

Society of Thoracic Surgeons

Congenital Heart Surgery Database Monthly Webinar

November 19, 2024

Agenda

- Welcome and Introduction
- STS Update
- STS Data Manager Education (Chasity Wellnitz and Leslie Wacker, CHSD Consultants)
- Q&A

Post AQO Info

- The deadline to complete your online evaluation and claim continuing education credit for AQO 2024 is Friday, December 13, 2024.
- Recordings of lectures and discussions are no longer available on the AQO virtual platform
- All recorded content has been moved to the STS Learning Center and will be available until AQO 2025.



STS Updates

- November Training Manual has been posted
- Fall 24 Harvest Update
 - Surgery dates 7/1/2020 6/30/2024
 - Report scheduled to be released in December
- 2025 Harvest Schedule has been posted
 - Spring 2025 close date: March 21, 2025
 - Fall 2025 close date: **September 26, 2025**
- Public Reporting Update
 - Website updated Nov. 11th using results from Spring 24 Harvest

Education Updates - agenda

- Important TM Updates
 Chylothorax
 Acute Renal Failure, postop event
- *NEW* Primary procedure determination
- Case scenarios

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Chylothorax

Chylothorax

<u>Defined</u>: Presence of lymphatic fluid in the pleural space, commonly secondary to leakage from the thoracic duct or one of its main tributaries. Thoracocentesis is the gold standard for diagnosis.

<u>Timeframe</u>: Other postop event timeframe

See <u>General Information Postoperative Event</u> <u>Timeframe</u> for additional information.

Code this Event: if there is biochemical evidence with a predominance of lymphocytes (> 50%) (update Oct-23) and/or triglyceride level greater than 110 mg/dl in the pleural fluid (update Jun-24).

And at least one of the following:

- placement of a new chest tube
- high outputs > 10 ml/kg/day for greater than 48-hours from an existing chest tube

And at least one of the following:

- chest tube to stay longer than 7-days
- change in enteral diet to fat free diet for longer than
 7-days
- NPO and total parenteral nutrition(TPN)/intralipid (IL) for longer than 7-days
- medication infusions such as octreotide, albumin, or IVIG at any time
- surgery for chyle leak

210

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And at least one of the following:

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- placement of a new chest tube
- high outputs > 10 ml/kg/day for greater than 48-hours from an existing chest tube

And at least one of the following:

- chest tube to stay longer than 7-days
- change in enteral diet to fat free or low fat/fat modified (update Dec-24) diet for longer than 7-days
- NPO and total parenteral nutrition(TPN)/intralipid (IL) for longer than 7-days
- medication infusions such as octreotide, albumin, or IVIG at any time
- surgery for chyle leak

Acute Renal Failure		Acute renal failure Defined: acute renal failure is defined as at least one of the following: new requirement for dialysis (peritoneal and/or hemodialysis) or hemofiltration for acute renal failure dysfunction of the kidneys (renal failure, renal dysfunction, acute kidney injury). See examples bell (update Jun-24).	
			and/or
			 if < 6575-days (<18-years) of age, a new clinical diagnosis of acute renal failure in addition to at least one of the following (update Mar-24):
			 new onset oliguria with sustained urine output < 0.5 ml/kg/hr for 24-hours
			 a rise in serum creatinine > 1.5 times the upper limits of normal for age (or twice the most recent preoperative value if available)
			and/or
			 if ≥ 6575-days (≥ 18-years) of age, a 3x increase in serum creatinine level from the preoperative value, and/or a serum creatinine level ≥ 4.0 mg/dl with at least a 0.5 mg/dl rise from the preoperative value.

Acute Renal Failure

<u>Timeframe:</u> Major event timeframe

See <u>General Information Postoperative Event</u> <u>Timeframe</u> for additional information.

<u>Code this Event</u>: if the patient experiences new onset acute renal failure as defined above during the defined timeframe.

Does not include the following:

- peritoneal drains not used for dialysis
- aquapheresis or ultrafiltration or slow continuous veno-venous ultrafiltration (SCUF) as these are used to remove fluid to achieve volume control and are not dialysis

Includes new onset renal failure only, do not include patients with preoperative renal failure (i.e., chronic renal failure) already being treated with dialysis.

Dialysis includes renal replacement therapy (RRT) for ARF including hemodialysis, peritoneal dialysis, hemofiltration and hemodiafiltration. RRT may be continuous (i.e.,

Acute Renal Failure

Does not include the following:

- peritoneal drains not used for dialysis
- aguapheresis or ultrafiltration or slow continuous veno-venous ultrafiltration (SCUF) as these are used to remove fluid to achieve volume control and are not dialysis
- peritoneal dialysis or SCUF used prophylactically as part
 of standard routine postoperative care in the absence
 of acute renal failure. Note: Should the patient later
 develop acute renal failure (as determined by
 documented renal failure, a rise in creatinine, or
 decreased urine output as defined above), code this
 event as it represents new onset acute renal failure
 (update Dec-24).



Primary Procedure

Determination





1. Data managers identified instances when primary procedure/STAT score didn't "make sense" given concomitant procedures



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- 5. Review of possible solutions



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- 4. PSF rule determined to be hindering *some* primary procedure determination
- 5. Review of possible solutions
- 6. Development of new strategy



1. Replace "Exception 1" aka "Procedure Specific Factor Rule"



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Determination of the Primary Procedure of an Operation and Classification of Multiple-Procedure Operations

The guiding principle for determining the primary procedure for a given operation is to select the procedure with the highest STAT Mortality Score.

Some procedures will be mapped to available combination procedures. The individual procedures that make up the combination procedures will not be removed but will remain as secondary procedures. These individual procedures that make up the combination procedures will not be considered for primary procedure determination. For a list of the combination procedure codes, please refer to the STS Website.

If there is a tie for highest STAT Mortality Score:

- a. The procedure indicated as the primary by the participant will become the primary procedure.
- b. If no procedure was selected as primary by the participant; the first procedure appearing in the procedures dataset will be selected as the primary procedure (this may, or may not, be the first procedure entered by the participant).

EXCEPTIONS TO THE ABOVE-STATED RULE:

1. PROCEDURE Specific Factor Rule

If a multiple procedure operation includes any of the following procedures (which are the procedures listed on the Data Collection Form in the section titled "PROCEDURE SPECIFIC FACTORS", exclusive of the VSD repair procedures), then that procedure will be designated as the primary procedure of the operation. In the event that two procedures from the list below are included in the same operative event, the procedure with the highest STAT Mortality Score will be designated as the primary procedure of that operation:



1. Replace "Exception 1" aka "Procedure Specific Factor Rule"

Determination of the Primary Procedure of an Operation and Classification of Multiple-Procedure Operations

The guiding principle for determining the primary procedure for a given operation is to select the procedure with the highest STAT Mortality Score.

Some procedures will be mapped to available combination procedures. The individual procedures that make up the combination procedures will not be removed but will remain as secondary procedures. These individual procedures that make up the combination procedures will not be considered for primary procedure determination. For a list of the combination procedure codes, please refer to the STS Website.

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EXCEPTIONS TO THE ABOVE-STATED RULE:

1. PROCEDURE Consider Factor Rule

If a multiple procedure operation includes any of the following procedures (which are the procedures listed on the Data Collection Form in the section titled "PROCEDURE SECURIC FLORS", exclusive of the VSD repair procedures), then that procedure will be designated as the primary procedure of the operation. In the event that two procedures from the list below are included in the same operative event, the procedure with the highest STAT Mortality Sect. will be designated as the primary procedure of that operation:



1. Replace "Exception 1" aka "Procedure Specific Factor Rule"

2. New "Exception 1" spreadsheet (officially managed within TM)



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- 2. New "Exception 1" spreadsheet (officially managed within TM)

If a procedure in Column B is performed as part of a multi-component procedure that includes a procedure from Column C, the primary procedure will be from Column B <u>unless</u> the operation includes an additional simultaneous procedure with a higher STAT score.



If a procedure in Column B is performed as part of a multi-component procedure that includes a procedure from Column C, the primary procedure will be from Column B <u>unless</u> the operation includes an additional simultaneous procedure with a higher STAT score.

