STS National Database™

Trusted. Transformed. Real-Time.

Society of Thoracic Surgeons

Congenital Heart Surgery Database Monthly Webinar

May 20, 2025

Agenda

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

STS Updates

- May Training Manual posted

- 2025 Harvest Schedule
  - Spring 2025 data analysis has been completed
    - Report release tentatively scheduled for early to mid-June
    - **STS Communication will be sent once the report is available within the IQVIA platform**

  - Fall 2025 close date: currently schedule for **September 26, 2025**
    - **Will review with STS Leadership as this date now coincides with AQO**

AQO 2025 – NEW DATES!!

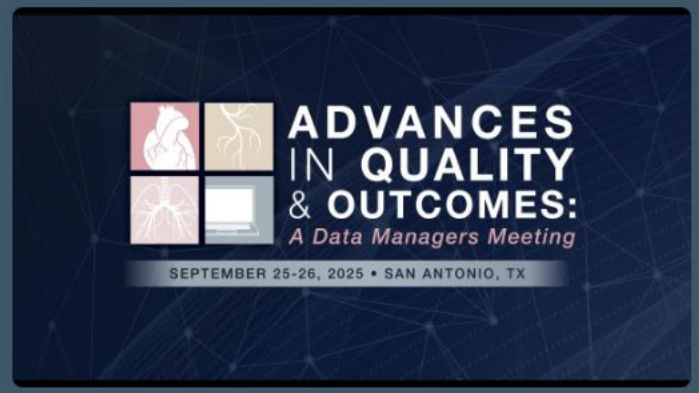
sts.org

- **CHSD and GTSD Sessions: Thursday, September 25th**
- ACSD Session: Friday, September 26th
- Intermacs and Pedimacs Session: Tuesday, September 23rd VIRTUAL
- Grand Hyatt San Antonio Riverwalk
- **Abstract Submission Deadline is**
  - **Monday, June 2nd at 11:59pmET**
  - **Abstract Submission Information and Guidelines**
- Both In Person (ACSD, CHSD, GTSD) and Virtual options (all databases) will be available
- Cost information will be shared as soon as it's available

Event

2025 Advances in Quality & Outcomes: A Data Managers Meeting

Discussions on valuable research and important clinical findings with the goal of improving data collection and patient outcomes.



Date(s)	Location	Audience
Sep 25—26, 2025	San Antonio, TX	Allied Health Data Manager

Education Discussion Topics

Capture ***everything***...?

- Review the difference between combination codes and procedures with multiple components
- Discuss case examples
- Provide tips for deciphering OpNotes

What is meant by "code everything"?

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WHAT THIS IS -

Code **all** procedures completed during the operation *including* those done by other surgeons and interventionalists.

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WHAT THIS IS -

Code **all** procedures completed during the operation *including* those done by other surgeons and interventionalists.

- Other services' procedures most often do not have STAT scores
- Utilize cardiology procedure codes when appropriate

What is meant by "code everything"?

WHAT THIS IS -

Code **all** procedures completed during the operation *including* those done by other surgeons and interventionalists.

Code **all** procedures completed *even in the event the procedure is taken down* prior to the patient exiting the OR.

What is meant by "code everything"?

WHAT THIS IS -

Code **all** procedures completed during the operation *including* those done by other surgeons and interventionalists.

Code **all** procedures completed *e*
procedure is taken down prior to

- PA Banding and Debanding
- Stage 2 and Stage 2 takedown
- Cardiac procedure, Other

What is meant by "code everything"?

WHAT THIS IS -

When coding **combination procedures**, also code the individual procedures that make up the combination procedure.

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Ensures all possible combos are considered

What is meant by "code everything"?

WHAT THIS IS -

When coding **combination procedures**, also code the individual procedures that make up the combination procedure.

Ensures all possible combos are considered

Only some of the individual codes are part of a combo (example: VSD patch vs primary)

What is meant by "code everything"?

WHAT THIS IS *NOT* -

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This isn't going line by line to capture every stitch or incision

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This isn't going line by line to capture every stitch or incision

This isn't coding for the highest STAT score or for table inclusion/exclusion

What is meant by "code everything"?

WHAT THIS IS *NOT* -

This isn't going line by line to capture every stitch or incision

This isn't coding for the highest STAT score or for table inclusion/exclusion

Some procedures do not have procedure codes or STAT scores, THAT'S OK

What is meant by "code everything"?

