

## STS Adult Cardiac Surgical Database Data Specifications

Itemized Changes Between v4.20.1 and v4.20.2

Current as of 4/10/2020

| SeqNo | ShortName          | Item changed | Changed from:  | Changed to:  |
|-------|--------------------|--------------|--|--|
| 1191  | RCADistStenPercent | Definition   | Indicate the patient's Circumflex distribution stenosis percentage range.  | Indicate the patient's <b>Right Coronary Artery (RCA)</b> distribution stenosis percentage range.  |
| 1193  | RCADistStenCurRev  | LongName     | RCS distribution stenosis - current revascularization  | <b>RCA</b> distribution stenosis - current revascularization   |
| 1545  | HDEF               | Definition   | <p>Indicate the Ejection Fraction (percentage of the blood emptied from the left ventricle at the end of the contraction). See TM for time frame and source document priority.</p> <p><b>Enter a percentage in the range of 1 - 99. If a percentage range is reported, report a whole number using the "mean" (i.e., 50-55% is reported as 53%).</b></p> <ul style="list-style-type: none"> <li>● <b>Hyperdynamic: &gt;70%</b></li> <li>● <b>Normal: 50%–70% (midpoint 60%)</b></li> <li>● <b>Mild dysfunction: 40%–49% (midpoint 45%)</b></li> <li>● <b>Moderate dysfunction: 30%–39% (midpoint 35%)</b></li> <li>● <b>Severe dysfunction: &lt;30%</b></li> </ul> <p><b>Note: If no diagnostic report is in the medical record, a value documented in the medical record is acceptable.</b></p> <p><b>ACCF/AHA 2013</b></p> | <p>Indicate the Ejection Fraction (percentage of the blood emptied from the left ventricle at the end of the contraction). See TM for time frame and source document priority.</p> |
| 1590  | VDInsufA           | Definition   | Indicate whether there is evidence of Aortic valve insufficiency/regurgitation.  | Indicate the <b>degree of aortic valve insufficiency/regurgitation</b> . See TM for time frame and source document priority.   |

|      |                         |                            |  |   |
|------|-------------------------|----------------------------|--|---|
|      |                         |                            | See TM for time frame and source document priority.  |   |
| 1680 | VDInsufM                | Definition                 | Indicate whether there is evidence of Mitral valve insufficiency/regurgitation. See TM for time frame and source document priority.    | Indicate the degree of mitral valve insufficiency/regurgitation. See TM for time frame and source document priority.    |
| 1712 | VDMitDisClSIty          | HarvestCode Description    | 1 = Pure Annular Dialation   | 1 = Pure Annular Dilatation   |
| 1713 | VDMitDisClSIITy         | HarvestCode Description    | 1 = Myomatous degenerative prolapse/flail  | 1 = Myxomatous degenerative prolapse/flail  |
| 1775 | VDInsufT                | Definition                 | Indicate whether there is evidence of Tricuspid valve insufficiency/regurgitation. See TM for time frame and source document priority. | Indicate the degree of tricuspid valve insufficiency/regurgitation. See TM for time frame and source document priority. |
| 1820 | VDInsufP                | Definition                 | Indicate whether there is evidence of Pulmonic valve insufficiency/regurgitation. See TM for time frame and source document priority.  | Indicate the degree of pulmonic valve insufficiency/regurgitation. See TM for time frame and source document priority   |
| 2305 | LwstTempSrc             | HarvestCode (add new code) |  | 11 = Pulmonary Artery<br>DisplayOrder = 9   |
|      |                         | HarvestCode DisplayOrder   | 7 = Other<br>DisplayOrder=9  | 7 = Other<br>DisplayOrder=10  |
|      |                         | HarvestCode DisplayOrder   | 8 = Unknown<br>DisplayOrder=10   | 8 = Unknown<br>DisplayOrder=11  |
| 2565 | PRepAR                  | LongName                   | Post Repair TEE Aortic Insufficiency   | Post Repair TEE Highest Level Aortic Insufficiency  |
| 2570 | PRepMR                  | LongName                   | Post Repair TEE Mitral Insufficiency   | Post Repair TEE Highest Level Mitral Insufficiency  |
| 2575 | PRepTR                  | LongName                   | Post Repair TEE Tricuspid Insufficiency  | Post Repair TEE Highest Level Tricuspid Insufficiency   |
| 2628 | RightIMA                | HarvestCode description    | 2 = Yes, skeltonized   | 2 = Yes, skeletonized   |
| 2631 | TotalNoDistAnastArtCond | LongName                   | Total Number of Distal Anastomoses with Aerterial Conduits   | Total Number of Distal Anastomoses with Arterial Conduits   |

