="checkbox"/>	4080=Status post - Atrial septal fenestration
		<input type="checkbox"/>	4085=Status post - Atrial fenestration closure
	VSD	<input type="checkbox"/>	4100=Status post - VSD repair, Primary closure
		<input type="checkbox"/>	4110=Status post - VSD repair, Patch
		<input type="checkbox"/>	4120=Status post - VSD repair, Device
		<input type="checkbox"/>	4130=Status post - VSD, Multiple, Repair
		<input type="checkbox"/>	4140=Status post - VSD creation/enlargement
		<input type="checkbox"/>	4150=Status post - Ventricular septal fenestration
	AV Canal	<input type="checkbox"/>	4170=Status post - AVC (AVSD) repair, Complete (CAVSD)
		<input type="checkbox"/>	4180=Status post - AVC (AVSD) repair, Intermediate (Transitional)
		<input type="checkbox"/>	4190=Status post - AVC (AVSD) repair, Partial (Incomplete) (PAVSD)
		<input type="checkbox"/>	6300=Status post - Valvuloplasty, Common atrioventricular valve
		<input type="checkbox"/>	6250=Status post - Valvuloplasty converted to valve replacement in the same operation, Common atrioventricular valve
		<input type="checkbox"/>	6230=Status post - Valve replacement, Common atrioventricular valve
	AP Window	<input type="checkbox"/>	4210=Status post - AP window repair
		<input type="checkbox"/>	4220=Status post - Pulmonary artery origin from ascending aorta (hemitruncus) repair
	Truncus Arteriosus	<input type="checkbox"/>	4230=Status post - Truncus arteriosus repair
		<input type="checkbox"/>	4240=Status post - Valvuloplasty, Truncal valve
		<input type="checkbox"/>	6290=Status post - Valvuloplasty converted to valve replacement in the same operation, Truncal valve
		<input type="checkbox"/>	4250=Status post - Valve replacement, Truncal valve
		<input type="checkbox"/>	6220=Status post - Truncus + Interrupted aortic arch repair (IAA) repair
Pulmonary Venous Anomalies	Partial Anomalous Pulmonary Venous Connection	<input type="checkbox"/>	4260=Status post - PAPVC repair
		<input type="checkbox"/>	4270=Status post - PAPVC, Scimitar, Repair
		<input type="checkbox"/>	6120=Status post - PAPVC repair, Baffle redirection to left atrium with systemic vein translocation (Warden) (SVC sewn to right atrial appendage)
	Total Anomalous Pulmonary Venous Connection	<input type="checkbox"/>	4280=Status post - TAPVC repair
		<input type="checkbox"/>	6200=Status post - TAPVC repair + Shunt - systemic-to-pulmonary
Cor Triatriatum		<input type="checkbox"/>	4290=Status post - Cor triatriatum repair
Pulmonary Venous Stenosis		<input type="checkbox"/>	4300=Status post - Pulmonary venous stenosis repair
Systemic Venous Anomalies	Anomalous Systemic Venous Connection	<input type="checkbox"/>	4310=Status post - Atrial baffle procedure (non-Mustard, non-Senning)
		<input type="checkbox"/>	4330=Status post - Anomalous systemic venous connection repair
	Systemic venous obstruction	<input type="checkbox"/>	4340=Status post - Systemic venous stenosis repair
	Tetralogy of Fallot	<input type="checkbox"/>	4350=Status post - TOF repair, No ventriculotomy
		<input type="checkbox"/>	4360=Status post - TOF repair, Ventriculotomy, Nontransanular patch
		<input type="checkbox"/>	4370=Status post - TOF repair, Ventriculotomy, Transanular patch
		<input type="checkbox"/>	7330=Status post - TOF repair, Ventriculotomy, Transanular patch, plus native valve reconstruction
		<input type="checkbox"/>	7340=Status post - TOF repair, Ventriculotomy, Transanular patch, with monocusp or other surgically fashioned RVOT valve
		<input type="checkbox"/>	4380=Status post - TOF repair, RV-PA conduit
		<input type="checkbox"/>	4390=Status post - TOF - AVC (AVSD) repair
		<input type="checkbox"/>	4400=Status post - TOF - Absent pulmonary valve repair
		<input type="checkbox"/>	4420=Status post - Pulmonary atresia - VSD (including TOF, PA) repair

Right Heart Lesions	Pulmonary Atresia/VSD	<input type="checkbox"/> 6700=Status post - Pulmonary atresia - VSD - MAPCA repair, Complete single stage repair (1-stage that includes bilateral pulmonary unifocalization + VSD closure + RV to PA connection [with or without conduit]) <input type="checkbox"/> 6710=Status post - Pulmonary atresia - VSD - MAPCA repair, Status post prior complete unifocalization (includes VSD closure + RV to PA connection [with or without conduit]) <input type="checkbox"/> 6720=Status post - Pulmonary atresia - VSD - MAPCA repair, Status post prior incomplete unifocalization (includes completion of pulmonary unifocalization + VSD closure + RV to PA connection [with or without conduit]) <input type="checkbox"/> 6730=Status post - Unifocalization MAPCA(s), Bilateral pulmonary unifocalization - Complete unifocalization (all usable MAPCA[s] are incorporated) <input type="checkbox"/> 6740=Status post - Unifocalization MAPCA(s), Bilateral pulmonary unifocalization - Incomplete unifocalization (not all usable MAPCA[s] are incorporated) <input type="checkbox"/> 6750=Status post - Unifocalization MAPCA(s), Unilateral pulmonary unifocalization <input type="checkbox"/> 4440=Status post – Unifocalization MAPCA(s) <input type="checkbox"/> 4450=Status post - Occlusion of MAPCA(s)
	Tricuspid Valve Disease and Ebstein's Anomaly	<input type="checkbox"/> 4460=Status post - Valvuloplasty, Tricuspid <input type="checkbox"/> 6280=Status post - Valvuloplasty converted to valve replacement in the same operation, Tricuspid <input type="checkbox"/> 4465=Status post - Ebstein's repair <input type="checkbox"/> 4470=Status post - Valve replacement, Tricuspid (TVR) <input type="checkbox"/> 4480=Status post - Valve closure, Tricuspid (exclusion, univentricular approach) <input type="checkbox"/> 4490=Status post - Valve excision, Tricuspid (without replacement) <input type="checkbox"/> 4500=Status post - Valve surgery, Other, Tricuspid
	RVOT Obstruction, IVS Pulmonary Stenosis	<input type="checkbox"/> 4510=Status post - RVOT procedure <input type="checkbox"/> 4520=Status post - 1 1/2 ventricular repair <input type="checkbox"/> 4530=Status post - PA, reconstruction (plasty), Main (trunk) <input type="checkbox"/> 4540=Status post - PA, reconstruction (plasty), Branch, Central (within the hilar bifurcation) <input type="checkbox"/> 4550=Status post - PA, reconstruction (plasty), Branch, Peripheral (at or beyond the first lobar branch) <input type="checkbox"/> 7350=Status post - PA, reconstruction (plasty), Branch, Peripheral (at or beyond the first lobar branch, proximal to first segmental branch) <input type="checkbox"/> 7360=Status post - PA, reconstruction (plasty), Branch, Peripheral (at or beyond the first lobar branch, beyond the first segmental branch) <input type="checkbox"/> 4570=Status post - DCRV repair <input type="checkbox"/> 7370=Status post - RV Rehabilitation, Endocardial Resection
	Pulmonary Valve Disease	<input type="checkbox"/> 4590=Status post - Valvuloplasty, Pulmonic <input type="checkbox"/> 6270=Status post - Valvuloplasty converted to valve replacement in the same operation, Pulmonic <input type="checkbox"/> 4600=Status post - Valve replacement, Pulmonic (PVR) <input type="checkbox"/> 4630=Status post - Valve excision, Pulmonary (without replacement) <input type="checkbox"/> 4640=Status post - Valve closure, Semilunar <input type="checkbox"/> 4650=Status post - Valve surgery, Other, Pulmonic
Conduit operations	Conduit operations	<input type="checkbox"/> 4610=Status post - Conduit placement, RV to PA <input type="checkbox"/> 4620=Status post - Conduit placement, LV to PA <input type="checkbox"/> 5774=Status post - Conduit placement, Ventricle to aorta <input type="checkbox"/> 5772=Status post - Conduit placement, Other

	Conduit Stenosis / Insufficiency	<input type="checkbox"/>	4580=Status post - Conduit reoperation
Left Heart Lesions	Aortic Valve Disease	<input type="checkbox"/>	4660=Status post - Valvuloplasty, Aortic
		<input type="checkbox"/>	6240=Status post - Valvuloplasty converted to valve replacement in the same operation, Aortic
		<input type="checkbox"/>	6310=Status post - Valvuloplasty converted to valve replacement in the same operation, Aortic – with Ross procedure
		<input type="checkbox"/>	6320=Status post - Valvuloplasty converted to valve replacement in the same operation, Aortic – with Ross-Konno procedure
		<input type="checkbox"/>	4670=Status post - Valve replacement, Aortic (AVR)
		<input type="checkbox"/>	4680=Status post - Valve replacement, Aortic (AVR), Mechanical
		<input type="checkbox"/>	4690=Status post - Valve replacement, Aortic (AVR), Bioprosthetic
		<input type="checkbox"/>	4700=Status post - Valve replacement, Aortic (AVR), Homograft
		<input type="checkbox"/>	4715=Status post - Aortic root replacement, Bioprosthetic
		<input type="checkbox"/>	4720=Status post - Aortic root replacement, Mechanical
		<input type="checkbox"/>	4730=Status post - Aortic root replacement, Homograft
		<input type="checkbox"/>	4735=Status post - Aortic root replacement, Valve sparing
		<input type="checkbox"/>	4740=Status post - Ross procedure
		<input type="checkbox"/>	4750=Status post - Konno procedure
		<input type="checkbox"/>	4760=Status post - Ross-Konno procedure
		<input type="checkbox"/>	4770=Status post - Other annular enlargement procedure
		<input type="checkbox"/>	4780=Status post - Aortic stenosis, Subvalvar, Repair
		<input type="checkbox"/>	6100=Status post - Aortic stenosis, Subvalvar, Repair, With myectomy for IHSS
		<input type="checkbox"/>	4790=Status post - Aortic stenosis, Supravalvar, Repair
		<input type="checkbox"/>	4800=Status post - Valve surgery, Other, Aortic
<input type="checkbox"/>	7380=Status post - Extended Ventricular Septoplasty (modified Konno, VSD creation and patch enlargement of LVOT, sparing aortic valve) for tunnel type sub aortic stenosis		
	Sinus of Valsalva Aneurysm	<input type="checkbox"/>	4810=Status post - Sinus of Valsalva, Aneurysm repair
	LV to Aorta Tunnel	<input type="checkbox"/>	4820=Status post - LV to aorta tunnel repair
	Mitral Valve Disease	<input type="checkbox"/>	4830=Status post - Valvuloplasty, Mitral
		<input type="checkbox"/>	6260=Status post - Valvuloplasty converted to valve replacement in the same operation, Mitral
		<input type="checkbox"/>	4840=Status post - Mitral stenosis, Supravalvar mitral ring repair
		<input type="checkbox"/>	4850=Status post - Valve replacement, Mitral (MVR)
		<input type="checkbox"/>	4860=Status post - Valve surgery, Other, Mitral
	Hypoplastic Left Heart and Related malformations	<input type="checkbox"/>	4870=Status post - Norwood procedure
		<input type="checkbox"/>	4880=Status post - HLHS biventricular repair
		<input type="checkbox"/>	7390=Status post - LV Endocardial Fibroelastosis resection
		<input type="checkbox"/>	6755=Status post - Conduit insertion right ventricle to pulmonary artery + Intraventricular tunnel left ventricle to neoaorta + arch reconstruction (Rastelli and Norwood type arch reconstruction) (Yasui)
Hybrid		<input type="checkbox"/>	6160=Status post - Hybrid Approach "Stage 1", Application of RPA & LPA bands
		<input type="checkbox"/>	6170=Status post - Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA)
		<input type="checkbox"/>	6180=Status post - Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA) + application of RPA & LPA bands
		<input type="checkbox"/>	6140=Status post - Hybrid approach "Stage 2", Aortopulmonary amalgamation + Superior Cavopulmonary anastomosis(es) + PA Debanding + Aortic arch repair (Norwood [Stage 1] + Superior Cavopulmonary anastomosis(es) + PA Debanding)

		<input type="checkbox"/> 6150=Status post - Hybrid approach "Stage 2", Aortopulmonary amalgamation + Superior Cavopulmonary anastomosis(es) + PA Debanding + Without aortic arch repair <input type="checkbox"/> 6760=Status post – Hybrid Approach, Transcardiac balloon dilatation <input type="checkbox"/> 6770=Status post – Hybrid Approach, Transcardiac transcatheter device placement
Cardiomyopathy		<input type="checkbox"/> 1590=Status post - Transplant, Heart <input type="checkbox"/> 1610=Status post - Transplant, Heart and lung <input type="checkbox"/> 4910=Status post - Partial left ventriculectomy (LV volume reduction surgery) (Batista)
Pericardial Disease		<input type="checkbox"/> 4920=Status post - Pericardial drainage procedure <input type="checkbox"/> 4930=Status post - Pericardiectomy <input type="checkbox"/> 4940=Status post - Pericardial procedure, Other
Single Ventricle		<input type="checkbox"/> 4950=Status post - Fontan, Atrio-pulmonary connection <input type="checkbox"/> 4960=Status post - Fontan, Atrio-ventricular connection <input type="checkbox"/> 4970=Status post - Fontan, TCPC, Lateral tunnel, Fenestrated <input type="checkbox"/> 4980=Status post - Fontan, TCPC, Lateral tunnel, Nonfenestrated <input type="checkbox"/> 5000=Status post - Fontan, TCPC, External conduit, Fenestrated <input type="checkbox"/> 5010=Status post - Fontan, TCPC, External conduit, Nonfenestrated <input type="checkbox"/> 6780=Status post - Fontan, TCPC, Intra/extracardiac conduit, Fenestrated <input type="checkbox"/> 6790=Status post - Fontan, TCPC, Intra/extracardiac conduit, Nonfenestrated <input type="checkbox"/> 7310=Status post - Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Fenestrated <input type="checkbox"/> 7320=Status post - Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Nonfenestrated <input type="checkbox"/> 5025=Status post - Fontan revision or conversion (Re-do Fontan) <input type="checkbox"/> 5030=Status post - Fontan, Other <input type="checkbox"/> 6340=Status post - Fontan + Atrioventricular valvuloplasty <input type="checkbox"/> 5035=Status post - Ventricular septation
Transposition of the Great Arteries	Congenitally Corrected TGA	<input type="checkbox"/> 5050=Status post - Congenitally corrected TGA repair, Atrial switch and ASO (double switch) <input type="checkbox"/> 5060=Status post - Congenitally corrected TGA repair, Atrial switch and Rastelli <input type="checkbox"/> 5070=Status post - Congenitally corrected TGA repair, VSD closure <input type="checkbox"/> 5080=Status post - Congenitally corrected TGA repair, VSD closure and LV to PA conduit <input type="checkbox"/> 5090=Status post - Congenitally corrected TGA repair, Other
	Transposition of the Great Arteries	<input type="checkbox"/> 5110=Status post - Arterial switch operation (ASO) <input type="checkbox"/> 5120=Status post - Arterial switch operation (ASO) and VSD repair <input type="checkbox"/> 5123=Status post - Arterial switch procedure + Aortic arch repair <input type="checkbox"/> 5125=Status post - Arterial switch procedure and VSD repair + Aortic arch repair <input type="checkbox"/> 5130=Status post - Senning <input type="checkbox"/> 5140=Status post - Mustard <input type="checkbox"/> 5145=Status post - Atrial baffle procedure, Mustard or Senning revision <input type="checkbox"/> 5150=Status post - Rastelli <input type="checkbox"/> 5160=Status post - REV <input type="checkbox"/> 6190=Status post - Aortic root translocation over left ventricle (Including Nikaidoh procedure) <input type="checkbox"/> 6210=Status post - TGA, Other procedures (Kawashima, LV-PA conduit, other) <input type="checkbox"/> 7400=Status post - Double root translocation
DORV		<input type="checkbox"/> 5180=Status post - DORV, Intraventricular tunnel repair