WHAT THIS IS *NOT* -

This isn't going line by line to capture every stitch or incision

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In other words, make sure everything is ***covered*** by the codes used (not that everything has its own code)

Combination codes vs Procedures with multiple components

Combination codes

A **numbered** procedure code which includes two or more existing numbered procedure codes

Defined in the Training Manual and Analysis Overview as procedure codes ### + ###

Combination codes

A numbered procedure code which includes two or more existing numbered procedure codes

Define

3480	AVC (AVSD) repair, Complete (CAVSD) + Arch repair	During the same operation, procedure (170) AVC (AVSD) repair, Complete (CAVSD) *and* procedure (1280) Aortic arch repair. Coding Notes: See the individual procedure codes for more detail.

dure

codes

Combination codes

A numbered procedure code which includes two or more existing numbered procedure codes

Define

5034	AVC (AVSD) repair, Complete (CAVSD) + Coarctation repair, End to end, Extended	During the same operation, procedure (170) AVC (AVSD) repair, Complete (CAVSD) *and* procedure (1220) Coarctation repair, End to end, Extended. Coding Notes: See the individual procedure codes for more detail.

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Combination codes

A numbe sting
numbere

Defined i cedure
codes ##

STS Combination Procedure Codes

Several procedures listed in the primary procedure difficulty rankings are actually combinations of 2 or more procedures. Because the complexity of the combination is regarded as being different from the complexity of the component procedures when performed in isolation, it is important to code these procedures using the combination code rather than coding each component separately.

A combination procedure should be coded when an operation includes the following component procedures:

- **1120 - Arterial switch operation (ASO) and VSD repair**
  1110 - Arterial switch operation (ASO)
  and
  100 - VSD repair, Primary closure
  or 110 - VSD repair, Patch
  or 120 - VSD repair, Device
  or 130 - VSD, Multiple, Repair

- **1123 - Arterial switch procedure + Aortic arch repair**
  1110 - Arterial switch operation (ASO)
  and
  1280 - Aortic arch repair

- **1125 - Arterial switch procedure and VSD repair + Aortic arch repair**
  1110 - Arterial switch operation (ASO)
  and
  100 - VSD repair, Primary closure
  or 110 - VSD repair, Patch
  or 120 - VSD repair, Device
  or 130 - VSD, Multiple, Repair
  and
  1280 - Aortic arch repair

Procedures with multiple components

A **named** procedure which has multiple parts, without which the procedure is no longer the same

The TM definition explains what is done a part of the procedure

Procedures with multiple components

A **na**
proc

The

- TOF repair
- Rastelli
- Truncus arteriosus repair
- Norwood procedure
- Glenn/HemiFontan/Fontan
- 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])

Case examples

Example: TOF Repair

TOF repair (any type)

Tetralogy of Fallot (TOF) repair assumes VSD closure and relief of pulmonary stenosis at one or more levels

Example: TOF Repair

TOF repair (any type)

Tetralogy of Fallot (TOF) repair (assumes VSD closure and relief of pulmonary stenosis at one or more levels)

DO NOT INCLUDE:

- VSD repair codes
- RVOT procedure (below the valve)
- MPA work (above the valve)
- Valve work would determine the type of TOF repair

Example: TOF Repair

PRE/POST-OPERATIVE DIAGNOSIS:

Tetralogy of Fallot/Pulmonary stenosis]

PFO

S/P modified BT shunt (3.0 mm)

PROCEDURE PERFORMED:

Ligation and division of BTS

TOF repair, pulmonary valve sparing

Primary closure of ASD

RVOT muscle resection

Main PA patch

VSD closure (bovine pericardium)

Which procedures should be coded?

Example: TOF Repair

PRE/POST-OPERATIVE DIAGNOSIS:

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1. (350) TOF repair, No ventriculotomy

Example: TOF Repair

PRE/POST-OPERATIVE DIAGNOSIS:

Tetralogy of Fallot/Pulmonary stenosis]

PFO

S/P modified BT shunt (3.0 mm)

PROCEDURE PERFORMED:

Ligation and division of BTS

TOF repair, pulmonary valve sparing

Primary closure of ASD

RVOT muscle resection

Main PA patch

VSD closure (bovine pericardium)

1. (350) TOF repair, No ventriculotomy

What is included in the TOF repair?

