

Section K. VALVE SURGERY

Section Intent: The intent of this section is to identify which valve(s) received surgical intervention, identify the type of valvular surgical intervention, and identify prosthetic implant type and size.

Sequence #	Data Field	Data Field Intent	Field Name Clarification	Source Document
1630	VS-Aortic Proc-Procedure	<p>Indicate whether a surgical procedure was done or not done on the aortic valve. Select one of the following:</p> <p>a. No</p> <p>b. Replacement</p> <p>c. Repair/Reconstruction</p>	<p>Surgical procedure performed on the aortic valve:</p> <p>a. No</p> <p>b. Replacement: The patient's aortic valve is removed and a new valve is implanted.</p> <p>c. Repair: Some or all of the patient's own valve is retained and remodeled or reshaped to perform in a satisfactory way.</p> <ul style="list-style-type: none"> • Valvotomy can open a congenitally narrowed valve. • Perforations in the valve leaflets can be repaired with sutures or patches. • Incompetent valves can be tightened with sutures or patches. • Aortic annuloplasty <p>c. Reconstruction: Some, all or none of the patient's valve is left in place and the valve and surrounding area is rebuilt using prosthetic material.</p> <p><i>Example: A patient had a growth (fibroelastoma) removed from the aortic valve. It was a stalk with finger-like projections that was anchored on the valve. It was resected. Code as Valve Repair/Reconstruction.</i></p>	<p>Operative notes Operative report</p>

Sequence #	Data Field	Data Field Intent	Field Name Clarification	Source Document
1630 (continued)	VS-Aortic Proc-Procedure	<p>d. Root reconstruction with valve conduit</p> <p>e. Replacement + aortic graft conduit (not a valve conduit)</p> <p>f. Root reconstruction with valve sparing</p> <p>g. Resuspension aortic valve with replacement of ascending aorta</p>	<p>d. The ascending aorta is replaced using a graft that is connected to a valve that replaces the native aortic valve.</p> <p><i>Example: Bentall procedure with a homograft valve conduit.</i></p> <p>e. The aortic valve is replaced and the ascending aorta is replaced using a graft conduit.</p> <p><i>Example # 1: If a patient has a freestyle aortic mini-root valve (valve plus aortic root) as well as an aortic graft conduit, code as aortic valve replacement + aortic graft conduit.</i></p> <p><i>Example # 2: Is there a duplication of data when there is a clear-cut valve replacement + aortic conduit under #1650 and “Yes” in section M of # 2520? Code Seq# 1650 if surgery was for a tricuspid replacement and aortic graft conduit and code Seq # 2520 ONCAoAN as “Yes”. There is no duplication of data. Two separate procedures were performed during the same setting. However, if the surgery was an aortic valve replacement + aortic graft conduit, code Seq # 1630 OpAortic as aortic valve Replacement + aort graft conduit.</i></p> <p>f. The aortic root is reconstructed/replaced, typically secondary to aortic dissection, while the native aortic valve is left intact. The root is typically reconstructed utilizing a conduit or type of prosthetic material:</p> <ul style="list-style-type: none"> • ascending aorta reconstructed/replaced • native aortic valve left intact <p>g. The native aortic valve is grossly anatomically normal but because of a diseased ascending aorta (most often due to a type II aortic aneurysm), aortic insufficiency/regurgitation is created.</p>	

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1630 (continued)	VS-Aortic Proc-Procedure	<p>h. Resuspension aortic valve without replacement of ascending aorta</p> <p>i. Resection sub-aortic stenosis</p>	<p>The Ascending aorta is replaced with a graft conduit. The aortic valve is re-suspended (re-sutured) in such a way as to create a more normal shape thereby reducing the insufficiency/regurgitation:</p> <ul style="list-style-type: none"> • native ascending aorta reconstructed/replaced • native aortic valve re-suspended (re-sutured) in original position <p>h. The native aortic valve is grossly anatomically normal but not functionally normal, with resultant aortic insufficiency/regurgitation. The native ascending aorta is grossly anatomically normal. The aortic valve is re-suspended (re-sutured) in such a way as to create a more normal shape, thereby reducing the insufficiency/regurgitation. The native aortic valve re-suspended (re-sutured) in original position.</p> <p>i. The fibrous membrane or muscle under the aortic valve hypertrophied/enlarged to cause obstruction of flow through the aortic valve and/or increased left intra-ventricular pressures causing hemodynamic compromise. Surgical intervention requires the removal/excision of this mass/membrane to relieve the intra-ventricular pressures and/or reduce the valve gradient flows to more normal levels:</p> <ul style="list-style-type: none"> • ascending aorta remains intact. • the native aortic valve remains intact. • sub-aortic fibrous member excised which may or may not involve a portion of the septal muscle. This procedure is often referred to as myectomy. 	

