

# Neonatal Iatrogenic Pneumothorax Rate

## Neonatal Quality Indicators #1

### Technical Specifications

#### Provider-Level Indicator

AHRQ Quality Indicators, Version 4.4, March 2012

### Numerator

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

**ICD-9-CM Iatrogenic pneumothorax diagnosis code:**

5121 IATROGENIC PNEUMOTHORAX

### Denominator

All surgical and medical discharges of neonates with birth weight less than 2500 grams.

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
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Exclude cases:

- neonates with birth weight less than 500 grams (Birth Weight Category 1)
- with principal diagnosis of iatrogenic pneumothorax or secondary diagnosis present on admission\*
- with any diagnosis code of chest trauma or pleural effusion
- with an ICD-9-CM code of thoracic surgery, lung or pleural biopsy, diaphragmatic surgery repair, OR cardiac surgery
- normal newborn
- MDC 14 (pregnancy, childbirth, and puerperium)
- with missing discharge 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	8620	DIAPHRAGM INJURY-CLOSED
80701	FRACTURE ONE RIB-CLOSED	8621	DIAPHRAGM INJURY-OPEN
80702	FRACTURE TWO RIBS-CLOSED	86221	BRONCHUS INJURY-CLOSED
80703	FRACTURE THREE RIBS-CLOS	86222	ESOPHAGUS INJURY-CLOSED
80704	FRACTURE FOUR RIBS-CLOSE	86229	INTRATHORACIC INJ NEC-CL
80705	FRACTURE FIVE RIBS-CLOSE	86231	BRONCHUS INJURY-OPEN
80706	FRACTURE SIX RIBS-CLOSED	86232	ESOPHAGUS INJURY-OPEN
80707	FRACTURE SEVEN RIBS-CLOS	86239	INTRATHORAC INJ NEC-OPEN
80708	FX EIGHT/MORE RIB-CLOSED	8628	INTRATHORACIC INJ NOS-CL
80709	FX MULT RIBS NOS-CLOSED	8629	INTRATHORAC INJ NOS-OPEN
80710	FRACTURE RIB NOS-OPEN	8750	OPEN WOUND OF CHEST
80711	FRACTURE ONE RIB-OPEN	8751	OPEN WOUND CHEST-COMPL
80712	FRACTURE TWO RIBS-OPEN	8760	OPEN WOUND OF BACK
80713	FRACTURE THREE RIBS-OPEN	8761	OPEN WOUND BACK-COMPL
80714	FRACTURE FOUR RIBS-OPEN	9010	INJURY THORACIC AORTA
80715	FRACTURE FIVE RIBS-OPEN	9011	INJ INNOMIN/SUBCLAV ART
80716	FRACTURE SIX RIBS-OPEN	9012	INJ SUPERIOR VENA CAVA
80717	FRACTURE SEVEN RIBS-OPEN	9013	INJ INNOMIN/SUBCLAV VEIN
80718	FX EIGHT/MORE RIBS-OPEN	90140	INJ PULMONARY VESSEL NOS
80719	FX MULT RIBS NOS-OPEN	90141	INJURY PULMONARY ARTERY
8072	FRACTURE OF STERNUM-CLOS	90142	INJURY PULMONARY VEIN
8073	FRACTURE OF STERNUM-OPEN	90181	INJ INTERCOSTAL ART/VEIN
8074	FLAIL CHEST	90182	INJ INT MAMMARY ART/VEIN
8075	FX LARYNX/TRACHEA-CLOSED	90183	INJ MULT THORACIC VESSEL
8076	FX LARYNX/TRACHEA-OPEN	90189	INJ THORACIC VESSEL NEC
8090	FRACTURE TRUNK BONE-CLOS	9019	INJ THORACIC VESSEL NOS
8091	FRACTURE TRUNK BONE-OPEN	9110	ABRASION TRUNK
	TRAUM PNEUMOTHORAX-	9111	ABRASION TRUNK-INFECTED
8600	CLOSE	9118	SUPERFIC INJ TRUNK NEC
8601	TRAUM PNEUMOTHORAX-OPEN	9119	SUPER INJ TRNK 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>
	TRAUM PNEUMOHEMOTHOR-	92231	BACK CONTUSION
8605	OPN	92233	INTERSCPLR REG CONTUSION
86100	HEART INJURY NOS-CLOSED	9228	MULIPLE CONTUSION TRUNK
86101	HEART CONTUSION-CLOSED	9229	CONTUSION OF TRUNK NOS
86102	HEART LACERATION-CLOSED	92611	CRUSHING INJURY BACK
86103	HEART CHAMBER LACERAT-CL	92619	CRUSHING INJ TRUNK NEC
86110	HEART INJURY NOS-OPEN	9268	MULT CRUSHING INJ TRUNK
86111	HEART CONTUSION-OPEN	9269	CRUSHING INJ TRUNK NOS
86112	HEART LACERATION-OPEN	9290	CRUSH INJ MULT SITE NEC
86113	HEART CHAMBER LACER-OPN	9299	CRUSHING INJURY NOS
86120	LUNG INJURY NOS-CLOSED	9541	INJ SYMPATH NERVE NEC
86121	LUNG CONTUSION-CLOSED	9548	INJURY TRUNK NERVE NEC
86122	LUNG LACERATION-CLOSED	9549	INJURY TRUNK NERVE NOS
86130	LUNG INJURY NOS-OPEN	95911	INJURY OF CHEST WALL NEC
86131	LUNG CONTUSION-OPEN	95919	TRUNK INJURY-SITES NEC
86132	LUNG LACERATION-OPEN	9599	INJURY-SITE NOS