|      |                 |  |   |   |
|------|-----------------|--|---|---|
| 3325 | ValExpEt        | HarvestCode descriptions   | 6 = Para-valvular leak<br>7 = Prosthetic deterioration<br>8 = Sizing/positioning issue                                    | 6 = Paravalvular leak<br>7 = Prosthetic Deterioration<br>8 = Sizing/Positioning issue |
| 3365 | ValExpEt2       | HarvestCode descriptions   | 5 = Pannus Formation  | 5 = Pannus  |
| 3388 | ValExpEt3       | HarvestCode descriptions   | 5 = Pannus Formation  | 5 = Pannus  |
| 3395 | VSAVPr          | ParentShortName  | VSAV  | AVAortaProcPerf   |
|      |                 | ParentHarvestCodes   | 3 4 5   | 2   |
|      |                 | ParentValues   | = "Yes, planned", "Yes, unplanned due to surgical complication" or "Yes, unplanned due to unsuspected disease or anatomy" | = "No"  |
| 3460 | AnlrEnl         | ParentShortName  | VSAV  | AVAortaProcPerf   |
|      |                 | ParentHarvestCodes   | 3 4 5   | 2   |
|      |                 | ParentValues   | = "Yes, planned", "Yes, unplanned due to surgical complication" or "Yes, unplanned due to unsuspected disease or anatomy" | = "No"  |
| 3471 | AVReplNonCorSin | ParentShortName  | VSAV  | AVAortaProcPerf   |
|      |                 | ParentHarvestCodes   | 3 4 5   | 2   |
|      |                 | ParentValues   | = "Yes, planned", "Yes, unplanned due to surgical complication" or "Yes, unplanned due to unsuspected disease or anatomy" | = "No"  |
| 3472 | AorticImplant   | ParentShortName  | VSAV  | AVAortaProcPerf   |
|      |                 | ParentHarvestCodes   | 3 4 5   | 2   |
|      |                 | ParentValues   | = "Yes, planned", "Yes, unplanned due to surgical complication" or "Yes, unplanned due to unsuspected disease or anatomy" | = "No"  |
| 3511 | VSNeochordLoc   | HarvestCode description  | 4 = No  | 4 = Not Documented  |
| 3665 | TricusImplantTy | HarvestCode (code existing in v2.9 – removed by mistake from v4.20.1 – |   | 2 = Annuloplasty device   |

