

# Iatrogenic Pneumothorax Rate

## Patient Safety Indicators #6

### Technical Specifications

#### Provider-Level Indicator

#### AHRQ Quality Indicators, Version 4.3, August 2011

Version 4.3a is a maintenance release of Version 4.3. The differences between the two versions are:

- Version 4.3a includes Version 29 of the Limited License edition of the 3M™ APR-DRG Grouper. This grouper corrects an issue found in Version 28 of the Limited License edition of the 3M™ APR-DRG Grouper. The grouper is only used with the Inpatient Quality Indicator (IQI) mortality measures. Version 4.3 includes Version 28 of the Limited License edition of the 3M™ APR-DRG Grouper, which was incorrectly assigning a Risk of Mortality (ROM) subclass for cases dated on or after 10/1/10.
- Version 4.3a allows users to calculate area-level indicators for years 2010 and 2011, correcting an issue previously identified in Version 4.3.

All other aspects of the software, including measure specifications, remain the same. Thus this document (related to Version 4.3) remains unchanged.

## Numerator

Discharges with ICD-9-CM code for iatrogenic pneumothorax in any secondary diagnosis field among cases meeting the inclusion and exclusion rules for the denominator.

#### ICD-9-CM Iatrogenic Pneumothorax diagnosis code:

5121 IATROGENIC PNEUMOTHORAX

## Denominator

All surgical and medical discharges age 18 years and older defined by specific DRGs or MS-DRGs.

See *Patient Safety Indicators Appendices*:

- Appendix B – Medical Discharge DRGs
- Appendix C – Medical Discharge MS-DRGs
- Appendix D – Surgical Discharge DRGs
- Appendix E – Surgical Discharge MS-DRGs

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Exclude cases:

- with principal diagnosis of iatrogenic pneumothorax or secondary diagnosis present on admission
- MDC 14 (pregnancy, childbirth, and puerperium)
- with any diagnosis code of chest trauma or pleural effusion
- with a code of diaphragmatic surgery repair in any procedure field
- with any code indicating thoracic procedure, lung or pleural biopsy, or cardiac procedure

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- with missing gender (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing) or principal diagnosis (DX1=missing)