		<input type="checkbox"/> 7410=Status post - DORV repair, No Ventriculotomy <input type="checkbox"/> 7420=Status post - DORV repair, Ventriculotomy, Nontransannular patch <input type="checkbox"/> 7430=Status post - DORV repair, Ventriculotomy, Transannular patch <input type="checkbox"/> 7440=Status post - DORV repair, RV-PA conduit <input type="checkbox"/> 7450=Status post - DORV - AVC (AVSD) repair			
DOLV		<input type="checkbox"/> 5200=Status post - DOLV repair			
Thoracic Arteries and Veins	Coarctation of Aorta and Aortic arch hypoplasia	<input type="checkbox"/> 5210=Status post - Coarctation repair, End to end <input type="checkbox"/> 5220=Status post - Coarctation repair, End to end, Extended <input type="checkbox"/> 7460=Status post - Coarctation repair, Descending aorta anastomosed to Ascending aorta <input type="checkbox"/> 5230=Status post - Coarctation repair, Subclavian flap <input type="checkbox"/> 5240=Status post - Coarctation repair, Patch aortoplasty <input type="checkbox"/> 5250=Status post - Coarctation repair, Interposition graft <input type="checkbox"/> 7470=Status post - Coarctation repair, Extra-anatomic Bypass graft <input type="checkbox"/> 5260=Status post - Coarctation repair, Other <input type="checkbox"/> 5275=Status post - Coarctation repair + VSD repair <input type="checkbox"/> 5280=Status post - Aortic arch repair <input type="checkbox"/> 5285=Status post - Aortic arch repair + VSD repair			
		Coronary Artery Anomalies	<input type="checkbox"/> 5290=Status post - Coronary artery fistula ligation <input type="checkbox"/> 5291=Status post - Anomalous origin of coronary artery from pulmonary artery repair <input type="checkbox"/> 5300=Status post - Coronary artery bypass <input type="checkbox"/> 5305=Status post - Anomalous aortic origin of coronary artery (AAOCA) repair <input type="checkbox"/> 5310=Status post - Coronary artery procedure, Other		
			Interrupted Arch	<input type="checkbox"/> 5320=Status post - Interrupted aortic arch repair	
			Patent Ductus Arteriosus	<input type="checkbox"/> 5330=Status post - PDA closure, Surgical <input type="checkbox"/> 5340=Status post - PDA closure, Device	
				Vascular Rings and Slings	<input type="checkbox"/> 5360=Status post - Vascular ring repair <input type="checkbox"/> 5365=Status post - Aortopexy <input type="checkbox"/> 5370=Status post - Pulmonary artery sling repair
			Aortic Aneurysm		<input type="checkbox"/> 5380=Status post - Aortic aneurysm repair
		Aortic Dissection	<input type="checkbox"/> 5390=Status post - Aortic dissection repair		
		Thoracic and Mediastinal Disease	Lung Disease	<input type="checkbox"/> 5400=Status post - Lung biopsy <input type="checkbox"/> 1600=Status post - Transplant, lung(s) <input type="checkbox"/> 5420=Status post - Lung procedure, Other	
				Tracheal Stenosis	<input type="checkbox"/> 5440=Status post - Tracheal procedure
				Chest Wall	<input type="checkbox"/> 6800=Status post - Muscle flap, Trunk (i.e. intercostal, pectus, or serratus muscle) <input type="checkbox"/> 6810=Status post - Muscle flap, Trunk (i.e. latissimus dorsi) <input type="checkbox"/> 6820=Status post - Removal, Sternal wire <input type="checkbox"/> 6830=Status post - Rib excision, Complete <input type="checkbox"/> 6840=Status post - Rib excision, Partial <input type="checkbox"/> 6850=Status post - Sternal fracture, Open treatment <input type="checkbox"/> 6860=Status post - Sternal resection, Radical resection of the sternum <input type="checkbox"/> 6870=Status post - Sternal resection, Radical resection of the sternum with mediastinal lymphadenectomy <input type="checkbox"/> 6880=Status post - Tumor of chest wall, Excision including ribs <input type="checkbox"/> 6890=Status post - Tumor of chest wall, Excision including ribs, With reconstruction <input type="checkbox"/> 6900=Status post - Tumor of soft tissue of thorax, Excision of deep subfascial or intramuscular tumor

		<input type="checkbox"/> 6910=Status post - Tumor of soft tissue of thorax, Excision of subcutaneous tumor <input type="checkbox"/> 6920=Status post - Tumor of soft tissue of thorax, Radical resection
	Neck	<input type="checkbox"/> 6930=Status post - Hyoid myotomy and suspension <input type="checkbox"/> 6940=Status post - Muscle flap, Neck <input type="checkbox"/> 6950=Status post - Procedure on neck <input type="checkbox"/> 6960=Status post - Tumor of soft tissue of neck, Excision of deep subfascial or intramuscular tumor <input type="checkbox"/> 6970=Status post - Tumor of soft tissue of neck, Excision of subcutaneous tumor <input type="checkbox"/> 6980=Status post - Tumor of soft tissue of neck, Radical resection
	Pectus Excavatum, Carinatum	<input type="checkbox"/> 6990=Status post - Pectus bar removal <input type="checkbox"/> 7005=Status post - Pectus bar repositioning <input type="checkbox"/> 7010=Status post - Pectus repair, Minimally invasive repair (Nuss), With thoracoscopy <input type="checkbox"/> 7020=Status post - Pectus repair, Minimally invasive repair (Nuss), Without thoracoscopy <input type="checkbox"/> 7030=Status post - Pectus repair, Open repair
	Thoracic Outlet	<input type="checkbox"/> 7040=Status post - Division of scalenus anticus, With resection of a cervical rib <input type="checkbox"/> 7050=Status post - Division of scalenus anticus, Without resection of a cervical rib <input type="checkbox"/> 7060=Status post - Rib excision, Excision of a cervical rib <input type="checkbox"/> 7070=Status post - Rib excision, Excision of a cervical rib, With sympathectomy <input type="checkbox"/> 7080=Status post - Rib excision, Excision of first rib <input type="checkbox"/> 7090=Status post - Rib excision, Excision of first rib, With sympathectomy
	Thorax	<input type="checkbox"/> 7100=Status post - Procedure on thorax
Electrophysiological		<input type="checkbox"/> 5450=Status post - Pacemaker implantation, Permanent <input type="checkbox"/> 5460=Status post - Pacemaker procedure <input type="checkbox"/> 6350=Status post - Explantation of pacing system <input type="checkbox"/> 5470=Status post - ICD (AICD) implantation <input type="checkbox"/> 5480=Status post - ICD (AICD) ([automatic] implantable cardioverter defibrillator) procedure <input type="checkbox"/> 5490=Status post - Arrhythmia surgery - atrial, Surgical Ablation <input type="checkbox"/> 5500=Status post - Arrhythmia surgery - ventricular, Surgical Ablation
Interventional Cardiology Procedures		<input type="checkbox"/> 6500=Status post - Cardiovascular catheterization procedure, Diagnostic <input type="checkbox"/> 6520=Status post - Cardiovascular catheterization procedure, Diagnostic, Angiographic data obtained <input type="checkbox"/> 6550=Status post - Cardiovascular catheterization procedure, Diagnostic, Electrophysiology alteration <input type="checkbox"/> 6540=Status post - Cardiovascular catheterization procedure, Diagnostic, Hemodynamic alteration <input type="checkbox"/> 6510=Status post - Cardiovascular catheterization procedure, Diagnostic, Hemodynamic data obtained <input type="checkbox"/> 6530=Status post - Cardiovascular catheterization procedure, Diagnostic, Transluminal test occlusion <input type="checkbox"/> 6410=Status post - Cardiovascular catheterization procedure, Therapeutic <input type="checkbox"/> 6670=Status post - Cardiovascular catheterization procedure, Therapeutic, Adjunctive therapy <input type="checkbox"/> 6570=Status post - Cardiovascular catheterization procedure, Therapeutic, Balloon dilation <input type="checkbox"/> 6590=Status post - Cardiovascular catheterization procedure, Therapeutic, Balloon valvotomy

- 6600=Status post - Cardiovascular catheterization procedure, Therapeutic, Coil implantation
- 6610=Status post - Cardiovascular catheterization procedure, Therapeutic, Device implantation
- 7110=Status post - Cardiovascular catheterization procedure, Therapeutic, Device implantation attempted
- 6690=Status post - Cardiovascular catheterization procedure, Therapeutic, Electrophysiological ablation
- 7120=Status post - Cardiovascular catheterization procedure, Therapeutic, Intravascular foreign body removal
- 6640=Status post - Cardiovascular catheterization procedure, Therapeutic, Perforation (establishing interchamber and/or intervessel communication)
- 6580=Status post - Cardiovascular catheterization procedure, Therapeutic, Septostomy
- 6620=Status post - Cardiovascular catheterization procedure, Therapeutic, Stent insertion
- 6630=Status post - Cardiovascular catheterization procedure, Therapeutic, Stent re-dilation
- 6650=Status post - Cardiovascular catheterization procedure, Therapeutic, Transcatheter Fontan completion
- 6660=Status post - Cardiovascular catheterization procedure, Therapeutic, Transcatheter implantation of valve

Palliative Procedures

- 5590=Status post - Shunt, Systemic to pulmonary, Modified Blalock-Taussig Shunt (MBTS)
- 5600=Status post - Shunt, Systemic to pulmonary, Central (shunt from aorta)
- 7130=Status post - Shunt, Systemic to pulmonary, Central (shunt from aorta) Central shunt with an end-to-side connection between the transected main pulmonary artery and the side of the ascending aorta (i.e. Mee shunt)
- 7230=Status post – Shunt, Systemic to pulmonary, Potts – Smith type (descending aorta to pulmonary artery)
- 5610=Status post - Shunt, Systemic to pulmonary, Other
- 5630=Status post - Shunt, Ligation and takedown
- 6095=Status post - Shunt, Reoperation
- 5640=Status post - PA banding (PAB)
- 5650=Status post - PA debanding
- 7200=Status post - PA band adjustment
- 5660=Status post - Damus-Kaye-Stansel procedure (DKS) (creation of AP anastomosis without arch reconstruction)
- 5670=Status post - Bidirectional cavopulmonary anastomosis (BDCPA) (bidirectional Glenn)
- 5680=Status post - Glenn (unidirectional cavopulmonary anastomosis) (unidirectional Glenn)
- 5690=Status post - Bilateral bidirectional cavopulmonary anastomosis (BBDCPA) (bilateral bidirectional Glenn)
- 5700=Status post - HemiFontan
- 6330=Status post - Superior cavopulmonary anastomosis(es) (Glenn or HemiFontan) + Atrioventricular valvuloplasty
- 6130=Status post - Superior Cavopulmonary anastomosis(es) + PA reconstruction
- 7300=Status post - Takedown of superior cavopulmonary anastomosis
- 7140=Status post - Hepatic vein to azygous vein connection, Direct
- 7150=Status post - Hepatic vein to azygous vein connection, Interposition graft
- 7160=Status post - Kawashima operation (superior cavopulmonary connection in setting of interrupted IVC with azygous continuation)
- 5710=Status post - Palliation, Other

Mechanical Support	<ul style="list-style-type: none"> <input type="checkbox"/> 6360=Status post - ECMO cannulation <input type="checkbox"/> 6370=Status post - ECMO decannulation <input type="checkbox"/> 5910=Status post - ECMO procedure <input type="checkbox"/> 5900=Status post - Intraaortic balloon pump (IABP) insertion <input type="checkbox"/> 5920=Status post - Right/left heart assist device procedure <input type="checkbox"/> 6390=Status post - VAD explantation <input type="checkbox"/> 6380=Status post - VAD implantation <input type="checkbox"/> 7170=Status post - VAD change out
Anesthetic procedures	<ul style="list-style-type: none"> <input type="checkbox"/> 6420=Status post - Echocardiography procedure, Sedated transesophageal echocardiogram <input type="checkbox"/> 6430=Status post - Echocardiography procedure, Sedated transthoracic echocardiogram <input type="checkbox"/> 6435=Status post - Non-cardiovascular, Non-thoracic procedure on cardiac patient with cardiac anesthesia <input type="checkbox"/> 6440=Status post - Radiology procedure on cardiac patient, Cardiac Computerized Axial Tomography (CT Scan) <input type="checkbox"/> 6450=Status post - Radiology procedure on cardiac patient, Cardiac Magnetic Resonance Imaging (MRI) <input type="checkbox"/> 6460=Status post - Radiology procedure on cardiac patient, Diagnostic radiology <input type="checkbox"/> 6470=Status post - Radiology procedure on cardiac patient, Non-Cardiac Computerized Tomography (CT) on cardiac patient <input type="checkbox"/> 6480=Status post - Radiology procedure on cardiac patient, Non-cardiac Magnetic Resonance Imaging (MRI) on cardiac patient <input type="checkbox"/> 6490=Status post - Radiology procedure on cardiac patient, Therapeutic radiology

Miscellaneous Procedures	<ul style="list-style-type: none"> <input type="checkbox"/> 5720=Status post - Aneurysm, Ventricular, Right, Repair <input type="checkbox"/> 5730=Status post - Aneurysm, Ventricular, Left, Repair <input type="checkbox"/> 5740=Status post - Aneurysm, Pulmonary artery, Repair <input type="checkbox"/> 5760=Status post - Cardiac tumor resection <input type="checkbox"/> 5780=Status post - Pulmonary AV fistula repair/occlusion <input type="checkbox"/> 5790=Status post - Ligation, Pulmonary artery <input type="checkbox"/> 5802=Status post - Pulmonary embolectomy, Acute pulmonary embolus <input type="checkbox"/> 5804=Status post - Pulmonary embolectomy, Chronic pulmonary embolus <input type="checkbox"/> 5810=Status post - Pleural drainage procedure <input type="checkbox"/> 5820=Status post - Pleural procedure, Other <input type="checkbox"/> 5830=Status post - Ligation, Thoracic duct <input type="checkbox"/> 5840=Status post - Decortication <input type="checkbox"/> 5850=Status post - Esophageal procedure <input type="checkbox"/> 5860=Status post - Mediastinal procedure <input type="checkbox"/> 5870=Status post - Bronchoscopy <input type="checkbox"/> 5880=Status post - Diaphragm plication <input type="checkbox"/> 5890=Status post - Diaphragm procedure, Other <input type="checkbox"/> 5930=Status post - VATS (video-assisted thoracoscopic surgery) <input type="checkbox"/> 5940=Status post - Minimally invasive procedure <input type="checkbox"/> 5950=Status post - Bypass for noncardiac lesion <input type="checkbox"/> 5960=Status post - Delayed sternal closure <input type="checkbox"/> 5970=Status post - Mediastinal exploration <input type="checkbox"/> 5980=Status post - Sternotomy wound drainage <input type="checkbox"/> 7180=Status post - Intravascular stent removal <input type="checkbox"/> 7220= Status post – Removal of transcatheter delivered device from heart
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- 7210= Status post – Removal of transcatheter delivered device from blood vessel
- 5990=Status post - Thoracotomy, Other
- 6000=Status post - Cardiotomy, Other
- 6010=Status post - Cardiac procedure, Other
- 6020=Status post - Thoracic and/or mediastinal procedure, Other
- 6030=Status post - Peripheral vascular procedure, Other
- 6040=Status post - Miscellaneous procedure, Other
- 11777=Status post - Other procedure

PROCEDURES

Select **ALL** procedures that apply. (↓)
Procedure (930)

Circle the **ONE** PRIMARY procedure for this operation.
PrimProc (940)