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

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

0101	<i>TUBERCULOUS PLEURISY IN PRIMARY PROGRESSIVE TUBERCULOSIS</i>	01176	TB PNEUMOTHORAX-OTH TEST
01010	PRIM TB PLEURISY-UNSPEC	01200	TB PLEURISY-UNSPEC
01011	PRIM TB PLEURISY-NO EXAM	01201	TB PLEURISY-NO EXAM
01012	PRIM TB PLEUR-EXAM UNKN	01202	TB PLEURISY-EXAM UNKN
01013	PRIM TB PLEURIS-MICRO DX	01203	TB PLEURISY-MICRO DX
01014	PRIM TB PLEURISY-CULT DX	01204	TB PLEURISY-CULT DX
01015	PRIM TB PLEURIS-HISTO DX	01205	TB PLEURISY-HISTOLOG DX
01016	PRIM TB PLEURIS-OTH TEST	01206	TB PLEURISY-OTH TEST
0117	<i>TUBERCULOUS PNEUMOTHORAX</i>	1972	SECOND MALIG NEO PLEURA
01170	TB PNEUMOTHORAX, UNSPEC	5111	BACT PLEUR/EFFUS NOT TB
01171	TB PNEUMOTHORAX-NO EXAM	5118	<i>OTHER SPECIFIED FORM OF EFFUSION, EXCEPT TUBERCULOUS</i>
01172	TB PNEUMOTHORAX-EXAM UNKN	51181	MALIGNANT PLEURAL EFFUSN
01173	TB PNEUMOTHORAX-MICRO DX	51189	EFFUSION NEC EXC TB
01174	TB PNEUMOTHORAX- CULT DX	5119	PLEURAL EFFUSION NOS
01175	TB PNEUMOTHORAX-HISTO DX		

