

ICD9 code	LONG DESCRIPTION	Type of intervention	Comments	Current Status of Code	New List of Cardiac Codes	New List of Open Heart Surgery Codes	Notes
0050	Implantation of cardiac resynchronization pacemaker without mention of defibrillation, total system [CRT-P]	closed	pacemakers				
0051	Implantation of cardiac resynchronization defibrillator, total system [CRT-D]	closed	pacemakers				
0052	Implantation or replacement of transvenous lead [electrode] into left ventricular coronary venous system	closed	pacemakers				
0053	Implantation or replacement of cardiac resynchronization pacemaker pulse generator only [CRT-P]	closed	pacemakers				
0054	Implantation or replacement of cardiac resynchronization defibrillator pulse generator only [CRT-D]	closed	pacemakers				
0055	Insertion of drug-eluting stent(s) of other peripheral vessel(s)	closed					
0056	Insertion or replacement of implantable pressure sensor with lead for intracardiac or great vessel hemodynamic monitoring	closed	pacemakers				
0057	Implantation or replacement of subcutaneous device for intracardiac or great vessel hemodynamic monitoring	open					
0058	Insertion of intra-aneurysm sac pressure monitoring device (intraoperative)	open					
0059	Intravascular pressure measurement of coronary arteries	closed					
3500	Closed heart valvotomy, unspecified valve	closed	valve	yes	no		
3501	Closed heart valvotomy, aortic valve	closed	valvuloplasty	yes	no		
3502	Closed heart valvotomy, mitral valve	closed	valvuloplasty	yes	no		
3503	Closed heart valvotomy, pulmonary valve	closed	valve	yes	no		

ICD9 code	LONG DESCRIPTION	Type of intervention	Comments	Current Status of Code	New List of Cardiac Codes	New List of Open Heart Surgery Codes	Notes
3504	Closed heart valvotomy, tricuspid valve	closed	vavle	yes	no		
3505	Endovascular replacement of aortic valve	closed	TAVR	yes	yes	no	
3506	Transapical replacement of aortic valve	open	TAVR	yes	yes	no	
3507	Endovascular replacement of pulmonary valve	closed	valve	yes	yes	no	
3508	Transapical replacement of pulmonary valve	open	valve	yes	yes	no	
3509	Endovascular replacement of unspecified heart valve	closed	valve	yes	yes	no	
3510	Open heart valvuloplasty without replacement, unspecified valve	open	valve	yes	yes	yes	
3511	Open heart valvuloplasty of aortic valve without replacement	open	valve	yes	yes	yes	
3512	Open heart valvuloplasty of mitral valve without replacement	open	valve	yes	yes	yes	
3513	Open heart valvuloplasty of pulmonary valve without replacement	open	valve	yes	yes	yes	
3514	Open heart valvuloplasty of tricuspid valve without replacement	open	valve	yes	yes		
3520	Open and other replacement of unspecified heart valve	open	valve	yes	yes	yes	
3521	Open and other replacement of aortic valve with tissue graft	open	valve	yes	yes	yes	
3522	Open and other replacement of aortic valve	open	valve	yes	yes	yes	
3523	Open and other replacement of mitral valve with tissue graft	open	valve	yes	yes	yes	
3524	Open and other replacement of mitral valve	open	valve	yes	yes	yes	
3525	Open and other replacement of pulmonary valve with tissue graft	open	valve	yes	yes	yes	
3526	Open and other replacement of pulmonary valve	open	valve	yes	yes	yes	
3527	Open and other replacement of tricuspid valve with tissue graft	open	valve	yes	yes	yes	
3528	Open and other replacement of tricuspid valve	open	valve	yes	yes	yes	
3531	Operations on papillary muscle	open		yes	yes	yes	