**ICD-9-CM Chest trauma diagnosis codes:**

80700	FRACTURE RIB NOS-CLOSED	8621	DIAPHRAGM INJURY-OPEN
80701	FRACTURE ONE RIB-CLOSED	86221	BRONCHUS INJURY-CLOSED
80702	FRACTURE TWO RIBS-CLOSED	86222	ESOPHAGUS INJURY-CLOSED
80703	FRACTURE THREE RIBS-CLOSE	86229	INTRATHORACIC INJ NEC-CL
80704	FRACTURE FOUR RIBS-CLOSE	86231	BRONCHUS INJURY-OPEN
80705	FRACTURE FIVE RIBS-CLOSE	86232	ESOPHAGUS INJURY-OPEN
80706	FRACTURE SIX RIBS-CLOSED	86239	INTRATHORAC INJ NEC-OPEN
80707	FRACTURE SEVEN RIBS-CLOSE	8628	INTRATHORACIC INJ NOS-CL
80708	FX EIGHT/MORE RIB-CLOSED	8629	INTRATHORAC INJ NOS-OPEN
80709	FX MULT RIBS NOS-CLOSED	8750	OPEN WOUND OF CHEST
80710	FRACTURE RIB NOS-OPEN	8751	OPEN WOUND CHEST-COMPL
80711	FRACTURE ONE RIB-OPEN	8760	OPEN WOUND OF BACK
80712	FRACTURE TWO RIBS-OPEN	8761	OPEN WOUND BACK-COMPL
80713	FRACTURE THREE RIBS-OPEN	9010	INJURY THORACIC AORTA
80714	FRACTURE FOUR RIBS-OPEN	9011	INJ INNOMIN/SUBCLAV ART
80715	FRACTURE FIVE RIBS-OPEN	9012	INJ SUPERIOR VENA CAVA
80716	FRACTURE SIX RIBS-OPEN	9013	INJ INNOMIN/SUBCLAV VEIN
80717	FRACTURE SEVEN RIBS-OPEN	90140	INJ PULMONARY VESSEL NOS
80718	FX EIGHT/MORE RIBS-OPEN	90141	INJURY PULMONARY ARTERY
80719	FX MULT RIBS NOS-OPEN	90142	INJURY PULMONARY VEIN
8072	FRACTURE OF STERNUM-CLOSE	90181	INJ INTERCOSTAL ART/VEIN
8073	FRACTURE OF STERNUM-OPEN	90182	INJ INT MAMMARY ART/VEIN
8074	FLAIL CHEST	90183	INJ MULT THORACIC VESSEL
8075	FX LARYNX/TRACHEA-CLOSED	90189	INJ THORACIC VESSEL NEC
8076	FX LARYNX/TRACHEA-OPEN	9019	INJ THORACIC VESSEL NOS
8090	FRACTURE TRUNK BONE-CLOSE	9110	ABRASION TRUNK
8091	FRACTURE TRUNK BONE-OPEN	9111	ABRASION TRUNK-INFECTED
8600	TRAUM PNEUMOTHORAX-CLOSE	9118	SUPERFIC INJU TRUNK NEC
8601	TRAUM PNEUMOTHORAX-OPEN	9119	SUPERFIC INJU TRUNK NEC-INF
8602	TRAUM HEMOTHORAX-CLOSED	9220	CONTUSION OF BREAST
8603	TRAUM HEMOTHORAX-OPEN	9221	CONTUSION OF CHEST WALL
8604	TRAUM PNEUMOHMOTHOR-CL	9223	BACK CONTUSION
8605	TRAUM PNEUMOHMOTHOR-OPN	92231	BACK CONTUSION
86100	HEART INJURY NOS-CLOSED	92233	INTERSCPLR REG CONTUSION
86101	HEART CONTUSION-CLOSED	9228	MULIPLE CONTUSION TRUNK
86102	HEART LACERATION-CLOSED	9229	CONTUSION OF TRUNK
86103	HEART CHAMBER LACERAT-CL	92611	CRUSHING INJURY BACK
86110	HEART INJURY NOS-OPEN	92619	CRUSHING INJ TRUNK NEC
86111	HEART CONTUSION-OPEN	9268	MULT CRUSHING INJ TRUNK
86112	HEART LACERATION-OPEN	9269	CRUSHING INJ TRUNK NOS
86113	HEART CHAMBER LACER-OPN	9290	CRUSH INJ MULT SITE NEC
86120	LUNG INJURY NOS-CLOSED	9299	CRUSHING INJURY NOS
86121	LUNG CONTUSION-CLOSED	9541	INJ SYMPA NERVE NEC
86122	LUNG LACERATION-CLOSED	9548	INJURY TRUNK NERVE NEC
86130	LUNG INJURY NOS-OPEN	9549	INJURY TRUNK NERVE NOS
86131	LUNG CONTUSION-OPEN	95911	INJURY OF CHEST WALL NEC
86132	LUNG LACERATION-OPEN	95919	TRUNK INJURY-SITES NEC
8620	DIAPHRAGM INJURY-CLOSED	9599	INJURY-SITE NOS

**ICD-9-CM Pleural effusion diagnosis codes:**

0101	TUBERCULOUS PLEURISY IN PRIMARY PROGRESSIVE TUBERCULOSIS	01012	TPIPPT, BACTERIAL OR HISTOLOGICAL EXAM UNKNOWN
01010	TUBERCULOUS PLEURISY IN PRIMARY PROGRESSIVE TUBERCULOSIS, UNSPECIFIED	01013	TPIPPT, TUBERCLE BACILI FOUND BY MICROSCOPY
01011	TPIPPT, BACTERIAL OR HISTOLOGICAL EXAM NOT DONE	01014	TPIPPT, TUBERCLE BACILI NOT FOUND BY MICROSCOPY BUT BY BACTERIAL CULTURE