|                   |                                     |                                 |  |  |
|-------------------|-------------------------------------|---------------------------------|--|--|
|                   |                                     | adding back for v4.20.2)        |  |  |
|                   |                                     |                                 | 3 = Bioprosthetic valve<br>DisplayOrder = 2  | 3 = Bioprosthetic valve<br>DisplayOrder = 3  |
|                   |                                     |                                 | 5 = Homograft<br>DisplayOrder = 3  | 5 = Homograft<br>DisplayOrder = 4  |
|                   |                                     |                                 | 7 = Transcatheter device implanted open heart<br>DisplayOrder = 4  | 7 = Transcatheter device implanted open heart<br>DisplayOrder = 5  |
|                   |                                     |                                 | 4 = Transcatheter valve<br>DisplayOrder = 5  | 4 = Transcatheter valve<br>DisplayOrder = 6  |
|                   |                                     |                                 | 6 = Other<br>DisplayOrder = 6  | 6 = Other<br>DisplayOrder = 7  |
| 3776              | ECMO                                | HarvestCode<br>(new code added) |  | 7 = Veno-venous arterial (VVA)<br>DisplayOrder = 4   |
| 4650              |                                     | DCF annotation<br>ShortName     | EndoleakTypeIIIGT  | EndoleakType   |
| 4711              | AortPresNeuroDef                    | Definition                      | Indicate the types of neuro deficits the patient presented with. Timeframe is from Admission to OR Entry.                      | Indicate the type of neuro deficits the patient presented with. Timeframe is from Admission to OR Entry.                       |
| 4745              | DisTiming                           | HarvestCodes<br>Description     | 1 = Hyperacute (<48 hours)   | 1 = Hyperacute (<24 hours)   |
|                   |                                     | HarvestCodes<br>Description     | 2 = Acute (>=48 hours, <2 weeks)   | 2 = Acute (>=24 hours, <2 weeks)   |
| 4968              | VSAVSparRtOp                        | Definition                      | Indicate the type of aortic valve sparing root operation that was performed.   | Indicate the type of aortic valve sparing root operation that was performed  |
| 5455 through 5805 | ADevDelMeth01 through ADevDelMeth15 | Definition                      | Indicate the implant method used to insert device #XX within the aorta.  | Indicate the implant method used to insert device #XX within the aorta.  |
| 6540              | ONCOThor                            | Definition                      | Indicate whether patient underwent a procedure involving the thorax/pleura in conjunction with the primary surgical procedure. | Indicate whether patient underwent a procedure involving the thorax/pleura in conjunction with the primary surgical procedure. |
| 6586              | ExtubatedDT                         | ParentHarvestCodes              | 2  | 2   3  |
|                   |                                     | ParentValue                     | = "No"   | = "No" or "N/A"  |

|      |                          |                    |  |  |
|------|--------------------------|--------------------|--|--|
| 6596 | TotalPOInitVentHr        | SeqNo              | 6596   | 6587   |
|      |                          | Definition         | System calculated. Initial intubation date/time to initial extubation date/time.   | System calculated. OR Exit date/time to initial extubation date/time.  |
|      |                          | ParentShortName    | ExpiredInOR  | ExtubOR  |
|      |                          | ParentHarvestCodes | 2  | 2 3  |
|      |                          | ParentValue        | = "No"   | = "No" or "N/A"  |
|      |                          | LowValue           | 1.00   | 0.00   |
| 6610 | ICUInHrs                 | LowValue           | 0.1  | 0.10   |
|      |                          | UsualRangeLow      | 1.0  | 1.00   |
| 6620 | ICUAdHrs                 | LowValue           | 0.1  | 0.10   |
|      |                          | UsualRangeLow      | 1.0  | 1.00   |
| 6838 | CPVntLngTrachReq         | LongName           | Pulm - Prolonged Ventilation - Tracheostomy Required after OR Exit   | Pulm - Prolonged Ventilation - Tracheostomy Required after OR Exit   |
|      |                          | Definition         | For patient's with initial intubation times greater than 24 hours, indicate if the patient required a tracheostomy after OR Exit. Exclude patient who had a tracheostomy prior to OR Entry.  | For patients with initial intubation times greater than 24 hours, indicate if the patient required a tracheostomy after OR Exit. Exclude patient who had a tracheostomy prior to OR Entry.   |
| 6945 | COtAFib                  | Definition         | Indicate whether the patient experienced atrial fibrillation/flutter (AF) after OR Exit that a. last longer than one hour, or b. lasts less than one hour but requires medical or procedural intervention. Exclude patients who were in AFib at the start of s | Indicate whether the patient experienced atrial fibrillation/flutter (AF) after OR Exit that a. last longer than one hour, or b. lasts less than one hour but requires medical or procedural intervention. Exclude patients who were in AFib at the start of surgery (OR Entry). |
| 7004 | DischMtPtTrnfAcuteHospDt | Definition         | Indicate the date the patient was transferred to an another acute care hospital.   | Indicate the date the patient was transferred to another acute care hospital.  |
| 7005 | DischMtPtAcuteHospStill  | Definition         | Indicate if the patient is still in the acute care setting after the index procedure. Once the patient is discharged from the acute care setting (either from performing hospital or subsequent transfers) choose no and proceed with discharge/mortality data | Indicate if the patient is still in the acute care setting after the index procedure. Once the patient is discharged from the acute care setting (either from performing hospital or subsequent transfers) choose no and proceed with discharge/mortality data capture.          |

