

Iatrogenic Pneumothorax Rate

Technical Specifications

Patient Safety Indicators 06 (PSI 06)

AHRQ Quality Indicators™, Version 4.5a, July 2014

Provider-Level Indicator

Type of Score: Rate

Description

Iatrogenic pneumothorax cases (secondary diagnosis) per 1,000 surgical and medical discharges for patients ages 18 years and older. Excludes cases with chest trauma, pleural effusion, thoracic surgery, lung or pleural biopsy, diaphragmatic surgery repair, or cardiac procedures; cases with a principal diagnosis of iatrogenic pneumothorax; cases with a secondary diagnosis of iatrogenic pneumothorax present on admission; and obstetric cases.

[NOTE: The software provides the rate per hospital discharge. However, common practice reports the measure as per 1,000 discharges. The user must multiply the rate obtained from the software by 1,000 to report events per 1,000 hospital discharges.]

Numerator

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

ICD-9-CM iatrogenic pneumothorax diagnosis code:
5121 IATROGENIC PNEUMOTHORAX

Denominator

Surgical and medical discharges, for patients ages 18 years and older. Surgical and medical discharges are defined by specific DRG or MS-DRG codes.

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 a principal ICD-9-CM diagnosis code (or secondary diagnosis present on admission)

for iatrogenic pneumothorax (see above)

- with any-listed ICD-9-CM diagnosis codes for chest trauma
- with any-listed ICD-9-CM diagnosis codes for pleural effusion
- with any-listed ICD-9-CM procedure codes for thoracic surgery
- with any-listed ICD-9-CM procedure codes for lung or pleural biopsy
- with any-listed ICD-9-CM procedure codes for diaphragmatic surgery repair
- with any-listed ICD-9-CM procedure codes for cardiac procedure
- MDC 14 (pregnancy, childbirth, and puerperium)
- 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 codes¹:

80700	FRACTURE RIB NOS-CLOSED	86131	LUNG CONTUSION-OPEN
80701	FRACTURE ONE RIB-CLOSED	86132	LUNG LACERATION-OPEN
80702	FRACTURE TWO RIBS-CLOSED	8620	DIAPHRAGM INJURY-CLOSED
80703	FRACTURE THREE RIBS-CLOS	8621	DIAPHRAGM INJURY-OPEN
80704	FRACTURE FOUR RIBS-CLOSE	86221	BRONCHUS INJURY-CLOSED
80705	FRACTURE FIVE RIBS-CLOSE	86222	ESOPHAGUS INJURY-CLOSED
80706	FRACTURE SIX RIBS-CLOSED	86229	INTRATHORACIC INJ NEC-CL
80707	FRACTURE SEVEN RIBS-CLOS	86231	BRONCHUS INJURY-OPEN
80708	FX EIGHT/MORE RIB-CLOSED	86232	ESOPHAGUS INJURY-OPEN
80709	FX MULT RIBS NOS-CLOSED	86239	INTRATHORAC INJ NEC-OPEN
80710	FRACTURE RIB NOS-OPEN	8628	INTRATHORACIC INJ NOS-CL
80711	FRACTURE ONE RIB-OPEN	8629	INTRATHORAC INJ NOS-OPEN
80712	FRACTURE TWO RIBS-OPEN	8750	OPEN WOUND OF CHEST
80713	FRACTURE THREE RIBS-OPEN	8751	OPEN WOUND CHEST-COMPL
80714	FRACTURE FOUR RIBS-OPEN	8760	OPEN WOUND OF BACK
80715	FRACTURE FIVE RIBS-OPEN	8761	OPEN WOUND BACK-COMPL
80716	FRACTURE SIX RIBS-OPEN	9010	INJURY THORACIC AORTA
80717	FRACTURE SEVEN RIBS-OPEN	9011	INJ INNOMIN/SUBCLAV ART
80718	FX EIGHT/MORE RIBS-OPEN	9012	INJ SUPERIOR VENA CAVA
80719	FX MULT RIBS NOS-OPEN	9013	INJ INNOMIN/SUBCLAV VEIN
8072	FRACTURE OF STERNUM-CLOS	90140	INJ PULMONARY VESSEL NOS
8073	FRACTURE OF STERNUM-OPEN	90141	INJURY PULMONARY ARTERY
8074	FLAIL CHEST	90142	INJURY PULMONARY VEIN
8075	FX LARYNX/TRACHEA-CLOSED	90181	INJ INTERCOSTAL ART/VEIN
8076	FX LARYNX/TRACHEA-OPEN	90182	INJ INT MAMMARY ART/VEIN
8090	FRACTURE TRUNK BONE-CLOS	90183	INJ MULT THORACIC VESSEL
8091	FRACTURE TRUNK BONE-OPEN	90189	INJ THORACIC VESSEL NEC
8600	TRAUM PNEUMOTHORAX-CLOSE	9019	INJ THORACIC VESSEL NOS
8601	TRAUM PNEUMOTHORAX-OPEN	9110	ABRASION TRUNK
8602	TRAUM HEMOTHORAX-CLOSED	9111	ABRASION TRUNK-INFECTED
8603	TRAUM HEMOTHORAX-OPEN	9118	SUPERFIC INJ TRUNK NEC
8604	TRAUM PNEUMOHEMOTHOR-CL	9119	SUPERFIC INJ TRUNK NEC-INF
8605	TRAUM PNEUMOHEMOTHOR-OPN	9220	CONTUSION OF BREAST
86100	HEART INJURY NOS-CLOSED	9221	CONTUSION OF CHEST WALL
86101	HEART CONTUSION-CLOSED	9223	BACK CONTUSION (end 1996)
86102	HEART LACERATION-CLOSED	92231	BACK CONTUSION
86103	HEART CHAMBER LACERAT-CL	92233	INTERSCPLR REG CONTUSION
86110	HEART INJURY NOS-OPEN	9228	MULIPLE CONTUSION TRUNK
86111	HEART CONTUSION-OPEN	9229	CONTUSION TRUNK NOS
86112	HEART LACERATION-OPEN	92611	CRUSHING INJURY BACK
86113	HEART CHAMBER LACER-OPN	92619	CRUSHING INJ TRUNK NEC
86120	LUNG INJURY NOS-CLOSED	9268	MULT CRUSHING INJ TRUNK
86121	LUNG CONTUSION-CLOSED	9269	CRUSHING INJ TRUNK NOS
86122	LUNG LACERATION-CLOSED	9290	CRUSH INJ MULT SITE NEC
86130	LUNG INJURY NOS-OPEN	9299	CRUSHING INJURY NOS