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01015	TPIPPT, TUBERCLE BACILI NOT FOUND BY BACTERIOLOGICAL BUT CONFIRMED HISTOLOGICALLY	01201	TP, BACTERIAL OR HISTOLOGICAL EXAM NOT DONE
01016	TPIPPT, TUBERCLE BACILI NOT FOUND BY BACTERIOLOGICAL OR HISTOLOGICAL BUT CONFIRMED OTHER METHODS	01202	TP, BACTERIAL OR HISTOLOGICAL EXAM UNKNOWN
0117	TUBRCULOUS PNEUMOTHORAX	01203	TP, TUBERCLE BACILI FOUND BY MICROSCOPY
01170	TUBRCULOUS PNEUMOTHORAX, UNSPECIFIED	01204	TP, TUBERCLE BACILI NOT FOUND BY MICROSCOPY BUT BY BACTERIAL CULTURE
01171	TPNEU, BACTERIAL OR HISTOLOGICAL EXAM NOT DONE	01205	TP, TUBERCLE BACILI NOT FOUND BY BACTERIOLOGICAL BUT CONFIRMED HISTOLOGICALLY
01172	TPNEU, BACTERIAL OR HISTOLOGICAL EXAM UNKNOWN	01206	TP, TUBERCLE BACILI NOT FOUND BY BACTERIOLOGICAL OR HISTOLOGICAL BUT CONFIRMED OTHER METHODS
01173	TPNEU, TUBERCLE BACILI FOUND BY MICROSCOPY	1972	SECOND MALIG NEO PLEURA
01174	TPNEU, TUBERCLE BACILI NOT FOUND BY MICROSCOPY BUT BY BACTERIAL CULTURE	5111	WITH EFUSION, WITH MENTION OF A BACTERIAL CAUSE OTHER THAN TUBERCULOSIS
01175	TPNEU, TUBERCLE BACILI NOT FOUND BY BACTERIOLOGICAL BUT CONFIRMED HISTOLOGICALLY	5118	OTHER SPECIFIED FORM OF EFFUSION, EXCEPT TUBERCULOUS
01176	TPENU, TUBERCLE BACILI NOT FOUND BY BACTERIOLOGICAL OR HISTOLOGICAL BUT CONFIRMED OTHER METHODS	51181	MALIGNANT PLEURAL EFFUSION (OCT08)
0120	TUBERCULOUS PLEURISY	51189	OTHER SPECIFIED FORMS OF EFFUSION, EXCEPT TUBERCULOSIS (OCT08)
01200	TUBERCULOUS PLEURISY, UNSPECIFIED	5119	UNSPECIFIED PLEURAL EFFUSION

**ICD9-CM Diaphragmatic surgery repair codes:**

537	ABD REPAIR-DIAPHR HERNIA	5380	THOR REP-DIAPH HERN NOS
5371	LAPAROSCOPIC REPAIR OF DIAPHRAGMATIC HERNIA, ABDOMINAL APPROACH (OCT08)	5381	DIAPHRAGMATIC PPLICATION
5372	OTHER AND OPEN REPAIR OF DIAPHRAGMATIC HERNIA, ABDOMINAL APPROACH (OCT08)	5382	PARASTERN HERNIA REPAIR
5375	REPAIR OF DIAPHRAGMATIC HERNIA, ABDOMINAL APPROACH, NOS (OCT08)	5583	LAPAROSCOPIC REPAIR OF DIAPHRAGMATIC HERNIA, WITH THORACIC APPROACH (OCT08)
		5584	OTHER AND OPEN REPAIR OF DIAPHRAGMATIC HERNIA, WITH THORACIC APPROACH (OCT08)