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1640	VS-Mitral Proc-Procedure	<p>Indicate whether a surgical procedure was done or not done on the Mitral Valve and if so, select one of the following:</p> <p>a. No</p> <p>b. Annuloplasty only</p> <p>c. Replacement</p> <p>d. Reconstruction with annuloplasty</p>	<p>a. No</p> <p>b. The mitral annulus (area around the valve) is reconstructed to more normal geometry maintaining as much leaflet and sub-valvular structure as possible. The reconstruction is supported with or without a suture, band or ring.</p> <p><i>Example: A patient had a repair of a perivalvular leak around a previously placed prosthetic valve. This is an annuloplasty if the prosthetic valve is not re-replaced.</i></p> <p>c. The patient's mitral valve is removed and a new valve is implanted.</p> <p>d. A reconstructive procedure is done to the valve itself (the leaflets of the valve and/or to the cordea), and another procedure is done to the mitral annulus (area around the valve). See annuloplasty definition above.</p> <p><i>Example #1: A patient has a mitral valve commisurotomy and a tricuspid repair: A mitral commisurotomy is a type of valve repair. The leaflets which have fused together at their commissures are separated by the surgeon. A mitral commisurotomy and tricuspid repair would be coded as Seq# 1640 OpMitral = Reconstruction w/ Annuloplasty or Reconstruction w/out Annuloplasty, depending on if the annulus was repaired and Seq# 1650 OpTricus = Reconstruction w/ Annuloplasty or Reconstruction w/out Annuloplasty, depending on if the annulus was repaired.</i></p>	Operative notes Operative record

Sequence #	Data Field	Data Field Intent	Field Name Clarification	Source Document
1640 (continued)	VS-Mitral Proc-Procedure	e. Reconstruction without annuloplasty	<p><i>Example # 2: A patient has a Mitral Valve Repair - #28 Carpentier Edwards Physio Mitral annuloplasty ring with Alfieri stitch: Code this Reconstruction with annuloplasty. The Alfieri stitch, usually supported by pledgets, is placed between the center of the anterior leaflet and the posterior leaflet of the mitral. It effectively brings the edges of the leaflets together and creates a double orifice to the mitral valve.</i></p> <p>e. A reconstructive procedure is done to the valve itself (the leaflets of the valve and/or to the cordea). There is no procedure done to the mitral annulus (rim around the valve).</p>	
1641	VS-Mitral Repair Attempt	Indicate whether a mitral valve repair was attempted prior to the mitral valve replacement.		Operative notes Operative report
1650	VS-Tricuspid Proc-Procedure	Indicate whether a surgical procedure was done or not done on the tricuspid valve and if so, select one of the following:	<p>a. No</p> <p>b. The tricuspid annulus (rim around the valve) is reconstructed to more normal geometry maintaining as much leaflet and sub-valvular structure as possible. The reconstruction is supported with or without a suture, band or ring.</p> <p><i>Example #1: A DeVega procedure on the tricuspid valve should be captured as "Annuloplasty Only." When a DeVega procedure is done, a suture is run around the annulus like a purse string, sometimes twice. A valve sizer is inserted into the annulus and the purse string is cinched down to fit snugly around the sizer.</i></p>	Operative notes Operative report

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1650 (continued)	VS-Tricuspid Proc-Procedure	<p>c. Replacement</p> <p>d. Reconstruction with annuloplasty</p> <p>e. Reconstruction without annuloplasty</p> <p>f. Valvectomy</p>	<p><i>A ring or band then may be inserted to support the annulus.</i></p> <p><i>Example #2: When a Cardiac Transplant is done and a tricuspid annuloplasty is done to the donor heart to ensure that everything attaches correctly, capture this as part of the initial procedure, tricuspid annuloplasty and implant type.</i></p> <p>c. The patient's tricuspid valve is removed and a new valve is implanted.</p> <p>d. A reconstructive procedure is done to the valve itself (the leaflets of the valve and/or to the chordae), and to the tricuspid annulus (rim around the valve). See annuloplasty definition (b) above.</p> <p>e. A reconstructive procedure is done to the valve itself (the leaflets of the valve and/or to the chordae). There is no procedure done to the tricuspid annulus (rim around the valve).</p> <p>f. The valve is resected. (Note the tricuspid valve can be completely removed without replacement).</p>	