490= Valve excision, Tricuspid or Non-systemic Atrioventricular Valve (without

110-1-1-1	Sillialtaneous procedure with a higher STAT score.						
Rule # states that	If this procedure is performed as part of a multi-component procedure	That includes any of the following as its components	Then the primary procedure will be				
			From column B unless the operation includes an additional simultaneous procedure with a				
1 (a)	1670 = Bidirectional cavopulmonary anastomosis (BDCPA) (bidirectional Glenn) (0.3,2) 1680 = Glenn (unidirectional cavopulmonary anastomosis) (unidirectional Glenn) (0.3,2) 1690 = Bilateral bidirectional cavopulmonary anastomosis (BBDCPA) (bilateral bidirectional Glenn) (0.3,2) 1700 = HemiFontan (0.2,1) 2330 = Superior Cavopulmonary anastomosis(es) (Glenn or HemiFontan) + Atrioventricular valvuloplasty (1.1,4) 2130 = Superior Cavopulmonary anastomosis(es) + PA reconstruction (0.3,2) 3160 = Kawashima operation (superior cavopulmonary connection in setting of interrupted IVC with azygous continuation) (0.2,1)	1330 = PDA Closure, Surgical (0.3,2) 1630 = Shunt, Ligation and takedown (0.3,2) 1650 = PA debanding (0.4,2) 70 = ASD Partial Closure (0.5,3) 60 = ASD Creation Enlargement (0.4,2) 80 = Atrial Septal Fenestration (0.6,3) 3200 = PA band adjustment 530 = PA, reconstruction (plasty), Main (trunk) 540 = PA, reconstruction (plasty), Branch, Central (within the hilar bifurcation) 630 = Valve excision, Pulmonary or Neo-Pulmonary (without replacement) 640 = Valve closure, Semilunar 1790 = Ligation, Pulmonary artery 3180 = Intravascular stent removal 3220 = Removal of transcatheter delivered device from heart 3210 = Removal of transcatheter delivered device from blood vessel 1490 = Arrhythmia surgery - atrial, Surgical Ablation 1500 = Arrhythmia surgery - ventricular, Surgical Ablation 460 = Valvuloplasty, Tricuspid or Non-systemic Atrioventricular Valve (do not use this code if tricuspid valve malfunction is secondary to Ebstein's anomaly. Use	higher STAT Mortality Score				
EXA	MPLE ONLY	2280 = Valvuloplasty converted to valve replacement in the same operation, Tricuspid or Non-systemic Atrioventricular Valve 470 = Valve replacement, Tricuspid or Non-systemic Atrioventricular Valve 480 = Valve closure, Tricuspid or Non-systemic Atrioventricular Valve (exclusion, univentricular approach)					



If a procedure in Column B is performed as part of a multi-component procedure that includes a procedure from Column C, the primary procedure will be from Column B <u>unless</u> the operation includes an additional simultaneous procedure with a higher STAT score.

From column B unless the operation includes an additional simultaneous procedure with a higher STAT Mortality Score

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1 (b)
950 = Fontan, Atrio-pulmonary connection (0.5,3)
960 = Fontan, Atrio-ventricular connection (0.4,2)
970 = Fontan, TCPC, Lateral tunnel, Fenestrated (0.1,1)
980 = Fontan, TCPC, Lateral tunnel, Nonfenestrated (0.1,1)
1000 = Fontan, TCPC, External conduit, Fenestrated (0.2,1)
5010 = Fontan, TCPC, External conduit, Fenestrated + Pacemaker procedure (0.8,3)
1010 = Fontan, TCPC, External conduit, Nonfenestrated (0.2,1)
2780 = Fontan, TCPC, Intra/extracardiac conduit, Fenestrated (0.2,1)
2790 = Fontan, TCPC, Intra/extracardiac conduit, Nonfenestrated (0.4,2)
3310 = Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Fenestrated (0.8,3)
3320 = Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Nonfenestrated (0.8,3)
1030 = Fontan, Other
2340 = Fontan + Atrioventricular valvuloplasty (0.2,1)
1025 = Fontan revision or conversion (Re-do Fontan) (1,4)
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1330 = PDA Closure, Surgical (0.3,2)
1630 = Shunt, Ligation and takedown (0.3,2)
1650 = PA debanding (0.4.2)
70 = ASD Partial Closure (0.5.3)
60 = ASD Creation Enlargement (0.4,2)
80 = Atrial Septal Fenestration (0.6,3)
3200= PA band adjustment
530= PA, reconstruction (plasty), Main (trunk)
540= PA, reconstruction (plasty), Branch, Central (within the hilar bifurcation)
630 = Valve excision, Pulmonary or Neo-Pulmonary (without replacement)
640= Valve closure, Semilunar
1790= Ligation, Pulmonary artery
3180= Intravascular stent removal
3220= Removal of transcatheter delivered device from heart
3210= Removal of transcatheter delivered device from blood vessel
1490 = Arrhythmia surgery - atrial, Surgical Ablation
1500 = Arrhythmia surgery - ventricular, Surgical Ablation
340= Systemic venous stenosis repair
460= Valvuloplasty, Tricuspid or Non-systemic Atrioventricular Valve (do not use
this code if tricuspid valve malfunction is secondary to Ebstein's anomaly. Use
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2280 = Valvuloplasty converted to valve replacement in the same operation,

470= Valve replacement, Tricuspid or Non-systemic Atrioventricular Valve 480= Valve closure, Tricuspid or Non-systemic Atrioventricular Valve (exclusion,

490= Valve excision. Tricuspid or Non-systemic Atrioventricular Valve (without

465= Ebstein's repair)

univentricular approach)

Tricuspid or Non-systemic Atrioventricular Valve

EXAMPLE ONLY



If a procedure in Column B is performed as part of a multi-component procedure that includes a procedure from Column C, the primary procedure will be from Column B unless the operation includes an additional simultaneous procedure with a higher STAT score.

170 = AVC (AVSD) repair, Complete (CAVSD) (0.4,2)

3480 = AVC (AVSD) repair, Complete (CAVSD) + Arch repair (1.5.4)

5027 = AVC (AVSD) repair, Complete (CAVSD) + Vascular ring repair (0.9,3)

5034 = AVC (AVSD) repair, Complete (CAVSD) + Coarctation repair, End to end, Extended (1.5,4)

180 = AVC (AVSD) repair, Intermediate (Transitional) (0.1,1)

190 = AVC (AVSD) repair, Partial, Incomplete (PAVSD) (0.1,1)

1330 = PDA Closure, Surgical (0.3,2)

1630 = Shunt, Ligation and takedown (0.3,2)

1650 = PA debanding (0.4.2)

70 = ASD Partial Closure (0.5,3)

60 = ASD Creation Enlargement (0.4,2)

80 = Atrial Septal Fenestration (0.6,3)

3200= PA band adjustment

530= PA, reconstruction (plasty), Main (trunk)

540= PA, reconstruction (plasty), Branch, Central (within the hilar bifurcation)

From column B unless the operation includes an additional simultaneous procedure with a

higher STAT Mortality Score

50= ASD, Common atrium (single atrium), Septation

150= Ventricular septal fenestration

460= Valvuloplasty, Tricuspid or Non-systemic Atrioventricular Valve (do not use

this code if tricuspid valve malfunction is secondary to Ebstein's anomaly. Use

465= Ebstein's repair)

500= Valve surgery, Other, Tricuspid or Non-systemic Atrioventricular Valve

2280 = Valvuloplasty converted to valve replacement in the same operation,

Tricuspid or Non-systemic Atrioventricular Valve

470= Valve replacement, Tricuspid or Non-systemic Atrioventricular Valve

830 = Valvuloplasty, Mitral or Systemic Atrioventricualr Valve

860= Valve surgery, Other, Mitral or Systemic Atrioventricular Valve

850= Valve replacement, Mitral or Systemic Atrioventricular Valve (MVR)

2260 = Valvuloplasty converted to valve replacement in the same operation, Mitral

or Systemic Atrioventricular Valve

1 (c)

EXAMPLE ONLY



If a procedure in Column B is performed as part of a multi-component procedure that includes a procedure from Column C, the primary procedure will be from Column B <u>unless</u> the operation includes an additional simultaneous procedure with a higher STAT score.

c) 170 = AVC (AVSD) repair, Complete (CAVSD) (0.4,2)

3480 = AVC (AVSD) repair. Complete (CAVSD) + Arch repair (1.5.4)

5027 = AVC (AVSD) repair, Complete (CAVSD) + Vascular ring repair (0.9,3)

5034 = AVC (AVSD) repair, Complete (CAVSD) - Coarctation repair, End to end, Extended (1.5,4)

180 = AVC (AVSD) repair, Intermediate (Transitional) (0.1,1)

190 = AVC (AVSD) repair, Partial, Incomplete (PAVSD) (0.1,1)

1330 = PDA Closure, Surgical (0.3,2)

1630 = Shunt, Ligation and takedown (0.3,2)

1650 = PA debanding (0.4,2)

70 = ASD Partial Closure (0.5,3)

60 = ASD Creation Enlargement (0.4,2)