**ICD-9-CM Thoracic surgery procedure codes:**

0522	SYMPATHECTOMY CERVICAL	3179	OTHER REPAIR AND PLASTIC OPERATIONS ON TRACHEA
0523	SYMPATHECTOMY LUMBAR	3199	OTHER OPERATIONS ON TRACHEA
0529	OTHER SYMPATHECTOMY AND GANGLIONECTOMY	3209	OTHER LOCAL EXCISION OR DESTRUCTION OF LESION OR TISSUE OF BRONCHUS
0780	THYMECTOMY, NOT OTHERWISE SPECIFIED	321	OTHER EXCISION OF BRONCHUS
0781	OTHER PARTIAL EXCISION OF THYMUS	3220	THORAC EXC LUNG LESION
0782	OTHER TOTAL EXCISION OF THYMUS	<hr/> Local excision or destruction of lesion or tissue of lung <hr/>	
0783	THORACOSCOPIC PARTIAL EXCISION OF THYMUS	3221	PPLICATION OF EMPHYSEMATIOUS BLEB
0784	THORACOSCOPIC TOTAL EXCISION OF THYMUS	3222	LUNG VOLUME REDUCTION SURGERY
3121	MEDIASTINAL TRACHEOSTOMY	3223	OPEN ABLTN LUNG LES/TISS (OCT06)
3145	OPEN BIOPSY OF LARYNX OR TRACHEA	3224	PERC ABLTN LUNG LES/TISS (OCT06)
3173	CLOSURE OF OTHER FISTULA OF TRACHEA	3225	THOR ABLTN LUNG LES/TISS (OCT06)

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3226	ABLTN LUNG TISS NEC/NOS (OCT06)	3333	PNEUMOPERITONEUM FOR COLLAPSE OF LUNG
3227	BRNC THRMPLSTY, ABLT MSCL	3401	INCISION OF CHEST WALL
3228	ENDOSCOPIC EXCISION OR DESTRUCTION OF LESION OR TISSUE OF LUNG	3402	EXPLORATORY THORACOTOMY
		3403	REOPENING OF RECENT THORACOTOMY SITE
3229	OTHER LOCAL EXCISION OR DESTRUCTION OF LESION OR TISSUE OF LUNG	3405	CREATION OF PLEUROPERITONEAL SHUNT
323	SEGMENTAL RESECTION OF LUNG	3409	OTHER INCISION OF PLEURA
3230	THORAC SEG LUNG RESECT	341	INCISION OF MEDIASTINUM
3239	OTH SEG LUNG RESECT NOS	Diagnostic procedures on chest wall, pleura, mediastinum, and diaphragm	
324	LOBECTOMY OF LUNG	3420	THORACOSCOPIC PLEURAL BX
3241	THORAC LOBECTOMY LUNG	3421	TRANSPLEURAL THORACOSOCOPY
3249	OTHER LOBECTOMY OF LUNG	3422	MEDIASTINOSCOPY
325	COMPLETE PNEUMONECTOMY	3423	BIOPSY OF CHEST WALL
3250	THORACOSPC PNEUMONECTOMY	3425	CLOSED [PERCUTANEOUS][NEEDLE] BIOPSY OF MEDIASTINUM
3259	OTHER PNEUMONECTOMY NOS		