ICD9 code	LONG DESCRIPTION	Type of intervention	Comments	Current Status of Code	New List of Cardiac Codes	New List of Open Heart Surgery Codes	Notes
3532	Operations on chordae tendineae	open		yes	yes	yes	
3533	Annuloplasty	open		yes	yes	yes	
3534	Infundibulectomy	open		yes	yes	yes	
3535	Operations on trabeculae carneae cordis	open		yes	yes	yes	
3539	Operations on other structures adjacent to valves of heart	open		yes	yes	yes	
3541	Enlargement of existing atrial septal defect	open	congenital/adult	yes	yes	yes	
3542	Creation of septal defect in heart	open	congenital/adult	yes	yes	yes	
3550	Repair of unspecified septal defect of heart with prosthesis	open	congenital/adult	yes	yes	yes	
3551	Repair of atrial septal defect with prosthesis, open technique	open	congenital/adult	yes	yes	yes	
3552	Repair of atrial septal defect with prosthesis, closed technique	closed	congenital/adult	no	no	no	
3553	Repair of ventricular septal defect with prosthesis, open technique	open	congenital/adult	yes	yes	yes	
3554	Repair of endocardial cushion defect with prosthesis	open	congenital/adult	yes	yes	yes	
3555	Repair of ventricular septal defect with prosthesis, closed technique	closed	congenital/adult	yes	no	no	
3560	Repair of unspecified septal defect of heart with tissue graft	open	congenital/adult	yes	yes	yes	
3561	Repair of atrial septal defect with tissue graft	open	congenital/adult	yes	yes	yes	
3562	Repair of ventricular septal defect with tissue graft	open	congenital/adult	yes	yes	yes	
3563	Repair of endocardial cushion defect with tissue graft	open	congenital/adult	yes	yes	yes	
3570	Other and unspecified repair of unspecified septal defect of heart	open	congenital/adult	yes	yes	yes	
3571	Other and unspecified repair of atrial septal defect	open	congenital/adult	yes	yes	yes	
3572	Other and unspecified repair of ventricular septal defect	open	congenital/adult	yes	yes	yes	
3573	Other and unspecified repair of endocardial cushion defect	open	congenital/adult	yes	yes	yes	
3581	Total repair of tetralogy of fallot	open	congenital/adult	yes	yes	yes	

ICD9 code	LONG DESCRIPTION	Type of intervention	Comments	Current Status of Code	New List of Cardiac Codes	New List of Open Heart Surgery Codes	Notes
3582	Total repair of total anomalous pulmonary venous connection	open	congenital	yes	yes	yes	
3583	Total repair of truncus arteriosus	open	congenital	yes	yes	yes	
3584	Total correction of transposition of great vessels, not elsewhere classified	open	congenital	yes	yes	yes	
3591	Interatrial transposition of venous return	open	congenital	yes	yes	yes	
3592	Creation of conduit between right ventricle and pulmonary artery	open	congenital	yes	yes	yes	
3593	Creation of conduit between left ventricle and aorta	open	congenital	yes	yes	yes	
3594	Creation of conduit between atrium and pulmonary artery	open	congenital	yes	yes	yes	
3595	Revision of corrective procedure on heart	open	congenital	yes	yes	yes	
3596	Percutaneous balloon valvuloplasty	closed	valve	no	no	no	
3597	Percutaneous mitral valve repair with implant	closed	valve	yes	yes	no	
3598	Other operations on septa of heart	open		yes	yes	yes	
3599	Other operations on valves of heart	open		yes	yes	yes	
3603	Open chest coronary artery angioplasty	open		yes	yes	yes	
3604	Intracoronary artery thrombolytic infusion	closed		no	no	no	
3606	Insertion of non-drug-eluting coronary artery stent(s)	closed		no	no	no	
3607	Insertion of drug-eluting coronary artery stent(s)	closed		no	no	no	
3609	Other removal of coronary artery obstruction	closed		no	no	no	
3610	Aortocoronary bypass for heart revascularization, not otherwise specified	open	CABG	yes	yes	yes	
3611	(Aorto)coronary bypass of one coronary artery	open	CABG	yes	yes	yes	
3612	(Aorto)coronary bypass of two coronary arteries	open	CABG	yes	yes	yes	
3613	(Aorto)coronary bypass of three coronary arteries	open	CABG	yes	yes	yes	
3614	(Aorto)coronary bypass of four or more coronary arteries	open	CABG	yes	yes	yes	