80 = Atrial Septal Fenestration (0.6,3)

3200= PA band adjustment

530= PA, reconstruction (plasty), Main (trunk)

540= PA, reconstruction (plasty), Branch, Central (within the hilar bifurcation)

50= ASD, Common atrium (single atrium), Septation

150= Ventricular septal fenestration

460= Valvuloplasty, Tricuspid or Non-systemic Atrioventricular Valve (do not use

this code if tricuspid valve malfunction is secondary to Ebstein's anomaly. Use

465= Ebstein's repair)

500= Valve surgery, Other, Tricuspid or Non-systemic Atrioventricular Valve

2280 = Valvuloplasty converted to valve replacement in the same operation,

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830= Valvuloplasty, Mitral or Systemic Atrioventricualr Valve

860= Valve surgery, Other, Mitral or Systemic Atrioventricular Valve

850= Valve replacement, Mitral or Systemic Atrioventricular Valve (MVR)

2260= Valvuloplasty converted to valve replacement in the same operation, Mitral

or Systemic Atrioventricular Valve

1 (c)

EXAMPLE ONLY

operation includes an additional simultaneous procedure with a higher STAT Mortality Score

From column B unless the



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1 (d)

390 = TOF - AVC (AVSD) repair (1.0,4)

350 = TOF repair, No ventriculotomy (0.1,1)

5004 = TOF repair, No ventriculotomy + ASD repair, Primary closure (0.3,2)

360 = TOF repair, Ventriculotomy, Nontransanular patch (0.1,1.0)

370 = TOF repair, Ventriculotomy, Transanular patch (0.2,1)

3330 = TOF repair, Ventriculotomy, Transanular patch, plus native valve reconstruction (0.2,1)

3340 = TOF repair, Ventriculotomy, Transanular patch, with monocusp or other surgically fashioned RVOT valve (0.2,1)

5018 = TOF repair, Ventriculotomy, Transanular patch + Vascular ring repair (1.0,4)

380 = TOF repair, RV-PA conduit (0.5,3)

400 = TOF - Absent pulmonary valve repair (1.4,4)

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]) (0.4,2)

2710 = Pulmonary atresia - VSD - MAPCA repair, Status post prior complete unifocalization (includes VSD closure + RV to PA connection [with or without conduit]) (0.3,2)

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]) (0.4,2)

420 = Pulmonary atresia - VSD (including TOF, PA) repair (0.4,2)

5031 = Pulmonary atresia - VSD (including TOF, PA) repair + ASD repair, Primary closure + PDA closure, Surgical (1.3,4)

EXAMPLE ONLY

1330 = PDA Closure, Surgical (0.3,2)

1630 = Shunt, Ligation and takedown (0.3,2)

1650 = PA debanding (0.4,2)

70 = ASD Partial Closure (0.5,3)

60 = ASD Creation Enlargement (0.4,2)

80 = Atrial Septal Fenestration (0.6,3)

530= PA, reconstruction (plasty), Main (trunk)

540= PA, reconstruction (plasty), Branch, Central (within the hilar bifurcation)

50= ASD, Common atrium (single atrium), Septation

150= Ventricular septal fenestration

460= Valvuloplasty, Tricuspid or Non-systemic Atrioventricular Valve (do not use this code if tricuspid valve malfunction is secondary to Ebstein's anomaly. Use 465= Ebstein's repair)

500= Valve surgery, Other, Tricuspid or Non-systemic Atrioventricular Valve

5015= ASD repair, Patch + Valve replacement, Pulmonary or Neo-Pulmonary (PVR)

610= Conduit placement, RV to PA

611=Conduit placement, RV to PA, Non-valved

612 = Conduit placement, RV to PA, Valved

5013=Conduit placement, RV to PA + PDA closure, Surgical

3180= Intravascular stent removal

3220= Removal of transcatheter delivered device from heart

3210= Removal of transcatheter delivered device from blood vessel

600= Valva replacement, Pulmopany or Neo Pulmopany (PVP)

WHAT

If a procedure in Column B is performed as part of a multi-component procedure that includes a procedure from Column C, the primary procedure will be from Column B <u>unless</u> the operation includes an additional simultaneous procedure with a higher STAT score.

465 = Ebstein's Repair (0.4,2)

1 (e)

5030 = Ebstein's repair + PDA closure, Surgical (3.0,5)

EXAMPLE ONLY

2280= Valvuloplasty converted to valve replacement in the same operation, Tricuspid or Non-systemic Atrioventricular Valve

470= Valve replacement, Tricuspid or Non-systemic Atrioventricular Valve

500= Valve surgery, Other, Tricuspid or Non-systemic Atrioventricular Valve

600= Valve replacement, Pulmonary or Neo-Pulmonary (PVR)

590= Valvuloplasty, Pulmonary or Neo-Pulmonary

2270 = Valvuloplasty converted to valve replacement in the same operation, Pulmonary or Neo-Pulmonary

5015 = ASD repair, Patch + Valve replacement, Pulmonary or Neo-Pulmonary (PVR)

610= Conduit placement, RV to PA

611=Conduit placement, RV to PA, Non-valved

612 = Conduit placement, RV to PA, Valved

5013=Conduit placement, RV to PA + PDA closure, Surgical

1670 = Bidirectional cavopulmonary anastomosis (BDCPA) (bidirectio

1680 = Glenn (unidirectional cavopulmonary anastomosis) (unidirecti

1690 = Bilateral bidirectional cavopulmonary anastomosis (BBDCPA)

1700 = HemiFontan (0.2,1)

2330 = Superior Cavopulmonary anastomosis(es) (Glenn or HemiFont

2130 = Superior Cavopulmonary anastomosis(es) + PA reconstruction

3160 = Kawashima operation (superior cavopulmonary connection in



If a procedure in Column B is performed as part of a multi-component procedure that includes a procedure from Column C, the primary procedure will be from Column B <u>unless</u> the operation includes an additional simultaneous procedure with a higher STAT score.

230 = Truncus arteriosus repair (1.3,4)

1 (f)

2220 = Truncus + Interrupted aortic arch repair (IAA) repair (2.0,5)

2730 = Unifocalization MAPCA(s), Bilateral pulmonary unifocalization - Complet unifocalization (all usable MAPCA[s] are incorporated)

2740 = Unifocalization MAPCA(s), Bilateral pulmonary unifocalization - Incomplete unifocalization (not all usable MAPCA[s] are incorporated) 2750 = Unifocalization MAPCA(s), Unilateral pulmonary unifocalization

2/50= Unitocalization MAPCA(s), Unitateral pulmonary unitocalization

440= Unifocalization MAPCA(s)

5011=Unifocalization MAPCA(s) + Conduit placement, RV to PA

5013=Conduit placement, RV to PA + PDA closure, Surgical

660= Valvuloplasty, Aortic/Neo-Aortic

3540 = Valvuloplasty, Aortic/Neo-Aortic Valve, , Reduction of number of cusps/si

3550=Valvuloplasty, Aortic/Neo-Aortic Valve, Augmentation of valve leaflet (one

3560=Valvuloplasty, Aortic/Neo-Aortic Valve Neo-cuspidization (including one of more leaflet – 'Ozaki' type repair etc.)

3490 = Valvuloplasty, Truncal valve, Reduction of number of cusps/sinus resection

3500 = Valvuloplasty, Truncal valve, Augmentation of valve leaflet (one or more) 3510=Valvuloplasty, Truncal valve, Neo-cuspidization (including one or more leaflet – 'Ozaki' type repair etc.)

EXAMPLE ONLY



If a procedure in Column B is performed as part of a multi-component procedure that includes a procedure from Column C, the primary procedure will be from Column B <u>unless</u> the operation includes an additional simultaneous procedure with a higher STAT score.

870 = Norwood procedure (2.1,5)

L (g)

5012 = Norwood procedure + Valvuloplasty, Systemic Atrioventricular valve + Conduit placement, RV to PA or Norwood procedure + Valvuloplasty Systemic Atrioventricular valve + RV to PA shunt (4.3,5)

2160 = Hybrid Approach "Stage 1", Application of RPA & LPA bands (4.8,5)

EXAMPLE ONLY

2170 = Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA) (2.7,5)

2180 = Hybrid Approach "Stage 1", Stent placement in arterial duct (PDA) + application of RPA & LPA bands (3.0,5)

2200 = TAPVC repair + Shunt - systemic-to-pulmonary

5006=TAPVC repair + Shunt - systemic-to-pulmonary + PDA closure, Surgical 5017 = Damus-Kaye-Stansel procedure (DKS) (creation of AP anastomosis without arch reconstruction) + Shunt, Systemic to pulmonary, Modified Blalock-Taussig Shunt (MBTS)



If a procedure in Column B is performed as part of a multi-component procedure that includes a procedure from Column C, the primary procedure will be from Column B <u>unless</u> the operation includes an additional simultaneous procedure with a higher STAT score.

