

# Iatrogenic Pneumothorax Rate

## Patient Safety Indicators #6

### Technical Specifications

#### Provider-Level Indicator

AHRQ Quality Indicators, Version 4.4, March 2012

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

\* Only for cases that otherwise qualify for the numerator

**ICD-9-CM Chest trauma diagnosis codes<sup>1</sup>:**

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-CLOS	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-CLOS	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-CLOS	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-CLOS	9110	ABRASION TRUNK
8091	FRACTURE TRUNK BONE-OPEN	9111	ABRASION TRUNK-INFECTED
8600	TRAUM PNEUMOTHORAX-CLOSE	9118	SUPERFIC INJ TRUNK NEC
8601	TRAUM PNEUMOTHORAX-OPEN	9119	SUPERFIC INJ TRUNK NEC-INF
8602	TRAUM HEMOTHORAX-CLOSED	9220	CONTUSION OF BREAST
8603	TRAUM HEMOTHORAX-OPEN	9221	CONTUSION OF CHEST WALL
8604	TRAUM PNEUMOHEMOTHOR-CL	9223	<i>BACK CONTUSION</i>
8605	TRAUM PNEUMOHEMOTHOR-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 TRUNK NOS
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 SYMPATH 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

<sup>1</sup> Italicized codes are not active in the current fiscal year.

**ICD-9-CM Pleural effusion diagnosis codes<sup>1</sup>:**

0101	<i>TUBERCULOUS PLEURISY IN PRIMARY PROGRESSIVE TUBERCULOSIS</i>	01010	PRIM TB-PLEURISY-UNSPEC
		01011	PRIM TB PLEURISY-NO EXAM
		01012	PRIM TB PLEUR-EXAM UNKN

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01013	PRIM TB PLEURIS-MICRO DX	01201	TB PLEURISY-NO EXAM
01014	PRIM TB PLEURIS-CULT DX	01202	TB PLEURISY-EXAM UNKN
01015	PRIM TB PLEURIS-HISTO DX	01203	TB PLEURISY-MICRO DX
01016	PRIM TB PLEURIS-OTH TEST	01204	TB PLEURISY-CULT DX
<i>0117</i>	<i>TUBERCULOUS PNEUMOTHORAX</i>	01205	TB PLEURISY-HISTOLOG DX
01170	TB PNEUMOTHORAX-UNSPEC	01206	TB PLEURISY-OTH TEST
01171	TB PNEUMONOTHORAX-NO EXAM	1972	SECOND MALIG NEO PLEURA
01172	TB PNEIMOTHORX-EXAM UNKN	5111	BACT PLEUR/EFFUS NOT TB
01173	TB PNEUMOTHORAX-MICRO DX	<i>5118</i>	<i>OTHER SPECIFIED FORM OF EFFUSION, EXCEPT TUBERCULOUS</i>
01174	TB PNEUMOTHORAX-CULT DX	51181	MALIGNANT PLEURAL EFFUSN
01175	TB PNEUMOTHORAX-HISTO DX	51189	EFFUSION NEX EXC TB
01176	TB PNEUMOTHORAX-OTH TEST	5119	PLEURAL EFFUSION NOS
<i>0120</i>	<i>TUBERCULOUS PLEURISY</i>		
01200	TB PLEURISY-UNSPEC		

<sup>1</sup> Italicized codes are not active in the current fiscal year.

**ICD-9-CM Diaphragmatic surgery repair codes<sup>1</sup>:**

537	<i>ABD REPAIR-DIAPHR HERNIA</i>	5381	DIAPHRAGMATIC PLICATION
5371	LAP ABD REP-DIAPHR HERN	5382	PARASTERN HERNIA REPAIR
5372	OPN ABD DIAPHRM HERN NEC	5383	LAP THORC APP-DIAPH HERN
5375	ABD REP-DIAPHR HERN NOS	5384	OPN THORC DIAPH HERN NEC
5380	THOR REP-DIAPH HERN NOS		

<sup>1</sup> Italicized codes are not active in the current fiscal year.