ICD9 code	LONG DESCRIPTION	Type of intervention	Comments	Current Status of Code	New List of Cardiac Codes	New List of Open Heart Surgery Codes	Notes
3615	Single internal mammary-coronary artery bypass	open	CABG	yes	yes	yes	
3616	Double internal mammary-coronary artery bypass	open	CABG	yes	yes	yes	
3617	Abdominal-coronary artery bypass	open	CABG	yes	yes	yes	
3619	Other bypass anastomosis for heart revascularization	open	CABG	yes	yes	yes	
362	Heart revascularization by arterial implant	open		no	no	no	
3631	Open chest transmyocardial revascularization	open		yes	yes	yes	
3632	Other transmyocardial revascularization	open		no	yes	yes	
3633	Endoscopic transmyocardial revascularization	closed		no	no	no	
3634	Percutaneous transmyocardial revascularization	closed		no	no	no	
3639	Other heart revascularization	open		no	yes	yes	
3691	Repair of aneurysm of coronary vessel	open		yes	yes	yes	
3699	Other operations on vessels of heart	open		yes	yes	yes	
370	Pericardiocentesis	closed		no	no	no	
3710	Incision of heart, not otherwise specified	open		yes	yes	yes	
3711	Cardiotomy	open		yes	yes	yes	
3712	Pericardiotomy	open/ thoracoscopic		no	no	no	
3720	Noninvasive programmed electrical stimulation [NIPS]	closed	diagnostic	no	no	no	
3721	Right heart cardiac catheterization	closed	diagnostic	no	no	no	
3722	Left heart cardiac catheterization	closed	diagnostic	no	no	no	
3723	Combined right and left heart cardiac catheterization	closed	diagnostic	no	no	no	
3724	Biopsy of pericardium	open	diagnostic	no	no	no	
3725	Biopsy of heart	open/closed	diagnostic	no	Discuss		
3726	Catheter based invasive electrophysiologic testing	closed	diagnostic	no	no		
3727	Cardiac mapping	closed	diagnostic	no	no		
3728	Intracardiac echocardiography	closed	diagnostic	no	no		
3729	Other diagnostic procedures on heart and pericardium	closed	diagnostic	no	no		

ICD9 code	LONG DESCRIPTION	Type of intervention	Comments	Current Status of Code	New List of Cardiac Codes	New List of Open Heart Surgery Codes	Notes
3731	Pericardiectomy	open		no	yes	yes	This code shows up at non-SOS hospitals across years 2012, 2013, & 2014, but there seems to be agreement that it's only appropriate at hospital with cardiac surgery.
3732	Excision of aneurysm of heart	open		yes	yes	yes	
3733	Excision or destruction of other lesion or tissue of heart, open approach	open		yes	yes	yes	
3734	Excision or destruction of other lesion or tissue of heart, endovascular approach	closed		no	no	no	
3735	Partial ventriculectomy	open		no	yes	yes	
3736	Excision, destruction, or exclusion of left atrial appendage (LAA)	closed		no	Discuss	no	
3737	Excision or destruction of other lesion or tissue of heart, thoracoscopic approach	open		yes	Discuss	Discuss	
3741	Implantation of prosthetic cardiac support device around the heart	open		no	yes	yes	
3749	Other repair of heart and pericardium	open		no	no	no	
3751	Heart transplantation	open		no	no	no	only at transplant centers
3752	Implantation of total internal biventricular heart replacement system	open		no	no	no	only at transplant centers
3753	Replacement or repair of thoracic unit of (total) replacement heart system	open		no	no	no	only at transplant centers
3754	Replacement or repair of other implantable component of (total) replacement heart system	open		no	no	no	only at transplant centers
3755	Removal of internal biventricular heart replacement system	open		no	no	no	only at transplant centers
3760	Implantation or insertion of biventricular external heart assist system	open		no	yes	yes	
3761	Implant of pulsation balloon	open		no	no	no	
3762	Insertion of temporary non-implantable extracorporeal circulatory assist device	open		no	no	no	
3763	Repair of heart assist system	open		no	no	no	only at transplant centers