1110 = Arterial switch operation (ASO) (0.4,2)

1 (h)

1123 = Arterial switch procedure + Aortic arch repair (0.3,2)

1120 = Arterial switch operation (ASO) and VSD repair (0.7,3)

1125 = Arterial switch procedure and VSD repair + Aortic arch repair (1.8,5)

EXAMPLE ONLY

150= Ventricular septal fenestration

530= PA, reconstruction (plasty), Main (trunk)

540= PA, reconstruction (plasty), Branch, Central (within the hilar bifurcation)

1160= REV

510= RVOT procedure

85= Atrial fenestration closure

660= Valvuloplasty, Aortic/Neo-Aortic

3540 = Valvuloplasty, Aortic/Neo-Aortic Valve, , Reduction of number of cusps/sinus r

3550=Valvuloplasty, Aortic/Neo-Aortic Valve, Augmentation of valve leaflet (one or m

3560=Valvuloplasty, Aortic/Neo-Aortic Valve Neo-cuspidization (including one or

more leaflet - 'Ozaki' type repair etc.)

590= Valvuloplasty, Pulmonary or Neo-Pulmonary



If a procedure in Column B is performed as part of a multi-component procedure that includes a procedure from Column C, the primary procedure will be from Column B <u>unless</u> the operation includes an additional simultaneous procedure with a higher STAT score.

1 (i) 120 = VSD repair, Device (0.4,2) 110 = VSD repair, Patch (0.1,1)

100 = VSD repair, Primary closure (0.1,1)

130 = VSD, Multiple, Repair (0.3,2)

5001 = VSD, repair, Patch + ASD repair, Primary Closure (0.2,1)

5028 = VSD repair, Patch + ASD repair, Patch + PAPVC repair (1.1,4)

5016 = VSD, repair, Patch + Conduit reoperation (0.3,2)

5023 = VSD, repair, Patch + Valve replacement, Pulmonary or Neo-pulmonary (PVR) (0.4,2)

5024 = VSD, repair, Patch + PAPVC repair (0.4,2)

5022 = AVC (AVSD) repair, Partial (Incomplete) (PAVSD) + VSD repair, Patch (0.7,3)

460 = Valvuloplasty, Tricuspid or Non-systemic Atrioventricular Valve (do not use this code if tricuspid valve malfunction is secondary to Ebstein's anomaly. Use 465= Ebstein's repair) (0.2,1)

500= Valve surgery, Other, Tricuspid or Non-systemic Atrioventricular Valve 1650 = PA debanding (0.4.2)

3200= PA band adjustment

FXAMPLE ONLY



If a procedure in Column B is performed as part of a multi-component procedure that includes a procedure from Column C, the primary procedure will be from Column B <u>unless</u> the operation includes an additional simultaneous procedure with a higher STAT score.

EXAMPLE ONLY

L UI

2270 = Valvuloplasty converted to valve replacement in the same operation, Pulmonic (0.6,3) 600 = Valve replacement, PVR (0.1,1) 530 = Pa, reconstruction (plasty), Main (trunk) (0.2,1)



If a procedure in Column B is performed as part of a multi-component procedure that includes a procedure from Column C, the primary procedure will be from Column B <u>unless</u> the operation includes an additional simultaneous procedure with a higher STAT score.

740 = Ross procedure (0.1,1)

760 = Ross-Konno procedure (1.0,4)

5026 = Ross-Konno procedure + Valve replacement, Mitral or systemic atrioventricular Valve (MVR) (3.5,5)

EXAMPLE ONLY

610 = Conduit placement, RV to PA (0.3,2)

3520 = Conduit placement, RV to PA, Valved (0.3,2)

3530 = Conduit placement, RV to PA, Non-valved (0.3,2)

3680 = RV to PA Shunt (e.g. Sano Shunt or palliative RV-PA non-valved conduit to augment pulmonary blood flow) (0.6,3)



1. January 1, 2025 – moving forward



- 1. January 1, 2025 moving forward
- 2. Analysis with Spring 2025 harvest (Jan 2021 Dec 2024)



- 1. January 1, 2025 moving forward
 - Training Manual update

- 2. Analysis with Spring 2025 harvest (Jan 2021 Dec 2024)
 - IQVIA Primary Procedure mismatch
 - NOT required



- 1. May change primary procedure
 - May have some which cannot be updated (v3.41 cases with new codes



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 - May have some which cannot be updated (v3.41 cases with new codes)
- 2. Depending on your vendor, you may lose PSF already entered
 - Shouldn't have any which NOW require PSF



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 - Shouldn't have any which NOW require PSF
- 3. Will notify when reports are ready



- 1. May change primary procedure
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- 2. Depending on your vendor, you may lose PSF already entered
 - Shouldn't have any which NOW require PSF
- 3. Will notify when reports are ready
- 4. Submit FAQ if you have questions

Procedure Specific Factor Rule Update

If a procedure in Column B is performed as part of a multi-component procedure that includes a procedure from Column C, the primary procedure will be from Column B <u>unless</u> the operation includes an additional simultaneous procedure with a higher STAT score.

Procedure Specific Factor Rule Update

If a procedure in Column B is performed as part of a multi-component procedure that includes a procedure from Column C, the primary procedure will be from Column B <u>unless</u> the operation includes an additional simultaneous procedure with a higher STAT score.

Rule #	Column B	Column C
1i.	 120 = VSD repair, Device 110 = VSD repair, Patch 100 = VSD repair, Primary closure 130 = VSD, Multiple, Repair 5001 = VSD, repair, Patch + ASD repair, Primary Closure 5028 = VSD repair, Patch + ASD repair, Patch + PAPVC repair 5016 = VSD, repair, Patch + Conduit reoperation 5023 = VSD, repair, Patch + Valve replacement, Pulmonary or Neo-pulmonary (PVR) 5024 = VSD, repair, Patch + PAPVC repair 5022 = AVC (AVSD) repair, Partial (Incomplete) (PAVSD) + VSD repair, Patch 	 460 = Valvuloplasty, Tricuspid or Nonsystemic Atrioventricular Valve 500 = Valve surgery, Other, Tricuspid or Non-systemic Atrioventricular Valve 1650 = PA debanding 3200 = PA band adjustment

Patient undergoes VSD repair, Patch (0.1, 1) and the previously placed PA band (0.4, 2) is removed. What is the primary procedure?

Rule #	Column B	Column C
1i.	 120 = VSD repair, Device 110 = VSD repair, Patch 100 = VSD repair, Primary closure 130 = VSD, Multiple, Repair 5001 = VSD, repair, Patch + ASD repair, Primary Closure 5028 = VSD repair, Patch + ASD repair, Patch + PAPVC repair 5016 = VSD, repair, Patch + Conduit reoperation 5023 = VSD, repair, Patch + Valve replacement, Pulmonary or Neo-pulmonary (PVR) 5024 = VSD, repair, Patch + PAPVC repair 5022 = AVC (AVSD) repair, Partial (Incomplete) (PAVSD) + VSD repair, Patch 	 460 = Valvuloplasty, Tricuspid or Nonsystemic Atrioventricular Valve 500 = Valve surgery, Other, Tricuspid or Non-systemic Atrioventricular Valve 1650 = PA debanding 3200 = PA band adjustment

Patient undergoes VSD repair, Patch (0.1, 1) and the previously placed PA band (0.4, 2) is removed. What is the primary procedure?

If a procedure in Column B is performed as part of a multi-component procedure that includes a procedure from Column C, the primary procedure will be from Column B <u>unless</u> the operation includes an additional simultaneous procedure with a higher STAT score.

Rule #	Column B	Column C
1i.	 120 = VSD repair, Device 110 = VSD repair, Patch 100 = VSD repair, Primary closure 130 = VSD, Multiple, Repair 5001 = VSD, repair, Patch + ASD repair, Primary Closure 5028 = VSD repair, Patch + ASD repair, Patch + PAPVC repair 5016 = VSD, repair, Patch + Conduit reoperation 	 460 = Valvuloplasty, Tricuspid or Nonsystemic Atrioventricular Valve 500 = Valve surgery, Other, Tricuspid or Non-systemic Atrioventricular Valve 1650 = PA debanding 3200 = PA band adjustment
	 5023 = VSD, repair, Patch + Valve replacement, Pulmonary or Neo-pulmonary (PVR) 5024 = VSD, repair, Patch + PAPVC repair 5022 = AVC (AVSD) repair, Partial (Incomplete) (PAVSD) + VSD repair, Patch 	

Answer #1

Patient undergoes VSD repair, Patch (0.1, 1) and the previously placed PA band (0.4, 2) is removed. What is the primary procedure?