**ICD-9-CM Thoracic surgery procedure codes<sup>1</sup>:**

0522	CERVICAL SYMPATHECTOMY	3241	THORAC LOBECTOMY LUNG
0523	LUMBAR SYMPATHECTOMY	3249	LOBECTOMY OF LUNG NEC
0529	OTHER SYMPATHECTOMY	325	COMPLETE PNEUMONECTOMY
0780	THYMECTOMY NOS	3250	THORACOSPC PNEUMONECTOMY
0781	OTH PART EXCISION THYMUS	3259	OTHER PNEUMONECTOMY NOS
0782	OTH TOTL EXCISION THYMUS	326	RAD DISSEC THORAC STRUCT
0783	THORAC PART EXISN THYMUS	329	OTHER EXCISION OF LUNG
0784	THORAC TOTAL EXC THYMUS	330	INCISION OF BRONCHUS
3121	MEDIASTINAL TRACHEOSTOMY	331	INCISION OF LUNG
3145	OPN BX LARYNX OR TRACHEA	3320	THORACOSCOPC LUNG BIOPSY
3173	TRACHEA FISTULA CLOS NEC	3325	OPEN BRONCHIAL BIOPSY
3179	OTHER TRACHEAL REPAIR	3327	CLOS ENDOSCOPIC LUNG BX
3199	OTHER TRACHEAL OPERATION	3329	BRONCH/LUNG DX PROC NEC
3209	OTHER DESTRUC BRONC LES	3331	DESTR PHREN-LUNG COLLAPS
321	OTHER BRONCHIAL EXCISION	3332	PHEMOTHORAX-LUNG COLLAPS
3220	THORAC EXC LUNG LESION	3333	PNEUMOPERIT-LUNG COLLAPS
<hr/>		3334	THORACOPLASTY
Local excision or destruction of lesion or tissue of lung		3339	SURG COLLAPS OF LUNG NEC
<hr/>		<hr/>	
3221	EMPHYSEMA BLEB PLICATION	Repair and plastic operation on lung and bronchus	
3222	LUNG VOL REDUCTION SURG	<hr/>	
3223	OPEN ABLTN LUN LES/TISS	3341	BRONCHIAL LACERAT SUTURE
3224	PERC ABLTN LUNG LES/TISS	3342	BRONCHIAL FISTULA CLOS
3225	THOR ABLTN LUNG LES/TISS	3343	LUNG LACERATION CLOSURE
3226	ABLTN LUNG TISS NEC/NOS	3348	BRONCHIAL REPAIR NEC
3227	BRNC THRMPNSTY,ABLT MSCL	3349	LUNG REPAIR NEC
3228	ENDOSC DESTRUC LUNG LES	<hr/>	
3229	DESTROY LOC LUNG LES NEC	Lung transplant	
323	<i>SEGMENTAL RESECTION OF LUNG</i>	335	<i>LUNG TRANSPLANTATION</i>
3230	THORAC SEG LUNG RESECT	3350	LUNG TRANSPLANT NOS
3239	OTH SEG LUNG RESECT NOS	3351	UNILAT LUNG TRANSPLANT
324	<i>LOBECTOMY OF LUNG</i>	3352	BILAT LUNG TRANSPLANT
		336	COMB HEART/LUNG TRANSPLA

