

Iatrogenic Pneumothorax Rate

Patient Safety Indicators #6

Technical Specifications

Provider-Level Indicator

AHRQ Quality Indicators, Version 4.3, August 2011

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

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
- 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	80713	FRACTURE THREE RIBS-OPEN
80701	FRACTURE ONE RIB-CLOSED	80714	FRACTURE FOUR RIBS-OPEN
80702	FRACTURE TWO RIBS-CLOSED	80715	FRACTURE FIVE RIBS-OPEN
80703	FRACTURE THREE RIBS-CLOS	80716	FRACTURE SIX RIBS-OPEN
80704	FRACTURE FOUR RIBS-CLOSE	80717	FRACTURE SEVEN RIBS-OPEN
80705	FRACTURE FIVE RIBS-CLOSE	80718	FX EIGHT/MORE RIBS-OPEN
80706	FRACTURE SIX RIBS-CLOSED	80719	FX MULT RIBS NOS-OPEN
80707	FRACTURE SEVEN RIBS-CLOS	8072	FRACTURE OF STERNUM-CLOS
80708	FX EIGHT/MORE RIB-CLOSED	8073	FRACTURE OF STERNUM-OPEN
80709	FX MULT RIBS NOS-CLOSED	8074	FLAIL CHEST
80710	FRACTURE RIB NOS-OPEN	8075	FX LARYNX/TRACHEA-CLOSED
80711	FRACTURE ONE RIB-OPEN	8076	FX LARYNX/TRACHEA-OPEN
80712	FRACTURE TWO RIBS-OPEN	8090	FRACTURE TRUNK BONE-CLOS

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8091	FRACTURE TRUNK BONE-OPEN	9010	INJURY THORACIC AORTA
8600	TRAUM PNEUMOTHORAX-CLOSE	9011	INJ INNOMIN/SUBCLAV ART
8601	TRAUM PNEUMOTHORAX-OPEN	9012	INJ SUPERIOR VENA CAVA
8602	TRAUM HEMOTHORAX-CLOSED	9013	INJ INNOMIN/SUBCLAV VEIN
8603	TRAUM HEMOTHORAX-OPEN	90140	INJ PULMONARY VESSEL NOS
8604	TRAUM PNEUMOHEMOTHOR-CL	90141	INJURY PULMONARY ARTERY
8605	TRAUM PNEUMOHEMOTHOR-OPN	90142	INJURY PULMONARY VEIN
86100	HEART INJURY NOS-CLOSED	90181	INJ INTERCOSTAL ART/VEIN
86101	HEART CONTUSION-CLOSED	90182	INJ INT MAMMARY ART/VEIN
86102	HEART LACERATION-CLOSED	90183	INJ MULT THORACIC VESSEL
86103	HEART CHAMBER LACERAT-CL	90189	INJ THORACIC VESSEL NEC
86110	HEART INJURY NOS-OPEN	9019	INJ THORACIC VESSEL NOS
86111	HEART CONTUSION-OPEN	9110	ABRASION TRUNK
86112	HEART LACERATION-OPEN	9111	ABRASION TRUNK-INFECTED
86113	HEART CHAMBER LACER-OPN	9118	SUPERFIC INJU TRUNK NEC
86120	LUNG INJURY NOS-CLOSED	9119	SUPERFIC INJU TRUNK NEC-INF
86121	LUNG CONTUSION-CLOSED	9220	CONTUSION OF BREAST
86122	LUNG LACERATION-CLOSED	9221	CONTUSION OF CHEST WALL
86130	LUNG INJURY NOS-OPEN	9223	BACK CONTUSION
86131	LUNG CONTUSION-OPEN	92231	BACK CONTUSION
86132	LUNG LACERATION-OPEN	92233	INTERSCPLR REG CONTUSION
8620	DIAPHRAGM INJURY-CLOSED	9228	MULIPLE CONTUSION TRUNK
8621	DIAPHRAGM INJURY-OPEN	9229	CONTUSION OF TRUNK
86221	BRONCHUS INJURY-CLOSED	92611	CRUSHING INJURY BACK
86222	ESOPHAGUS INJURY-CLOSED	92619	CRUSHING INJ TRUNK NEC
86229	INTRATHORACIC INJ NEC-CL	9268	MULT CRUSHING INJ TRUNK
86231	BRONCHUS INJURY-OPEN	9269	CRUSHING INJ TRUNK NOS
86232	ESOPHAGUS INJURY-OPEN	9290	CRUSH INJ MULT SITE NEC
86239	INTRATHORAC INJ NEC-OPEN	9299	CRUSHING INJURY NOS
8628	INTRATHORACIC INJ NOS-CL	9541	INJ SYMPA NERVE NEC
8629	INTRATHORAC INJ NOS-OPEN	9548	INJURY TRUNK NERVE NEC
8750	OPEN WOUND OF CHEST	9549	INJURY TRUNK NERVE NOS
8751	OPEN WOUND CHEST-COMPL	95911	INJURY OF CHEST WALL NEC
8760	OPEN WOUND OF BACK	95919	TRUNK INJURY-SITES NEC
8761	OPEN WOUND BACK-COMPL	9599	INJURY-SITE NOS