Septal Defects	ASD	<input type="checkbox"/> 10= PFO, Primary closure <input type="checkbox"/> 20= ASD repair, Primary closure <input type="checkbox"/> 30= ASD repair, Patch <input type="checkbox"/> 40= ASD repair, Device <input type="checkbox"/> 2110= ASD repair, Patch + PAPVC repair <input type="checkbox"/> 50= ASD, Common atrium (single atrium), Septation <input type="checkbox"/> 60= ASD creation/enlargement <input type="checkbox"/> 70= ASD partial closure <input type="checkbox"/> 80= Atrial septal fenestration <input type="checkbox"/> 85= Atrial fenestration closure
	VSD	<input type="checkbox"/> 100= VSD repair, Primary closure <input type="checkbox"/> 110= VSD repair, Patch <input type="checkbox"/> 120= VSD repair, Device <input type="checkbox"/> 130= VSD, Multiple, Repair <input type="checkbox"/> 140= VSD creation/enlargement <input type="checkbox"/> 150= Ventricular septal fenestration
	AV Canal	<input type="checkbox"/> 170= AVC (AVSD) repair, Complete (CAVSD) <input type="checkbox"/> 180= AVC (AVSD) repair, Intermediate (Transitional) <input type="checkbox"/> 190= AVC (AVSD) repair, Partial (Incomplete) (PAVSD) <input type="checkbox"/> 2300= Valvuloplasty, Common atrioventricular valve <input type="checkbox"/> 2250= Valvuloplasty converted to valve replacement in the same operation, Common atrioventricular valve <input type="checkbox"/> 2230= Valve replacement, Common atrioventricular valve
	AP Window	<input type="checkbox"/> 210= AP window repair <input type="checkbox"/> 220= Pulmonary artery origin from ascending aorta (hemitruncus) repair
	Truncus Arteriosus	<input type="checkbox"/> 230= Truncus arteriosus repair <input type="checkbox"/> 240= Valvuloplasty, Truncal valve <input type="checkbox"/> 2290= Valvuloplasty converted to valve replacement in the same operation, Truncal valve <input type="checkbox"/> 250= Valve replacement, Truncal valve <input type="checkbox"/> 2220= Truncus + Interrupted aortic arch repair (IAA) repair
	Pulmonary Venous Anomalies	Partial Anomalous Pulmonary Venous Connection
Total Anomalous Pulmonary Venous Connection		<input type="checkbox"/> 280= TAPVC repair <input type="checkbox"/> 2200= TAPVC repair + Shunt - systemic-to-pulmonary

Cor Triatriatum		<input type="checkbox"/> 290= Cor triatriatum repair
Pulmonary Venous Stenosis		<input type="checkbox"/> 300= Pulmonary venous stenosis repair
Systemic Venous Anomalies	Anomalous Systemic Venous Connection	<input type="checkbox"/> 310= Atrial baffle procedure (non-Mustard, non-Senning) <input type="checkbox"/> 330= Anomalous systemic venous connection repair
	Systemic venous obstruction	<input type="checkbox"/> 340= Systemic venous stenosis repair
Right Heart Lesions	Tetralogy of Fallot	<input type="checkbox"/> 350= TOF repair, No Ventriculotomy <input type="checkbox"/> 360= TOF repair, Ventriculotomy, Nontransanular patch <input type="checkbox"/> 370= TOF repair, Ventriculotomy, Transanular patch <input type="checkbox"/> 3330= TOF repair, Ventriculotomy, Transanular patch, plus native valve reconstruction <input type="checkbox"/> 3340= TOF repair, Ventriculotomy, Transanular patch, with monocusp or other surgically fashioned RVOT valve <input type="checkbox"/> 380= TOF repair, RV-PA conduit <input type="checkbox"/> 390= TOF - AVC (AVSD) repair <input type="checkbox"/> 400= TOF - Absent pulmonary valve repair
	Pulmonary Atresia/VSD	<input type="checkbox"/> 420= Pulmonary atresia - VSD (including TOF, PA) repair <input type="checkbox"/> 2700= Pulmonary atresia - VSD – MAPCA repair, Complete single stage repair (1 stage that includes bilateral pulmonary unifocalization + VSD closure + RV to PA connection [with or without conduit]) <input type="checkbox"/> 2710= Pulmonary atresia - VSD – MAPCA repair, Status post prior complete unifocalization (includes VSD closure + RV to PA connection [with or without conduit]) <input type="checkbox"/> 2720= Pulmonary atresia - VSD – MAPCA repair, Status post prior incomplete unifocalization (includes completion of pulmonary unifocalization + VSD closure + RV to PA connection [with or without conduit]) <input type="checkbox"/> 2730= Unifocalization MAPCA(s), Bilateral pulmonary unifocalization - Complete unifocalization (all usable MAPCA[s] are incorporated) <input type="checkbox"/> 2740= Unifocalization MAPCA(s), Bilateral pulmonary unifocalization - Incomplete unifocalization (not all usable MAPCA[s] are incorporated) <input type="checkbox"/> 2750= Unifocalization MAPCA(s), Unilateral pulmonary unifocalization <input type="checkbox"/> 440= Unifocalization MAPCA(s) <input type="checkbox"/> 450= Occlusion of MAPCA(s)
	Tricuspid Valve Disease and Ebstein's Anomaly	<input type="checkbox"/> 460= Valvuloplasty, Tricuspid (do not use this code if tricuspid valve malfunction is secondary to Ebstein's anomaly. Use 465= Ebstein's repair) <input type="checkbox"/> 2280= Valvuloplasty converted to valve replacement in the same operation, Tricuspid <input type="checkbox"/> 465= Ebstein's repair <input type="checkbox"/> 470= Valve replacement, Tricuspid (TVR) <input type="checkbox"/> 480= Valve closure, Tricuspid (exclusion, univentricular approach) <input type="checkbox"/> 490= Valve excision, Tricuspid (without replacement) <input type="checkbox"/> 500= Valve surgery, Other, Tricuspid
	RVOT Obstruction, IVS Pulmonary Stenosis	<input type="checkbox"/> 510= RVOT procedure <input type="checkbox"/> 520= 1 1/2 ventricular repair <input type="checkbox"/> 530= PA, reconstruction (plasty), Main (trunk) <input type="checkbox"/> 540= PA, reconstruction (plasty), Branch, Central (within the hilar bifurcation) <input type="checkbox"/> 550= PA, reconstruction (plasty), Branch, Peripheral (at or beyond the first lobar branch)

		<input type="checkbox"/> 3350= PA, reconstruction (plasty), Branch, Peripheral (at or beyond the first lobar branch, proximal to first segmental branch) <input type="checkbox"/> 3360= PA, reconstruction (plasty), Branch, Peripheral (at or beyond the first lobar branch, beyond the first segmental branch) <input type="checkbox"/> 570= DCRV repair <input type="checkbox"/> 3370= RV Rehabilitation, Endocardial Resection
	Pulmonary Valve Disease	<input type="checkbox"/> 590= Valvuloplasty, Pulmonic <input type="checkbox"/> 2270= Valvuloplasty converted to valve replacement in the same operation, Pulmonic <input type="checkbox"/> 600= Valve replacement, Pulmonic (PVR) <input type="checkbox"/> 630= Valve excision, Pulmonary (without replacement) <input type="checkbox"/> 640= Valve closure, Semilunar <input type="checkbox"/> 650= Valve surgery, Other, Pulmonic
Conduit operations	Conduit operations	<input type="checkbox"/> 610= Conduit placement, RV to PA <input type="checkbox"/> 620= Conduit placement, LV to PA <input type="checkbox"/> 1774= Conduit placement, Ventricle to aorta <input type="checkbox"/> 1772= Conduit placement, Other
	Conduit Stenosis / Insufficiency	<input type="checkbox"/> 580= Conduit reoperation
Left Heart Lesions	Aortic Valve Disease	<input type="checkbox"/> 660= Valvuloplasty, Aortic <input type="checkbox"/> 2240= Valvuloplasty converted to valve replacement in the same operation, Aortic <input type="checkbox"/> 2310= Valvuloplasty converted to valve replacement in the same operation, Aortic – with Ross procedure <input type="checkbox"/> 2320= Valvuloplasty converted to valve replacement in the same operation, Aortic – with Ross-Konno procedure <input type="checkbox"/> 670= Valve replacement, Aortic (AVR) <input type="checkbox"/> 680= Valve replacement, Aortic (AVR), Mechanical <input type="checkbox"/> 690= Valve replacement, Aortic (AVR), Bioprosthetic <input type="checkbox"/> 700= Valve replacement, Aortic (AVR), Homograft <input type="checkbox"/> 715= Aortic root replacement, Bioprosthetic <input type="checkbox"/> 720= Aortic root replacement, Mechanical <input type="checkbox"/> 730= Aortic root replacement, Homograft <input type="checkbox"/> 735= Aortic root replacement, Valve sparing <input type="checkbox"/> 740= Ross procedure <input type="checkbox"/> 750= Konno procedure <input type="checkbox"/> 760= Ross-Konno procedure <input type="checkbox"/> 770= Other annular enlargement procedure <input type="checkbox"/> 780= Aortic stenosis, Subvalvar, Repair <input type="checkbox"/> 2100= Aortic stenosis, Subvalvar, Repair, With myectomy for IHSS <input type="checkbox"/> 790= Aortic stenosis, Supravalvar, Repair <input type="checkbox"/> 800= Valve surgery, Other, Aortic <input type="checkbox"/> 3380= Extended Ventricular Septoplasty (modified Konno, VSD creation and patch enlargement of LVOT, sparing aortic valve) for tunnel type sub aortic stenosis
	Sinus of Valsalva Aneurysm	<input type="checkbox"/> 810= Sinus of Valsalva, Aneurysm repair
	LV to Aorta Tunnel	<input type="checkbox"/> 820= LV to aorta tunnel repair
	Mitral Valve Disease	<input type="checkbox"/> 830= Valvuloplasty, Mitral <input type="checkbox"/> 2260= Valvuloplasty converted to valve replacement in the same operation, Mitral <input type="checkbox"/> 840= Mitral stenosis, Supravalvar mitral ring repair

		<input type="checkbox"/> 850= Valve replacement, Mitral (MVR) <input type="checkbox"/> 860= Valve surgery, Other, Mitral
	Hypoplastic Left Heart and Related malformations	<input type="checkbox"/> 870= Norwood procedure <input type="checkbox"/> 880= HLHS biventricular repair <input type="checkbox"/> 3390= LV Endocardial Fibroelastosis resection <input type="checkbox"/> 2755= Conduit insertion right ventricle to pulmonary artery + Intraventricular tunnel left ventricle to neoaorta + arch reconstruction (Rastelli and Norwood type arch reconstruction) (Yasui)
Hybrid		<input type="checkbox"/> 2160= Hybrid Approach "Stage 1", Application of RPA & LPA bands <input type="checkbox"/> 2170= Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA) <input type="checkbox"/> 2180= Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA) + application of RPA & LPA bands <input type="checkbox"/> 2140= Hybrid approach "Stage 2", Aortopulmonary amalgamation + Superior Cavopulmonary anastomosis(es) + PA Debanding + Aortic arch repair (Norwood [Stage 1] + Superior Cavopulmonary anastomosis(es) + PA Debanding) <input type="checkbox"/> 2150= Hybrid approach "Stage 2", Aortopulmonary amalgamation + Superior Cavopulmonary anastomosis(es) + PA Debanding + Without aortic arch repair <input type="checkbox"/> 2760= Hybrid Approach, Transcardiac balloon dilatation <input type="checkbox"/> 2770= Hybrid Approach, Transcardiac transcatheter device placement
Cardiomyopathy		<input type="checkbox"/> 890= Transplant, Heart <input type="checkbox"/> 900= Transplant, Heart and lung <input type="checkbox"/> 910= Partial left ventriculectomy (LV volume reduction surgery) (Batista)
Pericardial Disease		<input type="checkbox"/> 920= Pericardial drainage procedure <input type="checkbox"/> 930= Pericardiectomy <input type="checkbox"/> 940= Pericardial procedure, Other
Single Ventricle		<input type="checkbox"/> 950= Fontan, Atrio-pulmonary connection <input type="checkbox"/> 960= Fontan, Atrio-ventricular connection <input type="checkbox"/> 970= Fontan, TCPC, Lateral tunnel, Fenestrated <input type="checkbox"/> 980= Fontan, TCPC, Lateral tunnel, Nonfenestrated <input type="checkbox"/> 1000= Fontan, TCPC, External conduit, Fenestrated <input type="checkbox"/> 1010= Fontan, TCPC, External conduit, Nonfenestrated <input type="checkbox"/> 2780= Fontan, TCPC, Intra/extracardiac conduit, Fenestrated <input type="checkbox"/> 2790= Fontan, TCPC, Intra/extracardiac conduit, Nonfenestrated <input type="checkbox"/> 3310 = Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Fenestrated <input type="checkbox"/> 3320 = Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Nonfenestrated <input type="checkbox"/> 1025= Fontan revision or conversion (Re-do Fontan) <input type="checkbox"/> 1030= Fontan, Other <input type="checkbox"/> 2340= Fontan + Atrioventricular valvuloplasty <input type="checkbox"/> 1035= Ventricular septation
Transposition of the Great Arteries	Congenitally Corrected TGA	<input type="checkbox"/> 1050=Congenitally corrected TGA repair, Atrial switch and ASO (double switch) <input type="checkbox"/> 1060= Congenitally corrected TGA repair, Atrial switch and Rastelli <input type="checkbox"/> 1070= Congenitally corrected TGA repair, VSD closure <input type="checkbox"/> 1080= Congenitally corrected TGA repair, VSD closure and LV to PA conduit

		<input type="checkbox"/> 1090= Congenitally corrected TGA repair, Other
	Transposition of the Great Arteries	<input type="checkbox"/> 1110= Arterial switch operation (ASO) <input type="checkbox"/> 1120= Arterial switch operation (ASO) and VSD repair <input type="checkbox"/> 1123= Arterial switch procedure + Aortic arch repair <input type="checkbox"/> 1125= Arterial switch procedure and VSD repair + Aortic arch repair <input type="checkbox"/> 1130= Senning <input type="checkbox"/> 1140= Mustard <input type="checkbox"/> 1145= Atrial baffle procedure, Mustard or Senning revision <input type="checkbox"/> 1150= Rastelli <input type="checkbox"/> 1160= REV <input type="checkbox"/> 2190= Aortic root translocation over left ventricle (Including Nikaidoh procedure) <input type="checkbox"/> 2210= TGA, Other procedures (Kawashima, LV-PA conduit, other) <input type="checkbox"/> 3400= Double root translocation
DORV		<input type="checkbox"/> 1180= DORV, Intraventricular tunnel repair <input type="checkbox"/> 3410= DORV repair, No Ventriculotomy <input type="checkbox"/> 3420= DORV repair, Ventriculotomy, Nontransannular patch <input type="checkbox"/> 3430= DORV repair, Ventriculotomy, Transannular patch <input type="checkbox"/> 3440= DORV repair, RV-PA conduit <input type="checkbox"/> 3450= DORV - AVC (AVSD) repair
DOLV		<input type="checkbox"/> 1200= DOLV repair
Thoracic Arteries and Veins	Coarctation of Aorta and Aortic arch hypoplasia	<input type="checkbox"/> 1210= Coarctation repair, End to end <input type="checkbox"/> 1220= Coarctation repair, End to end, Extended <input type="checkbox"/> 3460= Coarctation repair, Descending aorta anastomosed to Ascending aorta <input type="checkbox"/> 1230= Coarctation repair, Subclavian flap <input type="checkbox"/> 1240= Coarctation repair, Patch aortoplasty <input type="checkbox"/> 1250= Coarctation repair, Interposition graft <input type="checkbox"/> 3470= Coarctation repair, Extra-anatomic Bypass graft <input type="checkbox"/> 1260= Coarctation repair, Other <input type="checkbox"/> 1275= Coarctation repair + VSD repair <input type="checkbox"/> 1280= Aortic arch repair <input type="checkbox"/> 1285= Aortic arch repair + VSD repair
	Coronary Artery Anomalies	<input type="checkbox"/> 1290= Coronary artery fistula ligation <input type="checkbox"/> 1291= Anomalous origin of coronary artery from pulmonary artery repair <input type="checkbox"/> 1300= Coronary artery bypass <input type="checkbox"/> 1305= Anomalous aortic origin of coronary artery (AAOCA) repair <input type="checkbox"/> 1310= Coronary artery procedure, Other
	Interrupted Arch	<input type="checkbox"/> 1320= Interrupted aortic arch repair
	Patent Ductus Arteriosus	<input type="checkbox"/> 1330= PDA closure, Surgical <input type="checkbox"/> 1340= PDA closure, Device
	Vascular Rings and Slings	<input type="checkbox"/> 1360= Vascular ring repair <input type="checkbox"/> 1365= Aortopexy <input type="checkbox"/> 1370= Pulmonary artery sling repair
	Aortic Aneurysm	<input type="checkbox"/> 1380= Aortic aneurysm repair
	Aortic Dissection	<input type="checkbox"/> 1390= Aortic dissection repair
	Lung Disease	<input type="checkbox"/> 1400= Lung biopsy <input type="checkbox"/> 1410= Transplant, lung(s) <input type="checkbox"/> 1420= Lung procedure, Other