Example: TOF Repair

PRE/POST-OPERATIVE DIAGNOSIS:

Tetralogy of Fallot/Pulmonary stenosis]

PFO

S/P modified BT shunt (3.0 mm)

PROCEDURE PERFORMED:

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TOF repair, pulmonary valve sparing

Primary closure of ASD

RVOT muscle resection

Main PA patch

VSD closure (bovine pericardium)

1. (350) TOF repair, No ventriculotomy

What is included in the TOF repair?

Tetralogy of Fallot (TOF) repair (assumes VSD closure and relief of pulmonary stenosis at one or more levels), without use of an incision in the infundibulum of the right ventricle for exposure. In most cases this would be a transatrial and transpulmonary artery approach to repair the VSD and relieve the pulmonary stenosis.

Example: TOF Repair

PRE/POST-OPERATIVE DIAGNOSIS:

Tetralogy of Fallot/Pulmonary stenosis]

PFO

S/P modified BT shunt (3.0 mm)

PROCEDURE PERFORMED:

Ligation and division of BTS

TOF repair, pulmonary valve sparing

Primary closure of ASD

RVOT muscle resection

Main PA patch

VSD closure (bovine pericardium)

1. (350) TOF repair, No ventriculotomy

Should the combination procedure (5004) TOF repair, No Ventriculotomy + ASD repair, Primary closure be utilized?

Example: TOF Repair

PRE/POST-OPERATIVE DIAGNOSIS:

Tetralogy of Fallot/Pulmonary stenosis]

PFO

S/P modified BT shunt (3.0 mm)

PROCEDURE PERFORMED:

Ligation and division of BTS

TOF repair, pulmonary valve sparing ✓

Primary closure of ASD

RVOT muscle resection ✓

Main PA patch ✓

VSD closure (bovine pericardium) ✓

1. (350) TOF repair, No ventriculotomy

Should the combination procedure (5004) TOF repair, No Ventriculotomy + ASD repair, Primary closure be utilized?

Caution: Is there a PFO or an ASD?

Example: TOF Repair

5004 TOF repair, No Ventriculotomy + ASD repair, Primary closure

5004	TOF repair, No Ventriculotomy + ASD repair, Primary closure	During the same operation, procedure (350) TOF repair, No ventriculotomy *and* procedure (20) ASD repair, Primary closure.

Use OpNote and/or ECHOs to determine if it was a PFO or another type of ASD

Combo code does not include (10) PFO, primary closure

Example: TOF Repair

PRE/POST-OPERATIVE DIAGNOSIS:

Tetralogy of Fallot

Severe pulmonary and subpulmonary stenosis

Hypoplastic branch pulmonary arteries

Patent foramen ovale

PROCEDURE PERFORMED:

TOF repair with transannular patch

Bilateral branch peripheral pulmonary artery plasties

Right ventricular outflow muscle bundle resection

PFO primary closure

Which procedures should be coded?

Example: TOF Repair

PRE/POST-OPERATIVE DIAGNOSIS:

Tetralogy of Fallot

Severe pulmonary and subpulmonary stenosis

Hypoplastic branch pulmonary arteries

Patent foramen ovale

PROCEDURE PERFORMED:

TOF repair with transannular patch

Bilateral branch peripheral pulmonary artery plasties

Right ventricular outflow muscle bundle resection

PFO primary closure

1. (370) TOF repair, Ventriculotomy, Transanular patch

Tetralogy of Fallot (TOF) repair (assumes VSD closure and relief of pulmonary stenosis at one or more levels), with use of a ventriculotomy incision and placement of a trans-pulmonary annulus patch.

