

ACO #10 – Prevention Quality Indicator (PQI): Ambulatory Care Sensitive Conditions: Admissions for Heart Failure (HF)

Measure Information Form (MIF)

Data Source

Medicare Part B Carrier claims data

- Medicare Outpatient claims data
- Medicare Inpatient claims data
- Medicare beneficiary enrollment data

Measure Set ID

- ACO #10

Version Number and effective date

- Version 2.11 effective 1/1/15

CMS approval date

- 11/19/20

NQF ID

- #277, adapted for quality measurement in Medicare Accountable Care Organizations

Date Endorsed

- N/A

Care Setting

- Hospital

Unit of Measurement

- Accountable Care Organization (ACO)

Measurement Duration

- Calendar Year

Measurement Period

- Calendar Year

Measure Type

- Outcome

Measure Scoring

- Prevention quality indicator (PQI) score, that is a ratio of observed admissions to expected admissions for Heart Failure (HF)

Payer source

- Medicare Fee-for-Service

Improvement notation

- Lower PQI scores are better

Measure steward

- Agency for Healthcare Research and Quality (AHRQ) with adaptations by Centers for Medicare and Medicaid Services (CMS) (co-stewards).

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- This Medicare ACO PQI HF quality measure is adapted from the general population PQI quality measure for HF that is developed by AHRQ (AHRQ, 2013).

Measure description

- All discharges with an ICD-9 or ICD-10 principal diagnosis code for HF in adults ages 18 years and older, for ACO assigned (SSP) or aligned (Pioneer) Medicare beneficiaries with HF, with risk-adjusted comparison of observed discharges to expected discharges for each ACO.

Rationale

Hospital admissions for HF are a Prevention Quality Indicator of interest to comprehensive health care delivery systems, including ACOs. HF can often be controlled in an outpatient setting. Evidence suggests that these hospital admissions could have been avoided through high quality outpatient care, or the condition would have been less severe if treated early and appropriately. Proper outpatient treatment and adherence to care may reduce the rate of occurrence for this event, and thus of hospital admissions.

Outpatient interventions such as the use of protocols for ambulatory management of low-severity patients and improvement of access to outpatient care would most likely decrease inpatient admissions for HF. In addition, physician management of patients with HF differs significantly by physician specialty (Edep, 1997; Reis, 1997). Such differences in practice may be reflected in differences in HF admission rates.

Clinical Recommendation Statement

Billings et al. (1993) found that low-income ZIP codes in New York City had 4.6 times more HF hospitalizations per capita than high-income ZIP codes. Millman (1993) reported that low-income ZIP codes had 6.1 times more HF hospitalizations per capita than high-income ZIP codes. Based on empirical results, areas with high rates of HF admissions also tend to have high rates of admissions for other Ambulatory Care Sensitive Conditions.

The signal ratio (i.e., the proportion of the total variation across areas that is truly related to systematic differences in area performance rather than random variation) is very high, at 93.0 percent, indicating that the observed differences in age-sex adjusted rates very likely represent true differences across areas (AHRQ, 2007). Risk adjustment for age and sex exerts

strongest influence in areas with highest admission rates. As a PQI, admissions for HF are not a measure of hospital quality, but rather one measure of outpatient and other health care.

This indicator was originally developed by Billings et al. in conjunction with the United Hospital Fund of New York. It was subsequently adopted by the Institute of Medicine and has been widely used in a variety of studies of avoidable hospitalizations (Bindman, 1995; Rosenthal, 1997).

References

- AHRQ. *Guide to Prevention Quality Indicators*. Rockville, Maryland: U.S. Agency for Healthcare Research and Quality, 2007.
- Billings J, Zeitel L, Lukomnik J, et al. Impact of socioeconomic status on hospital use in New York City, *Health Aff (Millwood)* 1993;12(1):162-73.
- Bindman AB, Grumbach K, Osmond D, et al. Preventable hospitalizations and access to health care. *JAMA* 1995;274(4):305-11.
- Millman M, editor. Committee on Monitoring Access to Personal Health Care Services. Washington, DC: National Academy Press; 1993.
- Reis, SE, Holubkov R, Edmundowicz D, et al. Treatment of patients admitted to the hospital with congestive heart failure: specialty-related disparities in practice patterns and outcomes. *J Am Coll Cardiol* 1997;30(3):733-8.
- Rosenthal GE, Harper DL, Shah A, et al. A regional evaluation of variation in low-severity hospital admissions. *J Gen Intern Med* 1997;12(7):416-22.

Release Notes / Summary of Changes

- There have been no substantial changes made to the measure specifications. The specifications reflect the most recent version (version 4.5, May 2013) of technical specifications posted on the AHRQ website for PQI #5.
- Updated the measure specifications to incorporate ICD-10 diagnosis and procedure codes in preparation for the October 2015 ICD-10 transitions.
- Corrections have been made to the ICD-9 and ICD-10 cardiac procedure codes between version 2.1 and version 2.11.

Technical Specifications

- Target Population: ACO assigned or aligned Medicare beneficiaries

Denominator

- Denominator Statement

Expected (risk adjusted) discharges from an acute care or critical access hospital with a principal diagnosis of HF, for Medicare FFS beneficiaries assigned or aligned to an ACO, aged 18 years and older, with HF

- Denominator Details

The ICD-9 and ICD-10 codes used to identify Medicare beneficiaries with HF for this Medicare ACO PQI quality measure are as follows:

| ICD-9 Code | Description | ICD-10 Code | Description |
|------------|--|-------------|--|
| 398.91 | Rheumatic heart failure (congestive) | I09.81 | Rheumatic heart failure |
| 428.0 | Congestive heart failure, unspecified | | |
| 428.1 | Left heart failure | I50.1 | Left ventricular failure |
| 428.20 | Systolic heart failure, unspecified | I50.20 | Unspecified systolic (congestive) heart failure |
| 428.21 | Acute systolic heart failure | I50.21 | Acute systolic (congestive) heart failure |
| 428.22 | Chronic systolic heart failure | I50.22 | Chronic systolic (congestive) heart failure |
| 428.23 | Acute on chronic systolic heart failure | I50.23 | Acute on chronic systolic (congestive) heart failure |
| 428.30 | Diastolic heart failure, unspecified | I50.30 | Unspecified diastolic (congestive) heart failure |
| 428.31 | Acute diastolic heart failure | I50.31 | Acute diastolic (congestive) heart failure |
| 428.32 | Chronic diastolic heart failure | I50.32 | Chronic diastolic (congestive) heart failure |
| 428.33 | Acute on chronic diastolic heart failure | I50.33 | Acute on chronic diastolic (congestive) heart failure |
| 428.40 | Combined systolic and diastolic heart failure, unspecified | I50.40 | Unspecified combined systolic (congestive) and diastolic (congestive) heart failure |
| 428.41 | Acute combined systolic and diastolic heart failure | I50.41 | Acute combined systolic (congestive) and diastolic (congestive) heart failure |
| 428.42 | Chronic combined systolic and diastolic heart failure | I50.42 | Chronic combined systolic (congestive) and diastolic (congestive) heart failure |
| 428.43 | Acute on chronic combined systolic and diastolic heart failure | I50.43 | Acute on chronic combined systolic (congestive) and diastolic (congestive) heart failure |
| 428.9 | Heart failure, unspecified | I50.9 | Heart failure, unspecified |

These ICD-9 or ICD-10 codes for HF can be found in any Medicare Outpatient claims, Medicare Inpatient Claims, outpatient Claims, or Part B Carrier claims for the ACO's assigned or aligned beneficiary in the performance year for the beneficiary to be included in the denominator.

The Medicare ACO PQI quality measure denominator specifications are adapted from the AHRQ PQI specifications with adjustments to the reference population to focus on Medicare beneficiaries since they are likely to be older and more disabled than the general population. Additionally, ACOs may have more and varying proportions of patients with the chronic conditions targeted by the PQI quality measures (HF for this ACO PQI). As a result, the changes made to adapt the AHRQ PQIs to the Medicare population for the Medicare ACO PQIs include the following:

1. Change the PQI denominator to include only Medicare beneficiaries assigned or aligned to a Medicare ACO, instead of the general population in a geographic area (as currently specified for AHRQ PQIs), and allow part-year Medicare beneficiaries to be included in the denominator.
2. Change the PQI denominators to include only those beneficiaries who were diagnosed with the condition under consideration (HF) instead of patients of any disease status (as currently specified for AHRQ PQIs).

3. Exclude beneficiaries with a diagnosis of ESRD from the denominator populations. ESRD patients are significantly more prone to hospitalization, are severely ill, and are a much larger proportion of Medicare beneficiaries than they are in the general population. As a result, the PQI measures may not be good measures of quality of care in treatment of Medicare beneficiaries with HF who also have ESRD.
- Denominator Exceptions and Exclusions
 1. Beneficiaries with a diagnosis of ESRD
 2. Beneficiaries not eligible for both Medicare Part A and Part B
 3. Beneficiaries with missing data for gender, age, or principal diagnosis

- Denominator Exceptions and Exclusions Details

To identify beneficiaries for the ESRD exclusion the MS_CD variable (CWF Beneficiary Medicare Status Code) is used. Excluded beneficiaries including those with MS_CD values equal to 11 (aged with ESRD), 21 (disabled with ESRD), or 31 (ESRD only).

Numerator

- Numerator Statement

Observed discharges from an acute care hospital or critical access hospital with a principal diagnosis of HF, for Medicare beneficiaries in the denominator population for this measure.

- Numerator Details

The ICD-9 and ICD-10 codes used to identify hospital discharges with a principal diagnosis of HF for this Medicare ACO PQI quality measure are as follows:

| ICD-9 Code | Description | ICD-10 Code | Description |
|------------|--|-------------|---|
| 398.91 | Rheumatic heart failure (congestive) | I09.81 | Rheumatic heart failure |
| 428.0 | Congestive heart failure, unspecified | | |
| 428.1 | Left heart failure | I50.1 | Left ventricular failure |
| 428.20 | Systolic heart failure, unspecified | I50.20 | Unspecified systolic (congestive) heart failure |
| 428.21 | Acute systolic heart failure | I50.21 | Acute systolic (congestive) heart failure |
| 428.22 | Chronic systolic heart failure | I50.22 | Chronic systolic (congestive) heart failure |
| 428.23 | Acute on chronic systolic heart failure | I50.23 | Acute on chronic systolic (congestive) heart failure |
| 428.30 | Diastolic heart failure, unspecified | I50.30 | Unspecified diastolic (congestive) heart failure |
| 428.31 | Acute diastolic heart failure | I50.31 | Acute diastolic (congestive) heart failure |
| 428.32 | Chronic diastolic heart failure | I50.32 | Chronic diastolic (congestive) heart failure |
| 428.33 | Acute on chronic diastolic heart failure | I50.33 | Acute on chronic diastolic (congestive) heart failure |
| 428.40 | Combined systolic and diastolic heart failure, unspecified | I50.40 | Unspecified combined systolic (congestive) and diastolic (congestive) heart failure |

| ICD-9 Code | Description | ICD-10 Code | Description |
|------------|--|-------------|--|
| 428.41 | Acute combined systolic and diastolic heart failure | I50.41 | Acute combined systolic (congestive) and diastolic (congestive) heart failure |
| 428.42 | Chronic combined systolic and diastolic heart failure | I50.42 | Chronic combined systolic (congestive) and diastolic (congestive) heart failure |
| 428.43 | Acute on chronic combined systolic and diastolic heart failure | I50.43 | Acute on chronic combined systolic (congestive) and diastolic (congestive) heart failure |
| 428.9 | Heart failure, unspecified | I50.9 | Heart failure, unspecified |

These ICD-9 or ICD-10 codes for HF diagnoses can be found for any Medicare Inpatient claims for the ACO's assigned or aligned beneficiary in the performance year for that discharge to be included in the numerator. The sum of all of these discharges is calculated for the performance year for all of the assigned or aligned beneficiaries for each ACO to calculate the numerator.

- Numerator Exceptions and Exclusions
 1. Transfers to a hospital, Skilled Nursing Facility (SNF) or Intermediate Care Facility (ICF), or another health care facility are excluded from the numerator
 2. Discharges are excluded from the numerator if a cardiac procedure was performed during the admission
- Numerator Exceptions and Exclusions Details
 1. The AHRQ PQI SAS software excludes admissions that are transfers to a hospital, skilled nursing facility or Intermediate Care Facility, or another healthcare facility, identifying these transfers using HCUP variables SID ASOURCE and POINTOFORIGINUB04 codes. The Medicare claims data available from the IDR does not include these codes. As a result, the Medicare ACO PQIs use the Medicare claims variable "Source of Admission (SRC_ADMS)" to identify transfers. For the Medicare ACO PQIs patients were excluded with an SCR_ADMS value of 4 (transfer from hospital), 5 (transfer from skilled nursing facility), or 6 (transfer from another health care facility). However, previous work with the SCR_ADMS variable has found that it is sometimes unreliable. As a result, to better ensure that all transfers were excluded the Medicare ACO PQI software excludes beneficiaries with two Part A Inpatient claims admissions on the same day at two different facilities.
 2. Cardiac procedures performed during the admission are indicated by any of the ICD-9 or ICD-10 procedures listed in **Appendix A**, found in the Medicare Inpatient Claims

Stratification or Risk Adjustment

This measure uses risk adjustment and is not stratified.

A Medicare claims data 5% file was used for re-estimating the AHRQ HF hospital discharge logistic regression prediction model used for risk adjustment for this Medicare ACO HF PQI measure. The 5% file is nationally representative for the Medicare FFS population, and replaced the general population data used for the AHRQ PQI measure prediction models. For this Medicare ACO PQI risk adjustment analysis it was further restricted to Medicare beneficiaries who met the inclusion criteria for the ACO program and the HF disease diagnosis criteria for the Medicare ACO PQI quality measure denominator. The prediction variables in this model were the age-sex categories identified for the Medicare populations for the ACO PQI quality measures. These models produced coefficients that were included in the ACO PQI calculation SAS software as risk adjusters to calculate the expected rate of hospital discharges for an ACO population given its age and sex distribution.

For this Medicare ACO PQI prediction model, the AHRQ age ranges used for risk adjustment were revised to reflect age ranges that are more appropriate for the Medicare FFS population. The new age ranges are: 0 to 39, 40 to 65, 65 to 69, 70 to 74, 75 to 79, 80 to 84, and 85+. They were used to calculate the age-sex categories used as predictors in the risk adjustment model.

Sampling

- N/A

Calculation Algorithm

Calculation of this Medicare ACO HF PQI quality measure includes the following steps:

1. Identify the assigned or aligned beneficiaries for each ACO.
2. Apply the eligibility criteria to identify beneficiaries of the correct age, Medicare enrollment status, ESRD status, and satisfying the other eligibility criteria.
3. Search Medicare Part A Inpatient, Outpatient, and Part B Carrier claims data to find all of the eligible assigned or aligned beneficiaries with at least one ICD-9 or ICD-10 diagnosis code for HF during the performance year for the denominator.
4. Apply the risk adjustment prediction model using the age/sex categories and distribution of the eligible assigned or aligned beneficiaries to calculate the expected number of admissions with a principal diagnosis of HF for each ACO for the performance year. This constitutes the denominator (i.e., expected rate).
5. Search Medicare Inpatient claims data to find all admissions with a principal diagnosis of HF for those eligible assigned or aligned beneficiaries with HF. This constitutes the numerator (i.e., observed rate).
6. Divide the numerator by the denominator to find the Medicare ACO HF PQI score.

Appendix A: Cardiac Procedure Codes

Appendix A-1: ICD-9 Cardiac Procedure Codes

| ICD-9 Code | Description | ICD-9 Code | Description | ICD-9 Code | Description |
|------------|---|------------|---|------------|---|
| 00.50 | Implantation of cardiac resynchronization pacemaker without mention of defibrillation, total system [CRT-P] | 35.53 | Repair of ventricular septal defect with prosthesis, open technique | 36.99 | Other operations on vessels of heart |
| 00.51 | Implantation of cardiac resynchronization defibrillator, total system [CRT-D] | 35.54 | Repair of endocardial cushion defect with prosthesis | 37.31 | Pericardiectomy |
| 00.52 | Implantation or replacement of transvenous lead [electrode] into left ventricular coronary venous system | 35.55 | Repair of ventricular septal defect with prosthesis, closed technique | 37.32 | Excision of aneurysm of heart |
| 00.53 | Implantation or replacement of cardiac resynchronization pacemaker pulse generator only [CRT-P] | 35.60 | Repair of unspecified septal defect of heart with tissue graft | 37.33 | Excision or destruction of other lesion or tissue of heart, open approach |
| 00.54 | Implantation or replacement of cardiac resynchronization defibrillator pulse generator only [CRT-D] | 35.61 | Repair of atrial septal defect with tissue graft | 37.34 | Excision or destruction of other lesion or tissue of heart, endovascular approach |
| 00.56 | Insertion or replacement of implantable pressure sensor with lead for intracardiac or great vessel hemodynamic monitoring | 35.62 | Repair of ventricular septal defect with tissue graft | 37.35 | Partial ventriculectomy |
| 00.57 | Implantation or replacement of subcutaneous device for intracardiac or great vessel hemodynamic monitoring | 35.63 | Repair of endocardial cushion defect with tissue graft | 37.36 | Excision, destruction, or exclusion of left atrial appendage (LAA) |
| 00.66 | Percutaneous transluminal coronary angioplasty [PTCA] | 35.70 | Other and unspecified repair of unspecified septal defect of heart | 37.37 | Excision or destruction of other lesion or tissue of heart, thoroscopic approach |

(continued)

Appendix A-1: ICD-9 Cardiac Procedure Codes (continued)

| ICD-9 Code | Description | ICD-9 Code | Description | ICD-9 Code | Description |
|------------|---|------------|--|------------|--|
| 17.51 | Implantation of rechargeable cardiac contractility modulation [CCM], total system | 35.71 | Other and unspecified repair of atrial septal defect | 37.41 | Implantation of prosthetic cardiac support device around the heart |
| 17.52 | Implantation or replacement of cardiac contractility modulation [CCM] rechargeable pulse generator only | 35.72 | Other and unspecified repair of ventricular septal defect | 37.51 | Heart transplantation |
| 17.55 | Transluminal coronary atherectomy | 35.73 | Other and unspecified repair of endocardial cushion defect | 37.52 | Implantation of total internal biventricular heart replacement system |
| 35.00 | Closed heart valvotomy, unspecified valve | 35.81 | Total repair of tetralogy of fallot | 37.53 | Replacement or repair of thoracic unit of (total) replacement heart system |
| 35.01 | Closed heart valvotomy, aortic valve | 35.82 | Total repair of total anomalous pulmonary venous connection | 37.54 | Replacement or repair of other implantable component of (total) replacement heart system |
| 35.02 | Closed heart valvotomy, mitral valve | 35.83 | Total repair of truncus arteriosus | 37.55 | Removal of internal biventricular heart replacement system |
| 35.03 | Closed heart valvotomy, pulmonary valve | 35.84 | Total correction of transposition of great vessels, not elsewhere classified | 37.60 | Implantation or insertion of biventricular external heart assist system |
| 35.04 | Closed heart valvotomy, tricuspid valve | 35.91 | Interatrial transposition of venous return | 37.61 | Implant of pulsation balloon |
| 35.05 | Endovascular replacement of aortic valve | 35.92 | Creation of conduit between right ventricle and pulmonary artery | 37.62 | Insertion of temporary non-implantable extracorporeal circulatory assist device |
| 35.06 | Transapical replacement of aortic valve | 35.93 | Creation of conduit between left ventricle and aorta | 37.63 | Repair of heart assist system |
| 35.07 | Endovascular replacement of pulmonary valve | 35.94 | Creation of conduit between atrium and pulmonary artery | 37.64 | Removal of external heart assist system(s) or device(s) |
| 35.08 | Transapical replacement of pulmonary valve | 35.95 | Revision of corrective procedure on heart | 37.65 | Implant of single ventricular (extracorporeal) external heart assist system |
| 35.09 | Endovascular replacement of unspecified heart valve | 35.96 | Percutaneous balloon valvuloplasty | 37.66 | Insertion of implantable heart assist system |