|      |                     |            |   |   |
|------|---------------------|------------|---|---|
| 7016 | SubsUseScrnCounPerf | Definition | Indicate if substance use screening and appropriate counseling was performed. This is NQF measure 2595. Patients require screening on tobacco use, alcohol use, and illicit/non-prescription drug use. Patient must be screened for all three. If the patient s       | Indicate if substance use screening and appropriate counseling was performed. This is NQF measure 2595. Patients require screening on tobacco use, alcohol use, and illicit/non-prescription drug use. Patient must be screened for all three. If the patient screens positive for any listed substance use, appropriate counseling is required to choose yes for this field. |
| 7081 | DCDirOralAnticoag   | Definition | Indicate whether or not the patient was discharged from facility on Direct Oral Anticoagulant, or if it was contraindicated. The contraindication must be documented in the medical record by a physician, nurse practitioner, pharmacist or physician assistant      | Indicate whether or not the patient was discharged from facility on Direct Oral Anticoagulant, or if it was contraindicated. The contraindication must be documented in the medical record by a physician, nurse practitioner, pharmacist or physician assistant.   |
| 7100 | DCACE               | Definition | Indicate whether or not the patient was discharged from facility on ACE or ARB Inhibitors, or if it was contraindicated or not indicated. The contraindication must be documented in the medical record by a physician, nurse practitioner, pharmacist or physi       | Indicate whether or not the patient was discharged from facility on ACE or ARB Inhibitors, or if it was contraindicated or not indicated. The contraindication must be documented in the medical record by a physician, nurse practitioner, pharmacist or physician assistant.  |
| 7340 | TotHep              | Definition | Indicate the total dose of heparin that was administered by anesthesia after OR Entry but prior to the initiation of first cardiopulmonary bypass.<br><br>Include all doses of heparin given prior to the first cardiopulmonary bypass. Value should be recorded in u | Indicate the total dose of heparin that was administered by anesthesia after OR Entry but prior to the initiation of first cardiopulmonary bypass.<br><br>Include all doses of heparin given prior to the first cardiopulmonary bypass. Value should be recorded in units.  |
| 7347 | FFPPriorCPBUnits    | Definition | Indicate if the patient received fresh frozen plasma intra-operatively after heparin was given but prior to cardiopulmonary bypass.   | Indicate the total number of units of Fresh Frozen Plasma given intra-operatively between anesthesia administered first   |