ICD-9-CM Pleural effusion diagnosis codes:

0101	TUBERCULOUS PLEURISY IN PRIMARY PROGRESSIVE TUBERCULOSIS	01171	TPNEU, BACTERIAL OR HISTOLOGICAL EXAM NOT DONE
01010	TUBERCULOUS PLEURISY IN PRIMARY PROGRESSIVE TUBERCULOSIS, UNSPECIFIED	01172	TPNEU, BACTERIAL OR HISTOLOGICAL EXAM UNKNOWN
01011	TPIPPT, BACTERIAL OR HISTOLOGICAL EXAM NOT DONE	01173	TPNEU, TUBERCLE BACILI FOUND BY MICROSCOPY
01012	TPIPPT, BACTERIAL OR HISTOLOGICAL EXAM UNKNOWN	01174	TPNEU, TUBERCLE BACILI NOT FOUND BY MICROSCOPY BUT BY BACTERIAL CULTURE
01013	TPIPPT, TUBERCLE BACILI FOUND BY MICROSCOPY	01175	TPNEU, TUBERCLE BACILI NOT FOUND BY BACTERIOLOGICAL BUT CONFIRMED HISTOLOGICALLY
01014	TPIPPT, TUBERCLE BACILI NOT FOUND BY MICROSCOPY BUT BY BACTERIAL CULTURE	01176	TPENU, TUBERCLE BACILI NOT FOUND BY BACTERIOLOGICAL OR HISTOLOGICAL BUT CONFIRMED OTHER METHODS
01015	TPIPPT, TUBERCLE BACILI NOT FOUND BY BACTERIOLOGICAL BUT CONFIRMED HISTOLOGICALLY	0120	TUBERCULOUS PLEURISY
01016	TPIPPT, TUBERCLE BACILI NOT FOUND BY BACTERIOLOGICAL OR HISTOLOGICAL BUT CONFIRMED OTHER METHODS	01200	TUBERCULOUS PLEURISY, UNSPECIFIED
0117	TUBRCULOUS PNEUMOTHORAX	01201	TP, BACTERIAL OR HISTOLOGICAL EXAM NOT DONE
01170	TUBRCULOUS PNEUMOTHORAX, UNSPECIFIED	01202	TP, BACTERIAL OR HISTOLOGICAL EXAM UNKNOWN

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01203	TP, TUBERCLE BACILI FOUND BY MICROSCOPY	5111	WITH EFUSION, WITH MENTION OF A BACTERIAL CAUSE OTHER THAN TUBERCULOSIS
01204	TP, TUBERCLE BACILI NOT FOUND BY MICROSCOPY BUT BY BACTERIAL CULTURE	5118	OTHER SPECIFIED FORM OF EFFUSION, EXCEPT TUBERCULOUS
01205	TP, TUBERCLE BACILI NOT FOUND BY BACTERIOLOGICAL BUT CONFIRMED HISTOLOGICALLY	51181	MALIGNANT PLEURAL EFFUSION (OCT08)
01206	TP, TUBERCLE BACILI NOT FOUND BY BACTERIOLOGICAL OR HISTOLOGICAL BUT CONFIRMED OTHER METHODS	51189	OTHER SPECIFIED FORMS OF EFFUSION, EXCEPT TUBERCULOSIS (OCT08)
1972	SECOND MALIG NEO PLEURA	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
		5382	PARASTERN HERNIA REPAIR
5372	OTHER AND OPEN REPAIR OF DIAPHRAGMATIC HERNIA, ABDOMINAL APPROACH (OCT08)	5583	LAPAROSCOPIC REPAIR OF DIAPHRAGMATIC HERNIA, WITH THORACIC APPROACH (OCT08)
5375	REPAIR OF DIAPHRAGMATIC HERNIA, ABDOMINAL APPROACH, NOS (OCT08)	5584	OTHER AND OPEN REPAIR OF DIAPHRAGMATIC HERNIA, WITH THORACIC APPROACH (OCT08)