(continued)

Appendix A-1: ICD-9 Cardiac Procedure Codes (continued)

| ICD-9 Code | Description | ICD-9 Code | Description | ICD-9 Code | Description |
|------------|---|------------|---|------------|--|
| 35.10 | Open heart valvuloplasty without replacement, unspecified valve | 35.97 | Percutaneous mitral valve repair with implant | 37.70 | Initial insertion of lead [electrode], not otherwise specified |
| 35.11 | Open heart valvuloplasty of aortic valve without replacement | 35.98 | Other operations on septa of heart | 37.71 | Initial insertion of transvenous lead [electrode] into ventricle |
| 35.12 | Open heart valvuloplasty of mitral valve without replacement | 35.99 | Other operations on valves of heart | 37.72 | Initial insertion of transvenous leads [electrodes] into atrium and ventricle |
| 35.13 | Open heart valvuloplasty of pulmonary valve without replacement | 36.03 | Open chest coronary artery angioplasty | 37.73 | Initial insertion of transvenous lead [electrode] into atrium |
| 35.14 | Open heart valvuloplasty of tricuspid valve without replacement | 36.04 | Intracoronary artery thrombolytic infusion | 37.74 | Insertion or replacement of epicardial lead [electrode] into epicardium |
| 35.20 | Open and other replacement of unspecified heart valve | 36.06 | Insertion of non-drug-eluting coronary artery stent(s) | 37.75 | Revision of lead [electrode] |
| 35.21 | Open and other replacement of aortic valve with tissue graft | 36.07 | Insertion of drug-eluting coronary artery stent(s) | 37.76 | Replacement of transvenous atrial and/or ventricular lead(s) [electrode] |
| 35.22 | Open and other replacement of aortic valve | 36.09 | Other removal of coronary artery obstruction | 37.77 | Removal of lead(s) [electrode] without replacement |
| 35.23 | Open and other replacement of mitral valve with tissue graft | 36.10 | Aortocoronary bypass for heart revascularization, not otherwise specified | 37.78 | Insertion of temporary transvenous pacemaker system |
| 35.24 | Open and other replacement of mitral valve | 36.11 | (Aorto)coronary bypass of one coronary artery | 37.79 | Revision or relocation of cardiac device pocket |
| 35.25 | Open and other replacement of pulmonary valve with tissue graft | 36.12 | (Aorto)coronary bypass of two coronary arteries | 37.80 | Insertion of permanent pacemaker, initial or replacement, type of device not specified |
| 35.26 | Open and other replacement of pulmonary valve | 36.13 | (Aorto)coronary bypass of three coronary arteries | 37.81 | Initial insertion of single-chamber device, not specified as rate responsive |
| 35.27 | Open and other replacement of tricuspid valve with tissue graft | 36.14 | (Aorto)coronary bypass of four or more coronary arteries | 37.82 | Initial insertion of single-chamber device, rate responsive |

(continued)

Appendix A-1: ICD-9 Cardiac Procedure Codes (continued)

| ICD-9 Code | Description | ICD-9 Code | Description | ICD-9 Code | Description |
|------------|--|------------|--|------------|---|
| 35.28 | Open and other replacement of tricuspid valve | 36.15 | Single internal mammary-coronary artery bypass | 37.83 | Initial insertion of dual-chamber device |
| 35.31 | Operations on papillary muscle | 36.16 | Double internal mammary-coronary artery bypass | 37.85 | Replacement of any type pacemaker device with single-chamber device, not specified as rate responsive |
| 35.32 | Operations on chordae tendineae | 36.17 | Abdominal-coronary artery bypass | 37.86 | Replacement of any type of pacemaker device with single-chamber device, rate responsive |
| 35.33 | Annuloplasty | 36.19 | Other bypass anastomosis for heart revascularization | 37.87 | Replacement of any type pacemaker device with dual-chamber device |
| 35.34 | Infundibulectomy | 36.2 | Heart revascularization by arterial implant | 37.89 | Revision or removal of pacemaker device |
| 35.35 | Operations on trabeculae carneae cordis | 36.31 | Open chest transmyocardial revascularization | 37.94 | Implantation or replacement of automatic cardioverter/defibrillator, total system [AICD] |
| 35.39 | Operations on other structures adjacent to valves of heart | 36.32 | Other transmyocardial revascularization | 37.95 | Implantation of automatic cardioverter/defibrillator lead(s) only |
| 35.41 | Enlargement of existing atrial septal defect | 36.33 | Endoscopic transmyocardial revascularization | 37.96 | Implantation of automatic cardioverter/defibrillator pulse generator only |
| 35.42 | Creation of septal defect in heart | 36.34 | Percutaneous transmyocardial revascularization | 37.97 | Replacement of automatic cardioverter/defibrillator lead(s) only |
| 35.50 | Repair of unspecified septal defect of heart with prosthesis | 36.39 | Other heart revascularization | 37.98 | Replacement of automatic cardioverter/defibrillator pulse generator only |
| 35.51 | Repair of atrial septal defect with prosthesis, open technique | 36.91 | Repair of aneurysm of coronary vessel | 38.26 | Insertion of implantable pressure sensor without lead for intracardiac or great vessel hemodynamic monitoring |
| 35.52 | Repair of atrial septal defect with prosthesis, closed technique | | | | |

