

Neonatal Iatrogenic Pneumothorax Rate Technical Specifications

Neonatal Quality Indicators #1 (NQI #1) AHRQ Quality Indicators™, Version 4.5, May 2013 Provider-Level Indicator Type of Score: Rate

Description

Iatrogenic pneumothorax cases (secondary diagnosis) per 1,000 discharges for neonates weighing 500 grams or more but less than 2,500 grams. Excludes normal newborns; cases with chest trauma, pleural effusion, thoracic surgery, lung or pleural biopsy, diaphragmatic surgery repair, or cardiac surgery; cases with a principal diagnosis of iatrogenic pneumothorax; and cases with a secondary diagnosis of iatrogenic pneumothorax present on admission.

[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 neonates with birth weight less than 2,500 grams. Surgical and medical discharges are defined by specific DRG or MS-DRG codes.

See *Pediatric Quality Indicators Appendices*:

- Appendix B – Surgical DRGs
- Appendix C – Surgical MS-DRGs
- Appendix D – Medical DRGs
- Appendix E – Medical MS-DRGs
- Appendix I – Definitions of Neonate, Newborn, Normal Newborn, and Outborn
- Appendix L – Low Birth Weight Categories

Exclude cases:

- neonates with birth weight less than 500 grams (Birth Weight Category 1)
- with a principal ICD-9-CM diagnosis code (or secondary diagnosis code 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 surgery
- normal newborn
- 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	86110	HEART INJURY NOS-OPEN
80701	FRACTURE ONE RIB-CLOSED	86111	HEART CONTUSION-OPEN
80702	FRACTURE TWO RIBS-CLOSED	86112	HEART LACERATION-OPEN
80703	FRACTURE THREE RIBS-CLOS	86113	HEART CHAMBER LACER-OPN
80704	FRACTURE FOUR RIBS-CLOSE	86120	LUNG INJURY NOS-CLOSED
80705	FRACTURE FIVE RIBS-CLOSE	86121	LUNG CONTUSION-CLOSED
80706	FRACTURE SIX RIBS-CLOSED	86122	LUNG LACERATION-CLOSED