ICD-9-CM Thoracic surgery procedure codes:

0522	SYMPATHECTOMY CERVICAL	3225	THOR ABLTN LUNG LES/TISS (OCT06)
0523	SYMPATHECTOMY LUMBAR		
0529	OTHER SYMPATHECTOMY AND GANGLIONECTOMY	3226	ABLTN LUNG TISS NEC/NOS (OCT06)
0780	THYMECTOMY, NOT OTHERWISE SPECIFIED	3227	BRNC THRMPLSTY, ABLT MSCL
0781	OTHER PARTIAL EXCISION OF THYMUS	3228	ENDOSCOPIC EXCISION OR DESTRUCTION OF LESION OR TISSUE OF LUNG
0782	OTHER TOTAL EXCISION OF THYMUS	3229	OTHER LOCAL EXCISION OR DESTRUCTION OF LESION OR TISSUE OF LUNG
0783	THORACOSCOPIC PARTIAL EXCISION OF THYMUS	323	SEGMENTAL RESECTION OF LUNG
0784	THORACOSCOPIC TOTAL EXCISION OF THYMUS	3230	THORAC SEG LUNG RESECT
		3239	OTH SEG LUNG RESECT NOS
3121	MEDIASTINAL TRACHEOSTOMY	324	LOBECTOMY OF LUNG
3145	OPEN BIOPSY OF LARYNX OR TRACHEA	3241	THORAC LOBECTOMY LUNG
		3249	OTHER LOBECTOMY OF LUNG
3173	CLOSURE OF OTHER FISTULA OF TRACHEA	325	COMPLETE PNEUMONECTOMY
		3250	THORACOSPC PNEUMONECTOMY
3179	OTHER REPAIR AND PLASTIC OPERATIONS ON TRACHEA	3259	OTHER PNEUMONECTOMY NOS
		326	RADICAL DISSECTION OF THORACIC STRUCTURES
3199	OTHER OPERATIONS ON TRACHEA	329	OTHER EXCISION OF LUNG
3209	OTHER LOCAL EXCISION OR DESTRUCTION OF LESION OR TISSUE OF BRONCHUS	330	INCISION OF BRONCHUS
		331	INCISION OF LUNG
321	OTHER EXCISION OF BRONCHUS	3320	THORACOSCOPC LUNG BIOPSY
3220	THORAC EXC LUNG LESION	3325	OPEN BIOPSY OF BRONCHUS
		3327	CLOSED ENDOSCOPIC BIOPSY OF LUNG
<hr/>			
	Local excision or destruction of lesion or tissue of lung		
3221	PLICATION OF EMPHYSEMATIOUS BLEB	3331	DESTRUCTION OF PHRENIC NERVE FOR COLLAPSE OF LUNG (NO LONGER PERFORMED)
3222	LUNG VOLUME REDUCTION SURGERY		
3223	OPEN ABLTN LUNG LES/TISS (OCT06)	3332	ARTIFICIAL PNEUMOTHORAX FOR COLLAPSE OF LUNG
3224	PERC ABLTN LUNG LES/TISS (OCT06)	3334	THORACOPLASTY
		3339	OTHER SURGICAL COLLAPSE OF LUNG