If a procedure in Column B is performed as part of a multi-component procedure that includes a procedure from Column C, the primary procedure will be from Column B <u>unless</u> the operation includes an additional simultaneous procedure with a higher STAT score.

Rule #	Column B	Column C
1i. (120 = VSD repair, Device 110 = VSD repair, Patch 100 = VSD repair, Primary closure 130 = VSD, Multiple, Repair 5001 = VSD, repair, Patch + ASD repair, Primary Closure 5028 = VSD repair, Patch + ASD repair, Patch + PAPVC repair 5016 = VSD, repair, Patch + Conduit reoperation 5023 = VSD, repair, Patch + Valve replacement, Pulmonary or Neo-pulmonary (PVR) 5024 = VSD, repair, Patch + PAPVC repair 5022 = AVC (AVSD) repair, Partial (Incomplete) (PAVSD) + VSD repair, Patch 	 460 = Valvuloplasty, Tricuspid or Nonsystemic Atrioventricular Valve 500 = Valve surgery, Other, Tricuspid or Non-systemic Atrioventricular Valve 1650 = PA debanding 3200 = PA band adjustment

Can I code the cleft repair of the mitral valve (0.3, 2) repaired during AVC (AVSD) repair, Intermediate (Transitional) (0.1, 1)?

Rule #	Column B	Column C
1c.	• 170 = AVC (AVSD) repair, Complete (CAVSD)	3200 = PA band adjustment
	• 3480 = AVC (AVSD) repair, Complete (CAVSD) + Arch	• 530 = PA, reconstruction (plasty), Main (trunk)
	repair	• 540 = PA, reconstruction (plasty), Branch, Central (within the hilar bifurcation)
	 5027 = AVC (AVSD) repair, Complete (CAVSD) + Vascular ring repair 	• 50 = ASD, Common atrium (single atrium), Septation
		150 = Ventricular septal fenestration
	 5034 = AVC (AVSD) repair, Complete (CAVSD) + Coarctation repair, End to end, Extended 	460 = Valvuloplasty, Tricuspid or Non-systemic Atrioventricular Valve
	• 180 = AVC (AVSD) repair, Intermediate (Transitional)	500 = Valve surgery, Other, Tricuspid or Non-systemic Atrioventricular Valve
	• 190 = AVC (AVSD) repair, Partial, Incomplete (PAVSD)	2280 = Valvuloplasty converted to valve replacement in the same operation, Tricuspid or Non-systemic Atrioventricular Valve
		470 = Valve replacement, Tricuspid or Non-systemic Atrioventricular Valve
		830 = Valvuloplasty, Mitral or Systemic Atrioventricular Valve
		860 = Valve surgery, Other, Mitral or Systemic Atrioventricular Valve
		850 = Valve replacement, Mitral or Systemic Atrioventricular Valve (MVR)
		2260 = Valvuloplasty converted to valve replacement in the same operation, Mitral or Systemic Atrioventricular Valve

Can I code the cleft repair of the mitral valve (0.3, 2) repaired during AVC (AVSD) repair, Intermediate (Transitional) (0.1, 1)?

Rule #	Column B	Column C
1c.	• 170 = AVC (AVSD) repair, Complete (CAVSD)	• 3200 = PA band adjustment
10.	• 3480 = AVC (AVSD) repair, Complete (CAVSD) + Arch	• 530 = PA, reconstruction (plasty), Main (trunk)
	repair	• 540 = PA, reconstruction (plasty), Branch, Central (within the hilar bifurcation)
	 5027 = AVC (AVSD) repair, Complete (CAVSD) + Vascular ring repair 	• 50 = ASD, Common atrium (single atrium), Septation
		150 = Ventricular septal fenestration
	 5034 = AVC (AVSD) repair, Complete (CAVSD) + Coarctation repair, End to end, Extended 	460 = Valvuloplasty, Tricuspid or Non-systemic Atrioventricular Valve
	• 180 = AVC (AVSD) repair, Intermediate	• 500 = Valve surgery, Other, Tricuspid or Non-systemic Atrioventricular Valve
	(Transitional)	• 2280 = Valvuloplasty converted to valve replacement in the same operation, Tricuspid
	• 190 = AVC (AVSD) repair, Partial, Incomplete (PAVSD)	or Non-systemic Atrioventricular Valve
		• 470 = Valve replacement, Tricuspid or Non-systemic Atrioventricular Valve
		830 = Valvuloplasty, Mitral or Systemic Atrioventricular Valve
		860 = Valve surgery, Other, Mitral or Systemic Atrioventricular Valve
		• 850 = Valve replacement, Mitral or Systemic Atrioventricular Valve (MVR)
		• 2260 = Valvuloplasty converted to valve replacement in the same operation, Mitral or Systemic Atrioventricular Valve

Answer #2

Can I code the cleft repair of the mitral valve repaired during AVC (AVSD) repair, Intermediate (Transitional)?

If a procedure in Column B is performed as part of a multi-component procedure that includes a procedure from Column C, the primary procedure will be from Column B <u>unless</u> the operation includes an additional simultaneous procedure with a higher STAT score.

Rule	Column B	Column C
1c	• 180 = AVC (AVSD) repair, Intermediate (Transitional)	830 = Valvuloplasty, Mitral or Systemic Atrioventricular Valve

Yes, mitral/systemic AV valve repairs can now be included as secondary procedures to AVC repairs as they are listed in Column C

Patient undergoes Ross procedure (0.1, 1) and Nicks procedure to enlarge the aortic annulus. What is the primary procedure?

Rule #	Column B	Column C
1k.	 740 = Ross procedure 760 = Ross-Konno procedure 5026 = Ross-Konno procedure + Valve replacement, Mitral or systemic atrioventricular Valve (MVR) 	 610 = Conduit placement, RV to PA 3520 = Conduit placement, RV to PA, Valved 3530 = Conduit placement, RV to PA, Non-valved 3680 = RV to PA Shunt (e.g. Sano Shunt or palliative RV-PA non-valved conduit to augment pulmonary blood flow)

Patient undergoes Ross procedure (0.1, 1) and Nicks procedure to enlarge the aortic annulus. What is the primary procedure?

Nicks procedure = (770) Other annular enlargement procedure (0.3, 2)

Rule #	Column B	Column C
1k.	 740 = Ross procedure (0.1, 1) 760 = Ross-Konno procedure 5026 = Ross-Konno procedure + Valve replacement, Mitral or systemic atrioventricular Valve (MVR) 	 610 = Conduit plannent, RY PA 3520 = Conduit planter to PA, Valved 3530 = Conduit planter to PA, Non-valved 3680 = RV to PA Shy pano Shunt or palliative gment pulmonary blood flow)

Answer #3

Patient undergoes Ross procedure (0.1, 1) and Nicks procedure to enlarge the aortic annulus. What is the primary procedure?

If a procedure in Column B is performed as part of a multi-component procedure that includes a procedure from Column C, the primary procedure will be from Column B <u>unless</u> the operation includes an additional simultaneous procedure with a higher STAT score.

Rule #	Column B
1k.	• 740 = Ross procedure (0.1, 1)

Nicks procedure = (770) Other annular enlargement procedure (0.3, 2)

The Nicks procedure is primary - not in Column C and has a higher STAT score than the Ross procedure

Patient undergoes bidirectional cavopulmonary anastomosis (BDCPA) (0.3, 2) and aortic arch repair (0.5, 3). What is the primary procedure?