<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	3326	CLOSED LUNG BIOPSY
0523	LUMBAR SYMPATHECTOMY	3327	CLOS ENDOSCOPIC LUNG BX
0529	OTHER SYMPATHECTOMY	3328	OPEN LUNG BIOPSY
0780	THYMECTOMY NOS	3331	DESTR PHREN- LUNG COLLAPS
0781	OTH PART EXCISION THYMUS	3332	PNEUMOTHORAX-LUNG COLLAPS
0782	OTH TOTL EXCISION THYMUS	3334	THORACOPLASTY
0783	THORAC PART EXISN THYMUS	3339	SURG COLLAPS OF LUNG NEC
0784	THORAC TOTAL EXC THYMUS	<hr/>	
3121	MEDIASTINAL TRACHEOSTOMY	Repair and plastic operation on lung and bronchus	
3145	OPN BX LARYNX OR TRACHEA	3341	BRONCHIAL LACERAT SUTURE
3173	TRACHEA FISTULA CLOS NEC	3342	BRONCHIAL FISTULA CLOS
3179	OTHER TRACHEAL REPAIR	3343	LUNG LACERATION CLOSURE
3199	OTHER TRACHEAL OPERATION	3348	BRONCHIAL REPAIR NEC
3209	OTHER DESTRUC BRONC LES	3349	LUNG REPAIR NEC
321	OTHER BRONCHIAL EXCISION	<hr/>	
3220	THORAC EXC LUNG LESION	Lung transplant	
<hr/>		335	<i>LUNG TRANSPLANTATION**</i>
Local excision or destruction of lesion or tissue of lung		3350	LUNG TRANSPLANTNOS
3221	EMPHYSEMABLEB PPLICATION	3351	UNILAT LUNG TRANSPLANT
3222	LUNG VOL REDUCTION SURG	3352	BILAT LUNG TRANSPLANT
3223	OPEN ABLTN LUNG LES/TISS	336	COMB HEART/LUNG TRANSPLA
3224	PERC ABLTN LUNG LES/TISS	<hr/>	
3225	THOR ABLTN LUNG LES/TISS	Diagnostic procedures on chest wall, pleura, mediastinum, and diaphragm	
3226	ABLTN LUNG TISS NEC/NOS	3329	BRONCH/LUNG DX PROC NEC
3228	ENDOSC DESTRUC LUNG LES	3333	PNEUMOPERIT-LUNG COLLAPS
3229	DESTROY LOC LUNG LES NEC	3392	BRONCHIAL LIGATION
323	<i>SEGMENTAL RESECTION OF LUNG</i>	3393	PUNCTURE OF LUNG
3230	THORAC SEG LUNG RESECT	3398	BRONCHIAL OPERATION NEC
3239	OTH SEG LUNG RESECT NOS	3399	LUNG OPERATION NEC
324	<i>LOBECTOMY OF LUNG</i>	3401	INCISION OF CHEST WALL
3241	THORAC LOBECTOMY LUNG	3402	EXPLORATORY THORACOTOMY
3249	LOBECTOMY OF LUNG NEC	3403	REOPEN THORACOTOMY SITE
325	<i>COMPLETE PNEUMONECTOMY</i>	3405	PIEUOPERITONEAL SHUNT
3250	THORACOSPC PNEUMONECTOMY	3409	OTHER PLEURA INCISION
3259	OTHER PNEUMONECTOMY NOS	341	INCISION OF MEDIASTINUM
326	RADL DISSEC THORAC STRUCT	3420	THORACOSCOPIC PLEURAL BX
329	OTHER EXCISION OF LUNG	3421	TRANSPLEURA THORACOSOCOPY
330	INCISION OF BRONCHUS	3422	MEDIASTINOSCOPY
331	INCISION OF LUNG	3423	CHEST WALL BIOPSY
3320	THORACOSCOPC LUNG BIOPSY	3424	PLEURAL BIOPSY NEC
3325	OPEN BRONCHIAL BIOPSY	3425	CLOS MEDIASTINAL BIOPSY

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Neonatal Iatrogenic Pneumothorax Rate  
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3426	OPEN MEDIASTINAL BIOPSY
3427	BIOPSY OF DIAPHRAGM
3428	DX PROCEDURE THORAX NEC
3429	DX PROC MEDIASTINUM NEC
343	DESTRUCT MEDIASTIN LES
344	DESTRUCT CHEST WALL LES
3451	DECORTICATION OF LUNG
3452	THORACOSCOPC DECORT LUNG
3459	OTHER PLEURA EXCISION
<b>Repair of chest wall</b>	
3471	SUTURE CHEST WALL LACER
3472	THORACOSTOMY CLOSURE
3473	CLOS THORACIC FISTUL NEC
3474	PECTUS DEFORMITY REPAIR
3479	OTHER CHEST WALL REPAIR
<b>Operations on diaphragm</b>	
3481	EXCISE DIAPHRAGM LESION
3482	SUTURE DIAPHRAGM LACERAT
3483	CLOSE DIAPHRAGM FISTULA
3484	OTHER DIAPHRAGM REPAIR
3485	IMPLANT DIAPHRA PACEMAKE
3489	DIAPHRAGM OPERATION NEC
3493	REPAIR OF PLEURA
3499	THORACIC OPERATION NEC
<b>Operations on thoracic duct</b>	
4061	THORAC DUCT CANNULATION
4062	THORACIC DUCT FISTULIZAT
4063	CLOSE THORACIC DUCT FIST
4064	LIGATE THORACIC DUCT
4069	THORACIC DUCT OP NEC
<b>Esophagotomy</b>	
4201	ESOPHAGEAL WEB INCISION
4209	ESOPHAGEAL INCISION NEC
4210	ESOPHAGOSTOMY NOS
4211	CERVICAL ESOPHAGOSTOMY
4212	ESOPH POUCH EXTERIORIZAT
4219	EXT FISTULIZAT ESOPH NEC
4221	ESOPHAGOSCOPY BY INCIS
4225	OPEN BIOPSY OF ESOPHAGUS