326	RADICAL DISSECTION OF THORACIC STRUCTURES	3426	OPEN BIOPSY OF MEDIASTINUM
329	OTHER EXCISION OF LUNG	3427	BIOPSY OF DIAPHRAGM
330	INCISION OF BRONCHUS	3428	OTHER DIAGNOSTIC PROCEDURES ON CHEST WALL, PLEURA, AND DIAPHRAGM
331	INCISION OF LUNG		
3320	THORACOSCOPC LUNG BIOPSY		
3325	OPEN BIOPSY OF BRONCHUS	3429	OTHER DIAGNOSTIC PROCEDURES ON MEDIASTINUM
3327	CLOSED ENDOSCOPIC BIOPSY OF LUNG	343	EXCISION OR DESTRUCTION OF LESION OR TISSUE OF MEDIASTINUM
3331	DESTRUCTION OF PHRENIC NERVE FOR COLLAPSE OF LUNG (NO LONGER PERFORMED)	344	EXCISION OR DESTRUCTION OF LESION OF CHEST WALL
3332	ARTIFICIAL PNEUMOTHORAX FOR COLLAPSE OF LUNG	3451	DECORTICATION OF LUNG
3334	THORACOPLASTY	3452	THORACOSCOPC DECORT LUNG
3339	OTHER SURGICAL COLLAPSE OF LUNG	3459	OTHER EXCISION OF PLEURA
Repair and plastic operation on lung and bronchus		Repair of chest wall	
3341	SUTURE OF LACERATION OF BRONCHUS	3471	SUTURE OF LACERATION OF CHEST WALL
3342	CLOSURE OF BRONCHIAL FISTULA	3472	CLOSURE OF THORACOSTOMY
3343	CLOSURE OF LACERATION OF LUNG	3473	CLOSURE OF OTHER FISTULA OF THORAX
3348	OTHER REPAIR AND PLASTIC OPERATIONS ON BRONCHUS	3474	REPAIR OF PECTUS DEFORMITY
3349	OTHER REPAIR AND PLASTIC OPERATIONS ON LUNG	3479	OTHER REPAIR OF CHEST WALL
Lung transplant		Operations on diaphragm	
335	LUNG TRANSPLANTATION	3481	EXCISION OF LESION OR TISSUE OF DIAPHRAGM
3350	LUNG TRANSPLANTATION, NOS	3482	SUTURE OF LACERATION OF DIAPHRAGM
3351	UNILATERAL LUNG TRANSPLANTATION	3483	CLOSURE OF FISTULA OF DIAPHRAGM
3352	BILATERAL LUNG TRANSPLANTATION	3484	OTHER REPAIR OF DIAPHRAGM
336	COMBINED HEART-LUNG TRANSPLANTATION	3485	IMPLANTATION OF DIAPHRAGMATIC PACEMAKER
3392	LIGATION OF BRONCHUS	3489	OTHER OPERATIONS ON DIAPHRAGM
3393	PUNCTURE OF LUNG	3493	REPAIR OF PLEURA
3398	OTHER OPERATIONS ON BRONCHUS	3499	OTHER OPERATIONS ON THORAX, OTHER
3399	OTHER OPERATIONS ON LUNG	Operations on thoracic duct	
3329	OTHER DIAGNOSTIC PROCEDURE ON LUNG AND BRONCHUS	4061	CANNULATION OF THORACIC DUCT
		4062	FISTULIZATION OF THORACIC DUCT