Rule #	Column B	Column C
1a.	 1670 = Bidirectional cavopulmonary anastomosis (BDCPA) (bidirectional Glenn) 1680 = Glenn (unidirectional cavopulmonary anastomosis) (unidirectional Glenn) 1690 = Bilateral bidirectional cavopulmonary anastomosis (BBDCPA) (bilateral bidirectional Glenn) 1700 = HemiFontan 2330 = Superior Cavopulmonary anastomosis(es) (Glenn or HemiFontan) + Atrioventricular valvuloplasty 2130 = Superior Cavopulmonary anastomosis(es) + PA reconstruction 3160 = Kawashima operation (superior cavopulmonary connection in setting of interrupted IVC with azygous continuation) 	 1330 = PDA Closure, Surgical 1630 = Shunt, Ligation and takedown 1650 = PA debanding 70 = ASD Partial Closure 60 = ASD Creation Enlargement 80 = Atrial Septal Fenestration 3200 = PA band adjustment 530 = PA, reconstruction (plasty), Main (trunk) 540 = PA, reconstruction (plasty), Branch, Central (within the hilar bifurcation) 630 = Valve excision, Pulmonary or Neo-Pulmonary (without replacement) 640 = Valve closure, Semilunar 1790 = Ligation, Pulmonary artery 3180 = Intravascular stent removal 3220 = Removal of transcatheter delivered device from heart 3210 = Removal of transcatheter delivered device from blood vessel 1490 = Arrhythmia surgery - atrial, Surgical Ablation 1500 = Arrhythmia surgery - ventricular, Surgical Ablation 460 = Valvuloplasty, Tricuspid or Non-systemic Atrioventricular Valve 2280 = Valvuloplasty converted to valve replacement in the same operation, Tricuspid or Non-systemic Atrioventricular Valve 470 = Valve replacement, Tricuspid or Non-systemic Atrioventricular Valve (exclusion, univentricular approach) 490 = Valve excision, Tricuspid or Non-systemic Atrioventricular Valve (without replacement) 500 = Valve surgery, Other, Tricuspid or Non-systemic Atrioventricular Valve (without replacement)

Patient undergoes bidirectional cavopulmonary anastomosis (BDCPA) (0.3, 2) and aortic arch repair (0.5, 3). What is the primary procedure?

Rule #	Column B	Column C
1a.	 1670 = Bidirectional cavopulmonary anastomosis (BDCPA) (bidirectional Glenn) 1680 = Glenn (unidirectional cavopulmonary anastomosis) (unidirectional Glenn) 1690 = Bilateral bidirectional cavopulmonary anastomosis (BBDCPA) (bilateral bidirectional Glenn) 1700 = HemiFontan 2330 = Superior Cavopulmonary anastomosis(es) (Glenn or HemiFontan) + Atrioventricular valvuloplasty 2130 = Superior Cavopulmonary anastomosis(es) + PA reconstruction 3160 = Kawashima operation (superior cavopulmonary connection in setting of interrupted IVC with azygous continuation) 	 1330 = PDA Closure, Surgical 1630 = Shunt, Ligation and takedown 1650 = PA debanding 70 = ASD Partial Closure 60 = ASD Creation Enlargement 80 = Atrial Septal Fenestration 3200 = PA band adjustme 530 = PA, reconstruction (ph. 540 = PA, reconstruction (plass 630 = Valve excision, Pulmonary eplacement) 640 = Valve closure, Semilunar 1790 = Ligation, Pulmonary artery 3180 = Intravascular stent removal 3220 = Removal of transcathete 3210 = Removal of transcathete 3210 = Removal of transcathete 1500 = Arrhythmia surger 460 = Valvuloplasty, Tricuspio emic Atriov dive 2280 = Valvuloplasty converted to the ereplacement in the operation, Tricuspid or Nonsystemic Atrioventricular Valve 470 = Valve replacement, Tricuspid or Non-systemic Atrioventricular Valve (exclusion, univentricular approach) 490 = Valve excision, Tricuspid or Non-systemic Atrioventricular Valve (without replacement) 500 = Valve surgery, Other, Tricuspid or Non-systemic Atrioventricular Valve

Answer #4

Patient undergoes bidirectional cavopulmonary anastomosis (BDCPA) (0.3, 2) and aortic arch repair (0.5, 3). What is the primary procedure?

If a procedure in Column B is performed as part of a multi-component procedure that includes a procedure from Column C, the primary procedure will be from Column B <u>unless</u> the operation includes an additional simultaneous procedure with a higher STAT score.

Rı	ule#	Column B
	1a.	• 1670 = Bidirectional cavopulmonary anastomosis (BDCPA) (bidirectional Glenn) (0.3, 2)

(1280) Aortic arch repair (0.5, 3)

The aortic arch repair is primary as it is not listed in Column C and has a higher STAT score than the BDCPA procedure.

Patient undergoes Fontan, TCPC, External conduit, Fenestrated (0.2, 1) and insertion of a new pacemaker. What is the correct Column B procedure?

Rule#	Column B
1b.	950 = Fontan, Atrio-pulmonary connection
10.	960 = Fontan, Atrio-ventricular connection
	• 970 = Fontan, TCPC, Lateral tunnel, Fenestrated
	• 980 = Fontan, TCPC, Lateral tunnel, Nonfenestrated
	• 1000 = Fontan, TCPC, External conduit, Fenestrated
	• 5010 = Fontan, TCPC, External conduit, Fenestrated + Pacemaker procedure
	1010 = Fontan, TCPC, External conduit, Nonfenestrated
	2780 = Fontan, TCPC, Intra/extracardiac conduit, Fenestrated
	2790 = Fontan, TCPC, Intra/extracardiac conduit, Nonfenestrated
	3310 = Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Fenestrated
	3320 = Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Nonfenestrated
	• 1030 = Fontan, Other
	2340 = Fontan + Atrioventricular valvuloplasty
	• 1025 = Fontan revision or conversion (Re-do Fontan)

Patient undergoes Fontan, TCPC, External conduit, Fenestrated (0.2, 1) and insertion of a new pacemaker. What is the correct Column B procedure?

Rule #	Column B	
1b.	• 950 = Fontan, Atrio-pulmonary connection	
10.	• 960 = Fontan, Atrio-ventricular connection	
	• 970 = Fontan, TCPC, Lateral tunnel, Fenestrated	
	• 980 = Fontan, TCPC, Lateral tunnel, Nonfenestrated	
	• 1000 = Fontan, TCPC, External conduit, Fenestrated	
	• 5010 = Fontan, TCPC, External conduit, Fenestrated + Pacemaker procedure	
	• 1010 = Fontan, TCPC, External conduit, Nonfenestrated	
	• 2780 = Fontan, TCPC, Intra/extracardiac conduit, Fenestrated	
	• 2790 = Fontan, TCPC, Intra/extracardiac conduit, Nonfenestrated	
	• 3310 = Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Fenestrated	
	• 3320 = Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Nonfenestrated	
	• 1030 = Fontan, Other	
	• 2340 = Fontan + Atrioventricular valvuloplasty	
	• 1025 = Fontan revision or conversion (Re-do Fontan)	

Patient undergoes Fontan, TCPC, External conduit, Fenestrated (0.2, 1) and insertion of a new pacemaker (0.2, 1). What is the correct Column B procedure?

5010	Fontan, TCPC, External conduit, Fenestrated + Pacemaker procedure	During the same operation, procedure (1000) Fontan, TCPC, External conduit, Fenestrated <i>and</i> procedure (1460) Pacemaker, Procedure.
		Coding Notes:
		See the individual procedure codes for more detail.
		Only code procedure (1460) Pacemaker procedure in the event the patient has an existing permanent pacemaker at the time of OR Entry Date/Time and a pacemaker procedure is completed. Do not code procedure (1460) Pacemaker procedure if only temporary pacing wires are placed during the operation (update Sept-24).

Patient underwent the placement of a new pacemaker, not a pacemaker procedure.

Do not use the combination code in Column B

Patient undergoes Fontan, TCPC, External conduit, Fenestrated (0.2, 1) and insertion of a new pacemaker. What is the correct Column B procedure?

Rule #	Column B	
1b.	• 1000 = Fontan, TCPC, External conduit, Fenestrated	
	• 5010 = Fontan, TCPC, External conduit, Fenestrated +	
	Pacemaker procedure	

Patient undergoes Fontan, TCPC, External conduit, Fenestrated (0.2, 1) and insertion of a new pacemaker (0.2, 1). What is the primary procedure?