|      |                   |                                |   |  |
|------|-------------------|--------------------------------|---|--|
|      |                   |                                |   | heparin bolus and commencement of cardiopulmonary bypass.  |
| 7435 | CoreTempSrc       | HarvestCodes<br>(add new code) |   | 7 = CPB venous return<br>DisplayOrder = 7  |
|      |                   | HarvestCodes<br>(add new code) |   | 8 = Jugular-Venous<br>DisplayOrder = 8   |
|      |                   | HarvestCodes<br>(add new code) |   | 9 = Oxygenator arterial outlet blood (CPB Arterial Blood)<br>DisplayOrder = 9  |
|      |                   | HarvestCodes<br>(add new code) |   | 10 = Other<br>DisplayOrder = 10  |
|      |                   | HarvestCodes<br>(add new code) |   | 11 = Unknown<br>DisplayOrder = 11  |
| 7454 | AlbAnesth25Pct    | Definition                     | Indicate if 25% Albumin was given by Anesthesia intra-operatively. Only include fluid administered by Anesthesia. | Indicate if 25% Albumin was given by Anesthesia intra-operatively. Only include fluid administered by Anesthesia.            |
| 7455 | AnesthTot25PctAlb | Definition                     | Indicate the total amount of 25% Albumin administered by Anesthesia in milliliters (mL).                          | Indicate the total amount of 25% Albumin administered by Anesthesia in milliliters (mL).                                     |
| 7456 | ANH               | LongName                       | Autologous Normovolemic Hemodilution (ANH)  | Autologous Normovolemic Hemodilution (ANH)   |
|      |                   | Definition                     | Indicate if Autologous Normovolemic Hemodilution (ANH) was administered by anesthesia intra-operatively           | Indicate if Autologous Normovolemic Hemodilution (ANH) was administered by anesthesia intra-operatively                      |
| 7464 | IntraopGlucTrough | Definition                     | Indicate if an intra-op glucose trough was performed from OR Entry to OR Exit.                                    | Indicate whether intraoperative glucose level in mg/dL was obtained after induction of anesthesia and prior to OR Exit time. |
| 7476 | IntraProcEEG      | Definition                     | Indicate whether an intraoperative processed EEG was monitored  | Indicate whether an intraoperative processed EEG was monitored   |
| 7545 | MxAscAo           | Definition                     | Indicate whether the ascending aorta was assessed using TEE intraoperatively post-induction - pre incision.       | Indicate the maximal diameter of the ascending aorta in centimeters using data obtained from an intraoperative TEE.          |

|      |                |            |   |  |
|------|----------------|------------|---|--|
| 7579 | HighArtOutTemp | Definition | Indicate the highest arterail outflow temperature during the rewarming phase of cardiopulmonary bypass.   | Indicate the highest <b>arterial</b> outflow temperature during the rewarming phase of cardiopulmonary bypass.   |
| 7585 | TotCrystPerf   | Definition | Indicate the total volume of intravenous crystalloid fluids administered by cardiopulmonary perrfusion team. The data should be record in milliliters. Enter zero if fluid crystalloid not used by perfusion team.<br><br>Do not record any blood products in this  | Indicate the total volume of intravenous crystalloid fluids administered by cardiopulmonary <b>perfusion</b> team. The data should be record in milliliters. Enter zero if fluid crystalloid not used by perfusion team.<br><br>Do not record any blood products in this <b>data field.</b>              |
| 7595 | TotAlbumPerf   | Definition | Indicate the total volume of intravenous human serum albumin fluids (5%) administered by the cardiopulmonary perfusion team. The data should be recorded in milliliters. Enter zero if 5% albumin not administered by perfusion team.<br><br>Do not record any bloo | Indicate the total volume of intravenous human serum albumin fluids (5%) administered by the cardiopulmonary perfusion team. The data should be recorded in milliliters. Enter zero if 5% albumin not administered by perfusion team.<br><br>Do not record any blood <b>products in this data field.</b> |
| 7605 | InotropWeanCPB | Definition | Indicate the usage of inotropic drug infusions to facilitate weaning from cardiopulmonary bypass. For this data field, any drug infusion with inotropic properties, including catecholamines, phosphodiesterase inhibitors, and calcium sensitizers, should be      | Indicate the usage of inotropic drug infusions to facilitate weaning from cardiopulmonary bypass. For this data field, any drug infusion with inotropic properties, including catecholamines, phosphodiesterase inhibitors, and calcium sensitizers, should be <b>recorded.</b>                          |
| 7610 | VasopWeanCPB   | Definition | Indicate the usage of vasoconstrictive drugs to facilitate weaning from cardiopulmonary bypass. For this data field, any drug infusion at a dosage range with clinically vasoconstrictive properties,   | Indicate the usage of vasoconstrictive drugs to facilitate weaning from cardiopulmonary bypass. For this data field, any drug infusion at a dosage range with clinically vasoconstrictive properties,  |