80707	FRACTURE SEVEN RIBS-CLOS	86130	LUNG INJURY NOS-OPEN
80708	FX EIGHT/MORE RIB-CLOSED	86131	LUNG CONTUSION-OPEN
80709	FX MULT RIBS NOS-CLOSED	86132	LUNG LACERATION-OPEN
80710	FRACTURE RIB NOS-OPEN	8620	DIAPHRAGM INJURY-CLOSED
80711	FRACTURE ONE RIB-OPEN	8621	DIAPHRAGM INJURY-OPEN
80712	FRACTURE TWO RIBS-OPEN	86221	BRONCHUS INJURY-CLOSED
80713	FRACTURE THREE RIBS-OPEN	86222	ESOPHAGUS INJURY-CLOSED
80714	FRACTURE FOUR RIBS-OPEN	86229	INTRATHORACIC INJ NEC-CL
80715	FRACTURE FIVE RIBS-OPEN	86231	BRONCHUS INJURY-OPEN
80716	FRACTURE SIX RIBS-OPEN	86232	ESOPHAGUS INJURY-OPEN
80717	FRACTURE SEVEN RIBS-OPEN	86239	INTRATHORAC INJ NEC-OPEN
80718	FX EIGHT/MORE RIBS-OPEN	8628	INTRATHORACIC INJ NOS-CL
80719	FX MULT RIBS NOS-OPEN	8629	INTRATHORAC INJ NOS-OPEN
8072	FRACTURE OF STERNUM-CLOS	8750	OPEN WOUND OF CHEST
8073	FRACTURE OF STERNUM-OPEN	8751	OPEN WOUND CHEST-COMPL
8074	FLAIL CHEST	8760	OPEN WOUND OF BACK
8075	FX LARYNX/TRACHEA-CLOSED	8761	OPEN WOUND BACK-COMPL
8076	FX LARYNX/TRACHEA-OPEN	9010	INJURY THORACIC AORTA
8090	FRACTURE TRUNK BONE-CLOS	9011	INJ INNOMIN/SUBCLAV ART
8091	FRACTURE TRUNK BONE-OPEN	9012	INJ SUPERIOR VENA CAVA
8600	TRAUM PNEUMOTHORAX- CLOSE	9013	INJ INNOMIN/SUBCLAV VEIN
8601	TRAUM PNEUMOTHORAX-OPEN	90140	INJ PULMONARY VESSEL NOS
8602	TRAUM HEMOTHORAX-CLOSED	90141	INJURY PULMONARY ARTERY
8603	TRAUM HEMOTHORAX-OPEN	90142	INJURY PULMONARY VEIN
8604	TRAUM PNEUMOHETHOR-CL	90181	INJ INTERCOSTAL ART/VEIN
8605	TRAUM PNEUMOHETHOR- OPN	90182	INJ INT MAMMARY ART/VEIN
86100	HEART INJURY NOS-CLOSED	90183	INJ MULT THORACIC VESSEL
86101	HEART CONTUSION-CLOSED	90189	INJ THORACIC VESSEL NEC
86102	HEART LACERATION-CLOSED	9019	INJ THORACIC VESSEL NOS
86103	HEART CHAMBER LACERAT-CL	9110	ABRASION TRUNK
		9111	ABRASION TRUNK-INFECTED
		9118	SUPERFIC INJ TRUNK NEC