Rule #	Column B	Column C
1b.	 950 = Fontan, Atrio-pulmonary connection 960 = Fontan, Atrio-ventricular connection 970 = Fontan, TCPC, Lateral tunnel, Fenestrated 980 = Fontan, TCPC, Lateral tunnel, Nonfenestrated 1000 = Fontan, TCPC, External conduit, Fenestrated 5010 = Fontan, TCPC, External conduit, Fenestrated + Pacemaker procedure 1010 = Fontan, TCPC, External conduit, Nonfenestrated 2780 = Fontan, TCPC, Intra/extracardiac conduit, Fenestrated 2790 = Fontan, TCPC, Intra/extracardiac conduit, Nonfenestrated 3310 = Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Fenestrated 3320 = Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Nonfenestrated 1030 = Fontan, Other 2340 = Fontan + Atrioventricular valvuloplasty 1025 = Fontan revision or conversion (Re-do Fontan) 	 1330 = PDA Closure, Surgical 1630 = Shunt, Ligation and takedown 1650 = PA debanding 70 = ASD Partial Closure 60 = ASD Creation Enlargement 80 = Atrial Septal Fenestration 3200 = PA band adjustment 530 = PA, reconstruction (plasty), Main (trunk) 540 = PA, reconstruction (plasty), Branch, Central (within the hilar bifurcation) 630 = Valve excision, Pulmonary or Neo-Pulmonary (without replacement) 640 = Valve closure, Semilunar 1790 = Ligation, Pulmonary artery 3180 = Intravascular stent removal 3220 = Removal of transcatheter delivered device from heart 3210 = Removal of transcatheter delivered device from blood vessel 1490 = Arrhythmia surgery - atrial, Surgical Ablation 1500 = Arrhythmia surgery - ventricular, Surgical Ablation 340 = Systemic venous stenosis repair 460 = Valvuloplasty, Tricuspid or Non-systemic Atrioventricular Valve 2280 = Valvuloplasty converted to valve replacement in the same operation, Tricuspid or Non-systemic Atrioventricular Valve 470 = Valve replacement, Tricuspid or Non-systemic Atrioventricular Valve (exclusion, univentricular approach) 490 = Valve excision, Tricuspid or Non-systemic Atrioventricular Valve (without replacement) 500 = Valve surgery, Other, Tricuspid or Non-systemic Atrioventricular Valve (without replacement)

Patient undergoes Fontan, TCPC, External conduit, Fenestrated (0.2, 1) and insertion of a new pacemaker (0.2, 1). What is the primary procedure?

Rule #	Column B	Column C
1b.	 950 = Fontan, Atrio-pulmonary connection 960 = Fontan, Atrio-ventricular connection 970 = Fontan, TCPC, Lateral tunnel, Fenestrated 980 = Fontan, TCPC, Lateral tunnel, Nonfenestrated 1000 = Fontan, TCPC, External conduit, Fenestrated 5010 = Fontan, TCPC, External conduit, Fenestrated + Pacemaker procedure 1010 = Fontan, TCPC, External conduit, Nonfenestrated 2780 = Fontan, TCPC, Intra/extracardiac conduit, Fenestrated 2790 = Fontan, TCPC, Intra/extracardiac conduit, Nonfenestrated 3310 = Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Fenestrated 3320 = Fontan, TCPC, External conduit, hepatic veins to pulmonary artery, Nonfenestrated 1030 = Fontan, Other 2340 = Fontan + Atrioventricular valvuloplasty 1025 = Fontan revision or conversion (Re-do Fontan) 	 1330 = PDA Closure, Surgical 1630 = Shunt, Ligation and takedown 1650 = PA debanding 70 = ASD Partial Closure 60 = ASD Creation Enlargement 80 = Atrial Septal Fenestration 3200 = PA band adjustment 530 = PA, reconstruction 630 = Valve excision, Pu 640 = Valve closure, Semin 1790 = Ligation, Pulmonary a 3180 = Intravascular stent rema 3220 = Removal of transcatheter 3210 = Removal of transcatheter 1490 = Arrhythmia surgery 1500 = Arrhythmia surgery 460 = Valvuloplasty, Th 2280 = Valvuloplasty conv 4e o = Valvuloplasty conv 4e replacement, Tricuspid or Non-systemic Atrioventricular Valve 480 = Valve closure, Tricuspid or Non-systemic Atrioventricular Valve (exclusion, univentricular approach) 490 = Valve excision, Tricuspid or Non-systemic Atrioventricular Valve (without replacement) 500 = Valve surgery, Other, Tricuspid or Non-systemic Atrioventricular Valve (without replacement)

Answer #6

Patient undergoes Fontan, TCPC, External conduit, Fenestrated (0.2, 1) and insertion of a new pacemaker (0.2, 1). What is the primary procedure?

If a procedure in Column B is performed as part of a multi-component procedure that includes a procedure from Column C, the primary procedure will be from Column B <u>unless</u> the operation includes an additional simultaneous procedure with a higher STAT score.

Rule #	Column B
1b.	• 1000 = Fontan, TCPC, External conduit, Fenestrated (0.2, 1)

(1450) Pacemaker implantation, Permanent (0.2, 1)

The program gets to select the primary procedure as the STAT scores are tied and the pacemaker implantation is not in Column C

Patient with Ebstein's anomaly undergoes a modified Starnes procedure. What is the primary procedure?

Rule #	Column B	Column C
1e.	 465 = Ebstein's Repair 5030 = Ebstein's repair + PDA closure, Surgical 	 2280= Valvuloplasty converted to valve replacement in the same operation, Tricuspid or Non-systemic Atrioventricular Valve 470= Valve replacement, Tricuspid or Non-systemic Atrioventricular Valve 500= Valve surgery, Other, Tricuspid or Non-systemic Atrioventricular Valve 600= Valve replacement, Pulmonary or Neo-Pulmonary (PVR) 590= Valvuloplasty, Pulmonary or Neo-Pulmonary 2270= Valvuloplasty converted to valve replacement in the same operation, Pulmonary or Neo-Pulmonary 5015= ASD repair, Patch + Valve replacement, Pulmonary or Neo-Pulmonary (PVR) 610= Conduit placement, RV to PA 611=Conduit placement, RV to PA, Non-valved 612 = Conduit placement, RV to PA, Valved 5013=Conduit placement, RV to PA + PDA closure, Surgical 1670 = Bidirectional cavopulmonary anastomosis (BDCPA) (bidirectional Glenn) 1680 = Glenn (unidirectional cavopulmonary anastomosis) (unidirectional Glenn) 1690 = Bilateral bidirectional cavopulmonary anastomosis (BBDCPA) (bilateral bidirectional Glenn) 1700 = HemiFontan 2330 = Superior Cavopulmonary anastomosis(es) (Glenn or HemiFontan) + Atrioventricular valvuloplasty 2130 = Superior Cavopulmonary anastomosis(es) + PA reconstruction 3160 = Kawashima operation (superior cavopulmonary connection in setting of interrupted IVC with azygous continuation)

Patient with Ebstein's anomaly undergoes a modified Starnes procedure. What is the primary procedure?

Rule #	Column B	Column C
1e.	• 465 = Ebstein's Repair • 5030 = Ebstein's repair + PDA closure, Surgical	 2280= Valvuloplasty converted to valve replacement in the same operation, Tricuspid or Non-systemic Atrioventricular Valve 470= Valve r. Vacement, Tricuspid or Non-systemic Atrioventricular Valve 500= Valve v. Vother, Tricuspid or Non-systemic Atrioventricular Valve 600= Valve v. Vother, Tricuspid or Non-systemic Atrioventricular Valve 600= Valve v. Vother, Tricuspid or Non-systemic Atrioventricular Valve 600= Valve v. Vother, Tricuspid or Non-systemic Atrioventricular Valve 600= Valve v. Vother, Tricuspid or Non-systemic Atrioventricular Valve 600= Valve v. Vother, Tricuspid or Non-systemic Atrioventricular valve 600= Valve v. Vother, Tricuspid or Non-systemic Atrioventricular valve 600= Valve v. Vother, Tricuspid or Non-systemic Atrioventricular valve 600= Valve v. Vother, Tricuspid or Non-systemic Atrioventricular valve 600= Valve v. Vother, Tricuspid or Non-systemic Atrioventricular valve 600= Valve v. Vother, Tricuspid or Non-systemic Atrioventricular valve 600= Valve v. Vother, Tricuspid or Non-systemic Atrioventricular valve 600= Valve v. Vother, Tricuspid or Non-systemic Atrioventricular valve 600= Valve v. Valved valve 600= Valve v. Val
		• 3160 = Kawashima operation (superior cavopulmonary connection in setting of interrupted IVC with azygous continuation)

Answer #7

Patient with Ebstein's anomaly undergoes a modified Starnes procedure. What is the primary procedure?

Primary procedure = (480) Valve closure, Tricuspid or Nonsystemic Atrioventricular Valve

Valve closure, Tricuspid or
Non-systemic
Atrioventricular Valve
(exclusion, univentricular approach)

Tricus used f

In a functional single ventricle heart, the tricuspid or non-systemic atrioventricular (AV) valve may be closed using a patch, thereby excluding the right ventricle (RV).

Tricuspid or non-systemic AV valve closure may be used for infants with Ebstein's anomaly and severe tricuspid regurgitation or in patients with pulmonary atresia-intact ventricular septum with sinusoids.

Coding Notes:

Code this procedure for Starnes or modified Starnes procedure.

Patient undergoes TOF repair, Ventriculotomy, Transanular patch, PA recon-struction (plasty), Branch, Central and PA reconstruction (plasty) Peripheral. What is the primary procedure?