ICD9 code	LONG DESCRIPTION	Type of intervention	Comments	Current Status of Code	New List of Cardiac Codes	New List of Open Heart Surgery Codes	Notes
3764	Removal of external heart assist system(s) or device(s)	open		no	yes	yes	
3765	Implant of single ventricular (extracorporeal) external heart assist system	open		no	yes	yes	
3766	Insertion of implantable heart assist system	open		no	yes	yes	
3767	Implantation of cardiomyostimulation system	open		no	yes	yes	
3768	Insertion of percutaneous external heart assist device	closed		no	no	no	
3770	Initial insertion of lead [electrode], not otherwise specified	closed	pacemakers	no	no	no	
3771	Initial insertion of transvenous lead [electrode] into ventricle	closed	pacemakers	no	no	no	
3772	Initial insertion of transvenous leads [electrodes] into atrium and ventricle	closed	pacemakers	no	no	no	
3773	Initial insertion of transvenous lead [electrode] into atrium	closed	pacemakers	no	no	no	
3774	Insertion or replacement of epicardial lead [electrode] into epicardium	open	pacemakers	no	no	no	
3775	Revision of lead [electrode]	open/closed	pacemakers	no	no	no	
3776	Replacement of transvenous atrial and/or ventricular lead(s) [electrode]	closed	pacemakers	no	no	no	
3777	Removal of lead(s) [electrode] without replacement	open	pacemakers	no	no	no	
3778	Insertion of temporary transvenous pacemaker system	open	pacemakers	no	no	no	
3779	Revision or relocation of cardiac device pocket		pacemakers	no	no	no	
3780	Insertion of permanent pacemaker, initial or replacement, type of device not specified		pacemakers	no	no	no	
3781	Initial insertion of single-chamber device, not specified as rate responsive	closed	pacemakers	no	no	no	
3782	Initial insertion of single-chamber device, rate responsive	closed	pacemakers	no	no	no	

ICD9 code	LONG DESCRIPTION	Type of intervention	Comments	Current Status of Code	New List of Cardiac Codes	New List of Open Heart Surgery Codes	Notes
3783	Initial insertion of dual-chamber device	closed	pacemakers	no	no	no	
3785	Replacement of any type pacemaker device with single-chamber device, not specified as rate responsive		pacemakers	no	no	no	
3786	Replacement of any type of pacemaker device with single-chamber device, rate responsive		pacemakers	no	no	no	
3787	Replacement of any type pacemaker device with dual-chamber device		pacemakers	no	no	no	
3789	Revision or removal of pacemaker device		pacemakers	no	no	no	
3790	Insertion of left atrial appendage device	closed/open		no	no	no	
3791	Open chest cardiac massage	open		no	no	no	
3792	Injection of therapeutic substance into heart	closed		no	no	no	
3793	Injection of therapeutic substance into pericardium	closed		no	no	no	
3794	Implantation or replacement of automatic cardioverter/defibrillator, total system [AICD]	open	pacemakers	no	no	no	
3795	Implantation of automatic cardioverter/defibrillator lead(s) only		pacemakers	no	no	no	
3796	Implantation of automatic cardioverter/defibrillator pulse generator only		pacemakers	no	no	no	
3797	Replacement of automatic cardioverter/defibrillator lead(s) only		pacemakers	no	no	no	
3798	Replacement of automatic cardioverter/defibrillator pulse generator only		pacemakers	no	no	no	
3799	Other operations on heart and pericardium	open/closed		no	no	no	
3804	Incision of vessel, aorta	open	aorta	no	no	no	
3805	Incision of vessel, other thoracic vessels	open	thoracic vessel	no	no	no	
3814	Endarterectomy, aorta	open	aorta	no	no	no	