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4063	CLOSURE OF FISTULA OF THORACIC DUCT	4262	ANTESTERNAL
4064	LIGATION OF THORACIC DUCT	4263	ESOPHAGOGASTROSTOMY
4069	OTHER OPERATIONS ON THORACIC DUCT		ANTESTERNAL ESOPHAGEAL ANASTOMOSIS W/ INTERPOSITION OF SMALL BOWEL
<u>Esophagotomy</u>		4264	OTHER ANTESTERNAL
4201	INCISION OF ESOPHAGEAL WEB		ESOPHAGOENTEROSTOMY
4209	OTHER INCISION OF ESOPHAGUS	4265	ANTESTERNAL ESOPHAGEAL ANASTOMOSIS W/ INTERPOSITION OF COLON
4210	ESOPHAGOSTOMY, NOS		
4211	CERVICAL ESOPHAGOSTOMY		
4212	EXTERIORIZATION OF ESOPHAGEAL POUCH	4266	OTHER ANTESTERNAL
4219	OTHER EXTERNAL FISTULIZATION OF ESOPHAGUS	4268	ESOPHAGOCOLOSTOMY
4221	OPERATIVE ESOPHAGOSCOPY BY INCISION		OTHER ANTESTERNAL
4225	OPEN BIOPSY OF ESOPHAGUS	4269	ESOPHAGEAL ANASTOMOSIS W/ INTERPOSITION
4231	LOCAL EXCISION OF ESOPHAGEAL DIVERTICULUM		OTHER ANTESTERNAL
4232	LOCAL EXCISION OF OTHER LESION OR TISSUE OF ESOPHAGUS		ANASTOMOSIS OF ESOPHAGUS
<u>Excision of esophagus</u>		<u>Other repair of esophagus</u>	
4239	OTHER DESTRUCTION OF LESION OR TISSUE OF ESOPHAGUS	427	ESOPHAGOMYOTOMY
4240	ESOPHAGECTOMY, NOS	4281	INSERTION OF PERMANENT TUBE INTO ESOPHAGUS
4241	PARTIAL ESOPHAGECTOMY	4282	SUTURE OF LACERATION OF ESOPHAGUS
4242	TOTAL ESOPHAGECTOMY	4283	CLOSURE OF ESOPHAGOSTOMY
<u>Intrathoracic anastomosis of esophagus</u>		4284	REPAIR OF ESOPHAGEAL FISTULA, NEC
4251	INTRATHORACIC ESOPHAGOESOPHAGOSTOMY	4285	REPAIR OF ESOPHAGEAL STRICTURE
4252	INTRATHORACIC ESOPHAGOGASTROSTOMY	4286	PRODUCTION OF SUBCUTANEOUS TUNNEL W/O ESOPHAGEAL ANASTOMOSIS
4253	INTRATHORACIC ESOPHAGEAL ANASTOMOSIS W/ INTERPOSITION OF SMALL BOWEL	4287	OTHER GRAFT OF ESOPHAGUS
4254	OTHER INTRATHORACIC ESOPHAGOENTEROSTOMY	4289	OTHER REPAIR OF ESOPHAGUS
4255	INTRATHORACIC ESOPHAGEAL ANASTOMOSIS W/ INTERPOSITION OF COLON	435	PROXIMAL GASTRECTOMY
4256	OTHER INTRATHORACIC ESOPHAGOCOLOSTOMY	4399	TOTAL GASTRECTOMY NEC
4258	INTRATHORACIC ESOPHAGEAL ANASTOMOSIS W/ OTHER INTERPOSITION	4465	ESOPHAGOGASTROPLASTY
4259	OTHER INTRATHORACIC ANASTOMOSIS OF ESOPHAGUS	4466	OTHER PROCEDURES FOR CREATION OF ESOPHAGOGASTRIC SPHINCTERIC COMPETENCE
<u>Antesternal anastomosis</u>		4467	LAP CREAT ESOPH SPHINCT
4261	ANTESTERNAL ESOPHAGOESOPHAGOSTOMY	7781	OTH CHEST CAGE OSTEOTOMY
		7791	TOT CHEST CAGE OSTEOTOMY
		8104	DORSAL AND DORSO-LUMBAR FUSION, ANTERIOR TECHNIQUE
		8134	REFUSION OF DORSAL AND DORSOLUMBAR SPINE, ANTERIOR TECHNIQUE
<b>ICD-9-CM Lung or pleural biopsy procedure codes:</b>			
3326	CLOSED [PERCUTANEOUS] [NEEDLE] BIOPSY OF LUNG	3328	OPEN BIOPSY OF LUNG
		3424	PLEURAL BIOPSY
<b>ICD9-CM Cardiac procedure codes:</b>			
3510	OPEN HEART VALVULOPLASTY WITHOUT REPLACEMENT, UNSPECIFIED VALVE	3511	OPEN HEART VALVULOPLASTY OF AORTIC VALVE WITHOUT REPLACEMENT