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9541	INJ SYMPATH NERVE NEC	95911	INJURY OF CHEST WALL NEC
9548	INJURY TRUNK NERVE NEC	95919	TRUNK INJURY-SITES NEC
9549	INJURY TRUNK NERVE NOS	9599	INJURY-SITE NOS

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ICD-9-CM Pleural effusion diagnosis codes¹:

0101	<i>PRIMARY TB PLEURISY (invalid 4-digit code)</i>	01176	TB PNEUMOTHORAX-OTH TEST
01010	PRIM TB-PLEURISY-UNSPEC	0120	<i>TUBERCULOUS PLEURISY (invalid 4-digit code)</i>
01011	PRIM TB PLEURISY-NO EXAM	01200	TB PLEURISY-UNSPEC
01012	PRIM TB PLEUR-EXAM UNKN	01201	TB PLEURISY-NO EXAM
01013	PRIM TB PLEURIS-MICRO DX	01202	TB PLEURISY-EXAM UNKN
01014	PRIM TB PLEURIS-CULT DX	01203	TB PLEURISY-MICRO DX
01015	PRIM TB PLEURIS-HISTO DX	01204	TB PLEURISY-CULT DX
01016	PRIM TB PLEURIS-OTH TEST	01205	TB PLEURISY-HISTOLOG DX
0117	<i>TUBERCULOUS PNEUMOTHORAX (invalid 4-digit code)</i>	01206	TB PLEURISY-OTH TEST
01170	TB PNEUMOTHORAX-UNSPEC	1972	SECOND MALIG NEO PLEURA
01171	TB PNEUMONOTHORAX-NO EXAM	5111	BACT PLEUR/EFFUS NOT TB
01172	TB PNEIMOTHORX-EXAM UNKN	5118	<i>PLEURAL EFFUS NEC NOT TB (end 2008)</i>
01173	TB PNEUMOTHORAX-MICRO DX	51181	MALIGNANT PLEURAL EFFUSN
01174	TB PNEUMOTHORAX-CULT DX	51189	EFFUSION NEX EXC TB
01175	TB PNEUMOTHORAX-HISTO DX	5119	PLEURAL EFFUSION NOS

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ICD-9-CM Thoracic surgery procedure codes¹:

0522	CERVICAL SYMPATHECTOMY	325	<i>COMPLETE PNEUMONECTOMY (end 2007)</i>
0523	LUMBAR SYMPATHECTOMY	3250	THORACOSPC PNEUMONECTOMY (begin 2007)
0529	OTHER SYMPATHECTOMY	3259	OTHER PNEUMONECTOMY NOS (begin 2007)
0780	THYMECTOMY NOS	326	RAD DISSEC THORAC STRUCT
0781	OTH PART EXCISION THYMUS	329	OTHER EXCISION OF LUNG
0782	OTH TOTL EXCISION THYMUS	330	INCISION OF BRONCHUS
0783	THORAC PART EXISN THYMUS	331	INCISION OF LUNG
0784	THORAC TOTAL EXC THYMUS	3320	THORACOSCOPC LUNG BIOPSY
3121	MEDIASTINAL TRACHEOSTOMY	3325	OPEN BRONCHIAL BIOPSY
3145	OPN BX LARYNX OR TRACHEA	3327	CLOS ENDOSCOPIC LUNG BX
3173	TRACHEA FISTULA CLOS NEC	3329	BRONCH/LUNG DX PROC NEC
3179	OTHER TRACHEAL REPAIR	3331	DESTR PHREN-LUNG COLLAPS
3199	OTHER TRACHEAL OPERATION	3332	PHEMOTHORAX-LUNG COLLAPS
3209	OTHER DESTRUC BRONC LES	3333	PNEUMOPERIT-LUNG COLLAPS
321	OTHER BRONCHIAL EXCISION	3334	THORACOPLASTY
3220	THORAC EXC LUNG LESION (begin 2007)	3339	SURG COLLAPS OF LUNG NEC
Local excision or destruction of lesion or tissue of lung		<u>Repair and plastic operation on lung and bronchus</u>	
3221	EMPHYSEMA BLEB PPLICATION	3341	BRONCHIAL LACERAT SUTURE
3222	LUNG VOL REDUCTION SURG	3342	BRONCHIAL FISTULA CLOS
3223	OPEN ABLTN LUN LES/TISS	3343	LUNG LACERATION CLOSURE
3224	PERC ABLTN LUNG LES/TISS	3348	BRONCHIAL REPAIR NEC
3225	THOR ABLTN LUNG LES/TISS	3349	LUNG REPAIR NEC
3226	ABLTN LUNG TISS NEC/NOS	<u>Lung transplant</u>	
3227	BRNC THRMPLSTY,ABLT MSCL	335	<i>LUNG TRANSPLANTATION(end 1995)</i>
3228	ENDOSC DESTRUC LUNG LES	3350	LUNG TRANSPLANT NOS (begin 1995)
3229	DESTROY LOC LUNG LES NEC	3351	UNILAT LUNG TRANSPLANT (begin 1995)
323	<i>SEGMENTAL RESECTION OF LUNG (end 2007)</i>	3352	BILAT LUNG TRANSPLANT (begin 1995)
3230	THORAC SEG LUNG RESECT (begin 2007)	336	COMB HEART/LUNG TRANSPLA
3239	OTH SEG LUNG RESECT NOS (begin 2007)	3392	BRONCHIAL LIGATION
324	<i>LOBECTOMY OF LUNG (end 2007)</i>	3393	PUNCTURE OF LUNG
3241	THORAC LOBECTOMY LUNG (begin 2007)	3398	BRONCHIAL OPERATION NEC
3249	LOBECTOMY OF LUNG NEC (begin 2007)		

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

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

3326	CLOSED LUNG BIOPSY	3424	PLEURAL BIOPSY NEC
3328	OPEN LUNG BIOPSY		

ICD-9-CM Diaphragmatic surgery repair procedure codes¹:

537	ABD REPAIR-DIAPHR HERNIA (end 2008)	5375	ABD REP-DIAPHR HERN NOS
5371	LAP ABD REP-DIAPHR HERN	5380	THOR REP-DIAPHR HERN NOS
5372	OPN ABD DIAPHRM HERN NEC	5381	DIAPHRAGMATIC PPLICATION

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5382 PARASTERN HERNIA REPAIR
5383 LAP THORC APP-DIAPH HERN

5384 OPN THORC DIAPH HERN NEC

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ICD-9-CM Cardiac procedure codes¹:

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

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3885	OCCLUDE THORACIC VES NEC	3922	AORTA-SUBCLV-CAROT BYPAS
390	SYSTEMIC PULM SHUNT	3923	INTRATHORACIC SHUNT NEC
3921	CAVAL-PULMON ART ANASTOM		

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