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1660	VS-Pulmonic Proc-Procedure	Indicate whether a procedure was done or not done on the pulmonic valve. Select one of the following: a. No b. Replacement c. Reconstruction	a. No b. The patient's pulmonary valve is removed and a new valve is implanted. c. The annulus of the pulmonic valve is reconstructed to a more normal geometry, maintaining as much leaflet and subvalvar structure as possible, with or without annuloplasty.	Operative notes Operative report
1670	VS-Aortic Proc-Aortic Annular Enlargement	Indicate whether an annular enlargement procedure was performed on the aortic valve.	An aortic annular enlargement is defined as an incision of the aortic annulus to enlarge the aortic orifice. Annular enlargement techniques include but are not limited to Manouguian, Konno and Nicks.	Operative notes Operative report
Note: Seq# 1680-1880			Valve Key: The model numbers for the Carpentier-Edwards PERIMONT valves are coded as follows: 1. Model 6900P is the Carpentier-Edwards PERIMONT Plus. This valve is for mitral valve replacement only. When using this model #, code as 777 = Other. 2. Model 2700 is the Carpentier-Edwards PERIMONT Pericardial Aortic Bioprosthesis. 22 on the valve key. 3. Model 2800 is the Carpentier-Edwards PERIMONT Pericardial Aortic RSR (Reduced Sewing Ring) Bioprosthesis. Code as 777 = Other. 4. Model 3000 is the Carpentier-Edwards PERIMONT MAGNA Pericardial Aortic Bioprosthesis. Code as 103.	

Sequence #	Data Field	Data Field Intent	Field Name Clarification	Source Document
1680	VS-Aortic Proc-Imp-Type	<p>Indicate the type of implant: Choose one:</p> <p>None</p> <p>M = Mechanical</p> <p>B = Bioprosthesis</p> <p>H = Homograft</p> <p>A = Autograft (Ross)</p> <p>R = Ring/Annuloplasty</p> <p>BA = Band/Annuloplasty</p>	<p>To differentiate which valve was implanted:</p> <p>None</p> <p>Mechanical - prosthetic valve made of pyrolytic carbon</p> <p>Bioprosthesis - valve constructed of animal tissues; porcine(pig) valves and bovine (cow) pericardium.</p> <p>Homograft - tissue derived from individuals of the same species, i.e. cadaver. Sterilized human aortic root.</p> <p>Autograft - tissue from another site in or on the body of the patient receiving it. (The pulmonary valve can be autotransplanted to the aortic valve site as a valve or root replacement. A pulmonary homograft is then inserted in the patient's right ventricular outflow tract)</p> <p>Ring - prosthetic rings are made of various synthetic rings. Rings prevent dilation of the annulus and buttresses any repair to the annulus or leaflets.</p> <p>Band/Annuloplasty</p>	Operative notes Operative record
1690	VS-Aortic Proc-Imp	Indicate the name of the prosthesis implanted.	The drop down list containing the possible implants should be used to avoid errors.	Operative notes Operative record will indicate the implant used. Use the drop down list for accuracy.

Sequence #	Data Field	Data Field Intent	Field Name Clarification	Source Document
1700	VS-Aortic Proc-Imp-Size	Indicate the aortic implant size.	Valid data 5-50 Usual range 10-40	Operative notes Operative record
1740	VS-Mitral Proc-Imp-Type	Indicate the type of implant: Choose one: None M = Mechanical B = Bioprosthesis H = Homograft A = Autograft (Ross) R = Ring/Annuloplasty BA = Band/Annuloplasty	To differentiate which valve was implanted: None Mechanical - prosthetic valve made of pyrolytic carbon. Bioprosthesis - valve constructed of animal tissues; porcine (pig) valves and bovine (cow) pericardium. Homograft - tissue derived from individuals of the same species, i.e. cadaver. Autograft - tissue from another site in or on the body of the patient receiving it. Ring - prosthetic rings are made of various synthetic rings. Rings prevent dilation of the annulus and buttresses any repair to the annulus or leaflets. Band/Annuloplasty	Operative notes Operative record
1750	VS-Mitral Proc-Imp	Indicate the name of the prosthesis implanted.	The drop down list containing the possible prosthesis should be used to avoid errors. There is consistent industry confusion in regards to bands and rings. To clarify "bands" and "rings": A "ring" is a "full ring" like a piece of jewelry. The ring is sewn into the annulus of the patient's valve area & the ring provides support to the otherwise dysfunctional valve. The "bands" are similar to "rings" in material & structure, but they are in the shape of a "C" or "U" - not a closed system.	Operative notes Operative record