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3512	OPEN HEART VALVULOPLASTY OF MITRAL VALVE WITHOUT REPLACEMENT	3581	TOTAL REPAIR OF TETRALOGY OF FALLOT
3513	OPEN HEART VALVULOPLASTY OF PULMONARY VALVE WITHOUT REPLACEMENT	3582	TOTAL REPAIR OF TOTAL ANOMALOUS PULMONARY VENOUS CONNECTION
3514	OPEN HEART VALVULOPLASTY OF TRICUSPID VALVE WITHOUT REPLACEMENT	3583	TOTAL REPAIR OF TRUNCUS ARTERIOSUS
3520	REPLACEMENT OF UNSPECIFIED HEART VALVE	3584	TOTAL CORRECTION OF TRANSPOSITION OF GREAT VESSELS, NOT ELSEWHERE CLASSIFIED
3521	REPLACEMENT OF AORTIC VALVE WITH TISSUE GRAFT	3591	INTERATRIAL TRANSPOSITION OF VENOUS RETURN
3522	OTHER REPLACEMENT OF AORTIC VALVE	3592	CREATION OF CONDUIT BETWEEN RIGHT VENTRICLE AND PULMONARY ARTERY
3523	REPLACEMENT OF MITRAL VALVE WITH TISSUE GRAFT	3593	CREATION OF CONDUIT BETWEEN LEFT VENTRICLE AND AORTA
3524	OTHER REPLACEMENT OF MITRAL VALVE	3594	CREATION OF CONDUIT BETWEEN ATRIUM AND PULMONARY ARTERY
3525	REPLACEMENT OF PULMONARY VALVE WITH TISSUE GRAFT	3595	REVISION OF CORRECTIVE PROCEDURE ON HEART
3526	OTHER REPLACEMENT OF PULMONARY VALVE	3597	PERC MTRL VLV REPR W IMP
3527	REPLACEMENT OF TRICUSPID VALVE WITH TISSUE GRAFT	3598	OTHER OPERATIONS ON SEPTA OF HEART
3528	OTHER REPLACEMENT OF TRICUSPID VALVE	3599	OTHER OPERATIONS ON VALVES OF HEART
3531	OPERATIONS ON PAPILLARY MUSCLE	3603	OPEN CHEST CORONARY ARTERY ANGIOPLASTY
3532	OPERATIONS ON CHORDAE TENDINEAE	3610	AORTOCORONARY BYPASS FOR HEART REVASCULARIZATION, NOT OTHERWISE SPECIFIED
3533	ANNULOPLASTY	3611	(AORTO)CORONARY BYPASS OF ONE CORONARY ARTERY
3534	INFUNDIBULECTOMY	3612	(AORTO)CORONARY BYPASS OF TWO CORONARY ARTERIES
3535	OPERATIONS ON TRABECULAE CARNEAE CORDIS	3613	(AORTO)CORONARY BYPASS OF THREE CORONARY ARTERIES
3539	OPERATIONS ON OTHER STRUCTURES ADJACENT TO VALVES OF HEART	3614	(AORTO)CORONARY BYPASS OF FOUR OR MORE CORONARY ARTERIES
3550	REPAIR OF UNSPECIFIED SEPTAL DEFECT OF HEART WITH PROSTHESIS	3615	SINGLE INTERNAL MAMMARY-CORONARY ARTERY BYPASS
3551	REPAIR OF ATRIAL SEPTAL DEFECT WITH PROSTHESIS, OPEN TECHNIQUE	3616	DOUBLE INTERNAL MAMMARY-CORONARY ARTERY BYPASS
3553	REPAIR OF VENTRICULAR SEPTAL DEFECT WITH PROSTHESIS, OPEN TECHNIQUE	3617	ABDOMINAL -CORONARY ARTERY BYPASS
3554	REPAIR OF ENDOCARDIAL CUSHION DEFECT WITH PROSTHESIS	3619	OTHER BYPASS ANASTOMOSIS FOR HEART REVASCULARIZATION
3560	REPAIR OF UNSPECIFIED SEPTAL DEFECT OF HEART WITH TISSUE GRAFT	362	HEART REVASCULARIZATION BY ARTERIAL IMPLANT
3561	REPAIR OF ATRIAL SEPTAL DEFECT WITH TISSUE GRAFT	3631	OPEN CHEST TRANSMYOCARDIAL REVASCULARIZATION
3562	REPAIR OF VENTRICULAR SEPTAL DEFECT WITH TISSUE GRAFT	3632	OTHER TRANSMYOCARDIAL REVASCULARIZATION
3563	REPAIR OF ENDOCARDIAL CUSHION DEFECT WITH TISSUE GRAFT	3639	OTHER HEART REVASCULARIZATION
3570	OTHER AND UNSPECIFIED REPAIR OF UNSPECIFIED SEPTAL DEFECT OF HEART	3691	REPAIR OF ANEURYSM OF CORONARY VESSEL
3571	OTHER AND UNSPECIFIED REPAIR OF ATRIAL SEPTAL DEFECT	3699	OTHER OPERATIONS ON VESSELS OF HEART
3572	OTHER AND UNSPECIFIED REPAIR OF VENTRICULAR SEPTAL DEFECT	370	PERICARDIOCENTESIS
3573	OTHER AND UNSPECIFIED REPAIR OF ENDOCARDIAL CUSHION DEFECT	3710	INCISION OF HEART, NOT OTHERWISE SPECIFIED
		3711	CARDIOTOMY