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<hr/> Repair and plastic operation on lung and bronchus <hr/>		3471	SUTURE OF LACERATION OF CHEST WALL
3341	SUTURE OF LACERATION OF BRONCHUS	3472	CLOSURE OF THORACOSTOMY
3342	CLOSURE OF BRONCHIAL FISTULA	3473	CLOSURE OF OTHER FISTULA OF THORAX
3343	CLOSURE OF LACERATION OF LUNG	3474	REPAIR OF PECTUS DEFORMITY
3348	OTHER REPAIR AND PLASTIC OPERATIONS ON BRONCHUS	3479	OTHER REPAIR OF CHEST WALL
3349	OTHER REPAIR AND PLASTIC OPERATIONS ON LUNG	<hr/> Operations on diaphragm <hr/>	
<hr/> Lung transplant <hr/>		3481	EXCISION OF LESION OR TISSUE OF DIAPHRAGM
335	LUNG TRANSPLANTATION	3482	SUTURE OF LACERATION OF DIAPHRAGM
3350	LUNG TRANSPLANTATION, NOS	3483	CLOSURE OF FISTULA OF DIAPHRAGM
3351	UNILATERAL LUNG TRANSPLANTATION	3484	OTHER REPAIR OF DIAPHRAGM
3352	BILATERAL LUNG TRANSPLANTATION	3485	IMPLANTATION OF DIAPHRAGMATIC PACEMAKER
336	COMBINED HEART-LUNG TRANSPLANTATION	3489	OTHER OPERATIONS ON DIAPHRAGM
3392	LIGATION OF BRONCHUS	3493	REPAIR OF PLEURA
3393	PUNCTURE OF LUNG	3499	OTHER OPERATIONS ON THORAX, OTHER
3398	OTHER OPERATIONS ON BRONCHUS	<hr/> Operations on thoracic duct <hr/>	
3399	OTHER OPERATIONS ON LUNG	4061	CANNULATION OF THORACIC DUCT
3329	OTHER DIAGNOSTIC PROCEDURE ON LUNG AND BRONCHUS	4062	FISTULIZATION OF THORACIC DUCT
3333	PNEUMOPERITONEUM FOR COLLAPSE OF LUNG	4063	CLOSURE OF FISTULA OF THORACIC DUCT
3401	INCISION OF CHEST WALL	4064	LIGATION OF THORACIC DUCT
3402	EXPLORATORY THORACOTOMY	4069	OTHER OPERATIONS ON THORACIC DUCT
3403	REOPENING OF RECENT THORACOTOMY SITE	<hr/> Esophagotomy <hr/>	
3405	CREATION OF PLEUROPERITONEAL SHUNT	4201	INCISION OF ESOPHAGEAL WEB
3409	OTHER INCISION OF PLEURA	4209	OTHER INCISION OF ESOPHAGUS
341	INCISION OF MEDIASTINUM	4210	ESOPHAGOSTOMY, NOS
<hr/> Diagnostic procedures on chest wall, pleura, mediastinum, and diaphragm <hr/>		4211	CERVICAL ESOPHAGOSTOMY
3420	THORACOSCOPIC PLEURAL BX	4212	EXTERIORIZATION OF ESOPHAGEAL POUCH
3421	TRANSPLEURAL THORACOSCOPY	4219	OTHER EXTERNAL FISTULIZATION OF ESOPHAGUS
3422	MEDIASTINOSCOPY	4221	OPERATIVE ESOPHAGOSCOPY BY INCISION
3423	BIOPSY OF CHEST WALL	4225	OPEN BIOPSY OF ESOPHAGUS
3425	CLOSED [PERCUTANEOUS][NEEDLE] BIOPSY OF MEDIASTINUM	4231	LOCAL EXCISION OF ESOPHAGEAL DIVERTICULUM
3426	OPEN BIOPSY OF MEDIASTINUM	4232	LOCAL EXCISION OF OTHER LESION OR TISSUE OF ESOPHAGUS
3427	BIOPSY OF DIAPHRAGM	<hr/> Excision of esophagus <hr/>	
3428	OTHER DIAGNOSTIC PROCEDURES ON CHEST WALL, PLEURA, AND DIAPHRAGM	4239	OTHER DESTRUCTION OF LESION OR TISSUE OF ESOPHAGUS
3429	OTHER DIAGNOSTIC PROCEDURES ON MEDIASTINUM	4240	ESOPHAGECTOMY, NOS
343	EXCISION OR DESTRUCTION OF LESION OR TISSUE OF MEDIASTINUM	4241	PARTIAL ESOPHAGECTOMY
344	EXCISION OR DESTRUCTION OF LESION OF CHEST WALL	4242	TOTAL ESOPHAGECTOMY
3451	DECORTICATION OF LUNG	<hr/> Intrathoracic anastomosis of exophagus <hr/>	
3452	THORACOSCOPIC DECORT LUNG	4251	INTRATHORACIC ESOPHAGOESOPHAGOSTOMY
3459	OTHER EXCISION OF PLEURA	4252	INTRATHORACIC ESOPHAGOGASTROSTOMY
<hr/> Repair of chest wall <hr/>		4253	INTRATHORACIC ESOPHAGEAL ANASTOMOSIS W/ INTERPOSITION OF SMALL BOWEL