Thoracic and Mediastinal Disease	Tracheal Stenosis	<input type="checkbox"/> 1440= Tracheal procedure
	Chest Wall	<input type="checkbox"/> 2800= Muscle flap, Trunk (i.e. intercostal, pectus, or serratus muscle)
		<input type="checkbox"/> 2810= Muscle flap, Trunk (i.e. latissimus dorsi)
		<input type="checkbox"/> 2820= Removal, Sternal wire
		<input type="checkbox"/> 2830= Rib excision, Complete
		<input type="checkbox"/> 2840= Rib excision, Partial
<input type="checkbox"/> 2850= Sternal fracture, Open treatment		
<input type="checkbox"/> 2860= Sternal resection, Radical resection of the sternum		
<input type="checkbox"/> 2870= Sternal resection, Radical resection of the sternum with mediastinal lymphadenectomy		
<input type="checkbox"/> 2880= Tumor of chest wall, Excision including ribs		
<input type="checkbox"/> 2890= Tumor of chest wall, Excision including ribs, With reconstruction		
<input type="checkbox"/> 2900= Tumor of soft tissue of thorax, Excision of deep subfascial or intramuscular tumor		
<input type="checkbox"/> 2910= Tumor of soft tissue of thorax, Excision of subcutaneous tumor		
<input type="checkbox"/> 2920= Tumor of soft tissue of thorax, Radical resection		
Neck	<input type="checkbox"/> 2930= Hyoid myotomy and suspension	
	<input type="checkbox"/> 2940= Muscle flap, Neck	
	<input type="checkbox"/> 2950= Procedure on neck	
	<input type="checkbox"/> 2960= Tumor of soft tissue of neck, Excision of deep subfascial or intramuscular tumor	
	<input type="checkbox"/> 2970= Tumor of soft tissue of neck, Excision of subcutaneous tumor	
	<input type="checkbox"/> 2980= Tumor of soft tissue of neck, Radical resection	
Pectus Excavatum, Carinatum	<input type="checkbox"/> 2990= Pectus bar removal	
	<input type="checkbox"/> 3000= Pectus bar repositioning	
	<input type="checkbox"/> 3010= Pectus repair, Minimally invasive repair (Nuss), With thoracoscopy	
	<input type="checkbox"/> 3020= Pectus repair, Minimally invasive repair (Nuss), Without thoracoscopy	
<input type="checkbox"/> 3030= Pectus repair, Open repair		
Thoracic Outlet	<input type="checkbox"/> 3040= Division of scalenus anticus, With resection of a cervical rib	
	<input type="checkbox"/> 3050= Division of scalenus anticus, Without resection of a cervical rib	
	<input type="checkbox"/> 3060= Rib excision, Excision of a cervical rib	
	<input type="checkbox"/> 3070= Rib excision, Excision of a cervical rib, With sympathectomy	
	<input type="checkbox"/> 3080= Rib excision, Excision of first rib	
	<input type="checkbox"/> 3090= Rib excision, Excision of first rib, With sympathectomy	
Thorax	<input type="checkbox"/> 3100= Procedure on thorax	
Electrophysiological	<input type="checkbox"/> 1450= Pacemaker implantation, Permanent	
	<input type="checkbox"/> 1460= Pacemaker procedure	
	<input type="checkbox"/> 2350= Explantation of pacing system	
	<input type="checkbox"/> 1470= ICD (AICD) implantation	
	<input type="checkbox"/> 1480= ICD (AICD) ([automatic] implantable cardioverter defibrillator) procedure	
	<input type="checkbox"/> 1490= Arrhythmia surgery - atrial, Surgical Ablation	
	<input type="checkbox"/> 1500= Arrhythmia surgery - ventricular, Surgical Ablation	
Interventional Cardiology Procedures	<input type="checkbox"/> 2500= Cardiovascular catheterization procedure, Diagnostic	
	<input type="checkbox"/> 2520= Cardiovascular catheterization procedure, Diagnostic, Angiographic data obtained	

- 2550= Cardiovascular catheterization procedure, Diagnostic, Electrophysiology alteration
- 2540= Cardiovascular catheterization procedure, Diagnostic, Hemodynamic alteration
- 2510= Cardiovascular catheterization procedure, Diagnostic, Hemodynamic data obtained
- 2530= Cardiovascular catheterization procedure, Diagnostic, Transluminal test occlusion
- 2410= Cardiovascular catheterization procedure, Therapeutic
- 2670= Cardiovascular catheterization procedure, Therapeutic, Adjunctive therapy
- 1540= Cardiovascular catheterization procedure, Therapeutic, Balloon dilation
- 2590= Cardiovascular catheterization procedure, Therapeutic, Balloon valvotomy
- 1580= Cardiovascular catheterization procedure, Therapeutic, Coil implantation
- 1560= Cardiovascular catheterization procedure, Therapeutic, Device implantation
- 3110= Cardiovascular catheterization procedure, Therapeutic, Device implantation attempted
- 2690= Cardiovascular catheterization procedure, Therapeutic, Electrophysiological ablation
- 3120= Cardiovascular catheterization procedure, Therapeutic, Intravascular foreign body removal
- 2640= Cardiovascular catheterization procedure, Therapeutic, Perforation (establishing interchamber and/or intervessel communication)
- 2580= Cardiovascular catheterization procedure, Therapeutic, Septostomy
- 1550= Cardiovascular catheterization procedure, Therapeutic, Stent insertion
- 2630= Cardiovascular catheterization procedure, Therapeutic, Stent re-dilation
- 2650= Cardiovascular catheterization procedure, Therapeutic, Transcatheter Fontan completion
- 2660= Cardiovascular catheterization procedure, Therapeutic, Transcatheter implantation of valve

Palliative Procedures

- 1590= Shunt, Systemic to pulmonary, Modified Blalock-Taussig Shunt (MBTS)
- 1600= Shunt, Systemic to pulmonary, Central (shunt from aorta)
- 3130= Shunt, Systemic to pulmonary, Central (shunt from aorta) Central shunt with an end-to-side connection between the transected main pulmonary artery and the side of the ascending aorta (i.e. Mee shunt)
- 3230= Shunt, Systemic to pulmonary, Potts – Smith type (descending aorta to pulmonary artery)
- 1610= Shunt, Systemic to pulmonary, Other
- 1630= Shunt, Ligation and takedown
- 2095= Shunt, Reoperation
- 1640= PA banding (PAB)
- 1650= PA debanding
- 3200= PA band adjustment
- 1660= Damus-Kaye-Stansel procedure (DKS) (creation of AP anastomosis without arch reconstruction)
- 1670= Bidirectional cavopulmonary anastomosis (BDCPA) (bidirectional Glenn)
- 1680= Glenn (unidirectional cavopulmonary anastomosis) (unidirectional Glenn)

	<ul style="list-style-type: none"> <input type="checkbox"/> 1690= Bilateral bidirectional cavopulmonary anastomosis (BBDCPA) (bilateral bidirectional Glenn) <input type="checkbox"/> 1700= HemiFontan <input type="checkbox"/> 2330= Superior cavopulmonary anastomosis(es) (Glenn or HemiFontan) + Atrioventricular valvuloplasty <input type="checkbox"/> 2130= Superior Cavopulmonary anastomosis(es) + PA reconstruction <input type="checkbox"/> 3300 = Takedown of superior cavopulmonary anastomosis <input type="checkbox"/> 3140= Hepatic vein to azygous vein connection, Direct <input type="checkbox"/> 3150= Hepatic vein to azygous vein connection, Interposition graft <input type="checkbox"/> 3160= Kawashima operation (superior cavopulmonary connection in setting of interrupted IVC with azygous continuation) <input type="checkbox"/> 1710= Palliation, Other
<p>Mechanical Support</p>	<ul style="list-style-type: none"> <input type="checkbox"/> 2360= ECMO cannulation <input type="checkbox"/> 2370= ECMO decannulation <input type="checkbox"/> 1910= ECMO procedure <input type="checkbox"/> 1900= Intraaortic balloon pump (IABP) insertion <input type="checkbox"/> 1920= Right/left heart assist device procedure <input type="checkbox"/> 2390= VAD explantation <input type="checkbox"/> 2380= VAD implantation <input type="checkbox"/> 3170= VAD change out
<p>Anesthetic procedures</p>	<ul style="list-style-type: none"> <input type="checkbox"/> 2420= Echocardiography procedure, Sedated transesophageal echocardiogram <input type="checkbox"/> 2430= Echocardiography procedure, Sedated transthoracic echocardiogram <input type="checkbox"/> 2435= Non-cardiovascular, Non-thoracic procedure on cardiac patient with cardiac anesthesia <input type="checkbox"/> 2440= Radiology procedure on cardiac patient, Cardiac Computerized Axial Tomography (CT Scan) <input type="checkbox"/> 2450= Radiology procedure on cardiac patient, Cardiac Magnetic Resonance Imaging (MRI) <input type="checkbox"/> 2460= Radiology procedure on cardiac patient, Diagnostic radiology <input type="checkbox"/> 2470= Radiology procedure on cardiac patient, Non-Cardiac Computerized Tomography (CT) on cardiac patient <input type="checkbox"/> 2480= Radiology procedure on cardiac patient, Non-cardiac Magnetic Resonance Imaging (MRI) on cardiac patient <input type="checkbox"/> 2490= Radiology procedure on cardiac patient, Therapeutic radiology
<p>Miscellaneous Procedures</p>	<ul style="list-style-type: none"> <input type="checkbox"/> 1720= Aneurysm, Ventricular, Right, Repair <input type="checkbox"/> 1730= Aneurysm, Ventricular, Left, Repair <input type="checkbox"/> 1740= Aneurysm, Pulmonary artery, Repair <input type="checkbox"/> 1760= Cardiac tumor resection <input type="checkbox"/> 1780= Pulmonary AV fistula repair/occlusion <input type="checkbox"/> 1790= Ligation, Pulmonary artery <input type="checkbox"/> 1802= Pulmonary embolectomy, Acute pulmonary embolus <input type="checkbox"/> 1804= Pulmonary embolectomy, Chronic pulmonary embolus <input type="checkbox"/> 1810= Pleural drainage procedure <input type="checkbox"/> 1820= Pleural procedure, Other <input type="checkbox"/> 1830= Ligation, Thoracic duct <input type="checkbox"/> 1840= Decortication <input type="checkbox"/> 1850= Esophageal procedure

- 1860= Mediastinal procedure
- 1870= Bronchoscopy
- 1880= Diaphragm plication
- 1890= Diaphragm procedure, Other
- 1930= VATS (video-assisted thoracoscopic surgery)
- 1940= Minimally invasive procedure
- 1950= Bypass for noncardiac lesion
- 1960= Delayed sternal closure
- 1970= Mediastinal exploration
- 1980= Sternotomy wound drainage
- 3180= Intravascular stent removal
- 3220= Removal of transcatheter delivered device from heart
- 3210= Removal of transcatheter delivered device from blood vessel
- 1990= Thoracotomy, Other
- 2000= Cardiotomy, Other
- 2010= Cardiac procedure, Other
- 2020= Thoracic and/or mediastinal procedure, Other
- 2030= Peripheral vascular procedure, Other
- 2040= Miscellaneous procedure, Other
- 2050= Organ procurement
- 7777= Other procedure

Operation Canceled or Aborted

- Canceled operation 7800= Operation canceled before skin incision
- Aborted operation 7810= Operation aborted after skin incision

PROCEDURE SPECIFIC FACTORS

Indicate if any of the following is the Primary procedure **PSFPrimProc (948)**

None of the listed procedures below (if none, skip to Operative section)

If one of the following is the Primary procedure, specify whether the procedure specific factors apply

- VSD repair, Primary closure
- VSD repair, Patch
- VSD repair, Device
- VSD, Multiple, Repair
 - Apical VSD **PSFApicalVSD (949)** Yes No
 - Straddling AV valve **PSFStradAVVal (950)** Yes No

If the following is the Primary procedure, specify whether the procedure specific factors apply

- TOF - AVC (AVSD) repair
 - Major coronary crossing RVOT - Coronary anomaly restricting RVOT enlargement **PSFMajCorRVOT(951)** Yes No
 - VSD, Multiple, Repair **PSFVSDMultRep (952)** Yes No
 - Restrictive VSD **PSFRestrictVSD (953)** Yes No
 - Hypoplastic branch pulmonary arteries (diminished pulmonary vascular bed) **PSFHypoBrPulmArt (954)** Yes No
 - AV Valve regurgitation grade 3 and 4 (Severe AV Valve regurgitation) **PSFAVRegurg34 (955)** Yes No
 - Double orifice left atrioventricular valve **PSFDoubOrif (956)** Yes No
 - Single papillary muscle in the left ventricle and/or parachute left atrioventricular valve **PSFSingPap (957)** Yes No
 - Hypoplastic posterior mural leaflet **PSFHypoPostMLeaf (958)** Yes No
 - Atrioventricular septal defect with ventricular imbalance: dominant left ventricle, hypoplastic right ventricle **PSFASDDomLeft (959)** Yes No
 - Atrioventricular septal defect with ventricular imbalance: dominant right ventricle, hypoplastic left ventricle Yes No

PSFASDDomRight (960)

Common atrioventricular valve with unbalanced commitment of valve to left ventricle

Yes No

PSFCAVLeft (961)

Common atrioventricular valve with unbalanced commitment of valve to right ventricle

Yes No

PSFCAVRight (962)

If one of the following is the Primary procedure, specify whether the procedure specific factors apply

TOF repair, No ventriculotomy

TOF repair, Ventriculotomy, Nontransannular patch

TOF repair, Ventriculotomy, Transannular patch

TOF repair, RV-PA conduit

TOF - Absent pulmonary valve repair

Pulmonary atresia - VSD - MAPCA repair, Complete single stage repair (1-stage that includes bilateral pulmonary unifocalization + VSD closure + RV to PA connection [with or without conduit])

Pulmonary atresia - VSD - MAPCA repair, Status post prior complete unifocalization (includes VSD closure + RV to PA connection [with or without conduit])

Pulmonary atresia - VSD - MAPCA repair, Status post prior incomplete unifocalization (includes completion of pulmonary unifocalization + VSD closure + RV to PA connection [with or without conduit])

Pulmonary atresia - VSD (including TOF, PA) repair

Major coronary crossing RVOT - Coronary anomaly restricting RVOT enlargement

PSFMajCorRVOT(951)

Yes No

VSD, Multiple, Repair **PSFVSDMultRep (952)**

Yes No

Restrictive VSD **PSFRestrictVSD (953)**

Yes No

Hypoplastic branch pulmonary arteries (diminished pulmonary vascular bed)

PSFHypoBrPulmArt (954)

Yes No

If one of the following is the Primary procedure, specify whether the procedure specific factors apply

AVC (AVSD) repair, Complete (CAVSD)

AV Valve regurgitation grade 3 and 4 (Severe AV Valve regurgitation) **PSFAVRegurg34 (955)**

Yes No

Double orifice left atrioventricular valve **PSFDoubOrif (956)**

Yes No

Single papillary muscle in the left ventricle and/or parachute left atrioventricular valve

PSFSingPap (957)

Yes No

Hypoplastic posterior mural leaflet **PSFHypoPostMLeaf (958)**

Yes No

Atrioventricular septal defect with ventricular imbalance: dominant left ventricle and hypoplastic right ventricle **PSFASDomLeft (959)**

Yes No

Atrioventricular septal defect with ventricular imbalance: dominant right ventricle and hypoplastic left ventricle **PSFASDDomRight (960)**

Yes No

Common atrioventricular valve with unbalanced commitment of valve to left ventricle

PSFCAVLeft (961)

Yes No

Common atrioventricular valve with unbalanced commitment of valve to right ventricle

PSFCAVRight (962)

Yes No

If one of the following is the Primary procedure, specify whether the procedure specific factors apply

Bidirectional cavopulmonary anastomosis (BDCPA) (bidirectional Glenn)

Glenn (unidirectional cavopulmonary anastomosis) (unidirectional Glenn)

Bilateral bidirectional cavopulmonary anastomosis (BBDCPA) (bilateral bidirectional Glenn)

HemiFontan

Superior Cavopulmonary anastomosis(es) (Glenn or HemiFontan) + Atrioventricular valvuloplasty

Superior Cavopulmonary anastomosis(es) + PA reconstruction

Kawashima operation (superior cavopulmonary connection in setting of interrupted IVC with azygous continuation)