<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
3328	OPEN LUNG BIOPSY

4231	LOC EXCIS ESOPH DIVERTIC
4232	LOCAL EXCIS ESOPHAG NEC
<b>Excision of esophagus</b>	
4239	DESTRUCT ESOPHAG LES NEC
4240	ESOPHAGECTOMY NOS
4241	PARTIAL ESOPHAGECTOMY
4242	TOTAL ESOPHAGECTOMY
<b>Intrathoracic anastomosis of esophagus</b>	
4251	THORAC ESOPHAGUESOPHAGOS
4252	THORAC ESOPHAGOGASTROST
4253	THORAC SM BOWEL INTERPOS
4254	THORAC ESOPHAGOENTER NEC
4255	THORAC LG BOWEL INTERPOS
4256	THORAC ESOPHAGOCOLOS NEC
4258	THORAC INTERPOSITION NEC
4259	THORAC ESOPHAG ANAST NEC
<b>Antesternal anastomosis</b>	
4261	STERN ESOPHAGUESOPHAGOST
4262	STERN ESOPHAGOGASTROSTOM
4263	STERN SM BOWEL INTERPOS
4264	STERN ESOPHAGOENTER NEC
4265	STERN LG BOWEL INTERPOS
4266	STERN ESOPHAGOCOLOS NEC
4268	STERN INTERPOSITION NEC
4269	STERN ESOPHAG ANAST NEC
<b>Other repair of esophagus</b>	
427	ESOPHAGOMYOTOMY
4281	INSERT PERM TUBE ESOPHAG
4282	SUTURE ESOPHAGEAL LACER
4283	ESOPHAGOSTOMY CLOSURE
4284	ESOPH FISTULA REPAIR NEC
4285	ESOPHAG STRICTURE REPAIR
4286	PROD SUBQ TUNNEL NO ANAS
4287	ESOPHAGEAL GRAFT NEC
4289	ESOPHAGEAL REPAIR NEC
4465	ESOPHAGOGASTROPLASTY
4466	CREAT ESOPHAGASTR SPHINC
8104	DRSL/DRSLUMB FUS ANT/ANT
8134	REFUS DRS/DRSLMB ANT/ANT

3424	PLEURAL BIOPSY NEC
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**ICD9-CM Diaphragmatic surgery repair codes<sup>1</sup>:**

537	ABD REPAIR-DIAPHR HERNIA
5371	LAP ABD REP-DIAPHR HERN
5372	OPN ABD DIAPHRM HERN NEC
5375	ABD REP-DIAPHR HERN NOS
5380	THOR REP-DIAPH HERN NOS

5381	DIAPHRAGMATIC PLICATION
5382	PARASTERN HERNIA REPAIR
5583	CLOSE RENAL FISTULA NEC
5584	REDUCE RENAL PEDICL TORS

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

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**ICD9-CM Cardiac procedure codes<sup>1</sup>:**

<b>3506</b>	<b>TRNSAPCL REP AORTC VALVE</b>	3613	AORTOCOR BYPAS-3 COR ART
<b>3508</b>	<b>TRNSAPCL REPL PULM VALVE</b>	3614	AORTCOR BYPAS-4+ COR ART
3510	OPN 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

<sup>1</sup> Bolded codes are new to the current fiscal year.