Appendix A-2: ICD-10 Cardiac Procedure Codes

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|---|-------------|--|-------------|--|
| 0210093 | Bypass Coronary Artery, One Site from Coronary Artery with Autologous Venous Tissue, Open Approach | 02563ZZ | Destruction of Right Atrium, Percutaneous Approach | 02NL3ZZ | Release Left Ventricle, Percutaneous Approach |
| 0210098 | Bypass Coronary Artery, One Site from Right Internal Mammary with Autologous Venous Tissue, Open Approach | 02564ZZ | Destruction of Right Atrium, Percutaneous Endoscopic Approach | 02NL4ZZ | Release Left Ventricle, Percutaneous Endoscopic Approach |
| 0210099 | Bypass Coronary Artery, One Site from Left Internal Mammary with Autologous Venous Tissue, Open Approach | 02570ZK | Destruction of Left Atrial Appendage, Open Approach | 02NM0ZZ | Release Ventricular Septum, Open Approach |
| 021009C | Bypass Coronary Artery, One Site from Thoracic Artery with Autologous Venous Tissue, Open Approach | 02570ZZ | Destruction of Left Atrium, Open Approach | 02NM3ZZ | Release Ventricular Septum, Percutaneous Approach |
| 021009F | Bypass Coronary Artery, One Site from Abdominal Artery with Autologous Venous Tissue, Open Approach | 02573ZK | Destruction of Left Atrial Appendage, Percutaneous Approach | 02NM4ZZ | Release Ventricular Septum, Percutaneous Endoscopic Approach |
| 021009W | Bypass Coronary Artery, One Site from Aorta with Autologous Venous Tissue, Open Approach | 02573ZZ | Destruction of Left Atrium, Percutaneous Approach | 02PA0MZ | Removal of Cardiac Lead from Heart, Open Approach |
| 02100A3 | Bypass Coronary Artery, One Site from Coronary Artery with Autologous Arterial Tissue, Open Approach | 02574ZK | Destruction of Left Atrial Appendage, Percutaneous Endoscopic Approach | 02PA0QZ | Removal of Implantable Heart Assist System from Heart, Open Approach |
| 02100A8 | Bypass Coronary Artery, One Site from Right Internal Mammary with Autologous Arterial Tissue, Open Approach | 02574ZZ | Destruction of Left Atrium, Percutaneous Endoscopic Approach | 02PA0RZ | Removal of External Heart Assist System from Heart, Open Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|--|-------------|---|-------------|---|
| 02100A9 | Bypass Coronary Artery, One Site from Left Internal Mammary with Autologous Arterial Tissue, Open Approach | 02580ZZ | Destruction of Conduction Mechanism, Open Approach | 02PA3MZ | Removal of Cardiac Lead from Heart, Percutaneous Approach |
| 02100AC | Bypass Coronary Artery, One Site from Thoracic Artery with Autologous Arterial Tissue, Open Approach | 02583ZZ | Destruction of Conduction Mechanism, Percutaneous Approach | 02PA3QZ | Removal of Implantable Heart Assist System from Heart, Percutaneous Approach |
| 02100AF | Bypass Coronary Artery, One Site from Abdominal Artery with Autologous Arterial Tissue, Open Approach | 02584ZZ | Destruction of Conduction Mechanism, Percutaneous Endoscopic Approach | 02PA3RZ | Removal of External Heart Assist System from Heart, Percutaneous Approach |
| 02100AW | Bypass Coronary Artery, One Site from Aorta with Autologous Arterial Tissue, Open Approach | 02590ZZ | Destruction of Chordae Tendineae, Open Approach | 02PA4MZ | Removal of Cardiac Lead from Heart, Percutaneous Endoscopic Approach |
| 02100J3 | Bypass Coronary Artery, One Site from Coronary Artery with Synthetic Substitute, Open Approach | 02593ZZ | Destruction of Chordae Tendineae, Percutaneous Approach | 02PA4QZ | Removal of Implantable Heart Assist System from Heart, Percutaneous Endoscopic Approach |
| 02100J8 | Bypass Coronary Artery, One Site from Right Internal Mammary with Synthetic Substitute, Open Approach | 02594ZZ | Destruction of Chordae Tendineae, Percutaneous Endoscopic Approach | 02PA4RZ | Removal of External Heart Assist System from Heart, Percutaneous Endoscopic Approach |
| 02100J9 | Bypass Coronary Artery, One Site from Left Internal Mammary with Synthetic Substitute, Open Approach | 025D0ZZ | Destruction of Papillary Muscle, Open Approach | 02PAXMZ | Removal of Cardiac Lead from Heart, External Approach |
| 02100JC | Bypass Coronary Artery, One Site from Thoracic Artery with Synthetic Substitute, Open Approach | 025D3ZZ | Destruction of Papillary Muscle, Percutaneous Approach | 02Q00ZZ | Repair Coronary Artery, One Site, Open Approach |
| 02100JF | Bypass Coronary Artery, One Site from Abdominal Artery with Synthetic Substitute, Open Approach | 025D4ZZ | Destruction of Papillary Muscle, Percutaneous Endoscopic Approach | 02Q03ZZ | Repair Coronary Artery, One Site, Percutaneous Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|--|-------------|--|-------------|---|
| 02100JW | Bypass Coronary Artery, One Site from Aorta with Synthetic Substitute, Open Approach | 025F0ZZ | Destruction of Aortic Valve, Open Approach | 02Q04ZZ | Repair Coronary Artery, One Site, Percutaneous Endoscopic Approach |
| 02100K3 | Bypass Coronary Artery, One Site from Coronary Artery with Nonautologous Tissue Substitute, Open Approach | 025F3ZZ | Destruction of Aortic Valve, Percutaneous Approach | 02Q10ZZ | Repair Coronary Artery, Two Sites, Open Approach |
| 02100K8 | Bypass Coronary Artery, One Site from Right Internal Mammary with Nonautologous Tissue Substitute, Open Approach | 025F4ZZ | Destruction of Aortic Valve, Percutaneous Endoscopic Approach | 02Q13ZZ | Repair Coronary Artery, Two Sites, Percutaneous Approach |
| 02100K9 | Bypass Coronary Artery, One Site from Left Internal Mammary with Nonautologous Tissue Substitute, Open Approach | 025G0ZZ | Destruction of Mitral Valve, Open Approach | 02Q14ZZ | Repair Coronary Artery, Two Sites, Percutaneous Endoscopic Approach |
| 02100KC | Bypass Coronary Artery, One Site from Thoracic Artery with Nonautologous Tissue Substitute, Open Approach | 025G3ZZ | Destruction of Mitral Valve, Percutaneous Approach | 02Q20ZZ | Repair Coronary Artery, Three Sites, Open Approach |
| 02100KF | Bypass Coronary Artery, One Site from Abdominal Artery with Nonautologous Tissue Substitute, Open Approach | 025G4ZZ | Destruction of Mitral Valve, Percutaneous Endoscopic Approach | 02Q23ZZ | Repair Coronary Artery, Three Sites, Percutaneous Approach |
| 02100KW | Bypass Coronary Artery, One Site from Aorta with Nonautologous Tissue Substitute, Open Approach | 025H0ZZ | Destruction of Pulmonary Valve, Open Approach | 02Q24ZZ | Repair Coronary Artery, Three Sites, Percutaneous Endoscopic Approach |
| 02100Z3 | Bypass Coronary Artery, One Site from Coronary Artery, Open Approach | 025H3ZZ | Destruction of Pulmonary Valve, Percutaneous Approach | 02Q30ZZ | Repair Coronary Artery, Four or More Sites, Open Approach |
| 02100Z8 | Bypass Coronary Artery, One Site from Right Internal Mammary, Open Approach | 025H4ZZ | Destruction of Pulmonary Valve, Percutaneous Endoscopic Approach | 02Q33ZZ | Repair Coronary Artery, Four or More Sites, Percutaneous Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|--|-------------|--|-------------|--|
| 02100Z9 | Bypass Coronary Artery, One Site from Left Internal Mammary, Open Approach | 025J0ZZ | Destruction of Tricuspid Valve, Open Approach | 02Q34ZZ | Repair Coronary Artery, Four or More Sites, Percutaneous Endoscopic Approach |
| 02100ZC | Bypass Coronary Artery, One Site from Thoracic Artery, Open Approach | 025J3ZZ | Destruction of Tricuspid Valve, Percutaneous Approach | 02Q40ZZ | Repair Coronary Vein, Open Approach |
| 02100ZF | Bypass Coronary Artery, One Site from Abdominal Artery, Open Approach | 025J4ZZ | Destruction of Tricuspid Valve, Percutaneous Endoscopic Approach | 02Q43ZZ | Repair Coronary Vein, Percutaneous Approach |
| 0210344 | Bypass Coronary Artery, One Site from Coronary Vein with Drug-eluting Intraluminal Device, Percutaneous Approach | 025K0ZZ | Destruction of Right Ventricle, Open Approach | 02Q44ZZ | Repair Coronary Vein, Percutaneous Endoscopic Approach |
| 02103D4 | Bypass Coronary Artery, One Site from Coronary Vein with Intraluminal Device, Percutaneous Approach | 025K3ZZ | Destruction of Right Ventricle, Percutaneous Approach | 02Q50ZZ | Repair Atrial Septum, Open Approach |
| 0210444 | Bypass Coronary Artery, One Site from Coronary Vein with Drug-eluting Intraluminal Device, Percutaneous Endoscopic Approach | 025K4ZZ | Destruction of Right Ventricle, Percutaneous Endoscopic Approach | 02Q53ZZ | Repair Atrial Septum, Percutaneous Approach |
| 0210493 | Bypass Coronary Artery, One Site from Coronary Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 025L0ZZ | Destruction of Left Ventricle, Open Approach | 02Q54ZZ | Repair Atrial Septum, Percutaneous Endoscopic Approach |
| 0210498 | Bypass Coronary Artery, One Site from Right Internal Mammary with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 025L3ZZ | Destruction of Left Ventricle, Percutaneous Approach | 02Q70ZZ | Repair Left Atrium, Open Approach |
| 0210499 | Bypass Coronary Artery, One Site from Left Internal Mammary with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 025L4ZZ | Destruction of Left Ventricle, Percutaneous Endoscopic Approach | 02Q73ZZ | Repair Left Atrium, Percutaneous Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|--|-------------|--|-------------|--|
| 021049C | Bypass Coronary Artery, One Site from Thoracic Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 025M0ZZ | Destruction of Ventricular Septum, Open Approach | 02Q74ZZ | Repair Left Atrium, Percutaneous Endoscopic Approach |
| 021049F | Bypass Coronary Artery, One Site from Abdominal Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 025M3ZZ | Destruction of Ventricular Septum, Percutaneous Approach | 02Q90ZZ | Repair Chordae Tendineae, Open Approach |
| 021049W | Bypass Coronary Artery, One Site from Aorta with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 025M4ZZ | Destruction of Ventricular Septum, Percutaneous Endoscopic Approach | 02Q93ZZ | Repair Chordae Tendineae, Percutaneous Approach |
| 02104A3 | Bypass Coronary Artery, One Site from Coronary Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 025N0ZZ | Destruction of Pericardium, Open Approach | 02Q94ZZ | Repair Chordae Tendineae, Percutaneous Endoscopic Approach |
| 02104A8 | Bypass Coronary Artery, One Site from Right Internal Mammary with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 025N3ZZ | Destruction of Pericardium, Percutaneous Approach | 02QA0ZZ | Repair Heart, Open Approach |
| 02104A9 | Bypass Coronary Artery, One Site from Left Internal Mammary with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 025N4ZZ | Destruction of Pericardium, Percutaneous Endoscopic Approach | 02QA3ZZ | Repair Heart, Percutaneous Approach |
| 02104AC | Bypass Coronary Artery, One Site from Thoracic Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 0270046 | Dilation of Coronary Artery, One Site, Bifurcation, with Drug-eluting Intraluminal Device, Open Approach | 02QA4ZZ | Repair Heart, Percutaneous Endoscopic Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|--|-------------|--|-------------|--|
| 02104AF | Bypass Coronary Artery, One Site from Abdominal Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 027004Z | Dilation of Coronary Artery, One Site with Drug-eluting Intraluminal Device, Open Approach | 02QB0ZZ | Repair Right Heart, Open Approach |
| 02104AW | Bypass Coronary Artery, One Site from Aorta with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 02700D6 | Dilation of Coronary Artery, One Site, Bifurcation, with Intraluminal Device, Open Approach | 02QB3ZZ | Repair Right Heart, Percutaneous Approach |
| 02104D4 | Bypass Coronary Artery, One Site from Coronary Vein with Intraluminal Device, Percutaneous Endoscopic Approach | 02700DZ | Dilation of Coronary Artery, One Site with Intraluminal Device, Open Approach | 02QB4ZZ | Repair Right Heart, Percutaneous Endoscopic Approach |
| 02104J3 | Bypass Coronary Artery, One Site from Coronary Artery with Synthetic Substitute, Percutaneous Endoscopic Approach | 02700T6 | Dilation of Coronary Artery, One Site, Bifurcation, with Radioactive Intraluminal Device, Open Approach | 02QC0ZZ | Repair Left Heart, Open Approach |
| 02104J8 | Bypass Coronary Artery, One Site from Right Internal Mammary with Synthetic Substitute, Percutaneous Endoscopic Approach | 02700TZ | Dilation of Coronary Artery, One Site with Radioactive Intraluminal Device, Open Approach | 02QC3ZZ | Repair Left Heart, Percutaneous Approach |
| 02104J9 | Bypass Coronary Artery, One Site from Left Internal Mammary with Synthetic Substitute, Percutaneous Endoscopic Approach | 02700Z6 | Dilation of Coronary Artery, One Site, Bifurcation, Open Approach | 02QC4ZZ | Repair Left Heart, Percutaneous Endoscopic Approach |
| 02104JC | Bypass Coronary Artery, One Site from Thoracic Artery with Synthetic Substitute, Percutaneous Endoscopic Approach | 02700ZZ | Dilation of Coronary Artery, One Site, Open Approach | 02QD0ZZ | Repair Papillary Muscle, Open Approach |
| 02104JF | Bypass Coronary Artery, One Site from Abdominal Artery with Synthetic Substitute, Percutaneous Endoscopic Approach | 0270346 | Dilation of Coronary Artery, One Site, Bifurcation, with Drug-eluting Intraluminal Device, Percutaneous Approach | 02QD3ZZ | Repair Papillary Muscle, Percutaneous Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|---|-------------|---|-------------|---|
| 02104JW | Bypass Coronary Artery, One Site from Aorta with Synthetic Substitute, Percutaneous Endoscopic Approach | 027034Z | Dilation of Coronary Artery, One Site with Drug-eluting Intraluminal Device, Percutaneous Approach | 02QD4ZZ | Repair Papillary Muscle, Percutaneous Endoscopic Approach |
| 02104K3 | Bypass Coronary Artery, One Site from Coronary Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 02703D6 | Dilation of Coronary Artery, One Site, Bifurcation, with Intraluminal Device, Percutaneous Approach | 02QF0ZZ | Repair Aortic Valve, Open Approach |
| 02104K8 | Bypass Coronary Artery, One Site from Right Internal Mammary with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 02703DZ | Dilation of Coronary Artery, One Site with Intraluminal Device, Percutaneous Approach | 02QF3ZZ | Repair Aortic Valve, Percutaneous Approach |
| 02104K9 | Bypass Coronary Artery, One Site from Left Internal Mammary with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 02703T6 | Dilation of Coronary Artery, One Site, Bifurcation, with Radioactive Intraluminal Device, Percutaneous Approach | 02QF4ZZ | Repair Aortic Valve, Percutaneous Endoscopic Approach |
| 02104KC | Bypass Coronary Artery, One Site from Thoracic Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 02703TZ | Dilation of Coronary Artery, One Site with Radioactive Intraluminal Device, Percutaneous Approach | 02QG0ZZ | Repair Mitral Valve, Open Approach |
| 02104KF | Bypass Coronary Artery, One Site from Abdominal Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 02703Z6 | Dilation of Coronary Artery, One Site, Bifurcation, Percutaneous Approach | 02QG3ZZ | Repair Mitral Valve, Percutaneous Approach |
| 02104KW | Bypass Coronary Artery, One Site from Aorta with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 02703ZZ | Dilation of Coronary Artery, One Site, Percutaneous Approach | 02QG4ZZ | Repair Mitral Valve, Percutaneous Endoscopic Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|--|-------------|---|-------------|--|
| 02104Z3 | Bypass Coronary Artery, One Site from Coronary Artery, Percutaneous Endoscopic Approach | 0270446 | Dilation of Coronary Artery, One Site, Bifurcation, with Drug-eluting Intraluminal Device, Percutaneous Endoscopic Approach | 02QH0ZZ | Repair Pulmonary Valve, Open Approach |
| 02104Z8 | Bypass Coronary Artery, One Site from Right Internal Mammary, Percutaneous Endoscopic Approach | 027044Z | Dilation of Coronary Artery, One Site with Drug-eluting Intraluminal Device, Percutaneous Endoscopic Approach | 02QH3ZZ | Repair Pulmonary Valve, Percutaneous Approach |
| 02104Z9 | Bypass Coronary Artery, One Site from Left Internal Mammary, Percutaneous Endoscopic Approach | 02704D6 | Dilation of Coronary Artery, One Site, Bifurcation, with Intraluminal Device, Percutaneous Endoscopic Approach | 02QH4ZZ | Repair Pulmonary Valve, Percutaneous Endoscopic Approach |
| 02104ZC | Bypass Coronary Artery, One Site from Thoracic Artery, Percutaneous Endoscopic Approach | 02704DZ | Dilation of Coronary Artery, One Site with Intraluminal Device, Percutaneous Endoscopic Approach | 02QJ0ZZ | Repair Tricuspid Valve, Open Approach |
| 02104ZF | Bypass Coronary Artery, One Site from Abdominal Artery, Percutaneous Endoscopic Approach | 02704T6 | Dilation of Coronary Artery, One Site, Bifurcation, with Radioactive Intraluminal Device, Percutaneous Endoscopic Approach | 02QJ3ZZ | Repair Tricuspid Valve, Percutaneous Approach |
| 0211093 | Bypass Coronary Artery, Two Sites from Coronary Artery with Autologous Venous Tissue, Open Approach | 02704TZ | Dilation of Coronary Artery, One Site with Radioactive Intraluminal Device, Percutaneous Endoscopic Approach | 02QJ4ZZ | Repair Tricuspid Valve, Percutaneous Endoscopic Approach |
| 0211098 | Bypass Coronary Artery, Two Sites from Right Internal Mammary with Autologous Venous Tissue, Open Approach | 02704Z6 | Dilation of Coronary Artery, One Site, Bifurcation, Percutaneous Endoscopic Approach | 02QM0ZZ | Repair Ventricular Septum, Open Approach |
| 0211099 | Bypass Coronary Artery, Two Sites from Left Internal Mammary with Autologous Venous Tissue, Open Approach | 02704ZZ | Dilation of Coronary Artery, One Site, Percutaneous Endoscopic Approach | 02QM3ZZ | Repair Ventricular Septum, Percutaneous Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|--|-------------|---|-------------|--|
| 021109C | Bypass Coronary Artery, Two Sites from Thoracic Artery with Autologous Venous Tissue, Open Approach | 0271046 | Dilation of Coronary Artery, Two Sites, Bifurcation, with Drug-eluting Intraluminal Device, Open Approach | 02QM4ZZ | Repair Ventricular Septum, Percutaneous Endoscopic Approach |
| 021109F | Bypass Coronary Artery, Two Sites from Abdominal Artery with Autologous Venous Tissue, Open Approach | 027104Z | Dilation of Coronary Artery, Two Sites with Drug-eluting Intraluminal Device, Open Approach | 02R907Z | Replacement of Chordae Tendineae with Autologous Tissue Substitute, Open Approach |
| 021109W | Bypass Coronary Artery, Two Sites from Aorta with Autologous Venous Tissue, Open Approach | 02710D6 | Dilation of Coronary Artery, Two Sites, Bifurcation, with Intraluminal Device, Open Approach | 02R908Z | Replacement of Chordae Tendineae with Zooplastic Tissue, Open Approach |
| 02110A3 | Bypass Coronary Artery, Two Sites from Coronary Artery with Autologous Arterial Tissue, Open Approach | 02710DZ | Dilation of Coronary Artery, Two Sites with Intraluminal Device, Open Approach | 02R90JZ | Replacement of Chordae Tendineae with Synthetic Substitute, Open Approach |
| 02110A8 | Bypass Coronary Artery, Two Sites from Right Internal Mammary with Autologous Arterial Tissue, Open Approach | 02710T6 | Dilation of Coronary Artery, Two Sites, Bifurcation, with Radioactive Intraluminal Device, Open Approach | 02R90KZ | Replacement of Chordae Tendineae with Nonautologous Tissue Substitute, Open Approach |
| 02110A9 | Bypass Coronary Artery, Two Sites from Left Internal Mammary with Autologous Arterial Tissue, Open Approach | 02710TZ | Dilation of Coronary Artery, Two Sites with Radioactive Intraluminal Device, Open Approach | 02R947Z | Replacement of Chordae Tendineae with Autologous Tissue Substitute, Percutaneous Endoscopic Approach |
| 02110AC | Bypass Coronary Artery, Two Sites from Thoracic Artery with Autologous Arterial Tissue, Open Approach | 02710Z6 | Dilation of Coronary Artery, Two Sites, Bifurcation, Open Approach | 02R948Z | Replacement of Chordae Tendineae with Zooplastic Tissue, Percutaneous Endoscopic Approach |
| 02110AF | Bypass Coronary Artery, Two Sites from Abdominal Artery with Autologous Arterial Tissue, Open Approach | 02710ZZ | Dilation of Coronary Artery, Two Sites, Open Approach | 02R94JZ | Replacement of Chordae Tendineae with Synthetic Substitute, Percutaneous Endoscopic Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|---|-------------|--|-------------|---|
| 02110AW | Bypass Coronary Artery, Two Sites from Aorta with Autologous Arterial Tissue, Open Approach | 0271346 | Dilation of Coronary Artery, Two Sites, Bifurcation, with Drug-eluting Intraluminal Device, Percutaneous Approach | 02R94KZ | Replacement of Chordae Tendineae with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach |
| 02110J3 | Bypass Coronary Artery, Two Sites from Coronary Artery with Synthetic Substitute, Open Approach | 027134Z | Dilation of Coronary Artery, Two Sites with Drug-eluting Intraluminal Device, Percutaneous Approach | 02RD07Z | Replacement of Papillary Muscle with Autologous Tissue Substitute, Open Approach |
| 02110J8 | Bypass Coronary Artery, Two Sites from Right Internal Mammary with Synthetic Substitute, Open Approach | 02713D6 | Dilation of Coronary Artery, Two Sites, Bifurcation, with Intraluminal Device, Percutaneous Approach | 02RD08Z | Replacement of Papillary Muscle with Zooplastic Tissue, Open Approach |
| 02110J9 | Bypass Coronary Artery, Two Sites from Left Internal Mammary with Synthetic Substitute, Open Approach | 02713DZ | Dilation of Coronary Artery, Two Sites with Intraluminal Device, Percutaneous Approach | 02RD0JZ | Replacement of Papillary Muscle with Synthetic Substitute, Open Approach |
| 02110JC | Bypass Coronary Artery, Two Sites from Thoracic Artery with Synthetic Substitute, Open Approach | 02713T6 | Dilation of Coronary Artery, Two Sites, Bifurcation, with Radioactive Intraluminal Device, Percutaneous Approach | 02RD0KZ | Replacement of Papillary Muscle with Nonautologous Tissue Substitute, Open Approach |
| 02110JF | Bypass Coronary Artery, Two Sites from Abdominal Artery with Synthetic Substitute, Open Approach | 02713TZ | Dilation of Coronary Artery, Two Sites with Radioactive Intraluminal Device, Percutaneous Approach | 02RD47Z | Replacement of Papillary Muscle with Autologous Tissue Substitute, Percutaneous Endoscopic Approach |
| 02110JW | Bypass Coronary Artery, Two Sites from Aorta with Synthetic Substitute, Open Approach | 02713Z6 | Dilation of Coronary Artery, Two Sites, Bifurcation, Percutaneous Approach | 02RD48Z | Replacement of Papillary Muscle with Zooplastic Tissue, Percutaneous Endoscopic Approach |
| 02110K3 | Bypass Coronary Artery, Two Sites from Coronary Artery with Nonautologous Tissue Substitute, Open Approach | 02713ZZ | Dilation of Coronary Artery, Two Sites, Percutaneous Approach | 02RD4JZ | Replacement of Papillary Muscle with Synthetic Substitute, Percutaneous Endoscopic Approach |
| 02110K8 | Bypass Coronary Artery, Two Sites from Right Internal Mammary with Nonautologous Tissue Substitute, Open Approach | 0271446 | Dilation of Coronary Artery, Two Sites, Bifurcation, with Drug-eluting Intraluminal Device, Percutaneous Endoscopic Approach | 02RD4KZ | Replacement of Papillary Muscle with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|--|-------------|---|-------------|---|