AV Valve regurgitation grade 3 and 4 (Severe AV Valve regurgitation) **PSFAVRegurg34 (955)**

Yes No

Moderate to severe systemic ventricular dysfunction **PSFModSevSVD (963)**

Yes No

Hypoplastic branch pulmonary arteries (diminished pulmonary vascular bed)

PSFHypoBrPulmArt (954)

Yes No

Systemic ventricular outflow tract obstruction (subaortic obstruction) **PSFSysVentObs (964)**

Yes No

Ventricular dominance

PSFVentDom(965):

Left Ventricular dominance

Right Ventricular dominance

Balanced

Indeterminate Ventricular dominance

If one of the following is the Primary procedure, specify whether the procedure specific factors apply

- Fontan, Atrio-pulmonary connection
- Fontan, Atrio-ventricular connection
- Fontan, TCPC, Lateral tunnel, Fenestrated
- Fontan, TCPC, Lateral tunnel, Nonfenestrated
- Fontan, TCPC, External conduit, Fenestrated
- Fontan, TCPC, External conduit, Nonfenestrated
- Fontan, TCPC, Intra/extracardiac conduit, Fenestrated
- Fontan, TCPC, Intra/extracardiac conduit, Nonfenestrated
- Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Fenestrated
- Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Nonfenestrated
- Fontan, Other
- Fontan + Atrioventricular valvuloplasty
- Fontan revision or conversion (Re-do Fontan)
 - AV Valve regurgitation grade 3 and 4 (Severe AV Valve regurgitation) **PSFAVRegurg34 (955)** Yes No
 - Moderate to severe systemic ventricular dysfunction **PSFModSevSVD (963)** Yes No
 - Hypoplastic branch pulmonary arteries (diminished pulmonary vascular bed) **PSFHypoBrPulmArt (954)** Yes No
 - Systemic ventricular outflow tract obstruction (subaortic obstruction) **PSFSysVentObs (964)** Yes No
 - Ventricular dominance **PSFVentDom(965):**
 - Left Ventricular dominance
 - Right Ventricular dominance
 - Balanced
 - Indeterminate Ventricular dominance

If one of the following is the Primary procedure, specify whether the procedure specific factors apply

- Arterial switch operation (ASO)
- Arterial switch procedure + Aortic arch repair
 - Posterior coronary loop: circumflex coming off the RCA **PSFPostLoopCirc (970)** Yes No
 - Posterior coronary loop: left trunk coming off the RCA **PSFPostLoopLeftTrunc (971)** Yes No
 - Double coronary loops: inverted origin of right & left coronary arteries **PSFDoubleLoops (972)** Yes No
 - Single coronary ostium **PSFSingOst (973)** Yes No
 - Intramural coronary **PSFIntramuralCor (974)** Yes No
 - Large infundibular coronary artery from LAD **PSFLgInfundArt (975)** Yes No
 - Malaligned commissures **PSFMalComm (976)** Yes No
 - Take down of a commissure **PSFTakeDownComm (977)** Yes No
 - Aorto-pulmonary diameter mismatch **PSFAortoPulMis (978)** Yes No
 - Side by side vessels **PSFSidebySide (979)** Yes No
 - Posterior native aorta **PSFPostNatAorta (980)** Yes No
 - Subaortic obstruction/ conal septum malalignment **PSFSubAObs (981)** Yes No
 - Bicuspid native aortic valve (Bicuspid neopulmonary valve) **PSFBicusNatAortic (982)** Yes No
 - Bicuspid native pulmonary valve (Bicuspid neo-aortic valve) **PSFBicusNatPulm (983)** Yes No

If one of the following is the Primary procedure, specify whether the procedure specific factors apply

- Arterial switch operation (ASO) and VSD repair
- Arterial switch procedure and VSD repair + Aortic arch repair
 - Posterior coronary loop: circumflex coming off the RCA **PSFPostLoopCirc (970)** Yes No
 - Posterior coronary loop: left trunk coming off the RCA **PSFPostLoopLeftTrunc (971)** Yes No
 - Double coronary loops: inverted origin of right & left coronary arteries **PSFDoubleLoops (972)** Yes No
 - Single coronary ostium **PSFSingOst (973)** Yes No
 - Intramural coronary **PSFIntramuralCor (974)** Yes No

Large infundibular coronary artery from LAD PSFLgInfundArt (975)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Malaligned commissures PSFMalComm (976)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Take down of a commissure PSFTakeDownComm (977)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Aorto-pulmonary diameter mismatch PSFAortoPulMis (978)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Side by side vessels PSFSidebySide (979)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Posterior native aorta PSFPostNatAorta (980)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Subaortic obstruction/ conal septum malalignment PSFSubAObs (981)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Bicuspid native aortic valve (Bicuspid neopulmonary valve) PSFBicusNatAortic (982)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Bicuspid native pulmonary valve (Bicuspid neoaortic valve) PSFBicusNatPulm (983)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Apical VSD PSFApicalVSD (949)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Straddling AV valve PSFStradAVVal (950)	<input type="checkbox"/> Yes <input type="checkbox"/> No
<i>If one of the following is the Primary procedure, specify whether the procedure specific factors apply</i>	
<input type="checkbox"/> Truncus arteriosus repair	
<input type="checkbox"/> Truncus + Interrupted aortic arch repair (IAA) repair	
Truncus type 3 (PA Branches from PDA or descending aorta) PSFTruncType3 (984)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Abnormal coronary PSFAbnormalCor (985)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Truncal valve regurgitation (moderate to severe) PSFTruncValRegurg (986)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Truncal valve stenosis (moderate to severe) PSFTruncValSten (987)	<input type="checkbox"/> Yes <input type="checkbox"/> No
<i>If the following is the Primary procedure, specify whether the procedure specific factors apply</i>	
<input type="checkbox"/> Norwood procedure	
<input type="checkbox"/> Hybrid Approach "Stage 1", Application of RPA & LPA bands	
<input type="checkbox"/> Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA)	
<input type="checkbox"/> Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA) + application of RPA & LPA bands	
Source of pulmonary blood flow: Shunt - systemic artery-to-pulmonary artery PSFSrcPulFloShuntSys (988)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Source of pulmonary blood flow: Shunt - ventricle-to-pulmonary artery PSFSrcPulFloShuntVent (989)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Source of pulmonary blood flow: Superior caval vein-to-pulmonary artery PSFSrcPulFloSuper (990)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Source of Pulmonary Blood Flow: Banded central PAs PSFSrcPulFloBandPA (991)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Ascending aorta < 2 mm PSFAscAortaLT2 (992)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Aortic atresia PSFAortAtresia (993)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Aortic stenosis PSFAortSten (994)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Mitral atresia PSFMitralAtresia (995)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Mitral stenosis PSFMitralSten (996)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Sinusoids PSFSinusoids (997)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Intact atrial septum PSFIntactAtrSep (998)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Obstructed pulmonary venous return with severely restrictive ASD PSFObsPulVenRet (999)	<input type="checkbox"/> Yes <input type="checkbox"/> No
AV Valve regurgitation grade 3 and 4 (Severe AV Valve regurgitation) PSFAVRegurg34 (955)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Aberrant right subclavian artery PSFAberrantRtSubclav (1000)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Ventricular dominance PSFVentDom(965):	<input type="checkbox"/> Left Ventricular dominance
	<input type="checkbox"/> Right Ventricular dominance
	<input type="checkbox"/> Balanced
	<input type="checkbox"/> Indeterminate Ventricular dominance
<i>If the following is the Primary procedure, specify whether the procedure specific factors apply</i>	
<input type="checkbox"/> Ebstein's repair	
Tricuspid Valve Repair PSFTVRep(1001)	<input type="checkbox"/> Yes <input type="checkbox"/> No
If Yes→ Monocusp PSFTVRepMono(1002)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Bileaflet repair PSFTVRepBiLeaf(1004)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Cone repair (360° leaflet approximation) PSFTVRepCone(1006)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Sebening stitch (anterior RV papillary muscle to ventricular septum) PSFSebening (1008)	<input type="checkbox"/> Yes <input type="checkbox"/> No

Annular reduction PSFAnnRed (1009)	<input type="checkbox"/> Yes <input type="checkbox"/> No
<i>If Yes</i> → Plication PSFAnnRedPlic (1010)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Partial ring (c-shaped anterior & inferior annulus) PSFAnnRedPartial(1012)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Eccentric ring (inferior annulus) PSFAnnRedEccent (1014)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Atrialized RV plication PSFAtrialRVplic (1016)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Atrialized RV resection PSFAtrialRVRes (1018)	<input type="checkbox"/> Yes <input type="checkbox"/> No
ASD/PFO closure PSFASDPFO (1020)	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Subtotal
Reduction atrioplasty PSFRedAtrio (1022)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Arrhythmia surgery PSFArrSurg (1023)	<input type="checkbox"/> Yes <input type="checkbox"/> No
<i>If Yes</i> → Cavotricuspid isthmus ablation PSFArrSurgCavo (1024)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Modified right atrial maze PSFArrSurgModMaze (1026)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Left atrial Cox maze PSFArrSurgCoxMaze (1028)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Pulmonary vein isolation PSFArrSurgPulIso (1030)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Bidirectional cavopulmonary anastomosis PSFBiCavoAnast (1032)	<input type="checkbox"/> Yes <input type="checkbox"/> No

OPERATIVE			
Procedure Location: ProcLoc (1054)	<input type="checkbox"/> Cardiac OR <input type="checkbox"/> General OR <input type="checkbox"/> Hybrid Suite <input type="checkbox"/> Cath lab	<input type="checkbox"/> ICU <input type="checkbox"/> CVICU <input type="checkbox"/> NICU <input type="checkbox"/> PICU	<input type="checkbox"/> SICU <input type="checkbox"/> Radiology Suite <input type="checkbox"/> Procedure Room <input type="checkbox"/> Other
Status: Status (1055)	<input type="checkbox"/> Elective	<input type="checkbox"/> Urgent	<input type="checkbox"/> Emergent <input type="checkbox"/> Salvage
Operation Type: OpType (1056)	<input type="checkbox"/> CPB Cardiovascular	<input type="checkbox"/> No CPB Cardiovascular	<input type="checkbox"/> CPB Non-Cardiovascular
	<input type="checkbox"/> ECMO	<input type="checkbox"/> Thoracic	<input type="checkbox"/> Interventional Cardiology
	<input type="checkbox"/> VAD with CPB	<input type="checkbox"/> VAD without CPB	<input type="checkbox"/> NonCardiac/NonThoracic Procedure w/ Anesthesia
	<input type="checkbox"/> Other		
Near InfraredSpectroscopy (NIRS) Cerebral Metrics Used: NIRSCerUsed (1057) <i>If NIRSCerUsed is Yes</i> →	NIRS Cerebral Metrics Used Preoperatively NIRSCerPre (1058)		<input type="checkbox"/> Yes <input type="checkbox"/> No
	NIRS Cerebral Metrics Used Intraoperatively NIRSCerIntra (1059)		<input type="checkbox"/> Yes <input type="checkbox"/> No
	NIRS Cerebral Metrics Used Postoperatively NIRSCerPost (1060)		<input type="checkbox"/> Yes <input type="checkbox"/> No
Near InfraredSpectroscopy (NIRS) Somatic Metrics Used: NIRSSomUsed(1061) <i>If NIRSSomUsed is Yes</i> →	NIRS Somatic Metrics Used Preoperatively NIRSSomPre (1062)		<input type="checkbox"/> Yes <input type="checkbox"/> No
	NIRS Somatic Metrics Used Intraoperatively NIRSSomIntra (1063)		<input type="checkbox"/> Yes <input type="checkbox"/> No
	NIRS Somatic Metrics Used Postoperatively NIRSSomPost (1064)		<input type="checkbox"/> Yes <input type="checkbox"/> No
OR Entry Time: (00:00 – 23:59) ___:___ OREntryT (1065)	Skin Incision Start Time: (00:00 – 23:59) ___:___ SISStartT (1066)		
Endotracheal Intubation Performed: <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes ↓) Intubate (1067)	Initial Extubation Date/Time: ExtubateDT (1069) (mm/dd/yyyy 00:00 – 23:59) ___/___/___ :___:___		
Intubation Date/Time: IntubateDT (1068) (mm/dd/yyyy 00:00 – 23:59) ___/___/___ :___:___	Extubated in OR: ExtubInOR (1070) <input type="checkbox"/> Yes <input type="checkbox"/> No		
Re-Intubated After Initial Postoperative Extubation: <input type="checkbox"/> Yes <input type="checkbox"/> No (If Yes ↓) ReIntubate (1071)	Final Extubation Date/Time: (mm/dd/yyyy 00:00 – 23:59) ___/___/___ :___:___ FinExtubDT (1072)		
Incision Type:	Sternotomy IncisTyStern (1073) <input type="checkbox"/> Yes <input type="checkbox"/> No	Location: <input type="checkbox"/> upper <input type="checkbox"/> lower	
	Partial Sternotomy IncisTyPartStern (1074) <input type="checkbox"/> Yes <input type="checkbox"/> No (if yes →)	PartSternLocat (1075)	
	Clamshell Thoracotomy IncisTyClam (1076) <input type="checkbox"/> Yes <input type="checkbox"/> No		

Thoracotomy **IncisTyThor** Yes No (if yes →) Location: left right **ThoraLocat**
 (1077) (1078)
 Video-Assisted Thoracoscopy Yes No (if yes →) Location: left right **VATSLocat**
 (VATS) **IncisTyVATS** (1079) (1080)

Time of Skin Closure: (00:00 – 23:59) __:__:__ OR Exit Time: (00:00 – 23:59) __:__:__
SISStopT (1081) **ORExitT** (1082)

Extended Through Midnight: Yes No **MultiDay** (1083)

If Op type is: "NonCardiac/NonThoracic Procedure w/Anesthesia" or "Interventional Cardiology" → Skip to Complications section.

Surgeon: **Surgeon** (1084) Surgeon NPI: **SurgNPI** (1085) Taxpayer Identification Number: **TIN** (1086)

Reoperation Within This Admission: Yes – Planned reoperation Yes – Unplanned reoperation No
ReOpInAdm (1087)

Number of Prior Cardiothoracic Operations: **PrvCtOpN** (1090) Number of Prior CPB Cardiothoracic Operations: **PrvOCtOpN** (1100)

(If operation type is No CPB Cardiovascular →) Cross Clamp Time – No CPB: (minutes): **XClampTmNC** (1130)

(If operation type is CPB Cardiovascular or VAD w/ CPB or CPB NonCardiovascular ↓)

CPB Blood Prime: Yes No (If Yes →) **CPBPrimed** (1140) PRBC _____ ml (0 – 5000) **PRBC** (1141)
 FFP _____ ml (0 – 5000) **FFP** (1142)
 Whole Blood _____ ml (0 – 5000) **WholeBlood** (1143)

CPB Time (min): _____ **CPBTm** (1150) Cross Clamp Time - CPB: (min): _____ **XClampTm** (1160) Circulatory Arrest Time (min): _____ **DHCATm** (1170)

Induced Fibrillation: Yes No (If Yes →) Time: _____ (minutes) **InducedFibTmMin** (1176)
InducedFib (1175) _____ (seconds) **InducedFibTmSec** (1177)

Patient Temperature Monitoring Site : (If Yes, Lowest Core Temperature recorded at site):

Bladder: Yes No **TempSiteBla** (1180) (If Yes →) _____ °C **LowCTmpBla** (1190)
 Esophageal: Yes No **TempSiteEso** (1200) (If Yes →) _____ °C **LowCTmpEso** (1210)
 Nasopharyngeal: Yes No **TempSiteNas** (1220) (If Yes →) _____ °C **LowCTmpNas** (1230)
 Rectal: Yes No **TempSiteRec** (1240) (If Yes →) _____ °C **LowCTmpRec** (1250)
 Tympanic: Yes No **TempSiteTym** (1260) (If Yes →) _____ °C **LowCTmpTym** (1270)
 Other: Yes No **TempSiteOth** (1280) (If Yes →) _____ °C **LowCTmpOth** (1290)

Cooling time (prior to initiation of hypothermic circulatory arrest or selective cerebral perfusion) _____ (minutes)
CoolTimePrior (1301)

Rewarming Time: **RewarmTime** (1310) _____ (minutes)

Cerebral Perfusion Utilized: **CPerfUtil** (1320) Yes No (If Yes ↓)
 Cerebral Perfusion Time: _____ (minutes) **CPerfTime** (1330)