Example: TOF Repair

PRE/POST-OPERATIVE DIAGNOSIS:

Tetralogy of Fallot

Severe pulmonary and subpulmonary stenosis

Hypoplastic branch pulmonary arteries

Patent foramen ovale

PROCEDURE PERFORMED:

TOF repair with transannular patch

Bilateral branch peripheral pulmonary artery plasties

Right ventricular outflow muscle bundle resection

PFO primary closure

1. (370) TOF repair, Ventriculotomy, Transanular patch
2. (10) PFO, Primary closure

Example: TOF Repair

PRE/POST-OPERATIVE DIAGNOSIS:

Tetralogy of Fallot

Severe pulmonary and subpulmonary stenosis

Hypoplastic branch pulmonary arteries

Patent foramen ovale

PROCEDURE PERFORMED:

TOF repair with transannular patch

Bilateral branch peripheral pulmonary artery plasties

Right ventricular outflow muscle bundle resection

PFO primary closure

1. (370) TOF repair, Ventriculotomy, Transanular patch
2. (10) PFO, Primary closure

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

Example: TOF Repair

PRE/POST-OPERATIVE DIAGNOSIS:

Tetralogy of Fallot

Severe pulmonary and subpulmonary stenosis

Hypoplastic branch pulmonary arteries

Patent foramen ovale

PROCEDURE PERFORMED:

TOF repair with transannular patch ✓

Bilateral branch peripheral pulmonary artery plasties ✓

Right ventricular outflow muscle bundle resection ✓

PFO primary closure ✓

1. (370) TOF repair, Ventriculotomy, Transanular patch
2. (10) PFO, Primary closure
3. (550) PA, reconstruction (plasty), Branch, Peripheral (at or beyond the first lobar branch)

Will this case be analyzed as a TOF repair?

Example: TOF Repair

PRE/POST-OPERATIVE DIAGNOSIS:

Tetralogy of Fallot

Severe pulmonary and subpulmonary stenosis

Hypoplastic branch pulmonary arteries

Patent foramen ovale

PROCEDURE PERFORMED:

TOF repair with transannular patch

Bilateral branch peripheral pulmonary artery plasties

Right ventricular outflow muscle bundle resection

PFO primary closure

1. (370) TOF repair, Ventriculotomy, Transanular patch
2. (10) PFO, Primary closure
3. (550) PA, reconstruction (plasty), Branch, Peripheral (at or beyond the first lobar branch)

Will this case be analyzed as a TOF repair?

No, because the branch PA procedure becomes the primary procedure

Example: Rastelli

Rastelli

The Rastelli operation consists of an LV-to-aorta intraventricular baffle closure of the VSD and placement of an RV-to-PA conduit.

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Rastelli

The Rastelli operation consists of an LV-to-aorta intraventricular baffle closure of the VSD and placement of an RV-to-PA conduit.

DO NOT INCLUDE:

- VSD repair
- Intraventricular baffle codes*
- RV-PA Conduit

Example: Rastelli Procedure

Surgeon dictates repair of DORV with a Rastelli procedure.
Is this coded as a Rastelli procedure or DORV repair?

Example: Rastelli Procedure

Surgeon dictates repair of DORV with a Rastelli procedure.
Is this coded as a Rastelli procedure or DORV repair?

General Information Double Outlet Right Ventricle (DORV) Repair

For patients with DORV, use only the appropriate DORV repair code(s) and be as specific as possible. These procedure codes are diagnosis specific and should only be used for repairs for patients with DORV diagnoses.

For patients with DORV, use only DORV repair codes (except for DORV, TGA type where an arterial switch is performed; instead code the appropriate arterial switch procedure). For instance, in a patient with DORV, do not use Rastelli, instead use DORV repair, RV-PA conduit. Rastelli should be used for patients who have a diagnosis of TGA-VSD (non-DORV).

Most often used for patients with transposition of the great arteries (TGA) with ventricular septal defect (VSD) and significant left ventricular outflow tract obstruction (LVOTO), the Rastelli operation consists of an LV-to-aorta intraventricular baffle closure of the VSD and placement of an RV-to-PA conduit.

Coding Notes:

Do not use this code for patients with a diagnosis of double outlet right ventricle (DORV); instead, code procedure (3440) DORV repair, RV-PA conduit.

Example: Truncus Arteriosus Repair

Truncus Arteriosus Repair

Truncus arteriosus repair that most frequently includes patch VSD closure and placement of a conduit from RV to PA. In some cases, a conduit is not placed but an RV to PA connection is made by direct association. Very rarely, there is no VSD to be closed.