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		<u>Other repair of esophagus</u>	
4254	OTHER INTRATHORACIC ESOPHAGOENTEROSTOMY	427	ESOPHAGOMYOTOMY
4255	INTRATHORACIC ESOPHAGEAL ANASTOMOSIS W/ INTERPOSITION OF COLON	4281	INSERTION OF PERMANENT TUBE INTO ESOPHAGUS
4256	OTHER INTRATHORACIC ESOPHAGOCOLOSTOMY	4282	SUTURE OF LACERATION OF ESOPHAGUS
4258	INTRATHORACIC ESOPHAGEAL ANASTOMOSIS W/ OTHER INTERPOSITION	4283	CLOSURE OF ESOPHAGOSTOMY
4259	OTHER INTRATHORACIC ANASTOMOSIS OF ESOPHAGUS	4284	REPAIR OF ESOPHAGEAL FISTULA, NEC
	<u>Antesternal anastomosis</u>	4285	REPAIR OF ESOPHAGEAL STRICTURE
4261	ANTESTERNAL ESOPHAGUESOPHAGOSTOMY	4286	PRODUCTION OF SUBCUTANEOUS TUNNEL W/O ESOPHAGEAL ANASTOMOSIS
4262	ANTESTERNAL ESOPHAGOGASTROSTOMY	4287	OTHER GRAFT OF ESOPHAGUS
4263	ANTESTERNAL ESOPHAGEAL ANASTOMOSIS W/ INTERPOSITION OF SMALL BOWEL	4289	OTHER REPAIR OF ESOPHAGUS
4264	OTHER ANTESTERNAL ESOPHAGOENTEROSTOMY	435	PROXIMAL GASTRECTOMY
4265	ANTESTERNAL ESOPHAGEAL ANASTOMOSIS W/ INTERPOSITION OF COLON	4399	TOTAL GASTRECTOMY NEC
4266	OTHER ANTESTERNAL ESOPHAGOCOLOSTOMY	4465	ESOPHAGOGASTROPLASTY
4268	OTHER ANTESTERNAL ESOPHAGEAL ANASTOMOSIS W/ INTERPOSITION	4466	OTHER PROCEDURES FOR CREATION OF ESOPHAGOGASTRIC SPHINCTERIC COMPETENCE
4269	OTHER ANTESTERNAL ANASTOMOSIS OF ESOPHAGUS	4467	LAP CREAT ESOPH SPHINCT
		7781	OTH CHEST CAGE OSTECTOMY
		7791	TOT CHEST CAGE OSTECTOMY
		8104	DORSAL AND DORSO-LUMBAR FUSION, ANTERIOR TECHNIQUE
		8134	REFUSION OF DORSAL AND DORSOLUMBAR SPINE, ANTERIOR TECHNIQUE

ICD-9-CM Lung or pleural biopsy procedure codes:

3326	CLOSED [PERCUTANEOUS] [NEEDLE] BIOPSY OF LUNG	3328	OPEN BIOPSY OF LUNG
		3424	PLEURAL BIOPSY

ICD9-CM Cardiac procedure codes:

3510	OPEN HEART VALVULOPLASTY WITHOUT REPLACEMENT, UNSPECIFIED VALVE	3524	OTHER REPLACEMENT OF MITRAL VALVE
3511	OPEN HEART VALVULOPLASTY OF AORTIC VALVE WITHOUT REPLACEMENT	3525	REPLACEMENT OF PULMONARY VALVE WITH TISSUE GRAFT
3512	OPEN HEART VALVULOPLASTY OF MITRAL VALVE WITHOUT REPLACEMENT	3526	OTHER REPLACEMENT OF PULMONARY VALVE
3513	OPEN HEART VALVULOPLASTY OF PULMONARY VALVE WITHOUT REPLACEMENT	3527	REPLACEMENT OF TRICUSPID VALVE WITH TISSUE GRAFT
3514	OPEN HEART VALVULOPLASTY OF TRICUSPID VALVE WITHOUT REPLACEMENT	3528	OTHER REPLACEMENT OF TRICUSPID VALVE
3520	REPLACEMENT OF UNSPECIFIED HEART VALVE	3531	OPERATIONS ON PAPILLARY MUSCLE
3521	REPLACEMENT OF AORTIC VALVE WITH TISSUE GRAFT	3532	OPERATIONS ON CHORDAE TENDINEAE
3522	OTHER REPLACEMENT OF AORTIC VALVE	3533	ANNULOPLASTY
3523	REPLACEMENT OF MITRAL VALVE WITH TISSUE GRAFT	3534	INFUNDIBULECTOMY
		3535	OPERATIONS ON TRABECULAE CARNEAE CORDIS
		3539	OPERATIONS ON OTHER STRUCTURES ADJACENT TO VALVES OF HEART
		3550	REPAIR OF UNSPECIFIED SEPTAL DEFECT OF HEART WITH PROSTHESIS
		3551	REPAIR OF ATRIAL SEPTAL DEFECT WITH PROSTHESIS, OPEN TECHNIQUE