Cerebral Perfusion Cannulation Site: Innominate Artery Yes No **CPerfCanInn** (1340) Right Subclavian Yes No **CPerfCanRSub**(1350)
 Right Axillary Artery Yes No **CPerfCanRAX** (1360) Right Carotid Artery Yes No **CPerfCanRCar** (1370)

Left Carotid Artery Yes No Superior Vena Cava Yes No
CPerfCanLCar (1380) **CPerfCanSVC (1390)**

Cerebral Perfusion Periods: **CPerfPer (1400)** _____
 Cerebral Perfusion Flow Rate: **CPerfFlow (1410)** _____ (mL/kg) per minute
 Cerebral Perfusion Temperature: **CPerfTemp (1420)** _____ °C

Arterial Blood Gas Management During Cooling: Alpha STAT pH STAT
ABldGasMgt (1430) pHSTAT cooling/Alpha STAT rewarming Other Combination

Hematocrit Prior to Circulatory Arrest or Cerebral Perfusion: **HCTPriCircA (1440)** _____
 Cardioplegia Delivery: **CplegiaDeliv (1450)** None Antegrade Retrograde Both

If CplegiaDeliv is Antegrade, Retrograde or Both ↓

Cardioplegia Type: Blood Crystalloid Both Other
CplegiaType (1460)
 Cardioplegia Solution: del Nido Celsior
CplegiaSolution (1470)
 Custodiol / Bretschneider (HTK) Roe's Solution
 Buckberg Microplegia with Potassium
 Plegisol / St. Thomas Microplegia with Adenocaine
 University of Wisconsin Other

Cardioplegia Number of Doses: **CplegiaDose(1490)** _____

Hematocrit - First after initiating CPB: **HCTFirst (1640)** _____
 Hematocrit - Last Measured During CPB: **HCTLast (1650)** _____
 Hematocrit – Post CPB, Post Protamine: **HCTPost (1660)** _____

Ultrafiltration Performed? Yes No
UltrafilPerform (1671)
 (If Yes →) During CPB, CUF/ZBUF/DUF After CPB, MUF During and after CPB
 When:
UltraFilPer fWhen (1672)

Pulmonary Vascular Resistance Measured (within 6 months): Yes No **PVRMeas (1770)**
 (If Yes and WeightKg ≥40 →) PVR: _____ (Wood units) **PVR (1780)**
 (If Yes and WeightKg <40 →) PVR Index: _____ (Wood units/m2) **PVRI (1790)**

Anticoagulant Used?
AnticoagUsed (1792) Yes No Unknown
 (If Yes →) Unfractionated Heparin Yes No Argatroban Yes No
AnticoagUnfHep (1793) **AnticoagArg (1794)**
 Bivaluridin **AnticoagBival (1795)** Yes No Other Yes No
AnticoagOth (1796)

Blood and Blood Related Products (Including CPB Blood Prime Units)

Blood Type: A B O AB Unknown Rh: Positive Negative Unknown **Rh (1860)**
BloodType (1850)

Autologous Transfusion: Yes No Cell Saver/Cell Salvage _____ mL
AutologousTrans (2461) **CellSavSalMl (2463)**

Transfusion of Non-Autologous Blood Products During or After Procedure: Yes No Patient/family refused
TransfusBldProdAny (2825)

(If Yes →) Transfusion of Non-Autologous Blood Products Initiated Before Leaving OR: Yes No
TransfusBldProdBefore (2830)

- Homograft/Allograft
- Autograft
- Annuloplasty Band/Ring
- Mitral Clip
- Surgeon Fashioned
- Transcatheter device
- Other

If Commercially Supplied ↓
Valve Explant #1 UDI:

ValExpUDI1 (3151)
Model #1: _____
ValExMod1 (3152)
If not transcatheter device ↓
Device Size #1: _____
ValExDevSz1 (3153)

- Homograft/Allograft
- Autograft
- Annuloplasty Band/Ring
- Mitral Clip
- Surgeon Fashioned
- Transcatheter device
- Other

If Commercially Supplied ↓
Valve Explant #2 UDI:

ValExpUDI2 (3171)
Model #2: _____
ValExMod2 (3172)
If not transcatheter device ↓
Device Size #2: _____
ValExDevSz2 (3173)

- Homograft/Allograft
- Autograft
- Annuloplasty Band/Ring
- Mitral Clip
- Surgeon Fashioned
- Transcatheter device
- Other

If Commercially Supplied ↓
Valve Explant #3 UDI:

ValExpUDI3 (3191)
Model #3: _____
ValExMod3 (3192)
If not transcatheter device ↓
Device Size #3: _____
ValExDevSz3 (3193)

- Homograft/Allograft
- Autograft
- Annuloplasty Band/Ring
- Mitral Clip
- Surgeon Fashioned
- Transcatheter device
- Other

If Commercially Supplied ↓
Valve Explant #4 UDI:

ValExpUDI4 (3211)
Model #4: _____
ValexMod4 (3212)
If not transcatheter device ↓
Device Size #4: _____
ValExDevSz4 (3213)

If Yes, Implanted or Yes, Explanted and Implanted, complete one column per implant ↓

IMPLANT(S)

Valve Implant Location #1
VallImpLoc1 (3220)
 Aortic
 Mitral
 Tricuspid
 Pulmonic
 Common AV
 Truncal

Valve Implant Type #1
VallImpType1 (3230)
 Surgeon Fashioned
 Autograft
 Commercially supplied
 Transcatheter device

If Surgeon fashioned ↓

Material #1:
VallImpSFMat1 (3240)
 PTFE (Gore-Tex)
 Pericardium
 Other

If Commercially Supplied or Transcatheter ↓

Model #1: _____
VallImpComMod1 (3250)

UDI#1 _____
VallImpUDI1 (3261)

If Commercially Supplied ↓

Device Size #1: _____
VallImpComSz1 (3262)

2nd Implant: Yes No
VallImp2 (3270)
If Yes ↓ (if no skip to VAD proc)
Valve Implant Location #2
VallImpLoc2 (3280)
 Aortic
 Mitral
 Tricuspid
 Pulmonic
 Common AV
 Truncal

Valve Implant Type #2
VallImpType2 (3290)
 Surgeon Fashioned
 Autograft
 Commercially supplied
 Transcatheter device

If Surgeon fashioned ↓

Material #2:
VallImpSFMat2 (3300)
 PTFE (Gore-Tex)
 Pericardium
 Other

If Commercially Supplied or Transcatheter ↓

Model #2: _____
VallImpComMod2 (3310)

UDI#2 _____
VallImpUDI2 (3321)

If Commercially Supplied ↓

Device Size #2: _____
VallImpComSz2 (3322)

3rd Implant: Yes No
VallImp3 (3330)
If Yes ↓ (if no skip to VAD proc)
Valve Implant Location #3
VallImpLoc3 (3340)
 Aortic
 Mitral
 Tricuspid
 Pulmonic
 Common AV
 Truncal

Valve Implant Type #3
VallImpType3 (3350)
 Surgeon Fashioned
 Autograft
 Commercially supplied
 Transcatheter device

If Surgeon fashioned ↓

Material #3:
VallImpSFMat3 (3360)
 PTFE (Gore-Tex)
 Pericardium
 Other

If Commercially Supplied or Transcatheter ↓

Model #3: _____
VallImpComMod3 (3370)

UDI#3 _____
VallImpUDI3 (3381)

If Commercially Supplied ↓

Device Size #3: _____
VallImpComSz3 (3382)

4th Implant: Yes No
VallImp4 (3390)
If Yes ↓ (if no skip to VAD proc)
Valve Implant Location #4
VallImpLoc4 (3400)
 Aortic
 Mitral
 Tricuspid
 Pulmonic
 Common AV
 Truncal

Valve Implant Type #4
VallImpType4 (3410)
 Surgeon Fashioned
 Autograft
 Commercially supplied
 Transcatheter device

If Surgeon fashioned ↓

Material #4:
VallImpSFMat4 (3420)
 PTFE (Gore-Tex)
 Pericardium
 Other

If Commercially Supplied or Transcatheter ↓

Model #4: _____
VallImpComMod4 (3430)

UDI#4 _____
VallImpUDI4 (3441)

If Commercially Supplied ↓

Device Size #4: _____
VallImpComSz4 (3442)

VAD PROCEDURES

VAD Explanted and/or Implanted: No Yes, Explanted Yes, Implanted Yes, Explanted and Implanted

VADExImp (3460)

If Implanted or Explanted and Implanted ↓

Indication: VADInd (3500) Bridge to Transplantation Bridge to Recovery Destination
 Postcardiotomy Ventricular failure Device malfunction End of Life

First Implant Type: RVAD LVAD TAH (total artificial heart) VImpTy (3550)

First Implant UDI: _____ VADImpUDI (3565)

First Product (choose from VAD List): _____ VProdTy (3569)

If Implant Type = RVAD or LVAD complete ↓

Did the first occurrence involve the implantation of two VAD devices? Yes No VADImp2 (3571)

(If Yes →) Second Implant UDI: _____ VADImpUDI2 (3573)

Second Product (choose from VAD List) _____ VProdTy2 (3574)

If Explanted or Explanted and Implanted ↓

Explant Reason: VExpRsn (3610) Cardiac Transplant Recovery Device Transfer
 Device Related Infection Device Malfunction End of Life

Explant UDI: _____ VADExpUDI (3611)

If Explanted, Implanted or Explanted and Implanted indicate whether VAD related complications occurred ↓

Intracranial Bleed: PVCmpBld (3850) Yes No Embolic Stroke: PVCmpEst (3860) Yes No Driveline/Cannula Infection: PVCmpDCI (3870) Yes No

Pump Pocket Infection: PVCmpPPI (3880) Yes No Endocarditis: PVCmpEnd (3890) Yes No Device Malfunction: PVCmpMal (3900) Yes No

Bowel Obstruction: PVCmpBO (3910) Yes No Hemolysis: PVCmpHemo (3920) Yes No

COMPLICATIONS Complication (4200)

Assign complication(s) to the operation that is most closely associated with the complication

- 15= No complications OR select ALL that apply: (↓)
- 16= No complications during the intraop or postop time periods (No complications prior to discharge & no complications within ≤ 30 days of surgery)
- 350= Intraoperative death or intraprocedural death
- 360= Unplanned readmission to the hospital within 30 days of surgery or intervention
- 370= Multi-System Organ Failure (MSOF) = Multi-Organ Dysfunction Syndrome (MODS)
- 30= Unexpected Cardiac arrest during or following procedure (Periop/Periprocedural = Intraop/Intraprocedural and/or Postop/Postprocedural)
- 80= Cardiac dysfunction resulting in low cardiac output
- 384= Cardiac failure (severe cardiac dysfunction)
- 280= Endocarditis-postprocedural infective endocarditis
- 110= Pericardial effusion, Requiring drainage
- 390= Pulmonary hypertension
- 140= Pulmonary hypertensive crisis (PA pressure > systemic pressure)
- 130= Pulmonary vein obstruction
- 120= Systemic vein obstruction
- 240= Bleeding, Requiring reoperation
- 102= Sternum left open, Planned
- 104= Sternum left open, Unplanned
- 22= Unplanned cardiac reoperation during the postoperative or postprocedural time period, exclusive of reoperation for bleeding

- 24= Unplanned interventional cardiovascular catheterization procedure during the postoperative or postprocedural time period
- 26= Unplanned non-cardiac reoperation during the postoperative or postprocedural time period
- 40= Postoperative/Postprocedural mechanical circulatory support (IABP, VAD, ECMO, or CPS)
- 72= Arrhythmia requiring drug therapy
- 73= Arrhythmia requiring electrical cardioversion or defibrillation
- 74= Arrhythmia necessitating pacemaker, Permanent pacemaker
- 75= Arrhythmia necessitating pacemaker, Temporary pacemaker
- 210= Chylothorax
- 200= Pleural effusion, Requiring drainage
- 180= Pneumonia
- 190= Pneumothorax, Requiring drainage or evacuation
- 150= Postoperative/Postprocedural respiratory insufficiency requiring mechanical ventilatory support > 7 days
- 160= Postoperative/Postprocedural respiratory insufficiency requiring reintubation
- 170= Respiratory failure, Requiring tracheostomy
- 230= Renal failure - acute renal failure, Acute renal failure requiring dialysis at the time of hospital discharge
- 223= Renal failure - acute renal failure, Acute renal failure requiring temporary dialysis with the need for dialysis not present at hospital discharge
- 224= Renal failure - acute renal failure, Acute renal failure requiring temporary hemofiltration with the need for dialysis not present at hospital discharge
- 290= Sepsis
- 320= Neurological deficit, Neurological deficit persisting at discharge
- 325= Neurological deficit, Transient neurological deficit not present at discharge
- 300= Paralyzed diaphragm (possible phrenic nerve injury)
- 400= Peripheral nerve injury, Neurological deficit persisting at discharge
- 331= Seizure
- 410= Spinal cord injury, Neurological deficit persisting at discharge
- 420= Stroke
- 440= Subdural Bleed
- 450= Intraventricular hemorrhage (IVH) > grade 2
- 470= Thrombus, Intracardiac
- 480= Thrombus, Central vein
- 510= Thrombosis/thromboembolism, Pulmonary artery
- 490= Thrombus, Peripheral deep vein
- 500= Thrombosis, Systemic to pulmonary shunt
- 530= Thrombosis, Systemic artery, in situ (central)
- 540= Thrombosis, Systemic artery, in situ (peripheral)
- 550= Thrombosis, Systemic artery, embolic
- 310= Vocal cord dysfunction (possible recurrent laryngeal nerve injury)
- 250= Wound dehiscence (sterile)
- 255= Wound dehiscence (sterile), Median sternotomy
- 520= Sternal instability (sterile)
- 261= Wound infection
- 262= Wound infection-Deep wound infection
- 270= Wound infection-Mediastinitis
- 263= Wound infection-Superficial wound infection
- 430= Anesthesia – related complication
- 460= Complication of cardiovascular catheterization procedure
- 902= Compartment syndrome
- 900= Other complication; Specify _____ **CompOthSpecify (4201)**
- 901= Other operative/procedural complication; Specify _____ **CompOthOpSpecify (4202)**

DISCHARGE/READMISSION

Patient remains hospitalized during this episode of care Yes No **EpisodeCarePatInHosp (4210)**
 (If No →) Date of Hospital Discharge: **HospDischDt (4220)** (mm/dd/yyyy) ___ / ___ / _____
 Mortality Status at Hospital Discharge: **MtHospDisStat (4230)** Alive Dead
 (If Alive →) Discharge Location: **DisLoctn (4240)**
 Home Other Acute Care Center Other Chronic Care Center
 VAD Discharge Status: **VADDiscS(4245)**
 No VAD this admission Discharged w/ VAD VAD removed prior to discharge Expired in Hospital
 Discharged with Nasoenteric Tube? Yes No **NasoTubeDisc (4246)**
 Discharged with Transabdominal Gastrostomy or Jejunostomy Tube? Yes No **TransGasDisc (4247)**
 Date of Database Discharge: **DBDischDt (4250)** (mm/dd/yyyy) ___ / ___ / _____
 Mortality Status at Database Discharge: **MtDBDisStat (4260)** Alive Dead Unknown
 (If Alive →) Readmission within 30 days: Yes No
Readmit30 (4270)
 (If Yes →) Readmission Date: (mm/dd/yyyy) ___ / ___ / _____ **ReadmitDt (4280)**
 Primary Readmission Reason (select one ↓): **ReadmitRsn (4290)**
 Thrombotic Complication Neurologic Complication
 Hemorrhagic Complication Respiratory Complication/Airway Complication
 Stenotic Complication Septic/Infectious Complication
 Arrhythmia Cardiovascular Device Complications
 Congestive Heart Failure Residual/Recurrent Cardiovascular Defects
 Embolic Complication Failure to Thrive
 Cardiac Transplant Rejection VAD Complications
 Myocardial Ischemia Gastrointestinal Complication
 Renal Failure Other Cardiovascular Complication
 Pericardial Effusion and/or Tamponade Other - Readmission related to this index operation
 Pleural Effusion Other - Readmission not related to this index operation

Status at 30 days after surgery: **Mt30Stat (4300)** Alive Dead Unknown
 30 Day Status Method of Verification: **Mt30StatMeth (4310)**
 Evidence of life or death in Medical Record Contact w/ patient or family
 Contact w/ medical provider Office visit to provider ≥ 30 days post op SSDMF Other