Example: Truncus Arteriosus Repair

Truncus Arteriosus Repair

Truncus arteriosus repair that most frequently includes patch VSD closure and placement of a conduit from RV to PA. In some cases, a conduit is not placed but an RV to PA connection is made by direct association. **Very rarely, there is no VSD to be closed.**

Example: Truncus Arteriosus Repair

Truncus Arteriosus Repair

Truncus arteriosus repair that most frequently includes patch VSD closure and placement of a conduit from RV to PA. In some cases, a conduit is not placed but an RV to PA connection is made by direct association. Very rarely, there is no VSD to be closed.

DO NOT INCLUDE:

- VSD repair
- RV-PA Conduit
- Any other procedure code trying to describe a direct connection

Example: Truncus Arteriosus Repair

PRE/POST-OPERATIVE DIAGNOSIS:

Truncus arteriosus

Patent foramen ovale

Patent ductus arteriosus

PROCEDURE PERFORMED:

Truncus arteriosus repair

Placement of a 9 mm pulmonary homograft/conduit

Patch closure VSD

Suture closure patent foramen ovale

Ligation patent ductus arteriosus

Placement right atrial double lumen central line

Which procedures should be coded?

Example: Truncus Arteriosus Repair

PRE/POST-OPERATIVE DIAGNOSIS:

Truncus arteriosus

Patent foramen ovale

Patent ductus arteriosus

PROCEDURE PERFORMED:

Truncus arteriosus repair ✓

Placement of a 9 mm pulmonary homograft/conduit

Patch closure VSD

Suture closure patent foramen ovale

Ligation patent ductus arteriosus

Placement right atrial double lumen central line

1. (230) Truncus arteriosus repair

Truncus arteriosus repair that most frequently includes patch VSD closure and placement of a conduit from RV to PA. In some cases, a conduit is not placed but an RV to PA connection is made by direct association. Very rarely, there is no VSD to be closed.

Example: Truncus Arteriosus Repair

PRE/POST-OPERATIVE DIAGNOSIS:

Truncus arteriosus

Patent foramen ovale

Patent ductus arteriosus

PROCEDURE PERFORMED:

Truncus arteriosus repair ✓

~~Placement of a 9 mm pulmonary homograft/conduit~~

~~Patch closure VSD~~

Suture closure patent foramen ovale ✓

Ligation patent ductus arteriosus

Placement right atrial double lumen central line

1. (230) Truncus arteriosus repair
2. (10) PFO, Primary closure

Suture closure of patent foramen ovale (PFO).

Example: Truncus Arteriosus Repair

PRE/POST-OPERATIVE DIAGNOSIS:

Truncus arteriosus

Patent foramen ovale

Patent ductus arteriosus

PROCEDURE PERFORMED:

Truncus arteriosus repair ✓

~~Placement of a 9 mm pulmonary homograft/conduit~~

~~Patch closure VSD~~

Suture closure patent foramen ovale ✓

Ligation patent ductus arteriosus ✓

~~Placement right atrial double lumen central line~~

1. (230) Truncus arteriosus repair
2. (10) PFO, Primary closure
3. (1330) PDA closure, Surgical

Closure of a patent ductus arteriosus (PDA) by any surgical technique (ligation, division, clip) using any approach (i.e., thoracotomy, thoracoscopic, etc.).

Example 2: Truncus Arteriosus Repair

PRE/POST-OPERATIVE DIAGNOSIS:

Truncus arteriosus type I

Interrupted aortic arch type B

ASD and VSD

PROCEDURE PERFORMED:

Ligation of patent ductus arteriosus

Repair of interrupted aortic arch

Repair of truncus arteriosus with a 12 mm pulmonary homograft

Patch closure ventricular septal defect

Direct closure atrial septal defect

Insertion of right atrial line

Which procedures should be coded?

Example 2: Truncus Arteriosus Repair

PRE/POST-OPERATIVE DIAGNOSIS:

Truncus arteriosus type I

Interrupted aortic arch type B

ASD and VSD

PROCEDURE PERFORMED:

Ligation of patent ductus arteriosus

Repair of interrupted aortic arch

Repair of truncus arteriosus with a 12 mm pulmonary homograft

Patch closure ventricular septal defect

Direct closure atrial septal defect

Insertion of right atrial line

1. (230) Truncus arteriosus repair
   (conduit & VSD repair included)

Example 2: Truncus Arteriosus Repair

PRE/POST-OPERATIVE DIAGNOSIS:

Truncus arteriosus type I

Interrupted aortic arch type B

ASD and VSD

PROCEDURE PERFORMED:

Ligation of patent ductus arteriosus

Repair of interrupted aortic arch

Repair of truncus arteriosus with a 12 mm pulmonary homograft

~~Patch closure ventricular septal defect~~

Direct closure atrial septal defect

Insertion of right atrial line

1. (230) Truncus arteriosus repair
   (conduit & VSD repair included)

Example 2: Truncus Arteriosus Repair

PRE/POST-OPERATIVE DIAGNOSIS:

Truncus arteriosus type I

Interrupted aortic arch type B

ASD and VSD

PROCEDURE PERFORMED:

Ligation of patent ductus arteriosus

Repair of interrupted aortic arch

Repair of truncus arteriosus with a 12 mm pulmonary homograft

~~Patch closure ventricular septal defect~~

Direct closure atrial septal defect

Insertion of right atrial line

1. (230) Truncus arteriosus repair *(conduit & VSD repair included)*
2. (1320) Interrupted aortic arch repair

Example 2: Truncus Arteriosus Repair

PRE/POST-OPERATIVE DIAGNOSIS:

Truncus arteriosus type I

Interrupted aortic arch type B

ASD and VSD

PROCEDURE PERFORMED:

Ligation of patent ductus arteriosus

Repair of interrupted aortic arch

Repair of truncus arteriosus with a 12 mm pulmonary homograft

~~Patch closure ventricular septal defect~~

Direct closure atrial septal defect

Insertion of right atrial line

1. (230) Truncus arteriosus repair *(conduit & VSD repair included)*
2. (1320) Interrupted aortic arch repair

Combination Code: (2220) Truncus + Interrupted aortic arch repair

During the same operation, procedure (230) Truncus arteriosus repair *and* procedure (1320) Interrupted aortic arch repair.

Example 2: Truncus Arteriosus Repair

PRE/POST-OPERATIVE DIAGNOSIS:

Truncus arteriosus type I

Interrupted aortic arch type B

ASD and VSD

PROCEDURE PERFORMED:

Ligation of patent ductus arteriosus

Repair of interrupted aortic arch

Repair of truncus arteriosus with a 12 mm pulmonary homograft

~~Patch closure ventricular septal defect~~

Direct closure atrial septal defect

Insertion of right atrial line

1. (230) Truncus arteriosus repair *(conduit & VSD repair included)*
2. (1320) Interrupted aortic arch repair
3. (2220) Truncus + Interrupted aortic arch repair
4. (1330) PDA closure, Surgical

Example 2: Truncus Arteriosus Repair

PRE/POST-OPERATIVE DIAGNOSIS:

Truncus arteriosus type I

Interrupted aortic arch type B

ASD and VSD

PROCEDURE PERFORMED:

Ligation of patent ductus arteriosus

Repair of interrupted aortic arch

Repair of truncus arteriosus with a 12 mm pulmonary homograft

~~Patch closure ventricular septal defect~~

Direct closure atrial septal defect

Insertion of right atrial line

Which ASD repair code do I select?

Example 2: Truncus Arteriosus Repair

PRE/POST-OPERATIVE DIAGNOSIS:

Truncus arteriosus type I

Interrupted aortic arch type B

ASD and VSD

PROCEDURE PERFORMED:

Ligation of patent ductus arteriosus

Repair of interrupted aortic arch

Repair of truncus arteriosus with a 12 mm pulmonary homograft

~~Patch closure ventricular septal defect~~

Direct closure atrial septal defect

Insertion of right atrial line

Which ASD repair code do I select?

Preop TEE: *there is a tunnel type PFO. No other atrial septal defects noted.*

Surgical summary: *before closing the right atrium, an atrial septal defect in the area of the fossa ovalis was closed directly.*

Example 2: Truncus Arteriosus Repair

PRE/POST-OPERATIVE DIAGNOSIS:

Truncus arteriosus type I

Interrupted aortic arch type B

ASD and VSD

PROCEDURE PERFORMED:

Ligation of patent ductus arteriosus

Repair of interrupted aortic arch

Repair of truncus arteriosus with a 12 mm pulmonary homograft

~~Patch closure ventricular septal defect~~

Direct closure atrial septal defect

Insertion of right atrial line

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2. (1320) Interrupted aortic arch repair
3. (2220) Truncus + Interrupted aortic arch repair
4. (1330) PDA closure, Surgical
5. (10) PFO, Primary closure

Example: Norwood Operation

Norwood Operation

The Norwood operation is synonymous with the term Norwood (Stage 1) and is defined as an aortopulmonary connection and neo-aortic arch construction resulting in univentricular physiology and pulmonary blood flow controlled with a calibrated systemic-to-pulmonary artery shunt, or a right ventricle to pulmonary artery conduit, or rarely, a cavopulmonary connection.

