

# Postoperative Respiratory Failure Rate

## Pediatric Quality Indicators #9

### Technical Specifications

#### Provider-Level Indicator

#### AHRQ Quality Indicators, Version 4.3, August 2011

Version 4.3a is a maintenance release of Version 4.3. The differences between the two versions are:

- Version 4.3a includes Version 29 of the Limited License edition of the 3M™ APR-DRG Grouper. This grouper corrects an issue found in Version 28 of the Limited License edition of the 3M™ APR-DRG Grouper. The grouper is only used with the Inpatient Quality Indicator (IQI) mortality measures. Version 4.3 includes Version 28 of the Limited License edition of the 3M™ APR-DRG Grouper, which was incorrectly assigning a Risk of Mortality (ROM) subclass for cases dated on or after 10/1/10.
- Version 4.3a allows users to calculate area-level indicators for years 2010 and 2011, correcting an issue previously identified in Version 4.3.

All other aspects of the software, including measure specifications, remain the same. Thus this document (related to Version 4.3) remains unchanged.

## Numerator

Discharges among cases meeting the inclusion and exclusion rules for the denominator with ICD-9-CM codes for acute respiratory failure in any secondary diagnosis field.

-----OR-----

Discharges among cases meeting the inclusion and exclusion rules for the denominator with ICD-9-CM codes as follows:

- *Mechanical Ventilation for 96 consecutive hours or more* - zero or more days after the first major operating room procedure code (based on days from admission to procedure)
- *Mechanical Ventilation for less than 96 consecutive hours or undetermined* - two or more days after the first major operating room procedure code (based on days from admission to procedure)
- *Reintubation* - one or more days after the first major operating room procedure code (based on days from admission to procedure)

**ICD-9-CM Acute respiratory failure diagnosis codes:**

51881 ACUTE RESPIRATORY FAILURE

51884 ACUTE & CHRONIC RESP FAIL

**ICD-9-CM Mechanical ventilation for 96 consecutive hours or more procedure code:**

9672 CONTINUOUS MECHANICAL  
VENTILATION FOR 96 CONSECUTIVE  
HRS OR MORE

**ICD-9-CM Mechanical ventilation procedure codes:**

9670 CONTINUOUS MECHANICAL  
VENTILATION OF UNSPEC DURATION

9671 CONTINUOUS MECHANICAL  
VENTILATION FOR LESS THAN 96  
CONSECUTIVE HRS

**ICD-9-CM Reintubation procedure code:**

9604 INSERT OF SENSTAKEN TUBE

## Denominator

All elective\* surgical discharges under age 18 defined by specific DRGs or MS-DRGs and an ICD-9-CM code for an operating room procedure.

\*Elective - Admission type # is recorded as elective (SID ATYPE = 3)

See *Pediatric Quality Indicators Appendices*:

- Appendix A – Operating Room Procedure Codes
- Appendix B – Surgical Discharge DRGs
- Appendix C – Surgical Discharge MS-DRGs

Exclude cases:

- with principal diagnosis of acute respiratory failure or secondary diagnosis present on admission
- where a procedure for tracheostomy is the only operating room procedure.
- where a procedure for tracheostomy occurs before the first operating room procedure.

**Note:** If day of procedure is not available in the input data file, the rate may be slightly lower than if the information was available.

- with any ICD-9-CM diagnosis code of neuromuscular disorder
- with respiratory or circulatory diseases (MDC 4 and 5)
- with any diagnosis code of craniofacial anomalies with
  - 1) a procedure code for laryngeal or pharyngeal surgery *or*
  - 2) a procedure on face
- with a procedure for esophageal resection
- with a procedure for lung cancer
- with a procedure for ENT/neck
- with any diagnosis code of degenerative neurological disorder
- MDC 14 (Pregnancy, Childbirth, and Puerperium)
- neonates with birth weight less than 500 grams (Birth Weight Category 1)
- with missing discharge gender (SEX=missing), age (AGE=missing), quarter (DQTR=missing), year (YEAR=missing) or principal diagnosis (DX1=missing)

See *Pediatric Quality Indicators Appendices*:

- Appendix I – Definitions of Neonate, Newborn, Normal Newborn, and Outborn
- Appendix L- Low Birth Weight Categories