If **Mt30Stat=Alive** →
 Status at 365 days after surgery: **Mt365Stat (4311)** Alive Dead Unknown
 365 Day Status Method of Verification: **Mt365StatMeth (4312)**
 Evidence of life or death in Medical Record Contact w/ patient or family
 Contact w/ medical provider Office visit to provider ≥ 365 days post op SSDMF Other

Operative Mortality: **MtOpD (4330)** Yes No

CHSS Eligibility: **CHSSElig (4331)**
 Eligible & Enrolled Eligible, but declined enrollment Eligible, but not invited to participate
 Eligible, but institution not CHSS participant Eligible, but not enrolled, other reason Not Eligible

PATIENT PROCESS MEASURES

(if Op Type CPB , No CPB Cardiovascular , or CPB Noncardiovascular ↓)
 Patient care discussed at preop multidisciplinary planning conference: Yes No **CareDiscussed(4340)**
 If No → Reason care was not discussed: Urgent/Emergent/Salvage Case Patient admitted between conferences
CareDiscussedRsn (4350)
 Program does not routinely discuss all cases Program does not have regular conferences
 Other

Transesophageal Echo (TEE) available for case: <input type="checkbox"/> Yes <input type="checkbox"/> No TEEAvail (4370)	
<i>If Yes →</i> Intraop TEE performed: <input type="checkbox"/> Yes <input type="checkbox"/> No TEEEpicEchoPerf (4380)	
Pre-op Antibiotic Prophylaxis given: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Patient on ongoing antibiotic therapy, prophylaxis not indicated PreopAntiProph (4400)	
<i>If Yes →</i> Cephalosporin <input type="checkbox"/> Yes <input type="checkbox"/> No PreopAntiProphCeph (4410)	Penicillin or related med <input type="checkbox"/> Yes <input type="checkbox"/> No PreopAntiProphPen (4420)
Aminoglycoside <input type="checkbox"/> Yes <input type="checkbox"/> No PreopAntiProphAmino (4430)	Vancomycin <input type="checkbox"/> Yes <input type="checkbox"/> No PreopAntiProphVan (4440)
Other <input type="checkbox"/> Yes <input type="checkbox"/> No PreopAntiProphOth (4450)	
Antibiotic Start time: (00:00 – 23:59) __:__:__ PreopAntiProphTime (4470)	
Conventional Pre-procedure Time Out: <input type="checkbox"/> Yes <input type="checkbox"/> No ConvTimeOut (4480)	
Surgeon shares essential elements of operative plan: <input type="checkbox"/> Yes <input type="checkbox"/> No PreProcBrief (4490)	
Postprocedure debriefing: <input type="checkbox"/> Yes <input type="checkbox"/> No PostProcDebrief (4500)	
Hand-off protocol at the time of transfer to ICU: <input type="checkbox"/> Yes- all required team members present HandoffProtocol (4510)	
<input type="checkbox"/> Yes- not all required team members present	
<input type="checkbox"/> No	
<i>If yes-not all required team members present →</i>	Anesthesiologist: <input type="checkbox"/> Attended hand-off <input type="checkbox"/> Did not attend hand-off HandoffAnesth (4520)
	Surgeon: <input type="checkbox"/> Attended hand-off <input type="checkbox"/> Did not attend hand-off HandoffSurg (4530)
	ICU MD: <input type="checkbox"/> Attended hand-off <input type="checkbox"/> Did not attend hand-off HandoffPhysStaff (4540)
	Nurse: <input type="checkbox"/> Attended hand-off <input type="checkbox"/> Did not attend hand-off HandoffNursing (4550)
Patient died or had major postoperative complication(s): <input type="checkbox"/> Yes <input type="checkbox"/> No PostOpComp (4560)	
<i>If Yes →</i> Management and outcomes reviewed: <input type="checkbox"/> Reviewed at conference PostOpReview (4570)	<input type="checkbox"/> Scheduled for review at conference
	<input type="checkbox"/> Not reviewed or scheduled for review
	<input type="checkbox"/> Program does not have scheduled conferences
<i>If Reviewed →</i>	Review Date: (mm/dd/yyyy) ___/___/_____ PostOpReviewDate (4580)



ANESTHESIA
(for sites participating in
CHSD anesthesiology component)



ANESTHESIA Administrative

Anesthesiology data being collected: Yes No *(If No, skip all Anesthesia sections)* **Anesthesia (4581)**

Anesthesiologist Present: Yes No (AnesPresent (4585))

(If Yes→) Primary Anesthesiologist Attending: _____
PrimAnesName (4590)

Primary Anesthesiologist National Provider Identifier: PrimAnesNPI (4600)

Secondary Anesthesiologist Attending: Yes No SecAnes (4610)

Fellow or Resident Present: Yes No FelRes (4630)

Mid-Level provider CRNA/AA Present: Yes No CRNA (4640)

ANESTHESIA Preoperative

Preoperative Medication Category: PreopMedCat (4700) (within 24 hours unless listed otherwise)

- 5= None (If not None, select all pre-operative medications that apply: ↓)
- | | |
|---|--|
| <input type="checkbox"/> 10= Amiodarone | <input type="checkbox"/> 190= Heparin |
| <input type="checkbox"/> 20= Angiotension Converting Enzyme (ACE) Inhibitors | <input type="checkbox"/> 220= Heparin, Low molecular weight |
| <input type="checkbox"/> 760= Angiotension Receptor Blockers (ARB) | <input type="checkbox"/> 710= Inotropes Not Otherwise Listed |
| <input type="checkbox"/> 700= Anti-arrhythmics Not Otherwise Listed | <input type="checkbox"/> 210= Insulin |
| <input type="checkbox"/> 770= Anticoagulents Not Otherwise Listed | <input type="checkbox"/> 230= Milrinone |
| <input type="checkbox"/> 30= Anti-reflux Meds (H2 antagonists,PPI, propulsives) | <input type="checkbox"/> 240= Narcotics |
| <input type="checkbox"/> 40= Anti-seizure medications | <input type="checkbox"/> 250= Nitric Oxide |
| <input type="checkbox"/> 50= Aspirin (within 5 days) | <input type="checkbox"/> 260= Nitroglycerin |
| <input type="checkbox"/> 60= Benzodiazepines | <input type="checkbox"/> 270= Nitroprusside |
| <input type="checkbox"/> 70= Beta Blockers | <input type="checkbox"/> 280= Norepinephrine (Levophed) |
| <input type="checkbox"/> 80= Birth Control (Oral, IM) | <input type="checkbox"/> 290= PDE-5 Inhibitors (e.g., Sildenafil) |
| <input type="checkbox"/> 200= Bronchodilators, Inhaled | <input type="checkbox"/> 300= Platelet inhibitors other than Aspirin (e.g.,Plavix) (within 5 days) |
| <input type="checkbox"/> 90= Calcium Channel Blockers | <input type="checkbox"/> 310= Prostacyclin (e.g., Flolan, Remodulin) |
| <input type="checkbox"/> 100= Calcium Chloride Infusion | <input type="checkbox"/> 320= Prostaglandin |
| <input type="checkbox"/> 750= Clonidine | <input type="checkbox"/> 330= Psychiatric Medications (including ADHD and antidepressants) |
| <input type="checkbox"/> 110= Coumadin | <input type="checkbox"/> 340= Statins |
| <input type="checkbox"/> 740= Dexmedetomidine | <input type="checkbox"/> 350= Steroids (oral / IV) |
| <input type="checkbox"/> 120= Digoxin | <input type="checkbox"/> 360= Thyroid Hormone |
| <input type="checkbox"/> 130= Direct Thrombin Inhibitors (e.g., argatroban) | <input type="checkbox"/> 370= Transplant Rejection Inhibition Meds (other than steroids) |
| <input type="checkbox"/> 140= Diuretics | <input type="checkbox"/> 720= Vasoconstrictors Not Otherwise Listed |
| <input type="checkbox"/> 150= Dobutamine | <input type="checkbox"/> 730= Vasodilators Not Otherwise Listed |
| <input type="checkbox"/> 160= Dopamine | <input type="checkbox"/> 380= Vasopressin |
| <input type="checkbox"/> 170= Endothelin Antagonist (e.g., Bosentan) | <input type="checkbox"/> 900= Other |
| <input type="checkbox"/> 180= Epinephrine | |

Preoperative Sedation Yes No

PreopSed (4710)

(If Yes→) Preoperative Sedation Route: IM IV Nasal PO/GT Rectal PreopSedRte (4720)

(If Yes, select all pre-operative sedation drugs that apply: ↓)

- | | |
|--|--|
| Atropine <input type="checkbox"/> Yes <input type="checkbox"/> No
PreopSedDrugAtro (4730) | Ketamine <input type="checkbox"/> Yes <input type="checkbox"/> No
PreopSedDrugKet (4770) |
| Demerol <input type="checkbox"/> Yes <input type="checkbox"/> No
PreopSedDrugDem (4740) | Lorazepam <input type="checkbox"/> Yes <input type="checkbox"/> No
PreopSedDrugLoraz (4780) |
| Dexmedetomidine <input type="checkbox"/> Yes <input type="checkbox"/> No | Midazolam <input type="checkbox"/> Yes <input type="checkbox"/> No |

PreopSedDrugDex(4741)
 Diazepam Yes No
 PreopSedDrugDiaz (4750)
 Fentanyl Yes No
 PreopSedDrugFent (4751)
 Glycopyrrolate Yes No
 PreopSedDrugGlyco
 (4760)

PreopSedDrugMidaz (4790)
 Morphine Yes No
 PreopSedDrugMorph (4800)
 Pentobarbital Yes No
 PreopSedDrugPent (4810)

Preoperative Oxygen Saturation: PreopO2Sat (4820) _____ %
 Preoperative Oxygen Supplementation Yes No
 PreopOxygen (4830)

Date and Time of Transport to Procedure Location Or Anesthesia Start Time:
 mm/ dd/ yyyy hh : mm __ / __ / ____ :__ :__ PLocTransDT (4840)

ANESTHESIA Monitoring

Arterial Line: Yes No (If Yes →) Type: (Select all that apply)
 ArtLine (4850)

Radial <input type="checkbox"/> Yes <input type="checkbox"/> No ArtLineTypeRad (4860)	Brachial <input type="checkbox"/> Yes <input type="checkbox"/> No ArtLineTypeBrach (4870)
Axillary <input type="checkbox"/> Yes <input type="checkbox"/> No ArtLineTypeAx (4880)	Femoral <input type="checkbox"/> Yes <input type="checkbox"/> No ArtLineTypeFem (4890)
Ulnar <input type="checkbox"/> Yes <input type="checkbox"/> No ArtLineTypeUlnar (4900)	Dorsalis Pedis <input type="checkbox"/> Yes <input type="checkbox"/> No ArtLineTypeDors (4910)
Posterior Tibial <input type="checkbox"/> Yes <input type="checkbox"/> No ArtLineTypePost (4920)	Umbilical <input type="checkbox"/> Yes <input type="checkbox"/> No ArtLineTypeCent (4930)
Arterial line in-situ pre procedure: <input type="checkbox"/> Yes <input type="checkbox"/> No ArtLinePreProc (4931)	

Cutdown: Yes No Cutdown (4940) (If Yes →) Type: (Select all that apply)

Radial CutdownRad (4950) <input type="checkbox"/> Yes <input type="checkbox"/> No	Femoral CutdownFem (4960) <input type="checkbox"/> Yes <input type="checkbox"/> No
Ulnar CutdownUln (4970) <input type="checkbox"/> Yes <input type="checkbox"/> No	Other CutdownOth (4980) <input type="checkbox"/> Yes <input type="checkbox"/> No

Percutaneous Central Pressure: Yes No PercCentPress (4990) (If Yes →) Location: (Select all that apply)

Right Internal Jugular <input type="checkbox"/> Yes <input type="checkbox"/> No PCPLocRJug (5000)	Left Internal Jugular <input type="checkbox"/> Yes <input type="checkbox"/> No PCPLocLJug (5010)
Right Subclavian <input type="checkbox"/> Yes <input type="checkbox"/> No PCPLocRSub (5020)	Left Subclavian <input type="checkbox"/> Yes <input type="checkbox"/> No PCPLocLSub (5030)
Right Femoral Vein <input type="checkbox"/> Yes <input type="checkbox"/> No PCPLocRFem (5040)	Left Femoral Vein <input type="checkbox"/> Yes <input type="checkbox"/> No PCPLocLFem (5050)
PICC <input type="checkbox"/> Yes <input type="checkbox"/> No PCPLocPICC (5051)	Other <input type="checkbox"/> Yes <input type="checkbox"/> No PCPLocOth (5060)
CVP or PICC in situ pre procedure <input type="checkbox"/> Yes <input type="checkbox"/> No CVPPICCPreProc (5062)	
CVP Placed by Anesthesia <input type="checkbox"/> Yes <input type="checkbox"/> No CVPPlaced (5070)	

Surgeon Placed lines INSTEAD of Anesthesia Placed Central Lines: Yes No SurgMonLines(5071)

Swan-Ganz Yes No
Catheter
SGCath (5080)

Oximetric Central Line (ScVO2) ScVO2 (5090) Yes No

Ultrasound Guidance Used for Line Placement: None Central venous line only
 UltraGuide (5100) Arterial line only Both arterial & venous lines

Neurologic Monitoring: Yes No **NeuroMonitor (5110)**
 (If Bispectral Index Yes No **NeuroMonBIS (5130)**
 Yes Transcranial Doppler Yes No **NeuroMonTCD (5140)**
 →) NIRS (Cerebral) Yes No **NeuroMonNIRS (5141)**
 Other Yes No **NeuroMonOth (5150)**
 Lowest Recorded Intraoperative _____ °C **LowIntraopTemp (5160)**
 Temperature:
 Lowest Intraoperative Temperature Site: Nasal Esophageal Bladder Rectal
IntraopTempSite (5170) Axillary Skin Tympanic Other
 Transesophageal Echocardiography Yes No
TEE (5180)

ANESTHESIA Anesthetic Technique

Date and Time of Induction: mm/ dd/ yyyy hh : mm __ / __ / ____ :__ **InductionDT (5190)**
 Induction Type:

Inhalation	<input type="checkbox"/> Yes <input type="checkbox"/> No	(If Yes →)	Sevoflurane	<input type="checkbox"/> Yes <input type="checkbox"/> No	IndAgentInhalSevo (5220)
	IndTypeInh (5200)		Isoflurane	<input type="checkbox"/> Yes <input type="checkbox"/> No	IndAgentInhalIso (5230)
Intravenous	<input type="checkbox"/> Yes <input type="checkbox"/> No	(If Yes →)	Sodium Thiopental	<input type="checkbox"/> Yes <input type="checkbox"/> No	IndAgentIVSodT (5260)
	IndTypeIV (5240)		Ketamine	<input type="checkbox"/> Yes <input type="checkbox"/> No	IndAgentIVKet (5270)
			Etomidate	<input type="checkbox"/> Yes <input type="checkbox"/> No	IndAgentIVEtom (5280)
			Propofol	<input type="checkbox"/> Yes <input type="checkbox"/> No	IndAgentIVProp (5290)
			Fentanyl	<input type="checkbox"/> Yes <input type="checkbox"/> No	IndAgentIVFent (5300)
			Midazolam	<input type="checkbox"/> Yes <input type="checkbox"/> No	IndAgentIVMid (5310)
			Dexmedetomidine	<input type="checkbox"/> Yes <input type="checkbox"/> No	IndAgentIVDex (5320)
			Sufentanil	<input type="checkbox"/> Yes <input type="checkbox"/> No	IndAgentIVSuf (5330)
			Remifentanil	<input type="checkbox"/> Yes <input type="checkbox"/> No	IndAgentIVRem (5340)
Intramuscular (IM)	<input type="checkbox"/> Yes <input type="checkbox"/> No	(If Yes →)	Ketamine	<input type="checkbox"/> Yes <input type="checkbox"/> No	IndAgentIMKet (5370)
	IndTypeIM (5350)		Midazolam	<input type="checkbox"/> Yes <input type="checkbox"/> No	IndAgentIMMid (5380)

Regional Anesthetic Yes No **RegionalAnes (5400)**
 (If Regional Anesthetic Site: **RegAnesSite (5410)**
 Yes →)
 Thoracic Epidural Catheter Lumbar Epidural Catheter Caudal Epidural Catheter