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9119	SUPER INJ TRNK NEC-INF	9268	MULT CRUSHING INJ TRUNK
9220	CONTUSION OF BREAST	9269	CRUSHING INJ TRUNK NOS
9221	CONTUSION OF CHEST WALL	9290	CRUSH INJ MULT SITE NEC
9223	<i>BACK CONTUSION</i>	9299	CRUSHING INJURY NOS
92231	BACK CONTUSION	9541	INJ SYMPATH NERVE NEC
92233	INTERSCPLR REG CONTUSION	9548	INJURY TRUNK NERVE NEC
9228	MULIPLE CONTUSION TRUNK	9549	INJURY TRUNK NERVE NOS
9229	CONTUSION OF TRUNK NOS	95911	INJURY OF CHEST WALL NEC
92611	CRUSHING INJURY BACK	95919	TRUNK INJURY-SITES NEC
92619	CRUSHING INJ TRUNK NEC	9599	INJURY-SITE NOS

¹ The procedure or diagnosis codes are continuously updated. The current list of ICD-9-CM codes is valid for October 2012 through September 2013. Italicized codes are not active in Fiscal Year 2013.

ICD-9-CM Pleural effusion diagnosis codes¹:

0101	<i>TUBERCULOUS PLEURISY IN PRIMARY PROGRESSIVE TUBERCULOSIS</i>	01176	TB PNEUMOTHORAX-OTH TEST
01010	PRIM TB PLEURISY-UNSPEC	0120	<i>TUBERCULOUS PLEURISY</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 PLEURISY-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>TUBRCULOUS PNEUMOTHORAX</i>	01206	TB PLEURISY-OTH TEST
01170	TB PNEUMOTHORAX, UNSPEC	1972	SECOND MALIG NEO PLEURA
01171	TB PNEUMOTHORAX-NO EXAM	5111	BACT PLEUR/EFFUS NOT TB
01172	TB PNEUMOTHORAX-EXAM UNKN	5118	<i>OTHER SPECIFIED FORM OF EFFUSION, EXCEPT TUBERCULOUS</i>
01173	TB PNEUMOTHORAX-MICRO DX	51181	MALIGNANT PLEURAL EFFUSN
01174	TB PNEUMOTHORAX- CULT DX	51189	EFFUSION NEC 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	3239	OTH SEG LUNG RESECT NOS
0523	LUMBAR SYMPATHECTOMY	324	<i>LOBECTOMY OF LUNG</i>
0529	OTHER SYMPATHECTOMY	3241	THORAC LOBECTOMY LUNG
0780	THYMECTOMY NOS	3249	LOBECTOMY OF LUNG NEC
0781	OTH PART EXCISION THYMUS	325	<i>COMPLETE PNEUMONECTOMY</i>
0782	OTH TOTL EXCISION THYMUS	3250	THORACOSPC PNEUMONECTOMY
0783	THORAC PART EXISN THYMUS	3259	OTHER PNEUMONECTOMY NOS
0784	THORAC TOTAL EXC THYMUS	326	RADL DISSEC THORAC STRUCT
3121	MEDIASTINAL TRACHEOSTOMY	329	OTHER EXCISION OF LUNG
3145	OPN BX LARYNX OR TRACHEA	330	INCISION OF BRONCHUS
3173	TRACHEA FISTULA CLOS NEC	331	INCISION OF LUNG
3179	OTHER TRACHEAL REPAIR	3320	THORACOSCOPC LUNG BIOPSY
3199	OTHER TRACHEAL OPERATION	3325	OPEN BRONCHIAL BIOPSY
3209	OTHER DESTRUC BRONC LES	3326	CLOSED LUNG BIOPSY
321	OTHER BRONCHIAL EXCISION	3327	CLOS ENDOSCOPIC LUNG BX
3220	THORAC EXC LUNG LESION	3328	OPEN LUNG BIOPSY
<u>Local excision or destruction of lesion or tissue of lung</u>		3331	DESTR PHREN- LUNG COLLAPS
3221	EMPHYSEMABLEB PPLICATION	3332	PNEMOTHORAX-LUNG COLLAPS
3222	LUNG VOL REDUCTION SURG	3334	THORACOPLASTY
3223	OPEN ABLTN LUNG LES/TISS	3339	SURG COLLAPS OF LUNG NEC
3224	PERC ABLTN LUNG LES/TISS	<u>Repair and plastic operation on lung and bronchus</u>	
3225	THOR ABLTN LUNG LES/TISS	3341	BRONCHIAL LACERAT SUTURE
3226	ABLTN LUNG TISS NEC/NOS	3342	BRONCHIAL FISTULA CLOS
3228	ENDOSC DESTRUC LUNG LES	3343	LUNG LACERATION CLOSURE
3229	DESTROY LOC LUNG LES NEC	3348	BRONCHIAL REPAIR NEC
323	<i>SEGMENTAL RESECTION OF LUNG</i>	3349	LUNG REPAIR NEC
3230	THORAC SEG LUNG RESECT	<u>Lung transplant</u>	