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3712	PERICARDIOTOMY	3762	INSERTION OF NON-IMPLANTABLE HEART ASSIST SYSTEM
3731	PERICARDIECTOMY	3763	REPAIR OF HEART ASSIST SYSTEM
3732	EXCISION OF ANEURYSM OF HEART	3764	REMOVAL OF HEART ASSIST SYSTEM
3733	EXCISION OR DESTRUCTION OF OTHER LESION OR TISSUE OF HEART, OPEN APPROACH	3765	IMPLANT OF EXTERNAL HEART ASSIST SYSTEM
3735	PARTIAL VENTRICULECTOMY	3766	INSERTION OF IMPLANTABLE HEART ASSIST SYSTEM
3736	EXCISION OR DESTRUCTION OF LEFT ATRIAL APPENDAGE (LAA) (OCT08)	3767	IMPLANTATION OF CARDIOMYOSTIMULATION SYSTEM
3737	EXC/DEST HRT LES, THRSPC	3791	OPEN CHEST CARDIAC MASSAGE
3741	IMPLANTATION OF PROSTHETIC CARDIAC SUPPORT DEVICE AROUND THE HEART	3804	INCISION OF VESSEL, AORTA
3749	OTHER REPAIR OF HEART AND PERICARDIUM	3805	INCISION OF VESSEL, OTHER THORACIC
3751	HEART TRANSPLANTATION	3844	RESECTION OF ABDOMINAL AORTA WITH GRAFT REPLACEMENT
3752	IMPLANTATION OF TOTAL REPLACEMENT HEART SYSTEM	3845	RESECTION OF THORACIC VESSEL WITH GRAFT REPLACEMENT
3753	REPLACEMENT OF REPAIR OF THORACIC UNIT OF TOTAL REPLACEMENT HEART SYSTEM	3864	EXCISION OF LESION OF AORTA
3754	REPLACEMENT OR REPAIR OF OTHER IMPLANTABLE COMPONENT OF TOTAL REPLACEMENT HEART SYSTEM	3865	EXCISION OF LESION OTHER THORACIC VESSEL
3755	REMOVAL OF INTERNAL BIVENTRICULAR HEART REPLACEMENT SYSTEM (OCT08)	3884	LIGATION , DIVISION OF AORTA
3760	IMPLANTATION OR INSERTION OF BIVENTRICULAR EXTERNAL HEART ASSIST SYSTEM (OCT08)	3885	LIGATION, DIVISION OF OTHER THORACIC VESSELS
3761	IMPLANT OF PULSATION BALLOON	390	SYSTEMIC TO PULMONARY ARTERY SHUNT
		3921	CAVAL-PULMONARY ARTERY ANASTOMOSIS
		3922	AORTA-SUBCLAVIAN-CAROTID BYPASS
		3923	OTHER INTRATHORACIC VASCULAR SHUNT OR BYPASS