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3553	REPAIR OF VENTRICULAR SEPTAL DEFECT WITH PROSTHESIS, OPEN TECHNIQUE	3615	SINGLE INTERNAL MAMMARY-CORONARY ARTERY BYPASS
3554	REPAIR OF ENDOCARDIAL CUSHION DEFECT WITH PROSTHESIS	3616	DOUBLE INTERNAL MAMMARY-CORONARY ARTERY BYPASS
3560	REPAIR OF UNSPECIFIED SEPTAL DEFECT OF HEART WITH TISSUE GRAFT	3617	ABDOMINAL -CORONARY ARTERY BYPASS
3561	REPAIR OF ATRIAL SEPTAL DEFECT WITH TISSUE GRAFT	3619	OTHER BYPASS ANASTOMOSIS FOR HEART REVASCULARIZATION
3562	REPAIR OF VENTRICULAR SEPTAL DEFECT WITH TISSUE GRAFT	362	HEART REVASCULARIZATION BY ARTERIAL IMPLANT
3563	REPAIR OF ENDOCARDIAL CUSHION DEFECT WITH TISSUE GRAFT	3631	OPEN CHEST TRANSMYOCARDIAL REVASCULARIZATION
3570	OTHER AND UNSPECIFIED REPAIR OF UNSPECIFIED SEPTAL DEFECT OF HEART	3632	OTHER TRANSMYOCARDIAL REVASCULARIZATION
3571	OTHER AND UNSPECIFIED REPAIR OF ATRIAL SEPTAL DEFECT	3639	OTHER HEART REVASCULARIZATION
3572	OTHER AND UNSPECIFIED REPAIR OF VENTRICULAR SEPTAL DEFECT	3691	REPAIR OF ANEURYSM OF CORONARY VESSEL
3573	OTHER AND UNSPECIFIED REPAIR OF ENDOCARDIAL CUSHION DEFECT	3699	OTHER OPERATIONS ON VESSELS OF HEART
3581	TOTAL REPAIR OF TETRALOGY OF FALLOT	370	PERICARDIOCENTESIS
3582	TOTAL REPAIR OF TOTAL ANOMALOUS PULMONARY VENOUS CONNECTION	3710	INCISION OF HEART, NOT OTHERWISE SPECIFIED
3583	TOTAL REPAIR OF TRUNCUS ARTERIOSUS	3711	CARDIOTOMY
3584	TOTAL CORRECTION OF TRANSPOSITION OF GREAT VESSELS, NOT ELSEWHERE CLASSIFIED	3712	PERICARDIOTOMY
3591	INTERATRIAL TRANSPOSITION OF VENOUS RETURN	3731	PERICARDIECTOMY
3592	CREATION OF CONDUIT BETWEEN RIGHT VENTRICLE AND PULMONARY ARTERY	3732	EXCISION OF ANEURYSM OF HEART
3593	CREATION OF CONDUIT BETWEEN LEFT VENTRICLE AND AORTA	3733	EXCISION OR DESTRUCTION OF OTHER LESION OR TISSUE OF HEART, OPEN APPROACH
3594	CREATION OF CONDUIT BETWEEN ATRIUM AND PULMONARY ARTERY	3735	PARTIAL VENTRICULECTOMY
3595	REVISION OF CORRECTIVE PROCEDURE ON HEART	3736	EXCISION OR DESTRUCTION OF LEFT ATRIAL APPENDAGE (LAA) (OCT08)
3597	PERC MTRL VLV REPR W IMP	3737	EXC/DEST HRT LES, THRSPC
3598	OTHER OPERATIONS ON SEPTA OF HEART	3741	IMPLANTATION OF PROSTHETIC CARDIAC SUPPORT DEVICE AROUND THE HEART
3599	OTHER OPERATIONS ON VALVES OF HEART	3749	OTHER REPAIR OF HEART AND PERICARDIUM
3603	OPEN CHEST CORONARY ARTERY ANGIOPLASTY	3751	HEART TRANSPLANTATION
3610	AORTOCORONARY BYPASS FOR HEART REVASCULARIZATION, NOT OTHERWISE SPECIFIED	3752	IMPLANTATION OF TOTAL REPLACEMENT HEART SYSTEM
3611	(AORTO)CORONARY BYPASS OF ONE CORONARY ARTERY	3753	REPLACEMENT OF REPAIR OF THORACIC UNIT OF TOTAL REPLACEMENT HEART SYSTEM
3612	(AORTO)CORONARY BYPASS OF TWO CORONARY ARTERIES	3754	REPLACEMENT OR REPAIR OF OTHER IMPLANTABLE COMPONENT OF TOTAL REPLACEMENT HEART SYSTEM
3613	(AORTO)CORONARY BYPASS OF THREE CORONARY ARTERIES	3755	REMOVAL OF INTERNAL BIVENTRICULAR HEART REPLACEMENT SYSTEM (OCT08)
3614	(AORTO)CORONARY BYPASS OF FOUR OR MORE CORONARY ARTERIES	3760	IMPLANTATION OR INSERTION OF BIVENTRICULAR EXTERNAL HEART ASSIST SYSTEM (OCT08)
		3761	IMPLANT OF PULSATION BALLOON
		3762	INSERTION OF NON-IMPLANTABLE HEART ASSIST SYSTEM
		3763	REPAIR OF HEART ASSIST SYSTEM
		3764	REMOVAL OF HEART ASSIST SYSTEM
		3765	IMPLANT OF EXTERNAL HEART ASSIST SYSTEM

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3766	INSERTION OF IMPLANTABLE HEART ASSIST SYSTEM	3865	EXCISION OF LESION OTHER THORACIC VESSEL
3767	IMPLANTATION OF CARDIOMYOSTIMULATION SYSTEM	3884	LIGATION , DIVISION OF AORTA
3791	OPEN CHEST CARDIAC MASSAGE	3885	LIGATION, DIVISION OF OTHER THORACIC VESSELS
3804	INCISION OF VESSEL, AORTA	390	SYSTEMIC TO PULMONARY ARTERY SHUNT
3805	INCISION OF VESSEL, OTHER THORACIC	3921	CAVAL-PULMONARY ARTERY ANASTOMOSIS
3844	RESECTION OF ABDOMINAL AORTA WITH GRAFT REPLACEMENT	3922	AORTA-SUBCLAVIAN-CAROTID BYPASS
3845	RESECTION OF THORACIC VESSEL WITH GRAFT REPLACEMENT	3923	OTHER INTRATHORACIC VASCULAR SHUNT OR BYPASS
3864	EXCISION OF LESION OF AORTA		