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335	LUNG TRANSPLANTATION**	4063	CLOSE THORACIC DUCT FIST
3350	LUNG TRANSPLANTNOS	4064	LIGATE THORACIC DUCT
3351	UNILAT LUNG TRANSPLANT	4069	THORACIC DUCT OP NEC
3352	BILAT LUNG TRANSPLANT		Esophagotomy
336	COMB HEART/LUNG TRANSPLA	4201	ESOPHAGEAL WEB INCISION
Diagnostic procedures on chest wall, pleura, mediastinum, and diaphragm		4209	ESOPHAGEAL INCISION NEC
3329	BRONCH/LUNG DX PROC NEC	4210	ESOPHAGOSTOMY NOS
3333	PNEUMOPERIT–LUNG COLLAPS	4211	CERVICAL ESOPHAGOSTOMY
3392	BRONCHIAL LIGATION	4212	ESOPH POUCH EXTERIORIZAT
3393	PUNCTURE OF LUNG	4219	EXT FISTULIZAT ESOPH NEC
3398	BRONCHIAL OPERATION NEC	4221	ESOPHAGOSCOPY BY INCIS
3399	LUNG OPERATION NEC	4225	OPEN BIOPSY OF ESOPHAGUS
3401	INCISION OF CHEST WALL	4231	LOC EXCIS ESOPH DIVERTIC
3402	EXPLORATORY THORACOTOMY	4232	LOCAL EXCIS ESOPHAG NEC
3403	REOPEN THORACOTOMY SITE	Excision of esophagus	
3405	PIEUROPERITONEAL SHUNT	4239	DESTRUCT ESOPHAG LES NEC
3409	OTHER PLEURA INCISION	4240	ESOPHAGECTOMY NOS
341	INCISION OF MEDIASTINUM	4241	PARTIAL ESOPHAGECTOMY
3420	THORACOSCOPIC PLEURAL BX	4242	TOTAL ESOPHAGECTOMY
3421	TRANSPLEURA THORACOSOCOPY	Intrathoracic anastomosis of esophagus	
3422	MEDIASTINOSCOPY	4251	THORAC ESOPHAGOEESOPHAGOS
3423	CHEST WALL BIOPSY	4252	THORAC ESOPHAGOGASTROST
3424	PLEURAL BIOPSY NEC	4253	THORAC SM BOWEL INTERPOS
3425	CLOS MEDIASTINAL BIOPSY	4254	THORAC ESOPHAGOENTER NEC
3426	OPEN MEDIASTINAL BIOPSY	4255	THORAC LG BOWEL INTERPOS
3427	BIOPSY OF DIAPHRAGM	4256	THORAC ESOPHAGOCOLOS NEC
3428	DX PROCEDURE THORAX NEC	4258	THORAC INTERPOSITION NEC
3429	DX PROC MEDIASTINUM NEC	4259	THORAC ESOPHAG ANAST NEC
343	DESTRUCT MEDIASTIN LES	Antesternal anastomosis	
344	DESTRUCT CHEST WALL LES	4261	STERN ESOPHAGOEESOPHAGOST
3451	DECORTICATION OF LUNG	4262	STERN ESOPHAGOGASTROSTOM
3452	THORACOSCOPC DECORT LUNG	4263	STERN SM BOWEL INTERPOS
3459	OTHER PLEURA EXCISION	4264	STERN ESOPHAGOENTER NEC
Repair of chest wall		4265	STERN LG BOWEL INTERPOS
3471	SUTURE CHEST WALL LACER	4266	STERN ESOPHAGOCOLOS NEC
3472	THORACOSTOMY CLOSURE	4268	STERN INTERPOSITION NEC
3473	CLOS THORACIC FISTUL NEC	4269	STERN ESOPHAG ANAST NEC
3474	PECTUS DEFORMITY REPAIR	Other repair of esophagus	
3479	OTHER CHEST WALL REPAIR	427	ESOPHAGOMYOTOMY
Operations on diaphragm		4281	INSERT PERM TUBE ESOPHAG
3481	EXCISE DIAPHRAGM LESION	4282	SUTURE ESOPHAGEAL LACER
3482	SUTURE DIAPHRAGM LACERAT	4283	ESOPHAGOSTOMY CLOSURE
3483	CLOSE DIAPHRAGM FISTULA	4284	ESOPH FISTULA REPAIR NEC
3484	OTHER DIAPHRAGM REPAIR	4285	ESOPHAG STRICTURE REPAIR
3485	IMPLANT DIAPHRA PACEMAKE	4286	PROD SUBQ TUNNEL NO ANAS
3489	DIAPHRAGM OPERATION NEC	4287	ESOPHAGEAL GRAFT NEC
3493	REPAIR OF PLEURA	4289	ESOPHAGEAL REPAIR NEC
3499	THORACIC OPERATION NEC	4465	ESOPHAGOGASTROPLASTY
Operations on thoracic duct		4466	CREAT ESOPHAGASTR SPHINC
4061	THORAC DUCT CANNULATION	8104	DRSL/DRSLUMB FUS ANT/ANT
4062	THORACIC DUCT FISTULIZAT	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		

ICD9-CM Diaphragmatic surgery repair codes¹:

537	ABD REPAIR-DIAPHR HERNIA	5371	LAP ABD REP-DIAPHR HERN
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5372	OPN ABD DIAPHRM HERN NEC	5382	PARASTERN HERNIA REPAIR
5375	ABD REP-DIAPHR HERN NOS	5583	CLOSE RENAL FISTULA NEC
5380	THOR REP-DIAPH HERN NOS	5584	REDUCE RENAL PEDICL TORS
5381	DIAPHRAGMATIC PPLICATION		

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ICD9-CM Cardiac procedure codes:

3506	TRNSAPCL REP AORTC VALVE	3613	AORTOCOR BYPAS-3 COR ART
3508	TRNSAPCL REPL PULM VALVE	3614	AORTCOR BYPAS-4+ COR ART
3510	OPEN VALVULOPLASTY NOS	3615	1 INT MAM-COR ART BYPASS
3511	OPN AORTIC VALVULOPLASTY	3616	2 INT MAM-COR ART BYPASS
3512	OPN MITRAL VALVULOPLASTY	3617	ABD-CORON ARTERY BYPASS
3513	OPN PULMON VALVULOPLASTY	3619	HRT REVAS BYPS ANAS NEC
3514	OPN TRICUS VALVULOPLASTY	362	ARTERIAL IMPLANT REVASC
3520	OPN/OTH REP HRT VLV NOS	3631	OPEN CHEST TRANS REVASC
3521	OPN/OTH REP AORT VLV-TIS	3632	OTH TRANSMYO REVASCULAR
3522	OPN/OTH REP AORTIC VALVE	3639	OTH HEART REVASCULAR
3523	OPN/OTH REP MTRL VLV-TIS	3691	CORON VESS ANEURYSM REP
3524	OPN/OTH REP MITRAL VALVE	3699	HEART VESSEL OP NEC
3525	OPN/OTH REP PULM VLV-TIS	370	PERICARDIOCENTESIS
3526	OPN/OTH REPL PUL VALVE	3710	INCISION OF HEARTNOS
3527	OPN/OTH REP TCSPD VLV-TS	3711	CARDIOTOMY
3528	OPN/OTH REPL TCSPD VALVE	3712	PERICARDIOTOMY
3531	PAPILLARY MUSCLE OPS	3731	PERICARDIECTOMY
3532	CHORDAE TENDINEAE OPS	3732	HEART ANEURYSM EXCISION
3533	ANNULOPLASTY	3733	EXC/DEST HRT LESION OPEN
3534	INFUNDIBULECTOMY	3735	PARTIAL VENTRICULECTOMY
3535	TRABECUL CARNEAE CORD OP	3736	EXC,DESTRCT,EXCLUS LAA
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-OPN	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 DEF	3760	IMP BIVN EXT HRT AST SYS
3563	GRFT REP ENDOCAR CUSHION	3761	PULSATION BALLOON IMPLAN
3570	HEART SEPTA REPAIR NOS	3762	INSRT NON-IMPL CIRC DEV
3571	ATRIA SEPTA DEF REP NEC	3763	REPAIR HEART ASSIST SYS
3572	VENTR SEPTA DEF REP NEC	3764	REMVE 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 OF TAPVC	3767	IMP CARDIOMYOSTIMUL SYS
3583	TOT REP TRUNCUS ARTERIOS	3791	OPN 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
3598	OTHER HEART SEPTA OPS	3884	OCCLUDE AORTA NEC
3599	OTHER HEART VALVE OPS	3885	OCCLUDE THORACIC VES NEC
3603	OPEN CORONRY ANGIOPLASTY	390	SYSTEMIC-PULM ART SHUNT
3610	AORTOCORONARY BYPASS NOS	3921	CAVAL-PULMON ART ANASTOM
3611	AORTOCOR BYPAS-1 COR ART	3922	AORTA-SUBCLV-CAROT BYPAS
3612	AORTOCOR BYPAS-2 COR ART	3923	INTRATHORACIC SHUNT NEC