ICD9 code	LONG DESCRIPTION	Type of intervention	Comments	Current Status of Code	New List of Cardiac Codes	New List of Open Heart Surgery Codes	Notes
3815	Endarterectomy, other thoracic vessels	open	thoracic vessel	no	no	no	
3834	Resection of vessel with anastomosis, aorta	open	aorta	no	no	no	
3835	Resection of vessel with anastomosis, other thoracic vessels	open	thoracic vessel	no	no	no	
3844	Resection of vessel with replacement, aorta, abdominal	open	aorta	no	no	no	
3845	Resection of vessel with replacement, thoracic vessels	open	thoracic vessel	no	no	no	
3864	Other excision of vessels, aorta, abdominal	open	aorta	no	no	no	
3865	Other excision of vessels, thoracic vessels	open	thoracic vessel	no	no	no	
387	Interruption of the vena cava	open/closed	vena cava	no	no	no	
3884	Other surgical occlusion of vessels, aorta, abdominal	open	aorta	no	no	no	
3885	Other surgical occlusion of vessels, thoracic vessels	open	thoracic vessel	no	no	no	
390	Systemic to pulmonary artery shunt	open	congenital	no	yes	yes	
3921	Caval-pulmonary artery anastomosis	open	congenital	no	yes	yes	
3922	Aorta-subclavian-carotid bypass	open	debranching	no	no	no	
3923	Other intrathoracic vascular shunt or bypass	open		no	no	no	
3930	Suture of unspecified blood vessel	open	injury or other	no	no	no	
3931	Suture of artery	open	injury or other	no	no	no	
3932	Suture of vein	open	injury or other	no	no	no	
3951	Clipping of aneurysm	open		no	no	no	
3952	Other repair of aneurysm	open		no	no	no	
3953	Repair of arteriovenous fistula	open		no	no	no	
3954	Re-entry operation (aorta)	open	aorta	no	no	no	
3956	Repair of blood vessel with tissue patch graft	open	injury or other	no	no	no	
3957	Repair of blood vessel with synthetic patch graft	open	injury or other	no	no	no	
3958	Repair of blood vessel with unspecified type of patch graft	open	injury or other	no	no	no	
3959	Other repair of vessel	open	injury or other	no	no	no	
3961	Extracorporeal circulation auxiliary to open heart surgery	open	ancillary heart	no	no	no	
3962	Hypothermia (systemic) incidental to open heart surgery	closed	ancillary heart	no	no	no	

ICD9 code	LONG DESCRIPTION	Type of intervention	Comments	Current Status of Code	New List of Cardiac Codes	New List of Open Heart Surgery Codes	Notes
3963	Cardioplegia	closed	ancillary heart	no	no	no	
3964	Intraoperative cardiac pacemaker	open	ancillary heart	no	no	no	
3965	Extracorporeal membrane oxygenation [ECMO]	open	ECMO	no	Discuss	no	
3966	Percutaneous cardiopulmonary bypass	closed	ancillary heart	no	no	no	
3971	Endovascular implantation of other graft in abdominal aorta	closed	aorta	no	no	no	
3973	Endovascular implantation of graft in thoracic aorta	closed	aorta	no	no	no	
3978	Endovascular implantation of branching or fenestrated graft(s) in aorta	closed	aorta	no	no	no	
3998	Control of hemorrhage, not otherwise specified	open	aorta	no	no	no	
3999	Other operations on vessels	open/closed		no	no	no	
7851	Internal fixation of bone without fracture reduction, scapula, clavicle, and thorax [ribs and sternum]	open	post open cardiac procedure	no	no	no	
8494	Insertion of sternal fixation device with rigid plates	open	post open cardiac procedure	no	no	no	