Lumbar Epidural -Single shot
 Paravertebral Block-Single shot

Caudal Epidural – Single shot
 Paravertebral Block – Catheter

Lumbar Intrathecal -Single Shot
 Other

(If Yes →) Regional Anesthetic Drug: (Select all that apply)

Bupivacaine RegAnesDrugBup (5420)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Bupivacaine/Fentanyl RegAnesDrugBupFen (5430)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Clonidine RegAnesDrugClon (5440)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Fentanyl RegAnesDrugFen (5450)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Hydromorphone RegAnesDrugHydro (5460)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Lidocaine RegAnesDrugLido (5470)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Morphine RegAnesDrugMorph (5480)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Ropivacaine RegAnesDrugRop (5490)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Ropivacaine/Fentanyl RegAnesDrugRopFen (5500)	<input type="checkbox"/> Yes <input type="checkbox"/> No	Tetracaine RegAnesDrugTetra (5510)	<input type="checkbox"/> Yes <input type="checkbox"/> No
		Other RegAnesDrugOth (5520)	<input type="checkbox"/> Yes <input type="checkbox"/> No

Intercostal Nerve Infiltration by Surgeon or Anesthesia: Yes No
 IntNerveInf (5530)

Regional Field Block by Surgeon or Anesthesia: Yes No
 RegFieldBlock (5540)

ANESTHESIA Airway

Airway In-situ (ETT or Tracheostomy): Yes No AirwayInsitu (5550)

(If Yes →) ETT or Tracheostomy Replaced for Procedure: Yes No AirwayReplaced (5551)

Airway Type: No airway support Simple face mask Bag-mask Nasal cannulae Laryngeal Mask
 Airway (LMA)
 Endotracheal intubation Tracheostomy AirwayType (5560)

(If LMA →)	Airway Size (mm): <input type="checkbox"/> 1.0 <input type="checkbox"/> 1.5 <input type="checkbox"/> 2.0 <input type="checkbox"/> 2.5 <input type="checkbox"/> 3.0 <input type="checkbox"/> 4.0 <input type="checkbox"/> 5.0 AirwaySizeLMA (5570)
------------	--

(If Endotracheal intubation →)	Airway Size (mm): <input type="checkbox"/> 2.5 <input type="checkbox"/> 3.0 <input type="checkbox"/> 3.5 <input type="checkbox"/> 4.0 <input type="checkbox"/> 4.5 <input type="checkbox"/> 5.0 AirwaySizeIntub (5580) <input type="checkbox"/> 5.5 <input type="checkbox"/> 6.0 <input type="checkbox"/> 6.5 <input type="checkbox"/> 7.0 <input type="checkbox"/> 7.5 <input type="checkbox"/> 8.0 <input type="checkbox"/> Other <input type="checkbox"/> Size not listed (DLETT, Tracheotomy)
--------------------------------	---

(If Endotracheal intubation or Trach →)	Cuffed: <input type="checkbox"/> Yes <input type="checkbox"/> No AirwaySizeCuffed (5590)
---	---

(If Endotracheal intubation or Trach →)	Airway Site: <input type="checkbox"/> Oral <input type="checkbox"/> Nasal <input type="checkbox"/> Tracheostomy AirwaySite (5600)
---	--

Endobronchial Isolation (DLETT, Bronchial Blocker) Yes No Endobronclso (5610)

(If Yes →)	Endobronchial Isolation Method: <input type="checkbox"/> Double lumen ETT <input type="checkbox"/> Arndt Bronchial Blocker <input type="checkbox"/> Fogarty Catheter EndobronchIsoMeth (5611) <input type="checkbox"/> Intentional Mainstem ETT <input type="checkbox"/> Uninvent ETT <input type="checkbox"/> Other
------------	---

ICU Type Ventilator Used Intraop: Yes No ICUTypeVent (5620)

Anesthesia Ready / End of Induction: mm/ dd/ yyyy hh : mm __ / __ / ____ :__ EndOfInductDT (5621)

ANESTHESIA Intraoperative Pharmacology (including CPB) IntraopPharm (6140)

Intraoperative Medications: None (If not None, select all intra-operative medications that apply: ↓)

- | | |
|--|--|
| <input type="checkbox"/> 450= 5-HT3 Agents (e.g., Ondansetron) | <input type="checkbox"/> 190= Magnesium Sulfate |
| <input type="checkbox"/> 520= Acetaminophen | <input type="checkbox"/> 210= Milrinone |
| <input type="checkbox"/> 20= Adenosine bolus | <input type="checkbox"/> 430= Narcotic |
| <input type="checkbox"/> 50= Amiodarone | <input type="checkbox"/> 230= Nesiritide Infusion |
| <input type="checkbox"/> 440= Benzodiazepine | <input type="checkbox"/> 240= Nicardipine Infusion |
| <input type="checkbox"/> 420= Bronchodilator - Inhaled | <input type="checkbox"/> 250= Nitric Oxide inhalation |
| <input type="checkbox"/> 70= Calcium Chloride infusion | <input type="checkbox"/> 260= Nitroglycerin (Tridil) infusion |
| <input type="checkbox"/> 75= Calcium Gluconate infusion | <input type="checkbox"/> 270= Nitroprusside (Nipride) |
| <input type="checkbox"/> 480= Desflurane | <input type="checkbox"/> 180= Norepinephrine (Levophed) infusion |
| <input type="checkbox"/> 80= Dexmetetomidine (Precedex) | <input type="checkbox"/> 280= Phenoxybenzamine bolus |
| <input type="checkbox"/> 90= Dobutamine infusion | <input type="checkbox"/> 290= Phentolamine (Regitine) |
| <input type="checkbox"/> 100= Dopamine infusion | <input type="checkbox"/> 300= Phenylephrine infusion |
| <input type="checkbox"/> 110= Epinephrine (Adrenalin) infusion | <input type="checkbox"/> 500= Procainamide |
| <input type="checkbox"/> 120= Esmolol | <input type="checkbox"/> 310= Propofol (Diprivan) infusion |
| <input type="checkbox"/> 510= Fenoldopam infusion | <input type="checkbox"/> 320= Prostaglandin infusion |
| <input type="checkbox"/> 140= Furosemide | <input type="checkbox"/> 470= Sevoflurane |
| <input type="checkbox"/> 370= Inotrope, Other | <input type="checkbox"/> 400= Sodium Bicarbonate bolus |
| <input type="checkbox"/> 150= Insulin | <input type="checkbox"/> 160= Steroids IV/CPB
(Hydrocortisone/Methylprednisolone/Dexamethasone) |
| <input type="checkbox"/> 460= Isoflurane | <input type="checkbox"/> 340= Thyroid Hormone |
| <input type="checkbox"/> 170= Isoproterenol infusion | <input type="checkbox"/> 410= Tromethamine (THAM) bolus |
| <input type="checkbox"/> 490= Ketamine | <input type="checkbox"/> 390= Vasoconstrictor, Other |
| <input type="checkbox"/> 530= Ketorolac | <input type="checkbox"/> 380= Vasodilator, Other |
| <input type="checkbox"/> 540= Levosimendan | <input type="checkbox"/> 360= Vasopressin infusion |

Was AT III measured preoperatively? Yes No **ATMeasPreop (6141)**

Were any of the following labs checked during CPB?

Fibrinogen Yes No If yes → value: _____mg/dL **CPBLabFibVal (6143)**

Platelet Count Yes No If yes → value: _____ 10³/ μL **CPBLabPlateletVal (6145)**

TEG on CPB Yes No

TEG – FF on CPB Yes No

ROTEM on CPB Yes No

FIBTEM on CPB Yes No

SONOCLOT on CPB Yes No

Were any of the following labs checked in the Operating Room after CPB completed?

Fibrinogen Yes No If yes → FINAL value: _____mg/dL **PostCPBLabFibVal (6152)**

Platelet Count Yes No If yes → FINAL value: _____ 10³/ μL **PostCPBLabPlateletVal (6154)**

TEG after CPB Yes No

TEG – FF after CPB Yes No

ROTEM after CPB Yes No
 PostCPBLabROTEM (6157)
 FIBTEM after CPB Yes No
 PostCPBLabFIBTEM (6158)
 SONOCLOT after CPB Yes No
 PostCPBLabSONO (6159)

ANESTHESIA Pharmacology On Arrival To ICU/PACU ICU Pharm (6170)

Medications Given At Time Of Transfer: None (If not None, select all medications that apply: ↓)

<input type="checkbox"/> 20= Aminocaproic Acid (Amicar) infusion	<input type="checkbox"/> 170= Muscle Relaxant infusion
<input type="checkbox"/> 30= Amiodarone infusion	<input type="checkbox"/> 360= Narcotic infusion
<input type="checkbox"/> 40= Aprotinin (Trasylol) infusion	<input type="checkbox"/> 180= Nesiritide Infusion
<input type="checkbox"/> 370= Benzodiazepine infusion	<input type="checkbox"/> 190= Nicardipine infusion
<input type="checkbox"/> 50= Calcium Chloride infusion	<input type="checkbox"/> 200= Nitric Oxide inhalation
<input type="checkbox"/> 60= Calcium Gluconate infusion	<input type="checkbox"/> 210= Nitroglycerin (Tridil) infusion
<input type="checkbox"/> 70= Dexmetetomidine (Precedex) infusion	<input type="checkbox"/> 220= Nitroprusside (Nipride) infusion
<input type="checkbox"/> 80= Dobutamine infusion	<input type="checkbox"/> 230= Norepinephrine (Levophed) infusion
<input type="checkbox"/> 90= Dopamine infusion	<input type="checkbox"/> 240= Phentolamine (Regitine) infusion
<input type="checkbox"/> 100= Epinephrine (Adrenalin) infusion	<input type="checkbox"/> 250= Phenylephrine infusion
<input type="checkbox"/> 340= Esmolol infusion	<input type="checkbox"/> 380= Procainamide bolus/infusion
<input type="checkbox"/> 390= Fenoldopam infusion	<input type="checkbox"/> 260= Propofol (Diprivan) infusion
<input type="checkbox"/> 310= Inotrope, Other	<input type="checkbox"/> 270= Prostaglandin infusion
<input type="checkbox"/> 120=Insulin infusion	<input type="checkbox"/> 280= Thyroid Hormone infusion
<input type="checkbox"/> 130= Isoproterenol infusion	<input type="checkbox"/> 290= Tranexamic Acid infusion
<input type="checkbox"/> 410= Ketamine Infusion	<input type="checkbox"/> 330= Vasoconstrictor, Other
<input type="checkbox"/> 400= Levosimendan	<input type="checkbox"/> 320= Vasodilator, Other
<input type="checkbox"/> 350= Local Anesthetic infusion via catheter (On-Q, Pleural catheter)	<input type="checkbox"/> 300= Vasopressin infusion
<input type="checkbox"/> 150= Milrinone infusion	

ANESTHESIA ICU/PACU Care

Date and Time of ICU/PACU Arrival: ICUArrDT (6180) (mm/dd/yyyy 00:00 – 23:59) __/__/______:__

Initial FIO2: _____ Mechanical circulatory support(ECMO/VAD) : Yes No MechCircSup (6200)
 InitialFIO2 (6190)

ICU/PACU Arrival labs Yes No (If Yes →) pH: _____ pCO2: _____ pO2: _____
 ICUPACULabs (6211) pH (6220) pCO2 (6230) pO2 (6240)
 Base Excess: _____ Lactate: _____ Hematocrit: _____
 BaseExcess (6250) Lactate (6260) Hematocrit (6270)

Initial pulse oximeter _____ % InitPulseOx (6280) Temperature on ICU/PACU Arrival: _____ ° C TempICUArr (6290)

Temperature Measurement Site: Forehead scan Tympanic membrane Skin Rectal Bladder
 TempSite (6300)

Oral Axillary Other

Need for Temporary Pacemaker on Arrival In ICU/PACU: Yes No **TempPace (6310)**

(If Yes →) Site of Temporary Pace Maker: Epicardial Transvenous
TempPaceSite (6320)

(If Yes →) Type of Temporary Pacing: Atrial Atrio-ventricular Ventricular Other
TempPaceType (6330)

Disposition Under Anesthesia: Discharged as planned after PACU/Recovery Admit to hospital floor as planned
DispUnderAnes (6340) Admit to ICU as planned Unplanned admit to hospital or ICU
 Other location not listed above Patient expired under anesthetic management

Peri-Anesthetic Demise: (within 24 hr of last anesthetic end time) Yes No **PeriAnesDemise (6350)**

ANESTHESIA Adverse Events **AnesAdvEvent (6380)**

Additional Intervention Required:

AnesAdvEventInt (6381)

Circle EACH event that required additional intervention.

Anesthesia adverse events: None *(If not None, select all adverse events that apply: ↓)*

- | | |
|---|---|
| <input type="checkbox"/> 20= Oral/Nasal Injury-Bleeding | <input type="checkbox"/> 210= Anaphylaxis/Anaphylactoid Reaction |
| <input type="checkbox"/> 30= Respiratory Arrest | <input type="checkbox"/> 220= Non-allergic Drug Reaction |
| <input type="checkbox"/> 40= Difficult Intubation/Reintubation | <input type="checkbox"/> 230= Medication Administration |
| <input type="checkbox"/> 50= Stridor / Sub-glottic Stenosis | <input type="checkbox"/> 240= Medication Dosage |
| <input type="checkbox"/> 60= Extubation | <input type="checkbox"/> 250= Intraoperative Recall |
| <input type="checkbox"/> 70= Endotracheal Tube Migration | <input type="checkbox"/> 260= Malignant Hyperthermia |
| <input type="checkbox"/> 80= Airway Injury | <input type="checkbox"/> 270= Protamine Reaction |
| <input type="checkbox"/> 410= Hemoptysis | <input type="checkbox"/> 280= Cardiac Arrest - related to anesthesia care |
| <input type="checkbox"/> 450= Laryngospasm requiring medication | <input type="checkbox"/> 490= Cardiac Arrest - unrelated to anesthesia care |
| <input type="checkbox"/> 400= Bronchospasm | <input type="checkbox"/> 510= Hypercyanotic Episode (Tet Spell) unrelated to manipulation |
| <input type="checkbox"/> 470= Unplanned need to remain intubated post-procedure due to anesthesia factors | <input type="checkbox"/> 500= Pulmonary Hypertensive Crisis unrelated to manipulation |
| <input type="checkbox"/> 90= Arrhythmia - Central Venous Line Placement | <input type="checkbox"/> 290= TEE related esophageal bleeding / rupture |
| <input type="checkbox"/> 100= Myocardial Injury - Central Venous Line Placement | <input type="checkbox"/> 300= TEE related esophageal chemical burn |
| <input type="checkbox"/> 110= Vascular Compromise - Central Venous Line Placement | <input type="checkbox"/> 310= TEE related airway compromise |
| <input type="checkbox"/> 120= Pneumothorax - Central Venous Line Placement | <input type="checkbox"/> 315= TEE related hemodynamic compromise |
| <input type="checkbox"/> 130= Vascular Access | <input type="checkbox"/> 320= TEE related extubation |
| <input type="checkbox"/> 140= Hematoma requiring relocation of catheter placement | <input type="checkbox"/> 330= Complications during patient transfer |
| <input type="checkbox"/> 150= Arterial Puncture | <input type="checkbox"/> 340= Peripheral Nerve Injury due to positioning |
| <input type="checkbox"/> 160= Intravenous/Intra-arterial Air Embolism | <input type="checkbox"/> 370= Anesthesia Equipment Malfunction/ Failure |
| <input type="checkbox"/> 350= Arterial Line Placement- Extremity ischemia | <input type="checkbox"/> 390= Integument Injury (skin breakdown or dehiscence) |
| <input type="checkbox"/> 380= Intravenous Infiltration | <input type="checkbox"/> 480= Ocular Injury (corneal abrasion or injury) |
| <input type="checkbox"/> 170= Bleeding - Regional Anesthetic Site | <input type="checkbox"/> 420= Postop Nausea/Vomiting requiring admission |
| <input type="checkbox"/> 180= Intrathecal Puncture - Regional | <input type="checkbox"/> 430= Vomiting or Aspiration on Induction/Emergence |
| <input type="checkbox"/> 190= Local Anesthetic Toxicity - Regional | <input type="checkbox"/> 440= Emergence Delirium requiring Medication |

200= Neurologic Injury - Regional

900= Other