| 02110K9 | Bypass Coronary Artery, Two Sites from Left Internal Mammary with Nonautologous Tissue Substitute, Open Approach | 027144Z | Dilation of Coronary Artery, Two Sites with Drug-eluting Intraluminal Device, Percutaneous Endoscopic Approach | 02RF07Z | Replacement of Aortic Valve with Autologous Tissue Substitute, Open Approach |
| 02110KC | Bypass Coronary Artery, Two Sites from Thoracic Artery with Nonautologous Tissue Substitute, Open Approach | 02714D6 | Dilation of Coronary Artery, Two Sites, Bifurcation, with Intraluminal Device, Percutaneous Endoscopic Approach | 02RF08Z | Replacement of Aortic Valve with Zooplasic Tissue, Open Approach |
| 02110KF | Bypass Coronary Artery, Two Sites from Abdominal Artery with Nonautologous Tissue Substitute, Open Approach | 02714DZ | Dilation of Coronary Artery, Two Sites with Intraluminal Device, Percutaneous Endoscopic Approach | 02RF0JZ | Replacement of Aortic Valve with Synthetic Substitute, Open Approach |
| 02110KW | Bypass Coronary Artery, Two Sites from Aorta with Nonautologous Tissue Substitute, Open Approach | 02714T6 | Dilation of Coronary Artery, Two Sites, Bifurcation, with Radioactive Intraluminal Device, Percutaneous Endoscopic Approach | 02RF0KZ | Replacement of Aortic Valve with Nonautologous Tissue Substitute, Open Approach |
| 02110Z3 | Bypass Coronary Artery, Two Sites from Coronary Artery, Open Approach | 02714TZ | Dilation of Coronary Artery, Two Sites with Radioactive Intraluminal Device, Percutaneous Endoscopic Approach | 02RF37H | Replacement of Aortic Valve with Autologous Tissue Substitute, Transapical, Percutaneous Approach |
| 02110Z8 | Bypass Coronary Artery, Two Sites from Right Internal Mammary, Open Approach | 02714Z6 | Dilation of Coronary Artery, Two Sites, Bifurcation, Percutaneous Endoscopic Approach | 02RF37Z | Replacement of Aortic Valve with Autologous Tissue Substitute, Percutaneous Approach |
| 02110Z9 | Bypass Coronary Artery, Two Sites from Left Internal Mammary, Open Approach | 02714ZZ | Dilation of Coronary Artery, Two Sites, Percutaneous Endoscopic Approach | 02RF38H | Replacement of Aortic Valve with Zooplasic Tissue, Transapical, Percutaneous Approach |
| 02110ZC | Bypass Coronary Artery, Two Sites from Thoracic Artery, Open Approach | 0272046 | Dilation of Coronary Artery, Three Sites, Bifurcation, with Drug-eluting Intraluminal Device, Open Approach | 02RF38Z | Replacement of Aortic Valve with Zooplasic Tissue, Percutaneous Approach |
| 02110ZF | Bypass Coronary Artery, Two Sites from Abdominal Artery, Open Approach | 027204Z | Dilation of Coronary Artery, Three Sites with Drug-eluting Intraluminal Device, Open Approach | 02RF3JH | Replacement of Aortic Valve with Synthetic Substitute, Transapical, Percutaneous Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|---|-------------|---|-------------|--|
| 0211344 | Bypass Coronary Artery, Two Sites from Coronary Vein with Drug-eluting Intraluminal Device, Percutaneous Approach | 02720D6 | Dilation of Coronary Artery, Three Sites, Bifurcation, with Intraluminal Device, Open Approach | 02RF3JZ | Replacement of Aortic Valve with Synthetic Substitute, Percutaneous Approach |
| 02113D4 | Bypass Coronary Artery, Two Sites from Coronary Vein with Intraluminal Device, Percutaneous Approach | 02720DZ | Dilation of Coronary Artery, Three Sites with Intraluminal Device, Open Approach | 02RF3KH | Replacement of Aortic Valve with Nonautologous Tissue Substitute, Transapical, Percutaneous Approach |
| 0211444 | Bypass Coronary Artery, Two Sites from Coronary Vein with Drug-eluting Intraluminal Device, Percutaneous Endoscopic Approach | 02720T6 | Dilation of Coronary Artery, Three Sites, Bifurcation, with Radioactive Intraluminal Device, Open Approach | 02RF3KZ | Replacement of Aortic Valve with Nonautologous Tissue Substitute, Percutaneous Approach |
| 0211493 | Bypass Coronary Artery, Two Sites from Coronary Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 02720TZ | Dilation of Coronary Artery, Three Sites with Radioactive Intraluminal Device, Open Approach | 02RF47Z | Replacement of Aortic Valve with Autologous Tissue Substitute, Percutaneous Endoscopic Approach |
| 0211498 | Bypass Coronary Artery, Two Sites from Right Internal Mammary with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 02720Z6 | Dilation of Coronary Artery, Three Sites, Bifurcation, Open Approach | 02RF48Z | Replacement of Aortic Valve with Zooplastic Tissue, Percutaneous Endoscopic Approach |
| 0211499 | Bypass Coronary Artery, Two Sites from Left Internal Mammary with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 02720ZZ | Dilation of Coronary Artery, Three Sites, Open Approach | 02RF4JZ | Replacement of Aortic Valve with Synthetic Substitute, Percutaneous Endoscopic Approach |
| 021149C | Bypass Coronary Artery, Two Sites from Thoracic Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 0272346 | Dilation of Coronary Artery, Three Sites, Bifurcation, with Drug-eluting Intraluminal Device, Percutaneous Approach | 02RF4KZ | Replacement of Aortic Valve with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|---|-------------|--|-------------|---|
| 021149F | Bypass Coronary Artery, Two Sites from Abdominal Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 027234Z | Dilation of Coronary Artery, Three Sites with Drug-eluting Intraluminal Device, Percutaneous Approach | 02RG07Z | Replacement of Mitral Valve with Autologous Tissue Substitute, Open Approach |
| 021149W | Bypass Coronary Artery, Two Sites from Aorta with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 02723D6 | Dilation of Coronary Artery, Three Sites, Bifurcation, with Intraluminal Device, Percutaneous Approach | 02RG08Z | Replacement of Mitral Valve with Zooplasic Tissue, Open Approach |
| 02114A3 | Bypass Coronary Artery, Two Sites from Coronary Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 02723DZ | Dilation of Coronary Artery, Three Sites with Intraluminal Device, Percutaneous Approach | 02RG0JZ | Replacement of Mitral Valve with Synthetic Substitute, Open Approach |
| 02114A8 | Bypass Coronary Artery, Two Sites from Right Internal Mammary with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 02723T6 | Dilation of Coronary Artery, Three Sites, Bifurcation, with Radioactive Intraluminal Device, Percutaneous Approach | 02RG0KZ | Replacement of Mitral Valve with Nonautologous Tissue Substitute, Open Approach |
| 02114A9 | Bypass Coronary Artery, Two Sites from Left Internal Mammary with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 02723TZ | Dilation of Coronary Artery, Three Sites with Radioactive Intraluminal Device, Percutaneous Approach | 02RG37H | Replacement of Mitral Valve with Autologous Tissue Substitute, Transapical, Percutaneous Approach |
| 02114AC | Bypass Coronary Artery, Two Sites from Thoracic Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 02723Z6 | Dilation of Coronary Artery, Three Sites, Bifurcation, Percutaneous Approach | 02RG37Z | Replacement of Mitral Valve with Autologous Tissue Substitute, Percutaneous Approach |
| 02114AF | Bypass Coronary Artery, Two Sites from Abdominal Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 02723ZZ | Dilation of Coronary Artery, Three Sites, Percutaneous Approach | 02RG38H | Replacement of Mitral Valve with Zooplasic Tissue, Transapical, Percutaneous Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|---|-------------|--|-------------|--|
| 02114AW | Bypass Coronary Artery, Two Sites from Aorta with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 0272446 | Dilation of Coronary Artery, Three Sites, Bifurcation, with Drug-eluting Intraluminal Device, Percutaneous Endoscopic Approach | 02RG38Z | Replacement of Mitral Valve with Zooplasic Tissue, Percutaneous Approach |
| 02114D4 | Bypass Coronary Artery, Two Sites from Coronary Vein with Intraluminal Device, Percutaneous Endoscopic Approach | 027244Z | Dilation of Coronary Artery, Three Sites with Drug-eluting Intraluminal Device, Percutaneous Endoscopic Approach | 02RG3JH | Replacement of Mitral Valve with Synthetic Substitute, Transapical, Percutaneous Approach |
| 02114J3 | Bypass Coronary Artery, Two Sites from Coronary Artery with Synthetic Substitute, Percutaneous Endoscopic Approach | 02724D6 | Dilation of Coronary Artery, Three Sites, Bifurcation, with Intraluminal Device, Percutaneous Endoscopic Approach | 02RG3JZ | Replacement of Mitral Valve with Synthetic Substitute, Percutaneous Approach |
| 02114J8 | Bypass Coronary Artery, Two Sites from Right Internal Mammary with Synthetic Substitute, Percutaneous Endoscopic Approach | 02724DZ | Dilation of Coronary Artery, Three Sites with Intraluminal Device, Percutaneous Endoscopic Approach | 02RG3KH | Replacement of Mitral Valve with Nonautologous Tissue Substitute, Transapical, Percutaneous Approach |
| 02114J9 | Bypass Coronary Artery, Two Sites from Left Internal Mammary with Synthetic Substitute, Percutaneous Endoscopic Approach | 02724T6 | Dilation of Coronary Artery, Three Sites, Bifurcation, with Radioactive Intraluminal Device, Percutaneous Endoscopic Approach | 02RG3KZ | Replacement of Mitral Valve with Nonautologous Tissue Substitute, Percutaneous Approach |
| 02114JC | Bypass Coronary Artery, Two Sites from Thoracic Artery with Synthetic Substitute, Percutaneous Endoscopic Approach | 02724TZ | Dilation of Coronary Artery, Three Sites with Radioactive Intraluminal Device, Percutaneous Endoscopic Approach | 02RG47Z | Replacement of Mitral Valve with Autologous Tissue Substitute, Percutaneous Endoscopic Approach |
| 02114JF | Bypass Coronary Artery, Two Sites from Abdominal Artery with Synthetic Substitute, Percutaneous Endoscopic Approach | 02724Z6 | Dilation of Coronary Artery, Three Sites, Bifurcation, Percutaneous Endoscopic Approach | 02RG48Z | Replacement of Mitral Valve with Zooplasic Tissue, Percutaneous Endoscopic Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|--|-------------|--|-------------|--|
| 02114JW | Bypass Coronary Artery, Two Sites from Aorta with Synthetic Substitute, Percutaneous Endoscopic Approach | 02724ZZ | Dilation of Coronary Artery, Three Sites, Percutaneous Endoscopic Approach | 02RG4JZ | Replacement of Mitral Valve with Synthetic Substitute, Percutaneous Endoscopic Approach |
| 02114K3 | Bypass Coronary Artery, Two Sites from Coronary Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 0273046 | Dilation of Coronary Artery, Four or More Sites, Bifurcation, with Drug-eluting Intraluminal Device, Open Approach | 02RG4KZ | Replacement of Mitral Valve with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach |
| 02114K8 | Bypass Coronary Artery, Two Sites from Right Internal Mammary with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 027304Z | Dilation of Coronary Artery, Four or More Sites with Drug-eluting Intraluminal Device, Open Approach | 02RH07Z | Replacement of Pulmonary Valve with Autologous Tissue Substitute, Open Approach |
| 02114K9 | Bypass Coronary Artery, Two Sites from Left Internal Mammary with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 02730D6 | Dilation of Coronary Artery, Four or More Sites, Bifurcation, with Intraluminal Device, Open Approach | 02RH08Z | Replacement of Pulmonary Valve with Zooplastic Tissue, Open Approach |
| 02114KC | Bypass Coronary Artery, Two Sites from Thoracic Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 02730DZ | Dilation of Coronary Artery, Four or More Sites with Intraluminal Device, Open Approach | 02RH0JZ | Replacement of Pulmonary Valve with Synthetic Substitute, Open Approach |
| 02114KF | Bypass Coronary Artery, Two Sites from Abdominal Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 02730T6 | Dilation of Coronary Artery, Four or More Sites, Bifurcation, with Radioactive Intraluminal Device, Open Approach | 02RH0KZ | Replacement of Pulmonary Valve with Nonautologous Tissue Substitute, Open Approach |
| 02114KW | Bypass Coronary Artery, Two Sites from Aorta with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 02730TZ | Dilation of Coronary Artery, Four or More Sites with Radioactive Intraluminal Device, Open Approach | 02RH37H | Replacement of Pulmonary Valve with Autologous Tissue Substitute, Transapical, Percutaneous Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|--|-------------|--|-------------|---|
| 02114Z3 | Bypass Coronary Artery, Two Sites from Coronary Artery, Percutaneous Endoscopic Approach | 02730Z6 | Dilation of Coronary Artery, Four or More Sites, Bifurcation, Open Approach | 02RH37Z | Replacement of Pulmonary Valve with Autologous Tissue Substitute, Percutaneous Approach |
| 02114Z8 | Bypass Coronary Artery, Two Sites from Right Internal Mammary, Percutaneous Endoscopic Approach | 02730ZZ | Dilation of Coronary Artery, Four or More Sites, Open Approach | 02RH38H | Replacement of Pulmonary Valve with Zooplastic Tissue, Transapical, Percutaneous Approach |
| 02114Z9 | Bypass Coronary Artery, Two Sites from Left Internal Mammary, Percutaneous Endoscopic Approach | 0273346 | Dilation of Coronary Artery, Four or More Sites, Bifurcation, with Drug-eluting Intraluminal Device, Percutaneous Approach | 02RH38Z | Replacement of Pulmonary Valve with Zooplastic Tissue, Percutaneous Approach |
| 02114ZC | Bypass Coronary Artery, Two Sites from Thoracic Artery, Percutaneous Endoscopic Approach | 027334Z | Dilation of Coronary Artery, Four or More Sites with Drug-eluting Intraluminal Device, Percutaneous Approach | 02RH3JH | Replacement of Pulmonary Valve with Synthetic Substitute, Transapical, Percutaneous Approach |
| 02114ZF | Bypass Coronary Artery, Two Sites from Abdominal Artery, Percutaneous Endoscopic Approach | 02733D6 | Dilation of Coronary Artery, Four or More Sites, Bifurcation, with Intraluminal Device, Percutaneous Approach | 02RH3JZ | Replacement of Pulmonary Valve with Synthetic Substitute, Percutaneous Approach |
| 0212093 | Bypass Coronary Artery, Three Sites from Coronary Artery with Autologous Venous Tissue, Open Approach | 02733DZ | Dilation of Coronary Artery, Four or More Sites with Intraluminal Device, Percutaneous Approach | 02RH3KH | Replacement of Pulmonary Valve with Nonautologous Tissue Substitute, Transapical, Percutaneous Approach |
| 0212098 | Bypass Coronary Artery, Three Sites from Right Internal Mammary with Autologous Venous Tissue, Open Approach | 02733T6 | Dilation of Coronary Artery, Four or More Sites, Bifurcation, with Radioactive Intraluminal Device, Percutaneous Approach | 02RH3KZ | Replacement of Pulmonary Valve with Nonautologous Tissue Substitute, Percutaneous Approach |
| 0212099 | Bypass Coronary Artery, Three Sites from Left Internal Mammary with Autologous Venous Tissue, Open Approach | 02733TZ | Dilation of Coronary Artery, Four or More Sites with Radioactive Intraluminal Device, Percutaneous Approach | 02RH47Z | Replacement of Pulmonary Valve with Autologous Tissue Substitute, Percutaneous Endoscopic Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|--|-------------|---|-------------|---|
| 021209C | Bypass Coronary Artery, Three Sites from Thoracic Artery with Autologous Venous Tissue, Open Approach | 02733Z6 | Dilation of Coronary Artery, Four or More Sites, Bifurcation, Percutaneous Approach | 02RH48Z | Replacement of Pulmonary Valve with Zooplastic Tissue, Percutaneous Endoscopic Approach |
| 021209F | Bypass Coronary Artery, Three Sites from Abdominal Artery with Autologous Venous Tissue, Open Approach | 02733ZZ | Dilation of Coronary Artery, Four or More Sites, Percutaneous Approach | 02RH4JZ | Replacement of Pulmonary Valve with Synthetic Substitute, Percutaneous Endoscopic Approach |
| 021209W | Bypass Coronary Artery, Three Sites from Aorta with Autologous Venous Tissue, Open Approach | 0273446 | Dilation of Coronary Artery, Four or More Sites, Bifurcation, with Drug-eluting Intraluminal Device, Percutaneous Endoscopic Approach | 02RH4KZ | Replacement of Pulmonary Valve with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach |
| 02120A3 | Bypass Coronary Artery, Three Sites from Coronary Artery with Autologous Arterial Tissue, Open Approach | 027344Z | Dilation of Coronary Artery, Four or More Sites with Drug-eluting Intraluminal Device, Percutaneous Endoscopic Approach | 02RJ07Z | Replacement of Tricuspid Valve with Autologous Tissue Substitute, Open Approach |
| 02120A8 | Bypass Coronary Artery, Three Sites from Right Internal Mammary with Autologous Arterial Tissue, Open Approach | 02734D6 | Dilation of Coronary Artery, Four or More Sites, Bifurcation, with Intraluminal Device, Percutaneous Endoscopic Approach | 02RJ08Z | Replacement of Tricuspid Valve with Zooplastic Tissue, Open Approach |
| 02120A9 | Bypass Coronary Artery, Three Sites from Left Internal Mammary with Autologous Arterial Tissue, Open Approach | 02734DZ | Dilation of Coronary Artery, Four or More Sites with Intraluminal Device, Percutaneous Endoscopic Approach | 02RJ0JZ | Replacement of Tricuspid Valve with Synthetic Substitute, Open Approach |
| 02120AC | Bypass Coronary Artery, Three Sites from Thoracic Artery with Autologous Arterial Tissue, Open Approach | 02734T6 | Dilation of Coronary Artery, Four or More Sites, Bifurcation, with Radioactive Intraluminal Device, Percutaneous Endoscopic Approach | 02RJ0KZ | Replacement of Tricuspid Valve with Nonautologous Tissue Substitute, Open Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|--|-------------|--|-------------|---|
| 02120AF | Bypass Coronary Artery, Three Sites from Abdominal Artery with Autologous Arterial Tissue, Open Approach | 02734TZ | Dilation of Coronary Artery, Four or More Sites with Radioactive Intraluminal Device, Percutaneous Endoscopic Approach | 02RJ47Z | Replacement of Tricuspid Valve with Autologous Tissue Substitute, Percutaneous Endoscopic Approach |
| 02120AW | Bypass Coronary Artery, Three Sites from Aorta with Autologous Arterial Tissue, Open Approach | 02734Z6 | Dilation of Coronary Artery, Four or More Sites, Bifurcation, Percutaneous Endoscopic Approach | 02RJ48Z | Replacement of Tricuspid Valve with Zooplastic Tissue, Percutaneous Endoscopic Approach |
| 02120J3 | Bypass Coronary Artery, Three Sites from Coronary Artery with Synthetic Substitute, Open Approach | 02734ZZ | Dilation of Coronary Artery, Four or More Sites, Percutaneous Endoscopic Approach | 02RJ4JZ | Replacement of Tricuspid Valve with Synthetic Substitute, Percutaneous Endoscopic Approach |
| 02120J8 | Bypass Coronary Artery, Three Sites from Right Internal Mammary with Synthetic Substitute, Open Approach | 027F04Z | Dilation of Aortic Valve with Drug-eluting Intraluminal Device, Open Approach | 02RJ4KZ | Replacement of Tricuspid Valve with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach |
| 02120J9 | Bypass Coronary Artery, Three Sites from Left Internal Mammary with Synthetic Substitute, Open Approach | 027F0DZ | Dilation of Aortic Valve with Intraluminal Device, Open Approach | 02RK07Z | Replacement of Right Ventricle with Autologous Tissue Substitute, Open Approach |
| 02120JC | Bypass Coronary Artery, Three Sites from Thoracic Artery with Synthetic Substitute, Open Approach | 027F0ZZ | Dilation of Aortic Valve, Open Approach | 02RK0JZ | Replacement of Right Ventricle with Synthetic Substitute, Open Approach |
| 02120JF | Bypass Coronary Artery, Three Sites from Abdominal Artery with Synthetic Substitute, Open Approach | 027F34Z | Dilation of Aortic Valve with Drug-eluting Intraluminal Device, Percutaneous Approach | 02RK0KZ | Replacement of Right Ventricle with Nonautologous Tissue Substitute, Open Approach |
| 02120JW | Bypass Coronary Artery, Three Sites from Aorta with Synthetic Substitute, Open Approach | 027F3DZ | Dilation of Aortic Valve with Intraluminal Device, Percutaneous Approach | 02RK47Z | Replacement of Right Ventricle with Autologous Tissue Substitute, Percutaneous Endoscopic Approach |
| 02120K3 | Bypass Coronary Artery, Three Sites from Coronary Artery with Nonautologous Tissue Substitute, Open Approach | 027F3ZZ | Dilation of Aortic Valve, Percutaneous Approach | 02RK4KZ | Replacement of Right Ventricle with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|---|-------------|--|-------------|---|
| 02120K8 | Bypass Coronary Artery, Three Sites from Right Internal Mammary with Nonautologous Tissue Substitute, Open Approach | 027F44Z | Dilation of Aortic Valve with Drug-eluting Intraluminal Device, Percutaneous Endoscopic Approach | 02RL07Z | Replacement of Left Ventricle with Autologous Tissue Substitute, Open Approach |
| 02120K9 | Bypass Coronary Artery, Three Sites from Left Internal Mammary with Nonautologous Tissue Substitute, Open Approach | 027F4DZ | Dilation of Aortic Valve with Intraluminal Device, Percutaneous Endoscopic Approach | 02RL0JZ | Replacement of Left Ventricle with Synthetic Substitute, Open Approach |
| 02120KC | Bypass Coronary Artery, Three Sites from Thoracic Artery with Nonautologous Tissue Substitute, Open Approach | 027F4ZZ | Dilation of Aortic Valve, Percutaneous Endoscopic Approach | 02RL0KZ | Replacement of Left Ventricle with Nonautologous Tissue Substitute, Open Approach |
| 02120KF | Bypass Coronary Artery, Three Sites from Abdominal Artery with Nonautologous Tissue Substitute, Open Approach | 027G04Z | Dilation of Mitral Valve with Drug-eluting Intraluminal Device, Open Approach | 02RL47Z | Replacement of Left Ventricle with Autologous Tissue Substitute, Percutaneous Endoscopic Approach |
| 02120KW | Bypass Coronary Artery, Three Sites from Aorta with Nonautologous Tissue Substitute, Open Approach | 027G0DZ | Dilation of Mitral Valve with Intraluminal Device, Open Approach | 02RL4KZ | Replacement of Left Ventricle with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach |
| 02120Z3 | Bypass Coronary Artery, Three Sites from Coronary Artery, Open Approach | 027G0ZZ | Dilation of Mitral Valve, Open Approach | 02RM07Z | Replacement of Ventricular Septum with Autologous Tissue Substitute, Open Approach |
| 02120Z8 | Bypass Coronary Artery, Three Sites from Right Internal Mammary, Open Approach | 027G34Z | Dilation of Mitral Valve with Drug-eluting Intraluminal Device, Percutaneous Approach | 02RM0JZ | Replacement of Ventricular Septum with Synthetic Substitute, Open Approach |
| 02120Z9 | Bypass Coronary Artery, Three Sites from Left Internal Mammary, Open Approach | 027G3DZ | Dilation of Mitral Valve with Intraluminal Device, Percutaneous Approach | 02RM0KZ | Replacement of Ventricular Septum with Nonautologous Tissue Substitute, Open Approach |
| 02120ZC | Bypass Coronary Artery, Three Sites from Thoracic Artery, Open Approach | 027G3ZZ | Dilation of Mitral Valve, Percutaneous Approach | 02RM47Z | Replacement of Ventricular Septum with Autologous Tissue Substitute, Percutaneous Endoscopic Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|---|-------------|--|-------------|--|