Example: Norwood Operation

Norwood Operation

The Norwood operation is synonymous with the term Norwood (Stage 1) and is defined as an aortopulmonary connection and neo-aortic arch construction resulting in univentricular physiology and pulmonary blood flow controlled with a calibrated systemic-to-pulmonary artery shunt, or a right ventricle to pulmonary artery conduit, or rarely, a cavopulmonary connection.

DO NOT INCLUDE:

- Aortopulmonary connection (DKS aortopulmonary amalgamation)
- Aortic arch repair

Example: Norwood Operation

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The Norwood operation is synonymous with the term Norwood (Stage 1) and is defined as an aortopulmonary connection and neo-aortic arch construction resulting in univentricular physiology and **pulmonary blood flow controlled with a calibrated systemic-to-pulmonary artery shunt, or a right ventricle to pulmonary artery conduit, or rarely, a cavopulmonary connection.**

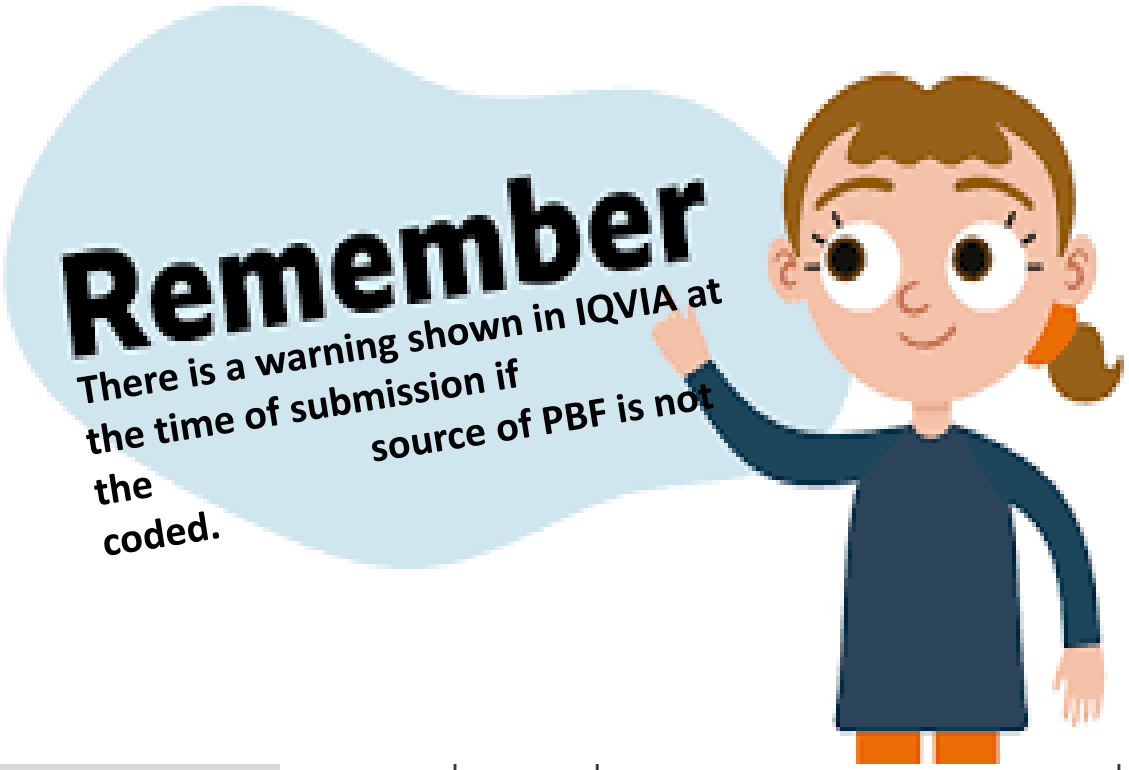
DO NOT INCLUDE:

- Aortopulmonary connection (DKS aortopulmonary amalgamation)
- Aortic arch repair

Coding Notes:

When coding the procedure Norwood procedure, the primary procedure of the operation should be (870) Norwood procedure. The source of pulmonary blood flow must be included in the procedure list as a secondary procedure and be chosen from the following choices:

- (1590) Shunt, Systemic to pulmonary, Modified Blalock-Taussig Shunt (MBTS)
- (1600) Shunt, Systemic to pulmonary, Central (shunt from aorta)
- (1610) Shunt, Systemic to pulmonary, Other
- ~~(610) Conduit placement, RV to PA~~ (update Nov-23).
- (3680) RV to PA Shunt (e.g., Sano Shunt – valved or non-valved (update Dec-24) or palliative RV-PA non-valved conduit to augment pulmonary blood flow (update Nov-23)
- (620) Conduit placement, LV to PA
- (1774) Conduit placement, Ventricle to aorta
- (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



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- (1610) Shunt, Systemic to pulmonary, Other
- ~~(610) Conduit placement, RV to PA~~ (update Nov-23).
- (3680) RV to PA Shunt (e.g., Sano Shunt – valved or non-valved (update Dec-24) or palliative RV-PA non-valved conduit to augment pulmonary blood flow (update Nov-23)
- (620) Conduit placement, LV to PA
- (1774) Conduit placement, Ventricle to aorta
- (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

Example: Norwood Operation

PRE/POST-OPERATIVE DIAGNOSIS:

Hypoplastic left heart syndrome

PROCEDURE PERFORMED:

Median sternotomy

Norwood procedure

Placement of 3.5 mm Blalock Taussig shunt

Removal bilateral PA flow restrictors

Which procedures should be coded?

Example: Norwood Operation

PRE/POST-OPERATIVE DIAGNOSIS:

Hypoplastic left heart syndrome

PROCEDURE PERFORMED:

Median sternotomy

Norwood procedure

Placement of 3.5 mm Blalock Taussig shunt

Removal bilateral PA flow restrictors

1. (870) Norwood procedure

The Norwood operation is synonymous with the term Norwood (Stage 1) and is defined as an aortopulmonary connection and neo-aortic arch construction resulting in univentricular physiology and pulmonary blood flow controlled with a calibrated systemic-to-pulmonary artery shunt, or a right ventricle to pulmonary artery conduit, or rarely, a cavopulmonary connection.

What if my surgeon also lists an arch reconstruction?

Example: Norwood Operation

PRE/POST-OPERATIVE DIAGNOSIS:

Hypoplastic left heart syndrome

PROCEDURE PERFORMED:

Median sternotomy

Norwood procedure

Placement of 3.5 mm Blalock Taussig shunt

Removal bilateral PA flow restrictors

1. (870) Norwood procedure

Coding Notes:

When coding the procedure Norwood procedure, the primary procedure of the operation should be (870) Norwood procedure. The source of pulmonary blood flow must be included in the procedure list as a secondary procedure and be chosen from the following choices:

- (1590) Shunt, Systemic to pulmonary, Modified Blalock-Taussig Shunt (MBTS)
- (1600) Shunt, Systemic to pulmonary, Central

Example: Norwood Operation

PRE/POST-OPERATIVE DIAGNOSIS:

Hypoplastic left heart syndrome

PROCEDURE PERFORMED:

Median sternotomy

Norwood procedure

Placement of 3.5 mm Blalock Taussig shunt

Removal bilateral PA flow restrictors

1. (870) Norwood procedure
2. (1590) Shunt, Systemic to pulmonary, Modified Blalock-Taussig Shunt (MBTS)

How do you code the removal of flow restrictors?

Example: Norwood Operation

PRE/POST-OPERATIVE DIAGNOSIS:

Hypoplastic left heart syndrome

PROCEDURE PERFORMED:

Median sternotomy

Norwood procedure

Placement of 3.5 mm Blalock Taussig shunt

Removal bilateral PA flow restrictors

1. (870) Norwood procedure
2. (1590) Shunt, Systemic to pulmonary, Modified Blalock-Taussig Shunt (MBTS)
3. (3210) Removal transcatheter-delivered device from blood vessel

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

- 6/17/25 @ 12pmCT
- 7/15/25 @ 12pmCT

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