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3392	BRONCHIAL LIGATION	4210	ESOPHAGOSTOMY NOS
3393	PUNCTURE OF LUNG	4211	CERVICAL ESOPHAGOSTOMY
3398	BRONCHIAL OPERATION NEC	4212	ESOPH POUCH EXTERIORIZAT
3399	LUNG OPERATION NEC	4219	EXT FISTULIZAT ESOPH NEC
3401	INCISION OF CHEST WALL	4221	ESOPHAGOSCOPY BY INCIS
3402	EXPLORATORY THORACOTOMY	4225	OPEN BIOPSY OF ESOPHAGUS
3403	REOPEN THORACOTOMY SITE	4231	LOC EXCIS ESOPH DIVERTIC
3405	PIEUOPERITONEAL SHUNT	4232	LOCAL EXCIS ESOPHAG NEC
3409	OTHER PLEURAL INCISION		
341	INCISION OF MEDIASTINUM		
Diagnostic procedures on chest wall, pleura, mediastinum, and diaphragm		Excision of esophagus	
3420	THORACOSCOPIC PLEURAL BX	4239	DESTRUCT DESOPHAG LES NEC
3421	TRANSPLEURA THORACOSCOPY	4240	ESOPHAGECTOMY NOS
3422	MEDIASTINOSCOPY	4241	PARTIAL ESOPHAGECTOMY
3423	CHEST WALL BIOPSY	4242	TOTAL ESOPHAGECTOMY
3425	CLOS MEDIASTINAL BIOPSY	Intrathoracic anastomosis of exophagus	
3426	OPEM MEDIASTINAL BIOPSY	4251	THORAC ESOPHGOESOPHAGOS
3427	BIOPSY OF DIAPHRAGM	4252	THORAC ESOPHAGOGASTROST
3428	DX PROCEDURE THORAX NEC	4253	THORAC SM BOWEL INTERPOS
3429	DX PROC MEDIASTINUM NEC	4254	THORAC ESOPHAGOENTER NEC
343	DESTRUCT MEDIASTIN LES	4255	THORAC LG BOWEL INTERPOS
344	DESTRUCT CHEST WALL LES	4256	THORAC ESOPHAGOCOLOS NEC
3451	DECORTICATION OF LUNG	4258	THORAC INTERPOSITION NEC
3452	THORACOSCOPC DECORT LUNG	4259	THORAC ESOPHAG ANAST NEC
3459	OTHER PLEURAL EXCISION	Antesternal anastomosis	
Repair of chest wall		4261	STERN ESOPHAGUESOPHAGOST
3471	SUTURE CHEST WALL LACER	4262	STERN ESOPHAGOGASTROSTOM
3472	THORACOSTOMY CLOSURE	4263	STERN SM BOWEL INTERPOS
3473	CLOS THORACIC FISTUL NEC	4264	STERN ESOPHAGOENTER NEC
3474	PECTUS DEFORMITY REPAIR	4265	STERN LG BOWEL INTERPOS
3479	OTHER CHEST WALL REPAIR	4266	STERN ESOPHAGOCOLOS NEC
Operations on diaphragm		4268	STERN INTERPOSITION NEC
3481	EXCISE DIPHRAGM LESION	4269	STERN ESOPHAG ANAST NEC
3482	SUTURE DIAPHRACM LACERAT	Other repair of esophagus	
3483	CLOSE DIAPHRAGM FISTULA	427	ESOPHAGOMYOTOMY
3484	CLOSE DIAPHRAGM FISTULA	4281	INSERT PERM TUBE ESOPHAG
3485	IMPLANT DIAPHRA PACEMAKE	4282	SUTURE ESOPHAGEAL LACER
3489	DIAPHRAGM OPERATION NEC	4283	ESOPHAGOSTOMY CLOSURE
3493	REPAIR OF PLEURA	4284	ESOPH FISTULA REPAIR NEC
3499	THORACIC OPERATION NEC	4285	ESOPHAG STRICTURE REPAIR
Operations on thoracic duct		4286	PROD SUBQ TUNNEL NO ANAS
4061	THORAC DUCT CANNULATION	4287	ESOPHAGEAL GRAFT NEC
4062	THORACIC DUCT FISULIZAT	4289	ESOPHAGEAL REPAIR NEC
4063	CLOSE THORACIC DUCT FIST	435	PROXIMAL GASTRECTOMY
4064	LIGATE THORACIC DUCT	4399	TOTAL GASTRECTOMY NEC
4069	THORACIC DUCT OP NEC	4465	ESOPHAGOGASTROPLASTY
Esophagotomy		4466	CREAT ESOPHAGASTR SPHINC
4201	ESOPHAGEAL WEB INCISION	4467	LAP CREAT ESOPH SPHINCT
4209	ESOPHAGEAL INCISION NEC	7781	OTH CHEST CAGE OSTECTOMY
		7791	TOT CHEST CAGE OSTECTOMY
		8104	DRSL/DRSLUMB FUS ANT/ANT
		8134	REFUS DRS/DRSLMB ANT/ANT

<sup>1</sup> Italicized codes are not active in the current fiscal year.