| 02120ZF | Bypass Coronary Artery, Three Sites from Abdominal Artery, Open Approach | 027G44Z | Dilation of Mitral Valve with Drug-eluting Intraluminal Device, Percutaneous Endoscopic Approach | 02RM4JZ | Replacement of Ventricular Septum with Synthetic Substitute, Percutaneous Endoscopic Approach |
| 0212344 | Bypass Coronary Artery, Three Sites from Coronary Vein with Drug-eluting Intraluminal Device, Percutaneous Approach | 027G4DZ | Dilation of Mitral Valve with Intraluminal Device, Percutaneous Endoscopic Approach | 02RM4KZ | Replacement of Ventricular Septum with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach |
| 02123D4 | Bypass Coronary Artery, Three Sites from Coronary Vein with Intraluminal Device, Percutaneous Approach | 027G4ZZ | Dilation of Mitral Valve, Percutaneous Endoscopic Approach | 02RP0JZ | Replacement of Pulmonary Trunk with Synthetic Substitute, Open Approach |
| 0212444 | Bypass Coronary Artery, Three Sites from Coronary Vein with Drug-eluting Intraluminal Device, Percutaneous Endoscopic Approach | 027H04Z | Dilation of Pulmonary Valve with Drug-eluting Intraluminal Device, Open Approach | 02RQ07Z | Replacement of Right Pulmonary Artery with Autologous Tissue Substitute, Open Approach |
| 0212493 | Bypass Coronary Artery, Three Sites from Coronary Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 027H0DZ | Dilation of Pulmonary Valve with Intraluminal Device, Open Approach | 02RQ0JZ | Replacement of Right Pulmonary Artery with Synthetic Substitute, Open Approach |
| 0212498 | Bypass Coronary Artery, Three Sites from Right Internal Mammary with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 027H0ZZ | Dilation of Pulmonary Valve, Open Approach | 02RR07Z | Replacement of Left Pulmonary Artery with Autologous Tissue Substitute, Open Approach |
| 0212499 | Bypass Coronary Artery, Three Sites from Left Internal Mammary with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 027H34Z | Dilation of Pulmonary Valve with Drug-eluting Intraluminal Device, Percutaneous Approach | 02RR0JZ | Replacement of Left Pulmonary Artery with Synthetic Substitute, Open Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|---|-------------|---|-------------|--|
| 021249C | Bypass Coronary Artery, Three Sites from Thoracic Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 027H3DZ | Dilation of Pulmonary Valve with Intraluminal Device, Percutaneous Approach | 02SP0ZZ | Reposition Pulmonary Trunk, Open Approach |
| 021249F | Bypass Coronary Artery, Three Sites from Abdominal Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 027H3ZZ | Dilation of Pulmonary Valve, Percutaneous Approach | 02SW0ZZ | Reposition Thoracic Aorta, Open Approach |
| 021249W | Bypass Coronary Artery, Three Sites from Aorta with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 027H44Z | Dilation of Pulmonary Valve with Drug-eluting Intraluminal Device, Percutaneous Endoscopic Approach | 02T50ZZ | Resection of Atrial Septum, Open Approach |
| 02124A3 | Bypass Coronary Artery, Three Sites from Coronary Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 027H4DZ | Dilation of Pulmonary Valve with Intraluminal Device, Percutaneous Endoscopic Approach | 02T53ZZ | Resection of Atrial Septum, Percutaneous Approach |
| 02124A8 | Bypass Coronary Artery, Three Sites from Right Internal Mammary with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 027H4ZZ | Dilation of Pulmonary Valve, Percutaneous Endoscopic Approach | 02T54ZZ | Resection of Atrial Septum, Percutaneous Endoscopic Approach |
| 02124A9 | Bypass Coronary Artery, Three Sites from Left Internal Mammary with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 027J04Z | Dilation of Tricuspid Valve with Drug-eluting Intraluminal Device, Open Approach | 02T80ZZ | Resection of Conduction Mechanism, Open Approach |
| 02124AC | Bypass Coronary Artery, Three Sites from Thoracic Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 027J0DZ | Dilation of Tricuspid Valve with Intraluminal Device, Open Approach | 02T83ZZ | Resection of Conduction Mechanism, Percutaneous Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|---|-------------|---|-------------|---|
| 02124AF | Bypass Coronary Artery, Three Sites from Abdominal Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 027J0ZZ | Dilation of Tricuspid Valve, Open Approach | 02T84ZZ | Resection of Conduction Mechanism, Percutaneous Endoscopic Approach |
| 02124AW | Bypass Coronary Artery, Three Sites from Aorta with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 027J34Z | Dilation of Tricuspid Valve with Drug-eluting Intraluminal Device, Percutaneous Approach | 02T90ZZ | Resection of Chordae Tendineae, Open Approach |
| 02124D4 | Bypass Coronary Artery, Three Sites from Coronary Vein with Intraluminal Device, Percutaneous Endoscopic Approach | 027J3DZ | Dilation of Tricuspid Valve with Intraluminal Device, Percutaneous Approach | 02T93ZZ | Resection of Chordae Tendineae, Percutaneous Approach |
| 02124J3 | Bypass Coronary Artery, Three Sites from Coronary Artery with Synthetic Substitute, Percutaneous Endoscopic Approach | 027J3ZZ | Dilation of Tricuspid Valve, Percutaneous Approach | 02T94ZZ | Resection of Chordae Tendineae, Percutaneous Endoscopic Approach |
| 02124J8 | Bypass Coronary Artery, Three Sites from Right Internal Mammary with Synthetic Substitute, Percutaneous Endoscopic Approach | 027J44Z | Dilation of Tricuspid Valve with Drug-eluting Intraluminal Device, Percutaneous Endoscopic Approach | 02TD0ZZ | Resection of Papillary Muscle, Open Approach |
| 02124J9 | Bypass Coronary Artery, Three Sites from Left Internal Mammary with Synthetic Substitute, Percutaneous Endoscopic Approach | 027J4DZ | Dilation of Tricuspid Valve with Intraluminal Device, Percutaneous Endoscopic Approach | 02TD3ZZ | Resection of Papillary Muscle, Percutaneous Approach |
| 02124JC | Bypass Coronary Artery, Three Sites from Thoracic Artery with Synthetic Substitute, Percutaneous Endoscopic Approach | 027J4ZZ | Dilation of Tricuspid Valve, Percutaneous Endoscopic Approach | 02TD4ZZ | Resection of Papillary Muscle, Percutaneous Endoscopic Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|--|-------------|---|-------------|---|
| 02124JF | Bypass Coronary Artery, Three Sites from Abdominal Artery with Synthetic Substitute, Percutaneous Endoscopic Approach | 02890ZZ | Division of Chordae Tendineae, Open Approach | 02TH0ZZ | Resection of Pulmonary Valve, Open Approach |
| 02124JW | Bypass Coronary Artery, Three Sites from Aorta with Synthetic Substitute, Percutaneous Endoscopic Approach | 02893ZZ | Division of Chordae Tendineae, Percutaneous Approach | 02TH3ZZ | Resection of Pulmonary Valve, Percutaneous Approach |
| 02124K3 | Bypass Coronary Artery, Three Sites from Coronary Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 02894ZZ | Division of Chordae Tendineae, Percutaneous Endoscopic Approach | 02TH4ZZ | Resection of Pulmonary Valve, Percutaneous Endoscopic Approach |
| 02124K8 | Bypass Coronary Artery, Three Sites from Right Internal Mammary with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 028D0ZZ | Division of Papillary Muscle, Open Approach | 02TM0ZZ | Resection of Ventricular Septum, Open Approach |
| 02124K9 | Bypass Coronary Artery, Three Sites from Left Internal Mammary with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 028D3ZZ | Division of Papillary Muscle, Percutaneous Approach | 02TM3ZZ | Resection of Ventricular Septum, Percutaneous Approach |
| 02124KC | Bypass Coronary Artery, Three Sites from Thoracic Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 028D4ZZ | Division of Papillary Muscle, Percutaneous Endoscopic Approach | 02TM4ZZ | Resection of Ventricular Septum, Percutaneous Endoscopic Approach |
| 02124KF | Bypass Coronary Artery, Three Sites from Abdominal Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 02B40ZZ | Excision of Coronary Vein, Open Approach | 02TN0ZZ | Resection of Pericardium, Open Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|---|-------------|---|-------------|---|
| 02124KW | Bypass Coronary Artery, Three Sites from Aorta with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 02B43ZZ | Excision of Coronary Vein, Percutaneous Approach | 02TN3ZZ | Resection of Pericardium, Percutaneous Approach |
| 02124Z3 | Bypass Coronary Artery, Three Sites from Coronary Artery, Percutaneous Endoscopic Approach | 02B44ZZ | Excision of Coronary Vein, Percutaneous Endoscopic Approach | 02TN4ZZ | Resection of Pericardium, Percutaneous Endoscopic Approach |
| 02124Z8 | Bypass Coronary Artery, Three Sites from Right Internal Mammary, Percutaneous Endoscopic Approach | 02B50ZZ | Excision of Atrial Septum, Open Approach | 02U507Z | Supplement Atrial Septum with Autologous Tissue Substitute, Open Approach |
| 02124Z9 | Bypass Coronary Artery, Three Sites from Left Internal Mammary, Percutaneous Endoscopic Approach | 02B53ZZ | Excision of Atrial Septum, Percutaneous Approach | 02U508Z | Supplement Atrial Septum with Zooplastic Tissue, Open Approach |
| 02124ZC | Bypass Coronary Artery, Three Sites from Thoracic Artery, Percutaneous Endoscopic Approach | 02B54ZZ | Excision of Atrial Septum, Percutaneous Endoscopic Approach | 02U50JZ | Supplement Atrial Septum with Synthetic Substitute, Open Approach |
| 02124ZF | Bypass Coronary Artery, Three Sites from Abdominal Artery, Percutaneous Endoscopic Approach | 02B60ZZ | Excision of Right Atrium, Open Approach | 02U50KZ | Supplement Atrial Septum with Nonautologous Tissue Substitute, Open Approach |
| 0213093 | Bypass Coronary Artery, Four or More Sites from Coronary Artery with Autologous Venous Tissue, Open Approach | 02B63ZZ | Excision of Right Atrium, Percutaneous Approach | 02U537Z | Supplement Atrial Septum with Autologous Tissue Substitute, Percutaneous Approach |
| 0213098 | Bypass Coronary Artery, Four or More Sites from Right Internal Mammary with Autologous Venous Tissue, Open Approach | 02B64ZZ | Excision of Right Atrium, Percutaneous Endoscopic Approach | 02U538Z | Supplement Atrial Septum with Zooplastic Tissue, Percutaneous Approach |
| 0213099 | Bypass Coronary Artery, Four or More Sites from Left Internal Mammary with Autologous Venous Tissue, Open Approach | 02B70ZK | Excision of Left Atrial Appendage, Open Approach | 02U53JZ | Supplement Atrial Septum with Synthetic Substitute, Percutaneous Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|---|-------------|---|-------------|---|
| 021309C | Bypass Coronary Artery, Four or More Sites from Thoracic Artery with Autologous Venous Tissue, Open Approach | 02B70ZZ | Excision of Left Atrium, Open Approach | 02U53KZ | Supplement Atrial Septum with Nonautologous Tissue Substitute, Percutaneous Approach |
| 021309F | Bypass Coronary Artery, Four or More Sites from Abdominal Artery with Autologous Venous Tissue, Open Approach | 02B73ZK | Excision of Left Atrial Appendage, Percutaneous Approach | 02U547Z | Supplement Atrial Septum with Autologous Tissue Substitute, Percutaneous Endoscopic Approach |
| 021309W | Bypass Coronary Artery, Four or More Sites from Aorta with Autologous Venous Tissue, Open Approach | 02B73ZZ | Excision of Left Atrium, Percutaneous Approach | 02U548Z | Supplement Atrial Septum with Zooplastic Tissue, Percutaneous Endoscopic Approach |
| 02130A3 | Bypass Coronary Artery, Four or More Sites from Coronary Artery with Autologous Arterial Tissue, Open Approach | 02B74ZK | Excision of Left Atrial Appendage, Percutaneous Endoscopic Approach | 02U54JZ | Supplement Atrial Septum with Synthetic Substitute, Percutaneous Endoscopic Approach |
| 02130A8 | Bypass Coronary Artery, Four or More Sites from Right Internal Mammary with Autologous Arterial Tissue, Open Approach | 02B74ZZ | Excision of Left Atrium, Percutaneous Endoscopic Approach | 02U54KZ | Supplement Atrial Septum with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach |
| 02130A9 | Bypass Coronary Artery, Four or More Sites from Left Internal Mammary with Autologous Arterial Tissue, Open Approach | 02B80ZZ | Excision of Conduction Mechanism, Open Approach | 02U607Z | Supplement Right Atrium with Autologous Tissue Substitute, Open Approach |
| 02130AC | Bypass Coronary Artery, Four or More Sites from Thoracic Artery with Autologous Arterial Tissue, Open Approach | 02B83ZZ | Excision of Conduction Mechanism, Percutaneous Approach | 02U608Z | Supplement Right Atrium with Zooplastic Tissue, Open Approach |
| 02130AF | Bypass Coronary Artery, Four or More Sites from Abdominal Artery with Autologous Arterial Tissue, Open Approach | 02B84ZZ | Excision of Conduction Mechanism, Percutaneous Endoscopic Approach | 02U60KZ | Supplement Right Atrium with Nonautologous Tissue Substitute, Open Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|---|-------------|---|-------------|--|
| 02130AW | Bypass Coronary Artery, Four or More Sites from Aorta with Autologous Arterial Tissue, Open Approach | 02B90ZZ | Excision of Chordae Tendineae, Open Approach | 02U707Z | Supplement Left Atrium with Autologous Tissue Substitute, Open Approach |
| 02130J3 | Bypass Coronary Artery, Four or More Sites from Coronary Artery with Synthetic Substitute, Open Approach | 02B93ZZ | Excision of Chordae Tendineae, Percutaneous Approach | 02U708Z | Supplement Left Atrium with Zooplasic Tissue, Open Approach |
| 02130J8 | Bypass Coronary Artery, Four or More Sites from Right Internal Mammary with Synthetic Substitute, Open Approach | 02B94ZZ | Excision of Chordae Tendineae, Percutaneous Endoscopic Approach | 02U70JZ | Supplement Left Atrium with Synthetic Substitute, Open Approach |
| 02130J9 | Bypass Coronary Artery, Four or More Sites from Left Internal Mammary with Synthetic Substitute, Open Approach | 02BD0ZZ | Excision of Papillary Muscle, Open Approach | 02U70KZ | Supplement Left Atrium with Nonautologous Tissue Substitute, Open Approach |
| 02130JC | Bypass Coronary Artery, Four or More Sites from Thoracic Artery with Synthetic Substitute, Open Approach | 02BD3ZZ | Excision of Papillary Muscle, Percutaneous Approach | 02U737Z | Supplement Left Atrium with Autologous Tissue Substitute, Percutaneous Approach |
| 02130JF | Bypass Coronary Artery, Four or More Sites from Abdominal Artery with Synthetic Substitute, Open Approach | 02BD4ZZ | Excision of Papillary Muscle, Percutaneous Endoscopic Approach | 02U738Z | Supplement Left Atrium with Zooplasic Tissue, Percutaneous Approach |
| 02130JW | Bypass Coronary Artery, Four or More Sites from Aorta with Synthetic Substitute, Open Approach | 02BF0ZZ | Excision of Aortic Valve, Open Approach | 02U73KZ | Supplement Left Atrium with Nonautologous Tissue Substitute, Percutaneous Approach |
| 02130K3 | Bypass Coronary Artery, Four or More Sites from Coronary Artery with Nonautologous Tissue Substitute, Open Approach | 02BF3ZZ | Excision of Aortic Valve, Percutaneous Approach | 02U747Z | Supplement Left Atrium with Autologous Tissue Substitute, Percutaneous Endoscopic Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|--|-------------|---|-------------|---|
| 02130K8 | Bypass Coronary Artery, Four or More Sites from Right Internal Mammary with Nonautologous Tissue Substitute, Open Approach | 02BF4ZZ | Excision of Aortic Valve, Percutaneous Endoscopic Approach | 02U748Z | Supplement Left Atrium with Zooplasic Tissue, Percutaneous Endoscopic Approach |
| 02130K9 | Bypass Coronary Artery, Four or More Sites from Left Internal Mammary with Nonautologous Tissue Substitute, Open Approach | 02BG0ZZ | Excision of Mitral Valve, Open Approach | 02U74KZ | Supplement Left Atrium with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach |
| 02130KC | Bypass Coronary Artery, Four or More Sites from Thoracic Artery with Nonautologous Tissue Substitute, Open Approach | 02BG3ZZ | Excision of Mitral Valve, Percutaneous Approach | 02U907Z | Supplement Chordae Tendineae with Autologous Tissue Substitute, Open Approach |
| 02130KF | Bypass Coronary Artery, Four or More Sites from Abdominal Artery with Nonautologous Tissue Substitute, Open Approach | 02BG4ZZ | Excision of Mitral Valve, Percutaneous Endoscopic Approach | 02U908Z | Supplement Chordae Tendineae with Zooplasic Tissue, Open Approach |
| 02130KW | Bypass Coronary Artery, Four or More Sites from Aorta with Nonautologous Tissue Substitute, Open Approach | 02BH0ZZ | Excision of Pulmonary Valve, Open Approach | 02U90JZ | Supplement Chordae Tendineae with Synthetic Substitute, Open Approach |
| 02130Z3 | Bypass Coronary Artery, Four or More Sites from Coronary Artery, Open Approach | 02BH3ZZ | Excision of Pulmonary Valve, Percutaneous Approach | 02U90KZ | Supplement Chordae Tendineae with Nonautologous Tissue Substitute, Open Approach |
| 02130Z8 | Bypass Coronary Artery, Four or More Sites from Right Internal Mammary, Open Approach | 02BH4ZZ | Excision of Pulmonary Valve, Percutaneous Endoscopic Approach | 02U937Z | Supplement Chordae Tendineae with Autologous Tissue Substitute, Percutaneous Approach |
| 02130Z9 | Bypass Coronary Artery, Four or More Sites from Left Internal Mammary, Open Approach | 02BJ0ZZ | Excision of Tricuspid Valve, Open Approach | 02U938Z | Supplement Chordae Tendineae with Zooplasic Tissue, Percutaneous Approach |
| 02130ZC | Bypass Coronary Artery, Four or More Sites from Thoracic Artery, Open Approach | 02BJ3ZZ | Excision of Tricuspid Valve, Percutaneous Approach | 02U93JZ | Supplement Chordae Tendineae with Synthetic Substitute, Percutaneous Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|--|-------------|---|-------------|---|
| 02130ZF | Bypass Coronary Artery, Four or More Sites from Abdominal Artery, Open Approach | 02BJ4ZZ | Excision of Tricuspid Valve, Percutaneous Endoscopic Approach | 02U93KZ | Supplement Chordae Tendineae with Nonautologous Tissue Substitute, Percutaneous Approach |
| 0213344 | Bypass Coronary Artery, Four or More Sites from Coronary Vein with Drug-eluting Intraluminal Device, Percutaneous Approach | 02BK0ZZ | Excision of Right Ventricle, Open Approach | 02U947Z | Supplement Chordae Tendineae with Autologous Tissue Substitute, Percutaneous Endoscopic Approach |
| 02133D4 | Bypass Coronary Artery, Four or More Sites from Coronary Vein with Intraluminal Device, Percutaneous Approach | 02BK3ZZ | Excision of Right Ventricle, Percutaneous Approach | 02U948Z | Supplement Chordae Tendineae with Zooplastic Tissue, Percutaneous Endoscopic Approach |
| 0213444 | Bypass Coronary Artery, Four or More Sites from Coronary Vein with Drug-eluting Intraluminal Device, Percutaneous Endoscopic Approach | 02BK4ZZ | Excision of Right Ventricle, Percutaneous Endoscopic Approach | 02U94JZ | Supplement Chordae Tendineae with Synthetic Substitute, Percutaneous Endoscopic Approach |
| 0213493 | Bypass Coronary Artery, Four or More Sites from Coronary Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 02BL0ZZ | Excision of Left Ventricle, Open Approach | 02U94KZ | Supplement Chordae Tendineae with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach |
| 0213498 | Bypass Coronary Artery, Four or More Sites from Right Internal Mammary with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 02BL3ZZ | Excision of Left Ventricle, Percutaneous Approach | 02UA0JZ | Supplement Heart with Synthetic Substitute, Open Approach |
| 0213499 | Bypass Coronary Artery, Four or More Sites from Left Internal Mammary with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 02BL4ZZ | Excision of Left Ventricle, Percutaneous Endoscopic Approach | 02UA3JZ | Supplement Heart with Synthetic Substitute, Percutaneous Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|--|-------------|---|-------------|--|
| 021349C | Bypass Coronary Artery, Four or More Sites from Thoracic Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 02BM0ZZ | Excision of Ventricular Septum, Open Approach | 02UA4JZ | Supplement Heart with Synthetic Substitute, Percutaneous Endoscopic Approach |
| 021349F | Bypass Coronary Artery, Four or More Sites from Abdominal Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 02BM3ZZ | Excision of Ventricular Septum, Percutaneous Approach | 02UD07Z | Supplement Papillary Muscle with Autologous Tissue Substitute, Open Approach |
| 021349W | Bypass Coronary Artery, Four or More Sites from Aorta with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 02BM4ZZ | Excision of Ventricular Septum, Percutaneous Endoscopic Approach | 02UD08Z | Supplement Papillary Muscle with Zooplastic Tissue, Open Approach |
| 02134A3 | Bypass Coronary Artery, Four or More Sites from Coronary Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 02BN0ZZ | Excision of Pericardium, Open Approach | 02UD0JZ | Supplement Papillary Muscle with Synthetic Substitute, Open Approach |
| 02134A8 | Bypass Coronary Artery, Four or More Sites from Right Internal Mammary with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 02BN3ZZ | Excision of Pericardium, Percutaneous Approach | 02UD0KZ | Supplement Papillary Muscle with Nonautologous Tissue Substitute, Open Approach |
| 02134A9 | Bypass Coronary Artery, Four or More Sites from Left Internal Mammary with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 02BN4ZZ | Excision of Pericardium, Percutaneous Endoscopic Approach | 02UD37Z | Supplement Papillary Muscle with Autologous Tissue Substitute, Percutaneous Approach |
| 02134AC | Bypass Coronary Artery, Four or More Sites from Thoracic Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 02C00ZZ | Extirpation of Matter from Coronary Artery, One Site, Open Approach | 02UD38Z | Supplement Papillary Muscle with Zooplastic Tissue, Percutaneous Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|--|-------------|---|-------------|--|
| 02134AF | Bypass Coronary Artery, Four or More Sites from Abdominal Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 02C03ZZ | Extirpation of Matter from Coronary Artery, One Site, Percutaneous Approach | 02UD3JZ | Supplement Papillary Muscle with Synthetic Substitute, Percutaneous Approach |
| 02134AW | Bypass Coronary Artery, Four or More Sites from Aorta with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 02C04ZZ | Extirpation of Matter from Coronary Artery, One Site, Percutaneous Endoscopic Approach | 02UD3KZ | Supplement Papillary Muscle with Nonautologous Tissue Substitute, Percutaneous Approach |
| 02134D4 | Bypass Coronary Artery, Four or More Sites from Coronary Vein with Intraluminal Device, Percutaneous Endoscopic Approach | 02C10ZZ | Extirpation of Matter from Coronary Artery, Two Sites, Open Approach | 02UD47Z | Supplement Papillary Muscle with Autologous Tissue Substitute, Percutaneous Endoscopic Approach |
| 02134J3 | Bypass Coronary Artery, Four or More Sites from Coronary Artery with Synthetic Substitute, Percutaneous Endoscopic Approach | 02C13ZZ | Extirpation of Matter from Coronary Artery, Two Sites, Percutaneous Approach | 02UD48Z | Supplement Papillary Muscle with Zooplastic Tissue, Percutaneous Endoscopic Approach |