Rule #	Column B	Column C
1d.	• 390 = TOF - AVC (AVSD) repair	 1330 = PDA Closure, Surgical 1630 = Shunt, Ligation and takedown
	350 = TOF repair, No ventriculotomy	• 1650 = PA debanding
	• 5004 = TOF repair, No ventriculotomy + ASD	• 70 = ASD Partial Closure
	repair, Primary closure	 60 = ASD Creation Enlargement 80 = Atrial Septal Fenestration
	• 360 = TOF repair, Ventriculotomy, Nontransanular	• 530 = PA, reconstruction (plasty), Main (trunk)
	patch	• 540 = PA, reconstruction (plasty), Branch, Central (within the hilar bifurcation)
	370 = TOF repair, Ventriculotomy, Transanular patch	 50 = ASD, Common atrium (single atrium), Septation 150 = Ventricular septal fenestration
		460 = Valvuloplasty, Tricuspid or Non-systemic Atrioventricular Valve
	3330 = TOF repair, Ventriculotomy, Transanular	• 500 = Valve surgery, Other, Tricuspid or Non-systemic Atrioventricular Valve
	patch, plus native valve reconstruction	 5015 = ASD repair, Patch + Valve replacement, Pulmonary or Neo-Pulmonary (PVR) 610 = Conduit placement, RV to PA
	3340 = TOF repair, Ventriculotomy, Transanular	611 = Conduit placement, RV to PA, Non-valved
	patch, with monocusp or other surgically	612 = Conduit placement, RV to PA, Valved
• 5018 = TOF repair, Ventriculotomy, Transanular • 3180 = In • 3220 = R	 5013 = Conduit placement, RV to PA + PDA closure, Surgical 3180 = Intravascular stent removal 	
	,	3220 = Removal of transcatheter delivered device from heart
		3210 = Removal of transcatheter delivered device from blood vessel
	• 380 = TOF repair, RV-PA conduit	• 600 = Valve replacement, Pulmonary or Neo-Pulmonary (PVR)
	• 400 = TOF - Absent pulmonary valve repair	• 510 = RVOT procedure

Patient undergoes TOF repair, Ventriculotomy, Transanular patch, PA recon-struction (plasty), Branch, Central and PA reconstruction (plasty) Peripheral. What is the primary procedure?

If a procedure in Column B is performed as part of a multi-component procedure that includes a procedure from Column C, the primary procedure will be from Column B <u>unless</u> the operation includes an additional simultaneous procedure with a higher STAT score.

Rule #	Column B	Column C
1d.	• 370 = TOF repair, Ventriculotomy, Transanular patch (0.2, 1)	• 540 = PA, reconstruction (plasty), Branch, Central (within the hilar bifurcation) (0.3, 2)

- (550) PA, reconstruction (plasty), Branch, Peripheral (0.3, 2)
- (3350) PA, reconstruction (plasty), Branch, Peripheral, (at or beyond the 1st lobar branch, proximal to first segmental branch) (0.6, 3)
- (3360) PA, reconstruction (plasty), Branch, Peripheral, (at or beyond the 1st lobar branch, beyond first segmental branch) (0.7, 3)

Answer #8

Patient undergoes TOF repair, Ventriculotomy, Transanular patch, PA recon-struction (plasty), Branch, Central and PA reconstruction (plasty) Peripheral. What is the primary procedure?

If a procedure in Column B is performed as part of a multi-component procedure that includes a procedure from Column C, the primary procedure will be from Column B <u>unless</u> the operation includes an additional simultaneous procedure with a higher STAT score.

Rule #	Column B
1d.	• 370 = TOF repair, Ventriculotomy, Transanular patch (0.2, 1)

- (550) PA, reconstruction (plasty), Branch, Peripheral (at or beyond the hilar bifurcation) (0.3, 2)
- (3350) PA, reconstruction (plasty), Branch, Peripheral, (at or beyond the 1st lobar branch, proximal to first segmental branch) (0.6, 3)
- (3360) PA, reconstruction (plasty), Branch, Peripheral, (at or beyond the 1st lobar branch, beyond first segmental branch) (0.7, 3)

All of the peripheral branch PA reconstructions have higher STAT scores than the TOF repair; thus, the PA reconstruction, branch (as appropriate) is the primary procedure.

Patient undergoes truncus arteriosus repair (1.3, 4) with truncal valvuloplasty (0.2, 1). What is the primary procedure?

Rule #	Column B	Column C
Rule #	 230 = Truncus arteriosus repair 2220 = Truncus + Interrupted aortic arch repair (IAA) repair 	 Column C 2730 = Unifocalization MAPCA(s), Bilateral pulmonary unifocalization - Complete unifocalization (all usable MAPCA[s] are incorporated) 2740 = Unifocalization MAPCA(s), Bilateral pulmonary unifocalization - Incomplete unifocalization (not all usable MAPCA[s] are incorporated) 2750 = Unifocalization MAPCA(s), Unilateral pulmonary unifocalization 440 = Unifocalization MAPCA(s) 5011 = Unifocalization MAPCA(s) + Conduit placement, RV to PA 5013 = Conduit placement, RV to PA + PDA closure, Surgical 660 = Valvuloplasty, Aortic/Neo-Aortic 3540 = Valvuloplasty, Aortic/Neo-Aortic Valve, Reduction of number of cusps/sinus resection 3550 = Valvuloplasty, Aortic/Neo-Aortic Valve, Augmentation of valve leaflet 3560 = Valvuloplasty, Aortic/Neo-Aortic Valve Neo-cuspidization
		 3490 = Valvuloplasty, Truncal valve, Reduction of number of cusps/sinus resection 3500 = Valvuloplasty, Truncal valve, Augmentation of valve leaflet 3510 = Valvuloplasty, Truncal valve, Neo-cuspidization

Patient undergoes truncus arteriosus repair (1.3, 4) with truncal valvuloplasty (0.2, 1). What is the primary procedure?

Rule #	Column B	Column C	
1f.	• 230 = Truncus arteriosus repair	• 2730 = Unifocalization MAPCA(s), Bilateral pulmonary unifocalization - Complete unifocalization (all usable MAPCA[s] are incorporated)	
		• 2740 = Unifocalization (s), Bilateral pulmor unifocalization (not APCA[s] are in	vifocalization - Incomplete
		• 2750 = Unifocalization ilater	Vization
		• 440 = Unifocalizat	
		• 5011 = Unifocalization	√ to PA
		• 5013 = Conduit placement,	argical
		660 = Valvuloplasty, Aorti	
		• 3540 = Valvuloplasty resection	of number of cusps/sinus
		• 3550 = Valvulop. (ic Va.	valve leaflet
		• 3560 = Valvuloplast, Aortic Valve	ation
		• 3490 = Valvuloplasty, Transvalve, Reduction of n	r of cusps/sinus resection
		• 3500 = Valvuloplasty, Truncal valve, Augmentation of	f valve leaflet
		3510 = Valvuloplasty, Truncal valve, Neo-cuspidization	n

Answer #9

Patient undergoes truncus arteriosus repair (1.3, 4) with truncal valvuloplasty (0.2, 1). What is the primary procedure?

If a procedure in Column B is performed as part of a multi-component procedure that includes a procedure from Column C, the primary procedure will be from Column B <u>unless</u> the operation includes an additional simultaneous procedure with a higher STAT score.

Rule #	Column B
1f.	• 230 = Truncus arteriosus repair (1.3, 4)

(240) Valvuloplasty, Truncal valve (0.2, 1)

The truncus arteriosus repair is primary as the truncal valvuloplasty has a lower STAT score

Procedure Specific Factor Rule Update

In Summary -

- Refer to TM for detailed explanation
- Continue to complete the PSF questions for the primary procedure
- Applied retrospectively for surgery dates Jan 2021 forward
- IQVIA primary procedure mismatch report to release prior to harvest close in March 2025

Open Discussion

Please use the Q&A Function.

We will answer as many questions as possible.

We encourage your feedback and want to hear from you!

Upcoming CHSD Webinars

Monthly Webinars

- 12/17/24 @ 12pmCT
- 1/21/25 @ 12pmCT

Contact Information

Leigh Ann Jones, STS
National Database Manager,
Congenital and General
Thoracic

Ljones@sts.org

Tech Support

Analysis Report/Data Submission Questions

STSDB_helpdesk@sts.org

Database Operational Questions

• STSDB@sts.org

Congenital STS Database Consultants

- Leslie Wacker <u>lwacker@sts.org</u>
- Chasity Wellnitz <u>cwellnitz@sts.org</u>



THANK YOU FOR JOINING!