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1750 (continued)	VS-Mitral Proc-Imp		<p>Many surgeons prefer a band to a ring, since it provides ample support to the leaflets & repair the valve sufficiently without placing sutures through the entire circumference of the patient's annulus.</p> <p>Usually, the ring is used to help the posterior & anterior aspects of the valve coapt or merge - without the assistance of a device the leaflets of the valve generally are not coapting properly. The variety of sizes & rigidity of both the rings & bands are usually a function of the patient's disease state - is the valve degenerative, rheumatic, ischemic (etc.) - some surgeons only use a stiff or "semi-rigid" device & some maintain that a softer, "flexible" device will provide enough support & hence a positive outcome.</p> <p>If a prosthesis is not listed in the drop down list, capture the implant as Other 777.</p> <p>A Cosgrove-Edwards Annuloplasty Band Model #4600 is a ring and is collected as harvest code 48.</p> <p>Note: A mitral valve annuloplasty that became a mitral valve replacement in the same procedure is captured as an attempted mitral valve repair, a mitral valve replacement and appropriate implant.</p>	
1760	VS-Mitral Proc-Imp-Size	Indicate the mitral implant size.	<p>Valid data 5-50 Usual range 10-40</p>	Operative notes Operative record
1800	VS-Tricuspid Proc-Imp-Type	<p>Indicate the type of implant: Choose one:</p> <p>None</p> <p>M = Mechanical</p> <p>B = Bioprosthesis</p>	<p>To differentiate which valve was implanted:</p> <p>None</p> <p>Mechanical - prosthetic valve made of pyrolytic carbon.</p> <p>Bioprosthesis - valve constructed of animal tissues; porcine (pig) valves and bovine (cow)</p>	Operative notes Operative record

Sequence #	Data Field	Data Field Intent	Field Name Clarification	Source Document
1800 (continued)	VS-Tricuspid Proc-Imp-Type	H = Homograft A = Autograft (Ross) R = Ring/Annuloplasty BA = Band/Annuloplasty	pericardium. Homograft - tissue derived from individuals of the same species, i.e. cadaver. Autograft - tissue from another site in or on the body of the patient receiving it. Ring - prosthetic rings are made of various synthetic rings. Rings prevent dilation of the annulus and buttresses any repair to the annulus or leaflets. Band/Annuloplasty Note: Since is it a suture annuloplasty, the correct way to enter an implant type for a DeVega annuloplasty is none.	
1810	VS-Tricuspid Proc-Imp	Indicate the name of the prosthesis implanted.	The drop down list containing the possible implants should be used to avoid errors.	Operative notes Operative record
1820	VS-Tricuspid Proc-Imp-Size	Indicate the tricuspid implant size.	Valid data 5-50 Usual range 10-40	Operative notes Operative record

Sequence #	Data Field	Data Field Intent	Field Name Clarification	Source Document
1860	VS-Pulmonic Proc-Imp-Type	Indicate the type of implant: Choose one: None M = Mechanical B = Bioprosthesis H = Homograft A = Autograft (Ross) R = Ring/Annuloplasty BA = Band/Annuloplasty	To differentiate which valve was implanted: None Mechanical - prosthetic valve made of pyrolytic carbon. Bioprosthesis - valve constructed of animal tissues; porcine (pig) valves and bovine (cow) pericardium. Homograft - tissue derived from individuals of the same species, i.e. cadaver. Pulmonic homograft is a sterilized human valve and pulmonary artery. Autograft - tissue from another site in or on the body of the patient receiving it. Ring - prosthetic rings are made of various synthetic rings. Rings prevent dilation of the annulus and buttresses any repair to the annulus or leaflets. Band/Annuloplasty	Operative notes Operative record
1870	VS-Pulmonic Proc-Imp	Indicate the name of the prosthesis implanted.	The drop down list containing the possible implants should be used to avoid errors.	Operative notes Operative record

Sequence #	Data Field	Data Field Intent	Field Name Clarification	Source Document
1880	VS-Pulmonic Proc-Imp-Size	Indicate the pulmonic implant size.	Valid data 5-50 Usual range 10-40	Operative notes Operative record
1881	Valve Implant List Version Number	The version number of the list of valve implant options. The value is inserted into the record at the time the record is created. The version number will be specified by the STS.		Assigned data, automatically inserted by software