| 02134J8 | Bypass Coronary Artery, Four or More Sites from Right Internal Mammary with Synthetic Substitute, Percutaneous Endoscopic Approach | 02C14ZZ | Extirpation of Matter from Coronary Artery, Two Sites, Percutaneous Endoscopic Approach | 02UD4JZ | Supplement Papillary Muscle with Synthetic Substitute, Percutaneous Endoscopic Approach |
| 02134J9 | Bypass Coronary Artery, Four or More Sites from Left Internal Mammary with Synthetic Substitute, Percutaneous Endoscopic Approach | 02C20ZZ | Extirpation of Matter from Coronary Artery, Three Sites, Open Approach | 02UD4KZ | Supplement Papillary Muscle with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach |
| 02134JC | Bypass Coronary Artery, Four or More Sites from Thoracic Artery with Synthetic Substitute, Percutaneous Endoscopic Approach | 02C23ZZ | Extirpation of Matter from Coronary Artery, Three Sites, Percutaneous Approach | 02UF07Z | Supplement Aortic Valve with Autologous Tissue Substitute, Open Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|---|-------------|--|-------------|---|
| 02134JF | Bypass Coronary Artery, Four or More Sites from Abdominal Artery with Synthetic Substitute, Percutaneous Endoscopic Approach | 02C24ZZ | Extirpation of Matter from Coronary Artery, Three Sites, Percutaneous Endoscopic Approach | 02UF08Z | Supplement Aortic Valve with Zooplasic Tissue, Open Approach |
| 02134JW | Bypass Coronary Artery, Four or More Sites from Aorta with Synthetic Substitute, Percutaneous Endoscopic Approach | 02C30ZZ | Extirpation of Matter from Coronary Artery, Four or More Sites, Open Approach | 02UF0JZ | Supplement Aortic Valve with Synthetic Substitute, Open Approach |
| 02134K3 | Bypass Coronary Artery, Four or More Sites from Coronary Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 02C33ZZ | Extirpation of Matter from Coronary Artery, Four or More Sites, Percutaneous Approach | 02UF0KZ | Supplement Aortic Valve with Nonautologous Tissue Substitute, Open Approach |
| 02134K8 | Bypass Coronary Artery, Four or More Sites from Right Internal Mammary with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 02C34ZZ | Extirpation of Matter from Coronary Artery, Four or More Sites, Percutaneous Endoscopic Approach | 02UF37Z | Supplement Aortic Valve with Autologous Tissue Substitute, Percutaneous Approach |
| 02134K9 | Bypass Coronary Artery, Four or More Sites from Left Internal Mammary with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 02C40ZZ | Extirpation of Matter from Coronary Vein, Open Approach | 02UF38Z | Supplement Aortic Valve with Zooplasic Tissue, Percutaneous Approach |
| 02134KC | Bypass Coronary Artery, Four or More Sites from Thoracic Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 02C43ZZ | Extirpation of Matter from Coronary Vein, Percutaneous Approach | 02UF3JZ | Supplement Aortic Valve with Synthetic Substitute, Percutaneous Approach |
| 02134KF | Bypass Coronary Artery, Four or More Sites from Abdominal Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 02C44ZZ | Extirpation of Matter from Coronary Vein, Percutaneous Endoscopic Approach | 02UF3KZ | Supplement Aortic Valve with Nonautologous Tissue Substitute, Percutaneous Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|--|-------------|---|-------------|--|
| 02134KW | Bypass Coronary Artery, Four or More Sites from Aorta with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 02C50ZZ | Extirpation of Matter from Atrial Septum, Open Approach | 02UF47Z | Supplement Aortic Valve with Autologous Tissue Substitute, Percutaneous Endoscopic Approach |
| 02134Z3 | Bypass Coronary Artery, Four or More Sites from Coronary Artery, Percutaneous Endoscopic Approach | 02C53ZZ | Extirpation of Matter from Atrial Septum, Percutaneous Approach | 02UF48Z | Supplement Aortic Valve with Zooplastic Tissue, Percutaneous Endoscopic Approach |
| 02134Z8 | Bypass Coronary Artery, Four or More Sites from Right Internal Mammary, Percutaneous Endoscopic Approach | 02C54ZZ | Extirpation of Matter from Atrial Septum, Percutaneous Endoscopic Approach | 02UF4JZ | Supplement Aortic Valve with Synthetic Substitute, Percutaneous Endoscopic Approach |
| 02134Z9 | Bypass Coronary Artery, Four or More Sites from Left Internal Mammary, Percutaneous Endoscopic Approach | 02CD0ZZ | Extirpation of Matter from Papillary Muscle, Open Approach | 02UF4KZ | Supplement Aortic Valve with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach |
| 02134ZC | Bypass Coronary Artery, Four or More Sites from Thoracic Artery, Percutaneous Endoscopic Approach | 02CD3ZZ | Extirpation of Matter from Papillary Muscle, Percutaneous Approach | 02UG07Z | Supplement Mitral Valve with Autologous Tissue Substitute, Open Approach |
| 02134ZF | Bypass Coronary Artery, Four or More Sites from Abdominal Artery, Percutaneous Endoscopic Approach | 02CD4ZZ | Extirpation of Matter from Papillary Muscle, Percutaneous Endoscopic Approach | 02UG08Z | Supplement Mitral Valve with Zooplastic Tissue, Open Approach |
| 021609P | Bypass Right Atrium to Pulmonary Trunk with Autologous Venous Tissue, Open Approach | 02CF0ZZ | Extirpation of Matter from Aortic Valve, Open Approach | 02UG0JZ | Supplement Mitral Valve with Synthetic Substitute, Open Approach |
| 021609Q | Bypass Right Atrium to Right Pulmonary Artery with Autologous Venous Tissue, Open Approach | 02CF3ZZ | Extirpation of Matter from Aortic Valve, Percutaneous Approach | 02UG0KZ | Supplement Mitral Valve with Nonautologous Tissue Substitute, Open Approach |
| 021609R | Bypass Right Atrium to Left Pulmonary Artery with Autologous Venous Tissue, Open Approach | 02CF4ZZ | Extirpation of Matter from Aortic Valve, Percutaneous Endoscopic Approach | 02UG37Z | Supplement Mitral Valve with Autologous Tissue Substitute, Percutaneous Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|---|-------------|--|-------------|--|
| 02160AP | Bypass Right Atrium to Pulmonary Trunk with Autologous Arterial Tissue, Open Approach | 02CG0ZZ | Extirpation of Matter from Mitral Valve, Open Approach | 02UG38Z | Supplement Mitral Valve with Zooplasic Tissue, Percutaneous Approach |
| 02160AQ | Bypass Right Atrium to Right Pulmonary Artery with Autologous Arterial Tissue, Open Approach | 02CG3ZZ | Extirpation of Matter from Mitral Valve, Percutaneous Approach | 02UG3JZ | Supplement Mitral Valve with Synthetic Substitute, Percutaneous Approach |
| 02160AR | Bypass Right Atrium to Left Pulmonary Artery with Autologous Arterial Tissue, Open Approach | 02CG4ZZ | Extirpation of Matter from Mitral Valve, Percutaneous Endoscopic Approach | 02UG3KZ | Supplement Mitral Valve with Nonautologous Tissue Substitute, Percutaneous Approach |
| 02160JP | Bypass Right Atrium to Pulmonary Trunk with Synthetic Substitute, Open Approach | 02CH0ZZ | Extirpation of Matter from Pulmonary Valve, Open Approach | 02UG47Z | Supplement Mitral Valve with Autologous Tissue Substitute, Percutaneous Endoscopic Approach |
| 02160JQ | Bypass Right Atrium to Right Pulmonary Artery with Synthetic Substitute, Open Approach | 02CH3ZZ | Extirpation of Matter from Pulmonary Valve, Percutaneous Approach | 02UG48Z | Supplement Mitral Valve with Zooplasic Tissue, Percutaneous Endoscopic Approach |
| 02160JR | Bypass Right Atrium to Left Pulmonary Artery with Synthetic Substitute, Open Approach | 02CH4ZZ | Extirpation of Matter from Pulmonary Valve, Percutaneous Endoscopic Approach | 02UG4JZ | Supplement Mitral Valve with Synthetic Substitute, Percutaneous Endoscopic Approach |
| 02160KP | Bypass Right Atrium to Pulmonary Trunk with Nonautologous Tissue Substitute, Open Approach | 02CJ0ZZ | Extirpation of Matter from Tricuspid Valve, Open Approach | 02UG4KZ | Supplement Mitral Valve with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach |
| 02160KQ | Bypass Right Atrium to Right Pulmonary Artery with Nonautologous Tissue Substitute, Open Approach | 02CJ3ZZ | Extirpation of Matter from Tricuspid Valve, Percutaneous Approach | 02UH07Z | Supplement Pulmonary Valve with Autologous Tissue Substitute, Open Approach |
| 02160KR | Bypass Right Atrium to Left Pulmonary Artery with Nonautologous Tissue Substitute, Open Approach | 02CJ4ZZ | Extirpation of Matter from Tricuspid Valve, Percutaneous Endoscopic Approach | 02UH08Z | Supplement Pulmonary Valve with Zooplasic Tissue, Open Approach |
| 02160ZP | Bypass Right Atrium to Pulmonary Trunk, Open Approach | 02CM0ZZ | Extirpation of Matter from Ventricular Septum, Open Approach | 02UH0JZ | Supplement Pulmonary Valve with Synthetic Substitute, Open Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|---|-------------|--|-------------|--|
| 02160ZQ | Bypass Right Atrium to Right Pulmonary Artery, Open Approach | 02CM3ZZ | Extirpation of Matter from Ventricular Septum, Percutaneous Approach | 02UH0KZ | Supplement Pulmonary Valve with Nonautologous Tissue Substitute, Open Approach |
| 02160ZR | Bypass Right Atrium to Left Pulmonary Artery, Open Approach | 02CM4ZZ | Extirpation of Matter from Ventricular Septum, Percutaneous Endoscopic Approach | 02UH37Z | Supplement Pulmonary Valve with Autologous Tissue Substitute, Percutaneous Approach |
| 021649P | Bypass Right Atrium to Pulmonary Trunk with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 02H400Z | Insertion of Pressure Sensor Monitoring Device into Coronary Vein, Open Approach | 02UH38Z | Supplement Pulmonary Valve with Zooplastic Tissue, Percutaneous Approach |
| 021649Q | Bypass Right Atrium to Right Pulmonary Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 02H402Z | Insertion of Monitoring Device into Coronary Vein, Open Approach | 02UH3JZ | Supplement Pulmonary Valve with Synthetic Substitute, Percutaneous Approach |
| 021649R | Bypass Right Atrium to Left Pulmonary Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 02H403Z | Insertion of Infusion Device into Coronary Vein, Open Approach | 02UH3KZ | Supplement Pulmonary Valve with Nonautologous Tissue Substitute, Percutaneous Approach |
| 02164AP | Bypass Right Atrium to Pulmonary Trunk with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 02H40DZ | Insertion of Intraluminal Device into Coronary Vein, Open Approach | 02UH47Z | Supplement Pulmonary Valve with Autologous Tissue Substitute, Percutaneous Endoscopic Approach |
| 02164AQ | Bypass Right Atrium to Right Pulmonary Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 02H40JZ | Insertion of Pacemaker Lead into Coronary Vein, Open Approach | 02UH48Z | Supplement Pulmonary Valve with Zooplastic Tissue, Percutaneous Endoscopic Approach |
| 02164AR | Bypass Right Atrium to Left Pulmonary Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 02H40KZ | Insertion of Defibrillator Lead into Coronary Vein, Open Approach | 02UH4JZ | Supplement Pulmonary Valve with Synthetic Substitute, Percutaneous Endoscopic Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|--|-------------|---|-------------|---|
| 02164JP | Bypass Right Atrium to Pulmonary Trunk with Synthetic Substitute, Percutaneous Endoscopic Approach | 02H40MZ | Insertion of Cardiac Lead into Coronary Vein, Open Approach | 02UH4KZ | Supplement Pulmonary Valve with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach |
| 02164JQ | Bypass Right Atrium to Right Pulmonary Artery with Synthetic Substitute, Percutaneous Endoscopic Approach | 02H430Z | Insertion of Pressure Sensor Monitoring Device into Coronary Vein, Percutaneous Approach | 02UJ07Z | Supplement Tricuspid Valve with Autologous Tissue Substitute, Open Approach |
| 02164JR | Bypass Right Atrium to Left Pulmonary Artery with Synthetic Substitute, Percutaneous Endoscopic Approach | 02H432Z | Insertion of Monitoring Device into Coronary Vein, Percutaneous Approach | 02UJ08Z | Supplement Tricuspid Valve with Zooplasic Tissue, Open Approach |
| 02164KP | Bypass Right Atrium to Pulmonary Trunk with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 02H433Z | Insertion of Infusion Device into Coronary Vein, Percutaneous Approach | 02UJ0JZ | Supplement Tricuspid Valve with Synthetic Substitute, Open Approach |
| 02164KQ | Bypass Right Atrium to Right Pulmonary Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 02H43DZ | Insertion of Intraluminal Device into Coronary Vein, Percutaneous Approach | 02UJ0KZ | Supplement Tricuspid Valve with Nonautologous Tissue Substitute, Open Approach |
| 02164KR | Bypass Right Atrium to Left Pulmonary Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 02H43JZ | Insertion of Pacemaker Lead into Coronary Vein, Percutaneous Approach | 02UJ37Z | Supplement Tricuspid Valve with Autologous Tissue Substitute, Percutaneous Approach |
| 02164ZP | Bypass Right Atrium to Pulmonary Trunk, Percutaneous Endoscopic Approach | 02H43KZ | Insertion of Defibrillator Lead into Coronary Vein, Percutaneous Approach | 02UJ38Z | Supplement Tricuspid Valve with Zooplasic Tissue, Percutaneous Approach |
| 02164ZQ | Bypass Right Atrium to Right Pulmonary Artery, Percutaneous Endoscopic Approach | 02H43MZ | Insertion of Cardiac Lead into Coronary Vein, Percutaneous Approach | 02UJ3JZ | Supplement Tricuspid Valve with Synthetic Substitute, Percutaneous Approach |
| 02164ZR | Bypass Right Atrium to Left Pulmonary Artery, Percutaneous Endoscopic Approach | 02H440Z | Insertion of Pressure Sensor Monitoring Device into Coronary Vein, Percutaneous Endoscopic Approach | 02UJ3KZ | Supplement Tricuspid Valve with Nonautologous Tissue Substitute, Percutaneous Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|---|-------------|---|-------------|---|
| 021709P | Bypass Left Atrium to Pulmonary Trunk with Autologous Venous Tissue, Open Approach | 02H442Z | Insertion of Monitoring Device into Coronary Vein, Percutaneous Endoscopic Approach | 02UJ47Z | Supplement Tricuspid Valve with Autologous Tissue Substitute, Percutaneous Endoscopic Approach |
| 021709Q | Bypass Left Atrium to Right Pulmonary Artery with Autologous Venous Tissue, Open Approach | 02H443Z | Insertion of Infusion Device into Coronary Vein, Percutaneous Endoscopic Approach | 02UJ48Z | Supplement Tricuspid Valve with Zooplastic Tissue, Percutaneous Endoscopic Approach |
| 021709R | Bypass Left Atrium to Left Pulmonary Artery with Autologous Venous Tissue, Open Approach | 02H44DZ | Insertion of Intraluminal Device into Coronary Vein, Percutaneous Endoscopic Approach | 02UJ4JZ | Supplement Tricuspid Valve with Synthetic Substitute, Percutaneous Endoscopic Approach |
| 02170AP | Bypass Left Atrium to Pulmonary Trunk with Autologous Arterial Tissue, Open Approach | 02H44JZ | Insertion of Pacemaker Lead into Coronary Vein, Percutaneous Endoscopic Approach | 02UJ4KZ | Supplement Tricuspid Valve with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach |
| 02170AQ | Bypass Left Atrium to Right Pulmonary Artery with Autologous Arterial Tissue, Open Approach | 02H44KZ | Insertion of Defibrillator Lead into Coronary Vein, Percutaneous Endoscopic Approach | 02UK0KZ | Supplement Right Ventricle with Nonautologous Tissue Substitute, Open Approach |
| 02170AR | Bypass Left Atrium to Left Pulmonary Artery with Autologous Arterial Tissue, Open Approach | 02H44MZ | Insertion of Cardiac Lead into Coronary Vein, Percutaneous Endoscopic Approach | 02UK3KZ | Supplement Right Ventricle with Nonautologous Tissue Substitute, Percutaneous Approach |
| 02170JP | Bypass Left Atrium to Pulmonary Trunk with Synthetic Substitute, Open Approach | 02H600Z | Insertion of Pressure Sensor Monitoring Device into Right Atrium, Open Approach | 02UK4KZ | Supplement Right Ventricle with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach |
| 02170JQ | Bypass Left Atrium to Right Pulmonary Artery with Synthetic Substitute, Open Approach | 02H60JZ | Insertion of Pacemaker Lead into Right Atrium, Open Approach | 02UL0KZ | Supplement Left Ventricle with Nonautologous Tissue Substitute, Open Approach |
| 02170JR | Bypass Left Atrium to Left Pulmonary Artery with Synthetic Substitute, Open Approach | 02H60KZ | Insertion of Defibrillator Lead into Right Atrium, Open Approach | 02UL3KZ | Supplement Left Ventricle with Nonautologous Tissue Substitute, Percutaneous Approach |
| 02170KP | Bypass Left Atrium to Pulmonary Trunk with Nonautologous Tissue Substitute, Open Approach | 02H60MZ | Insertion of Cardiac Lead into Right Atrium, Open Approach | 02UL4KZ | Supplement Left Ventricle with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|--|-------------|--|-------------|---|
| 02170KQ | Bypass Left Atrium to Right Pulmonary Artery with Nonautologous Tissue Substitute, Open Approach | 02H630Z | Insertion of Pressure Sensor Monitoring Device into Right Atrium, Percutaneous Approach | 02UM07Z | Supplement Ventricular Septum with Autologous Tissue Substitute, Open Approach |
| 02170KR | Bypass Left Atrium to Left Pulmonary Artery with Nonautologous Tissue Substitute, Open Approach | 02H63JZ | Insertion of Pacemaker Lead into Right Atrium, Percutaneous Approach | 02UM0JZ | Supplement Ventricular Septum with Synthetic Substitute, Open Approach |
| 02170ZP | Bypass Left Atrium to Pulmonary Trunk, Open Approach | 02H63KZ | Insertion of Defibrillator Lead into Right Atrium, Percutaneous Approach | 02UM0KZ | Supplement Ventricular Septum with Nonautologous Tissue Substitute, Open Approach |
| 02170ZQ | Bypass Left Atrium to Right Pulmonary Artery, Open Approach | 02H63MZ | Insertion of Cardiac Lead into Right Atrium, Percutaneous Approach | 02UM37Z | Supplement Ventricular Septum with Autologous Tissue Substitute, Percutaneous Approach |
| 02170ZR | Bypass Left Atrium to Left Pulmonary Artery, Open Approach | 02H640Z | Insertion of Pressure Sensor Monitoring Device into Right Atrium, Percutaneous Endoscopic Approach | 02UM38Z | Supplement Ventricular Septum with Zooplastic Tissue, Percutaneous Approach |
| 021749P | Bypass Left Atrium to Pulmonary Trunk with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 02H64JZ | Insertion of Pacemaker Lead into Right Atrium, Percutaneous Endoscopic Approach | 02UM3JZ | Supplement Ventricular Septum with Synthetic Substitute, Percutaneous Approach |
| 021749Q | Bypass Left Atrium to Right Pulmonary Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 02H64KZ | Insertion of Defibrillator Lead into Right Atrium, Percutaneous Endoscopic Approach | 02UM3KZ | Supplement Ventricular Septum with Nonautologous Tissue Substitute, Percutaneous Approach |
| 021749R | Bypass Left Atrium to Left Pulmonary Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 02H64MZ | Insertion of Cardiac Lead into Right Atrium, Percutaneous Endoscopic Approach | 02UM47Z | Supplement Ventricular Septum with Autologous Tissue Substitute, Percutaneous Endoscopic Approach |
| 02174AP | Bypass Left Atrium to Pulmonary Trunk with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 02H700Z | Insertion of Pressure Sensor Monitoring Device into Left Atrium, Open Approach | 02UM48Z | Supplement Ventricular Septum with Zooplastic Tissue, Percutaneous Endoscopic Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|---|-------------|---|-------------|--|
| 02174AQ | Bypass Left Atrium to Right Pulmonary Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 02H70JZ | Insertion of Pacemaker Lead into Left Atrium, Open Approach | 02UM4JZ | Supplement Ventricular Septum with Synthetic Substitute, Percutaneous Endoscopic Approach |
| 02174AR | Bypass Left Atrium to Left Pulmonary Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 02H70KZ | Insertion of Defibrillator Lead into Left Atrium, Open Approach | 02UM4KZ | Supplement Ventricular Septum with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach |
| 02174JP | Bypass Left Atrium to Pulmonary Trunk with Synthetic Substitute, Percutaneous Endoscopic Approach | 02H70MZ | Insertion of Cardiac Lead into Left Atrium, Open Approach | 02VR0ZT | Restriction of Ductus Arteriosus, Open Approach |
| 02174JQ | Bypass Left Atrium to Right Pulmonary Artery with Synthetic Substitute, Percutaneous Endoscopic Approach | 02H730Z | Insertion of Pressure Sensor Monitoring Device into Left Atrium, Percutaneous Approach | 02W50JZ | Revision of Synthetic Substitute in Atrial Septum, Open Approach |
| 02174JR | Bypass Left Atrium to Left Pulmonary Artery with Synthetic Substitute, Percutaneous Endoscopic Approach | 02H73JZ | Insertion of Pacemaker Lead into Left Atrium, Percutaneous Approach | 02W54JZ | Revision of Synthetic Substitute in Atrial Septum, Percutaneous Endoscopic Approach |
| 02174KP | Bypass Left Atrium to Pulmonary Trunk with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 02H73KZ | Insertion of Defibrillator Lead into Left Atrium, Percutaneous Approach | 02WA0JZ | Revision of Synthetic Substitute in Heart, Open Approach |
| 02174KQ | Bypass Left Atrium to Right Pulmonary Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 02H73MZ | Insertion of Cardiac Lead into Left Atrium, Percutaneous Approach | 02WA0MZ | Revision of Cardiac Lead in Heart, Open Approach |
| 02174KR | Bypass Left Atrium to Left Pulmonary Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 02H740Z | Insertion of Pressure Sensor Monitoring Device into Left Atrium, Percutaneous Endoscopic Approach | 02WA0QZ | Revision of Implantable Heart Assist System in Heart, Open Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|---|-------------|---|-------------|--|
| 02174ZP | Bypass Left Atrium to Pulmonary Trunk, Percutaneous Endoscopic Approach | 02H74JZ | Insertion of Pacemaker Lead into Left Atrium, Percutaneous Endoscopic Approach | 02WA0RZ | Revision of External Heart Assist System in Heart, Open Approach |
| 02174ZQ | Bypass Left Atrium to Right Pulmonary Artery, Percutaneous Endoscopic Approach | 02H74KZ | Insertion of Defibrillator Lead into Left Atrium, Percutaneous Endoscopic Approach | 02WA3MZ | Revision of Cardiac Lead in Heart, Percutaneous Approach |
| 02174ZR | Bypass Left Atrium to Left Pulmonary Artery, Percutaneous Endoscopic Approach | 02H74MZ | Insertion of Cardiac Lead into Left Atrium, Percutaneous Endoscopic Approach | 02WA3QZ | Revision of Implantable Heart Assist System in Heart, Percutaneous Approach |
| 021K09P | Bypass Right Ventricle to Pulmonary Trunk with Autologous Venous Tissue, Open Approach | 02HA0QZ | Insertion of Implantable Heart Assist System into Heart, Open Approach | 02WA3RZ | Revision of External Heart Assist System in Heart, Percutaneous Approach |
| 021K09Q | Bypass Right Ventricle to Right Pulmonary Artery with Autologous Venous Tissue, Open Approach | 02HA0RS | Insertion of Biventricular External Heart Assist System into Heart, Open Approach | 02WA4MZ | Revision of Cardiac Lead in Heart, Percutaneous Endoscopic Approach |
| 021K09R | Bypass Right Ventricle to Left Pulmonary Artery with Autologous Venous Tissue, Open Approach | 02HA0RZ | Insertion of External Heart Assist System into Heart, Open Approach | 02WA4QZ | Revision of Implantable Heart Assist System in Heart, Percutaneous Endoscopic Approach |
| 021K0AP | Bypass Right Ventricle to Pulmonary Trunk with Autologous Arterial Tissue, Open Approach | 02HA3QZ | Insertion of Implantable Heart Assist System into Heart, Percutaneous Approach | 02WA4RZ | Revision of External Heart Assist System in Heart, Percutaneous Endoscopic Approach |