|      |              |            |  |  |
|------|--------------|------------|--|--|
|      |              |            | including catecholamines and pure vasoconstrictors, shou   | including catecholamines and pure vasoconstrictors, should be recorded.<br><br>Also record usage of drugs with inotropic effects that have vasoconstrictive properties in higher doses, such as dopamine and epinephrine.  |
| 7612 | CellSavVol   | Definition | Indicate the total volume of any cell-saver blood that was transfused intraoperatively. Include any volume started after OR Entry even if the infusion completed post-operatively.<br><br>Do not include autologous, allogeneic, pump-residual, or chest-tube recirc | Indicate the total volume of any cell-saver blood that was transfused intraoperatively. Include any volume started after OR Entry even if the infusion completed post-operatively.<br><br>Do not include autologous, allogeneic, pump-residual, or chest-tube recirculated blood. Value should be recorded in milliliters. |
| 7614 | TotProt      | Definition | Indicate the total dose of protamine given intraoperatively to reverse heparinization after seperation from CPB prior to OR Exit.<br><br>Value should be recorded in milligrams. Do not include doses given in the ICU.  | Indicate the total dose of protamine given intraoperatively to reverse heparinization after separation from CPB prior to OR Exit.<br><br>Value should be recorded in milligrams. Do not include doses given in the ICU.  |
| 7620 | PostSAM      | Definition | Indicate the presence of systolic anterior motion (SAM) of the mitral valve as determined by post procedure intraoperative transesophageal echocardiography prior to Skin Incision Stop time.<br><br>Choose Yes for any SAM between weaning from CPB and Skin Incisi | Indicate the presence of systolic anterior motion (SAM) of the mitral valve as determined by post procedure intraoperative transesophageal echocardiography. Time frame is after weaning from cardiopulmonary bypass and prior to OR Exit.   |
| 7630 | PostLVEFMeas | Definition | Indicate whether left ventricular ejection fraction was measured by Anesthesia using   | Indicate whether left ventricular ejection fraction was measured using   |

|      |              |            |  |  |
|------|--------------|------------|--|--|
|      |              |            | transoesophageal echocardiography intraoperatively post-procedure after final discontinuation of CPB.            | transesophageal echocardiography intraoperatively post-procedure after final discontinuation of CPB.             |
| 7650 | PostTempMeas | Definition | Indicate whether the core temperature was measured in degrees Centigrade after OR exit to one hour post OR exit. | Indicate whether the core temperature was measured in degrees Centigrade after OR exit to one hour post OR exit. |
| 7655 | PostCoreTemp | Definition | Indicate the core temperature in degrees Centigrade after OR Exit to one hour post OR Exit.                      | Indicate the core temperature in degrees Centigrade after OR Exit to one hour post OR Exit.                      |
| 7720 | PostopDel    | Definition | Indicate whether the patient experienced postoperative delirium from OR Exit to ICU discharge.                   | Indicate whether the patient experienced postoperative delirium from OR Exit to ICU discharge.                   |

### **Changes to other documents:**

All documents updated to reflect the change in version number from 4.20.1 to 4.20.2 and “Current as of” date was changed to April 10, 2020.

### **Software Specifications:**

1. Appendix C: Calculation of Total Postoperative Initial Ventilation Hours
  - a. Description of calculation method update to provide clarity.

### STS Adult Cardiac OnSave Quality Checks

1. Added additional check to be performed:

|    |                 |   |  |
|----|-----------------|---|--|
| 59 | AVAortaProcPerf | AVAortaProcPerf != null and AortProc != null and ((in(AortProc,['3','4','5']) and AVAortaProcPerf = 2) or (AortProc = 2 and AVAortaProcPerf = 1)) | The value in Aorta Procedure Performed conflicts with the value in AV-Aorta Procedure Performed. |
|----|-----------------|---|--|