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

3326	CLOSED LUNG BIOPSY	3424	CLOSED BRONCHIAL BIOPSY
3328	OPEN LUNG BIOPSY		

**ICD-9-CM Cardiac procedure codes<sup>1,2</sup>:**

<b>3506</b>	<b>TRNSAPCL REP AORTC VALVE</b>	3614	AORTOCOR BYPAS-4+ COR ART
<b>3508</b>	<b>TRNSAPCL REP PULM VALVE</b>	3615	1 INT MAM-COR ART BYPASS
3510	OPEN VALVULOPLASTY NOS	3616	2 INT MAM-COR ART BYPASS
3511	OPN AORTIC VALVULOPLASTY	3617	ABD-CORON ARTERY BYPASS
3512	OPN MITRAL VALVULOPLASTY	3619	HRT REVAS BYPS ANAS NEC
3513	OPN PULMON VALVULOPLASTY	362	ARTERIAL IMPLANT REVASC
3514	OPN TRICUS VALVULOPLASTY	3631	OPEN CHEST TRANS REVASC
3520	OPN/OTH REP HRT VLV NOS	3632	OTH TRANSMYO REVASCULAR
3521	OPN/OTH REP AORT VLV-TIS	3639	OTH HEART REVASCULAR
3522	OPN/OTH RE AORTIC VALVE	3691	CORON VESS ANEURYSM REP
3523	OPN/OTH REP MTRL VLV-TIS	3699	HEART VESSEL OP NEC
3524	OPN/OTH REP MITRAL VALVE	370	PERICARDIOCENTESIS
3525	OPN/OTH REP PULM VLV-TIS	3710	INCISION OF HEART NOS
3526	OPN/OTH REPL PUL VALVE	3711	CARDIOTOMY
3527	OPN/OTH REP TCSPD VLV-TS	3712	PERICARDIOTOMY
3528	OPN/OTH REPL TCSPD VLV-TS	3731	PERICARDIECTOMY
3531	PAPILLARY MUSCLE OPS	3732	HEART ANEURYSM EXCISION
3532	CHORDAE MUSCLE OPS	3733	EXC/DEST HRT LESION OPEN
3533	ANNULOPLASTY	3735	PARTIAL VENTRICULECTOMY
3534	INFUNDIBULECTOMY	3736	EXC,DESTRCT,EXCLUS LAA
3535	TRABECUL CARNEAE CORD OP	3737	EXC/DEST HRT LES, THRSPC
3539	TISS ADJ TO VALV OPS NEC	3741	IMPL CARDIAC SUPPORT DEV
3550	PROSTH REP HRT SEPTA NOS	3749	HEART/PERICARD REPR NEC
3551	PROS REP ATRIAL DEF-OPN	3751	HEART TRANSPLANTATION
3553	PROS REP VENTRIC DEF-CLOS	3752	IMP TOT INT BI HT RP SYS
3554	PROS REP ENDOCAR CUSHION	3753	REPL/REP THR UNT TOT HRT
3560	GRFT REPAIR HRT SEPT NOS	3754	REPL/REP OTH TOT HRT SYS
3561	GRAFT REPAIR ATRIAL DEF	3755	REM INT BIVENT HRT SYS
3562	GRAFT REPAIR VENTRIC DEG	3760	IMP BICN EXT HRT AST SYS
3563	GRFT REP ENDOCAR CUSHION	3761	PULSATION BALLOON IMPLAN
3570	HEART SEPTA REPAIR NOS	3762	INSRT NONOIMPL CIRC DEV
3571	ATRIA SEPTA DEF REP NEC	3763	REPAIR HEART ASSIST SYS
3572	VENTR SEPTA DEF REP NEC	3764	REMBE EXT HRT ASSIST SYS
3573	ENDOCAR CUSHION REP NEC	3765	IMP VENT EXT HRT AST SYS
3581	TOT REPAIR TETRAL FALLOT	3766	IMPLANTABLE HRT ASSIST
3582	TOTAL REPAIR TAPVC	3767	IMP CARDIOMYOSTIMUL SYS
3583	TOT REP TRUNCUS ARTERIOS	3791	OPEN CHEST CARDIAC MASSAG
3584	TOT COR TRANSPOS GRT VES	3804	INCISION OF AORTA
3591	INTERAT VEN RETRN TRANSP	3805	THORACIC VESSEL INC NEC
3592	CONDUIT RT VENT-PUL ART	3844	RESECT ABDM AORTA W REPL
3593	CONDUIT LEFT VENTR-AORTA	3845	RESECT THORAC VES W REPL
3594	CONDUIT ARTIUM-PULM ART	3864	EXCISION OF AORTA
3595	HEART REPAIR REVISION	3865	THORACIC VESSEL EXCISION
3597	PERC MTRL VLV REPR W IMP	3884	OCCLUDE AORTA NEC
3598	OTHER HEART SEPTA OPS	3885	OCCLUDE THORACIC VES NEC
3599	OTHER HEART VALVE OPS	390	<i>SYSTEMIC-PULM ART SHUNT</i>
3603	OPEN CORONRY ANGIOPLASTY	3921	CAVAL-PULMON ART ANASTOM
3610	AORTOCORONARY BYPASS NOS	3922	AORTA-SUBCLV-CAROT BYPAS
3611	AORTOCOR BYPAS-1 COR ART	3923	INTRATHORACIC SHUNT NEC
3612	AORTOCOR BYPAS-2 COR ART		
3613	AORTOCOR BYPAS-3 COR ART		

<sup>1</sup> Italicized codes are not active in the current fiscal year.

<sup>2</sup> Bolded codes are new to the current fiscal year.