| 021K0AQ | Bypass Right Ventricle to Right Pulmonary Artery with Autologous Arterial Tissue, Open Approach | 02HA3RS | Insertion of Biventricular External Heart Assist System into Heart, Percutaneous Approach | 02WF07Z | Revision of Autologous Tissue Substitute in Aortic Valve, Open Approach |
| 021K0AR | Bypass Right Ventricle to Left Pulmonary Artery with Autologous Arterial Tissue, Open Approach | 02HA3RZ | Insertion of External Heart Assist System into Heart, Percutaneous Approach | 02WF08Z | Revision of Zooplasic Tissue in Aortic Valve, Open Approach |
| 021K0JP | Bypass Right Ventricle to Pulmonary Trunk with Synthetic Substitute, Open Approach | 02HA4QZ | Insertion of Implantable Heart Assist System into Heart, Percutaneous Endoscopic Approach | 02WF0JZ | Revision of Synthetic Substitute in Aortic Valve, Open Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|--|-------------|--|-------------|---|
| 021K0JQ | Bypass Right Ventricle to Right Pulmonary Artery with Synthetic Substitute, Open Approach | 02HA4RS | Insertion of Biventricular External Heart Assist System into Heart, Percutaneous Endoscopic Approach | 02WF0KZ | Revision of Nonautologous Tissue Substitute in Aortic Valve, Open Approach |
| 021K0JR | Bypass Right Ventricle to Left Pulmonary Artery with Synthetic Substitute, Open Approach | 02HA4RZ | Insertion of External Heart Assist System into Heart, Percutaneous Endoscopic Approach | 02WF47Z | Revision of Autologous Tissue Substitute in Aortic Valve, Percutaneous Endoscopic Approach |
| 021K0KP | Bypass Right Ventricle to Pulmonary Trunk with Nonautologous Tissue Substitute, Open Approach | 02HK00Z | Insertion of Pressure Sensor Monitoring Device into Right Ventricle, Open Approach | 02WF48Z | Revision of Zooplastic Tissue in Aortic Valve, Percutaneous Endoscopic Approach |
| 021K0KQ | Bypass Right Ventricle to Right Pulmonary Artery with Nonautologous Tissue Substitute, Open Approach | 02HK02Z | Insertion of Monitoring Device into Right Ventricle, Open Approach | 02WF4JZ | Revision of Synthetic Substitute in Aortic Valve, Percutaneous Endoscopic Approach |
| 021K0KR | Bypass Right Ventricle to Left Pulmonary Artery with Nonautologous Tissue Substitute, Open Approach | 02HK0JZ | Insertion of Pacemaker Lead into Right Ventricle, Open Approach | 02WF4KZ | Revision of Nonautologous Tissue Substitute in Aortic Valve, Percutaneous Endoscopic Approach |
| 021K0Z5 | Bypass Right Ventricle to Coronary Circulation, Open Approach | 02HK0KZ | Insertion of Defibrillator Lead into Right Ventricle, Open Approach | 02WG07Z | Revision of Autologous Tissue Substitute in Mitral Valve, Open Approach |
| 021K0Z8 | Bypass Right Ventricle to Right Internal Mammary, Open Approach | 02HK0MZ | Insertion of Cardiac Lead into Right Ventricle, Open Approach | 02WG08Z | Revision of Zooplastic Tissue in Mitral Valve, Open Approach |
| 021K0Z9 | Bypass Right Ventricle to Left Internal Mammary, Open Approach | 02HK30Z | Insertion of Pressure Sensor Monitoring Device into Right Ventricle, Percutaneous Approach | 02WG0JZ | Revision of Synthetic Substitute in Mitral Valve, Open Approach |
| 021K0ZC | Bypass Right Ventricle to Thoracic Artery, Open Approach | 02HK32Z | Insertion of Monitoring Device into Right Ventricle, Percutaneous Approach | 02WG0KZ | Revision of Nonautologous Tissue Substitute in Mitral Valve, Open Approach |
| 021K0ZF | Bypass Right Ventricle to Abdominal Artery, Open Approach | 02HK3JZ | Insertion of Pacemaker Lead into Right Ventricle, Percutaneous Approach | 02WG47Z | Revision of Autologous Tissue Substitute in Mitral Valve, Percutaneous Endoscopic Approach |
| 021K0ZP | Bypass Right Ventricle to Pulmonary Trunk, Open Approach | 02HK3KZ | Insertion of Defibrillator Lead into Right Ventricle, Percutaneous Approach | 02WG48Z | Revision of Zooplastic Tissue in Mitral Valve, Percutaneous Endoscopic Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|--|-------------|---|-------------|---|
| 021K0ZQ | Bypass Right Ventricle to Right Pulmonary Artery, Open Approach | 02HK3MZ | Insertion of Cardiac Lead into Right Ventricle, Percutaneous Approach | 02WG4JZ | Revision of Synthetic Substitute in Mitral Valve, Percutaneous Endoscopic Approach |
| 021K0ZR | Bypass Right Ventricle to Left Pulmonary Artery, Open Approach | 02HK40Z | Insertion of Pressure Sensor Monitoring Device into Right Ventricle, Percutaneous Endoscopic Approach | 02WG4KZ | Revision of Nonautologous Tissue Substitute in Mitral Valve, Percutaneous Endoscopic Approach |
| 021K0ZW | Bypass Right Ventricle to Aorta, Open Approach | 02HK42Z | Insertion of Monitoring Device into Right Ventricle, Percutaneous Endoscopic Approach | 02WH07Z | Revision of Autologous Tissue Substitute in Pulmonary Valve, Open Approach |
| 021K49P | Bypass Right Ventricle to Pulmonary Trunk with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 02HK4JZ | Insertion of Pacemaker Lead into Right Ventricle, Percutaneous Endoscopic Approach | 02WH08Z | Revision of Zooplasmic Tissue in Pulmonary Valve, Open Approach |
| 021K49Q | Bypass Right Ventricle to Right Pulmonary Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 02HK4KZ | Insertion of Defibrillator Lead into Right Ventricle, Percutaneous Endoscopic Approach | 02WH0JZ | Revision of Synthetic Substitute in Pulmonary Valve, Open Approach |
| 021K49R | Bypass Right Ventricle to Left Pulmonary Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 02HK4MZ | Insertion of Cardiac Lead into Right Ventricle, Percutaneous Endoscopic Approach | 02WH0KZ | Revision of Nonautologous Tissue Substitute in Pulmonary Valve, Open Approach |
| 021K4AP | Bypass Right Ventricle to Pulmonary Trunk with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 02HL00Z | Insertion of Pressure Sensor Monitoring Device into Left Ventricle, Open Approach | 02WH47Z | Revision of Autologous Tissue Substitute in Pulmonary Valve, Percutaneous Endoscopic Approach |
| 021K4AQ | Bypass Right Ventricle to Right Pulmonary Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 02HL0JZ | Insertion of Pacemaker Lead into Left Ventricle, Open Approach | 02WH48Z | Revision of Zooplasmic Tissue in Pulmonary Valve, Percutaneous Endoscopic Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|---|-------------|--|-------------|--|
| 021K4AR | Bypass Right Ventricle to Left Pulmonary Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 02HL0KZ | Insertion of Defibrillator Lead into Left Ventricle, Open Approach | 02WH4JZ | Revision of Synthetic Substitute in Pulmonary Valve, Percutaneous Endoscopic Approach |
| 021K4JP | Bypass Right Ventricle to Pulmonary Trunk with Synthetic Substitute, Percutaneous Endoscopic Approach | 02HL0MZ | Insertion of Cardiac Lead into Left Ventricle, Open Approach | 02WH4KZ | Revision of Nonautologous Tissue Substitute in Pulmonary Valve, Percutaneous Endoscopic Approach |
| 021K4JQ | Bypass Right Ventricle to Right Pulmonary Artery with Synthetic Substitute, Percutaneous Endoscopic Approach | 02HL30Z | Insertion of Pressure Sensor Monitoring Device into Left Ventricle, Percutaneous Approach | 02WJ07Z | Revision of Autologous Tissue Substitute in Tricuspid Valve, Open Approach |
| 021K4JR | Bypass Right Ventricle to Left Pulmonary Artery with Synthetic Substitute, Percutaneous Endoscopic Approach | 02HL3JZ | Insertion of Pacemaker Lead into Left Ventricle, Percutaneous Approach | 02WJ08Z | Revision of Zooplasmic Tissue in Tricuspid Valve, Open Approach |
| 021K4KP | Bypass Right Ventricle to Pulmonary Trunk with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 02HL3KZ | Insertion of Defibrillator Lead into Left Ventricle, Percutaneous Approach | 02WJ0JZ | Revision of Synthetic Substitute in Tricuspid Valve, Open Approach |
| 021K4KQ | Bypass Right Ventricle to Right Pulmonary Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 02HL3MZ | Insertion of Cardiac Lead into Left Ventricle, Percutaneous Approach | 02WJ0KZ | Revision of Nonautologous Tissue Substitute in Tricuspid Valve, Open Approach |
| 021K4KR | Bypass Right Ventricle to Left Pulmonary Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 02HL40Z | Insertion of Pressure Sensor Monitoring Device into Left Ventricle, Percutaneous Endoscopic Approach | 02WJ47Z | Revision of Autologous Tissue Substitute in Tricuspid Valve, Percutaneous Endoscopic Approach |
| 021K4Z5 | Bypass Right Ventricle to Coronary Circulation, Percutaneous Endoscopic Approach | 02HL4JZ | Insertion of Pacemaker Lead into Left Ventricle, Percutaneous Endoscopic Approach | 02WJ48Z | Revision of Zooplasmic Tissue in Tricuspid Valve, Percutaneous Endoscopic Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|---|-------------|---|-------------|---|
| 021K4Z8 | Bypass Right Ventricle to Right Internal Mammary, Percutaneous Endoscopic Approach | 02HL4KZ | Insertion of Defibrillator Lead into Left Ventricle, Percutaneous Endoscopic Approach | 02WJ4JZ | Revision of Synthetic Substitute in Tricuspid Valve, Percutaneous Endoscopic Approach |
| 021K4Z9 | Bypass Right Ventricle to Left Internal Mammary, Percutaneous Endoscopic Approach | 02HL4MZ | Insertion of Cardiac Lead into Left Ventricle, Percutaneous Endoscopic Approach | 02WJ4KZ | Revision of Nonautologous Tissue Substitute in Tricuspid Valve, Percutaneous Endoscopic Approach |
| 021K4ZC | Bypass Right Ventricle to Thoracic Artery, Percutaneous Endoscopic Approach | 02HN0JZ | Insertion of Pacemaker Lead into Pericardium, Open Approach | 02WM0JZ | Revision of Synthetic Substitute in Ventricular Septum, Open Approach |
| 021K4ZF | Bypass Right Ventricle to Abdominal Artery, Percutaneous Endoscopic Approach | 02HN0KZ | Insertion of Defibrillator Lead into Pericardium, Open Approach | 02WM4JZ | Revision of Synthetic Substitute in Ventricular Septum, Percutaneous Endoscopic Approach |
| 021K4ZP | Bypass Right Ventricle to Pulmonary Trunk, Percutaneous Endoscopic Approach | 02HN0MZ | Insertion of Cardiac Lead into Pericardium, Open Approach | 02YA0Z0 | Transplantation of Heart, Allogeneic, Open Approach |
| 021K4ZQ | Bypass Right Ventricle to Right Pulmonary Artery, Percutaneous Endoscopic Approach | 02HN3JZ | Insertion of Pacemaker Lead into Pericardium, Percutaneous Approach | 02YA0Z1 | Transplantation of Heart, Syngeneic, Open Approach |
| 021K4ZR | Bypass Right Ventricle to Left Pulmonary Artery, Percutaneous Endoscopic Approach | 02HN3KZ | Insertion of Defibrillator Lead into Pericardium, Percutaneous Approach | 02YA0Z2 | Transplantation of Heart, Zooplasmic, Open Approach |
| 021K4ZW | Bypass Right Ventricle to Aorta, Percutaneous Endoscopic Approach | 02HN3MZ | Insertion of Cardiac Lead into Pericardium, Percutaneous Approach | 0JH600Z | Insertion of Hemodynamic Monitoring Device into Chest Subcutaneous Tissue and Fascia, Open Approach |
| 021L09P | Bypass Left Ventricle to Pulmonary Trunk with Autologous Venous Tissue, Open Approach | 02HN4JZ | Insertion of Pacemaker Lead into Pericardium, Percutaneous Endoscopic Approach | 0JH604Z | Insertion of Pacemaker, Single Chamber into Chest Subcutaneous Tissue and Fascia, Open Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|--|-------------|--|-------------|---|
| 021L09Q | Bypass Left Ventricle to Right Pulmonary Artery with Autologous Venous Tissue, Open Approach | 02HN4KZ | Insertion of Defibrillator Lead into Pericardium, Percutaneous Endoscopic Approach | 0JH605Z | Insertion of Pacemaker, Single Chamber Rate Responsive into Chest Subcutaneous Tissue and Fascia, Open Approach |
| 021L09R | Bypass Left Ventricle to Left Pulmonary Artery with Autologous Venous Tissue, Open Approach | 02HN4MZ | Insertion of Cardiac Lead into Pericardium, Percutaneous Endoscopic Approach | 0JH606Z | Insertion of Pacemaker, Dual Chamber into Chest Subcutaneous Tissue and Fascia, Open Approach |
| 021L0AP | Bypass Left Ventricle to Pulmonary Trunk with Autologous Arterial Tissue, Open Approach | 02HS00Z | Insertion of Pressure Sensor Monitoring Device into Right Pulmonary Vein, Open Approach | 0JH607Z | Insertion of Cardiac Resynchronization Pacemaker Pulse Generator into Chest Subcutaneous Tissue and Fascia, Open Approach |
| 021L0AQ | Bypass Left Ventricle to Right Pulmonary Artery with Autologous Arterial Tissue, Open Approach | 02HS30Z | Insertion of Pressure Sensor Monitoring Device into Right Pulmonary Vein, Percutaneous Approach | 0JH608Z | Insertion of Defibrillator Generator into Chest Subcutaneous Tissue and Fascia, Open Approach |
| 021L0AR | Bypass Left Ventricle to Left Pulmonary Artery with Autologous Arterial Tissue, Open Approach | 02HS40Z | Insertion of Pressure Sensor Monitoring Device into Right Pulmonary Vein, Percutaneous Endoscopic Approach | 0JH609Z | Insertion of Cardiac Resynchronization Defibrillator Pulse Generator into Chest Subcutaneous Tissue and Fascia, Open Approach |
| 021L0JP | Bypass Left Ventricle to Pulmonary Trunk with Synthetic Substitute, Open Approach | 02HT00Z | Insertion of Pressure Sensor Monitoring Device into Left Pulmonary Vein, Open Approach | 0JH60AZ | Insertion of Contractility Modulation Device into Chest Subcutaneous Tissue and Fascia, Open Approach |
| 021L0JQ | Bypass Left Ventricle to Right Pulmonary Artery with Synthetic Substitute, Open Approach | 02HT30Z | Insertion of Pressure Sensor Monitoring Device into Left Pulmonary Vein, Percutaneous Approach | 0JH60PZ | Insertion of Cardiac Rhythm Related Device into Chest Subcutaneous Tissue and Fascia, Open Approach |
| 021L0JR | Bypass Left Ventricle to Left Pulmonary Artery with Synthetic Substitute, Open Approach | 02HT40Z | Insertion of Pressure Sensor Monitoring Device into Left Pulmonary Vein, Percutaneous Endoscopic Approach | 0JH630Z | Insertion of Hemodynamic Monitoring Device into Chest Subcutaneous Tissue and Fascia, Percutaneous Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|---|-------------|--|-------------|---|
| 021L0KP | Bypass Left Ventricle to Pulmonary Trunk with Nonautologous Tissue Substitute, Open Approach | 02HV00Z | Insertion of Pressure Sensor Monitoring Device into Superior Vena Cava, Open Approach | 0JH634Z | Insertion of Pacemaker, Single Chamber into Chest Subcutaneous Tissue and Fascia, Percutaneous Approach |
| 021L0KQ | Bypass Left Ventricle to Right Pulmonary Artery with Nonautologous Tissue Substitute, Open Approach | 02HV30Z | Insertion of Pressure Sensor Monitoring Device into Superior Vena Cava, Percutaneous Approach | 0JH635Z | Insertion of Pacemaker, Single Chamber Rate Responsive into Chest Subcutaneous Tissue and Fascia, Percutaneous Approach |
| 021L0KR | Bypass Left Ventricle to Left Pulmonary Artery with Nonautologous Tissue Substitute, Open Approach | 02HV40Z | Insertion of Pressure Sensor Monitoring Device into Superior Vena Cava, Percutaneous Endoscopic Approach | 0JH636Z | Insertion of Pacemaker, Dual Chamber into Chest Subcutaneous Tissue and Fascia, Percutaneous Approach |
| 021L0Z5 | Bypass Left Ventricle to Coronary Circulation, Open Approach | 02L70CK | Occlusion of Left Atrial Appendage with Extraluminal Device, Open Approach | 0JH637Z | Insertion of Cardiac Resynchronization Pacemaker Pulse Generator into Chest Subcutaneous Tissue and Fascia, Percutaneous Approach |
| 021L0Z8 | Bypass Left Ventricle to Right Internal Mammary, Open Approach | 02L70DK | Occlusion of Left Atrial Appendage with Intraluminal Device, Open Approach | 0JH638Z | Insertion of Defibrillator Generator into Chest Subcutaneous Tissue and Fascia, Percutaneous Approach |
| 021L0Z9 | Bypass Left Ventricle to Left Internal Mammary, Open Approach | 02L70ZK | Occlusion of Left Atrial Appendage, Open Approach | 0JH639Z | Insertion of Cardiac Resynchronization Defibrillator Pulse Generator into Chest Subcutaneous Tissue and Fascia, Percutaneous Approach |
| 021L0ZC | Bypass Left Ventricle to Thoracic Artery, Open Approach | 02L73CK | Occlusion of Left Atrial Appendage with Extraluminal Device, Percutaneous Approach | 0JH63AZ | Insertion of Contractility Modulation Device into Chest Subcutaneous Tissue and Fascia, Percutaneous Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|---|-------------|---|-------------|---|
| 021L0ZF | Bypass Left Ventricle to Abdominal Artery, Open Approach | 02L73DK | Occlusion of Left Atrial Appendage with Intraluminal Device, Percutaneous Approach | 0JH63PZ | Insertion of Cardiac Rhythm Related Device into Chest Subcutaneous Tissue and Fascia, Percutaneous Approach |
| 021L0ZP | Bypass Left Ventricle to Pulmonary Trunk, Open Approach | 02L73ZK | Occlusion of Left Atrial Appendage, Percutaneous Approach | 0JH800Z | Insertion of Hemodynamic Monitoring Device into Abdomen Subcutaneous Tissue and Fascia, Open Approach |
| 021L0ZQ | Bypass Left Ventricle to Right Pulmonary Artery, Open Approach | 02L74CK | Occlusion of Left Atrial Appendage with Extraluminal Device, Percutaneous Endoscopic Approach | 0JH804Z | Insertion of Pacemaker, Single Chamber into Abdomen Subcutaneous Tissue and Fascia, Open Approach |
| 021L0ZR | Bypass Left Ventricle to Left Pulmonary Artery, Open Approach | 02L74DK | Occlusion of Left Atrial Appendage with Intraluminal Device, Percutaneous Endoscopic Approach | 0JH805Z | Insertion of Pacemaker, Single Chamber Rate Responsive into Abdomen Subcutaneous Tissue and Fascia, Open Approach |
| 021L0ZW | Bypass Left Ventricle to Aorta, Open Approach | 02L74ZK | Occlusion of Left Atrial Appendage, Percutaneous Endoscopic Approach | 0JH806Z | Insertion of Pacemaker, Dual Chamber into Abdomen Subcutaneous Tissue and Fascia, Open Approach |
| 021L49P | Bypass Left Ventricle to Pulmonary Trunk with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 02LR0ZT | Occlusion of Ductus Arteriosus, Open Approach | 0JH807Z | Insertion of Cardiac Resynchronization Pacemaker Pulse Generator into Abdomen Subcutaneous Tissue and Fascia, Open Approach |
| 021L49Q | Bypass Left Ventricle to Right Pulmonary Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 02LS0ZZ | Occlusion of Right Pulmonary Vein, Open Approach | 0JH808Z | Insertion of Defibrillator Generator into Abdomen Subcutaneous Tissue and Fascia, Open Approach |
| 021L49R | Bypass Left Ventricle to Left Pulmonary Artery with Autologous Venous Tissue, Percutaneous Endoscopic Approach | 02LT0ZZ | Occlusion of Left Pulmonary Vein, Open Approach | 0JH809Z | Insertion of Cardiac Resynchronization Defibrillator Pulse Generator into Abdomen Subcutaneous Tissue and Fascia, Open Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|---|-------------|---|-------------|---|
| 021L4AP | Bypass Left Ventricle to Pulmonary Trunk with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 02N50ZZ | Release Atrial Septum, Open Approach | 0JH80AZ | Insertion of Contractility Modulation Device into Abdomen Subcutaneous Tissue and Fascia, Open Approach |
| 021L4AQ | Bypass Left Ventricle to Right Pulmonary Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 02N53ZZ | Release Atrial Septum, Percutaneous Approach | 0JH80PZ | Insertion of Cardiac Rhythm Related Device into Abdomen Subcutaneous Tissue and Fascia, Open Approach |
| 021L4AR | Bypass Left Ventricle to Left Pulmonary Artery with Autologous Arterial Tissue, Percutaneous Endoscopic Approach | 02N54ZZ | Release Atrial Septum, Percutaneous Endoscopic Approach | 0JH830Z | Insertion of Hemodynamic Monitoring Device into Abdomen Subcutaneous Tissue and Fascia, Percutaneous Approach |
| 021L4JP | Bypass Left Ventricle to Pulmonary Trunk with Synthetic Substitute, Percutaneous Endoscopic Approach | 02N90ZZ | Release Chordae Tendineae, Open Approach | 0JH834Z | Insertion of Pacemaker, Single Chamber into Abdomen Subcutaneous Tissue and Fascia, Percutaneous Approach |
| 021L4JQ | Bypass Left Ventricle to Right Pulmonary Artery with Synthetic Substitute, Percutaneous Endoscopic Approach | 02N93ZZ | Release Chordae Tendineae, Percutaneous Approach | 0JH835Z | Insertion of Pacemaker, Single Chamber Rate Responsive into Abdomen Subcutaneous Tissue and Fascia, Percutaneous Approach |
| 021L4JR | Bypass Left Ventricle to Left Pulmonary Artery with Synthetic Substitute, Percutaneous Endoscopic Approach | 02N94ZZ | Release Chordae Tendineae, Percutaneous Endoscopic Approach | 0JH836Z | Insertion of Pacemaker, Dual Chamber into Abdomen Subcutaneous Tissue and Fascia, Percutaneous Approach |
| 021L4KP | Bypass Left Ventricle to Pulmonary Trunk with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 02ND0ZZ | Release Papillary Muscle, Open Approach | 0JH837Z | Insertion of Cardiac Resynchronization Pacemaker Pulse Generator into Abdomen Subcutaneous Tissue and Fascia, Percutaneous Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|--|-------------|--|-------------|---|
| 021L4KQ | Bypass Left Ventricle to Right Pulmonary Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 02ND3ZZ | Release Papillary Muscle, Percutaneous Approach | 0JH838Z | Insertion of Defibrillator Generator into Abdomen Subcutaneous Tissue and Fascia, Percutaneous Approach |
| 021L4KR | Bypass Left Ventricle to Left Pulmonary Artery with Nonautologous Tissue Substitute, Percutaneous Endoscopic Approach | 02ND4ZZ | Release Papillary Muscle, Percutaneous Endoscopic Approach | 0JH839Z | Insertion of Cardiac Resynchronization Defibrillator Pulse Generator into Abdomen Subcutaneous Tissue and Fascia, Percutaneous Approach |
| 021L4Z5 | Bypass Left Ventricle to Coronary Circulation, Percutaneous Endoscopic Approach | 02NF0ZZ | Release Aortic Valve, Open Approach | 0JH83AZ | Insertion of Contractility Modulation Device into Abdomen Subcutaneous Tissue and Fascia, Percutaneous Approach |
| 021L4Z8 | Bypass Left Ventricle to Right Internal Mammary, Percutaneous Endoscopic Approach | 02NF3ZZ | Release Aortic Valve, Percutaneous Approach | 0JH83PZ | Insertion of Cardiac Rhythm Related Device into Abdomen Subcutaneous Tissue and Fascia, Percutaneous Approach |
| 021L4Z9 | Bypass Left Ventricle to Left Internal Mammary, Percutaneous Endoscopic Approach | 02NF4ZZ | Release Aortic Valve, Percutaneous Endoscopic Approach | 0JPT0PZ | Removal of Cardiac Rhythm Related Device from Trunk Subcutaneous Tissue and Fascia, Open Approach |
| 021L4ZC | Bypass Left Ventricle to Thoracic Artery, Percutaneous Endoscopic Approach | 02NG0ZZ | Release Mitral Valve, Open Approach | 0JPT3PZ | Removal of Cardiac Rhythm Related Device from Trunk Subcutaneous Tissue and Fascia, Percutaneous Approach |
| 021L4ZF | Bypass Left Ventricle to Abdominal Artery, Percutaneous Endoscopic Approach | 02NG3ZZ | Release Mitral Valve, Percutaneous Approach | 0JWT0PZ | Revision of Cardiac Rhythm Related Device in Trunk Subcutaneous Tissue and Fascia, Open Approach |
| 021L4ZP | Bypass Left Ventricle to Pulmonary Trunk, Percutaneous Endoscopic Approach | 02NG4ZZ | Release Mitral Valve, Percutaneous Endoscopic Approach | 0JWT3PZ | Revision of Cardiac Rhythm Related Device in Trunk Subcutaneous Tissue and Fascia, Percutaneous Approach |

(continued)

Appendix A-2: ICD-10 Cardiac Procedure Codes (continued)

| ICD-10 Code | Description | ICD-10 Code | Description | ICD-10 Code | Description |
|-------------|---|-------------|---|-------------|--|
| 021L4ZQ | Bypass Left Ventricle to Right Pulmonary Artery, Percutaneous Endoscopic Approach | 02NH0ZZ | Release Pulmonary Valve, Open Approach | 3E07017 | Introduction of Other Thrombolytic into Coronary Artery, Open Approach |
| 021L4ZR | Bypass Left Ventricle to Left Pulmonary Artery, Percutaneous Endoscopic Approach | 02NH3ZZ | Release Pulmonary Valve, Percutaneous Approach | 3E070PZ | Introduction of Platelet Inhibitor into Coronary Artery, Open Approach |
| 021L4ZW | Bypass Left Ventricle to Aorta, Percutaneous Endoscopic Approach | 02NH4ZZ | Release Pulmonary Valve, Percutaneous Endoscopic Approach | 3E07317 | Introduction of Other Thrombolytic into Coronary Artery, Percutaneous Approach |
| 02540ZZ | Destruction of Coronary Vein, Open Approach | 02NJ0ZZ | Release Tricuspid Valve, Open Approach | 3E073PZ | Introduction of Platelet Inhibitor into Coronary Artery, Percutaneous Approach |
| 02543ZZ | Destruction of Coronary Vein, Percutaneous Approach | 02NJ3ZZ | Release Tricuspid Valve, Percutaneous Approach | 5A02110 | Assistance with Cardiac Output using Balloon Pump, Intermittent |
| 02544ZZ | Destruction of Coronary Vein, Percutaneous Endoscopic Approach | 02NJ4ZZ | Release Tricuspid Valve, Percutaneous Endoscopic Approach | 5A02116 | Assistance with Cardiac Output using Other Pump, Intermittent |
| 02550ZZ | Destruction of Atrial Septum, Open Approach | 02NK0ZZ | Release Right Ventricle, Open Approach | 5A02210 | Assistance with Cardiac Output using Balloon Pump, Continuous |
| 02553ZZ | Destruction of Atrial Septum, Percutaneous Approach | 02NK3ZZ | Release Right Ventricle, Percutaneous Approach | 5A02216 | Assistance with Cardiac Output using Other Pump, Continuous |
| 02554ZZ | Destruction of Atrial Septum, Percutaneous Endoscopic Approach | 02NK4ZZ | Release Right Ventricle, Percutaneous Endoscopic Approach | 5A1213Z | Performance of Cardiac Pacing, Intermittent |
| 02560ZZ | Destruction of Right Atrium, Open Approach | 02NL0ZZ | Release Left Ventricle, Open Approach | 5A1223Z | Performance of Cardiac Pacing, Continuous |