**ICD-9-CM Tracheostomy procedure codes:**

3121	MEDIASINAL TRACHEOSTOMY	3174	REVISION OF TRACHEOSTOMY
3129	OTHER PERM TRACHEOSTOMY		

**ICD-9-CM Neuromuscular disorder codes:**

3570	AC INFECT POLYNEURITIS	3588	MYONEURAL DISORDERS NEC
35800	MYSTHNA GRVS W/O AC EXAC	3589	MYONEURAL DISORDERS NOS
35801	MYASTHNA GRAVS W AC EXAC	3590	CONG HERED MUSC DYSTRPHY
3581	MYASTHENIA IN OTH DIS	3591	HERED PROG MUSC DYSTRPHY
3582	TOXIC MYONEURAL DISORDER	3592	MYOTONIC DISORDERS

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35922	MYOTONIA CONGENITA	35971	INCLUSION BODY MYOSITIS IBM (OCT09)
35923	MYOTONIC CHONDRODYSTRPHY	35979	OTHER INFLAMMATORY AND IMMUNE MYOPATHIES, NEC (OCT09)
3593	FAMIL PERIODIC PARALYSIS	35981	CRITICAL ILLNESS MYOPHTHY
3594	TOXIC MYOPATHY	35989	MYOPATHIES NEC
3595	MYOPATHY IN ENDOCRIN DIS	3599	MYOPATHY NOS
3596	INFL MYOPATHY IN OTH DIS		

**ICD-9-CM Laryngeal or pharyngeal surgery codes:**

253	COMPLETE GLOSSECTOMY	3029	OTHER PARTIAL LARYNGECTOMY
254	RADICAL GLOSSECTOMY	303	COMPLETE LARYNGECTOMY
2731	LOCAL EXCISION OR DESTRUCTION OF LESION OR TISSUE OF BONY PALATE	304	RADICAL LARYNGECTOMY
290	PHARYNGOTOMY	313	OTHER INCISION OF LARYNX OR TRACHEA
2933	PHARYNGECTOMY (PARTIAL)	315	LOCAL EXCISION OR DESTRUCTION OF LESION OR TISSUE OF TRACHEA
2939	OTHER EXCISION OR DESTRUCTION OF LESION OR TISSUE OF PHARYNX	3169	OTHER REPAIR OF LARYNX
294	PLASTIC OPERATION ON PHARYNX	3173	CLOSURE OF OTHER FISTULA OF TRACHEA
2953	CLOSURE OF OTHER FISTULA OF PHARYNX	3175	RECONSTRUCTION OF TRACHEA AND CONSTRUCTION OF ARTIFICIAL LARYNX
2959	OTHER REPAIR OF PHARYNX	3179	OTHER REPAIR AND PLASTIC OPERATIONS ON TRACHEA
2991	DILATION OF PHARYNX	3198	OTHER OPERATIONS ON LARYNX
3009	OTHER EXCISION OR DESTRUCTION OF LESION OR TISSUE OF LARYNX	3199	OTHER OPERATIONS ON TRACHEA
3021	EPIGLOTTIDECTOMY		
3022	VOCAL CORDECTOMY		

**ICD-9-CM Procedure on face codes:**

252	PARTIAL GLOSSECTOMY	7665	SEGMENTAL OSTEOPLASTY [OSTEOTOMY] OF MAXILLA
2559	OTHER REPAIR AND PLASTIC OPERATIONS ON TONGUE	7666	TOTAL OSTEOPLASTY [OSTEOTOMY] OF MAXILLA
2732	WIDE EXCISION OR DESTRUCTION OF LESION OR TISSUE OF BONY PALATE	7646	OTHER RECONSTRUCTION OF OTHER FACIAL BONE
2762	CORRECTION OF CLEFT PALATE	7669	OTHER FACIAL BONE REPAIR
2763	REVISION OF CLEFT PALATE REPAIR	7691	BONE GRAFT TO FACIAL BONE
2769	OTHER PLASTIC REPAIR OF PALATE		
2931	CRICOPHARYNGEAL MYOTOMY		

**ICD-9-CM Craniofacial abnormality diagnosis codes:**

74483	MACROSTOMIA	7483	CONGENITAL ANOMALIES OF SKULL AND FACE BONES
74484	MICROSTOMIA		
7449	UNSPECIFIED ANOMALIES OF FACE AND NECK	7560	TRACHEOMALACIA AND CONGENITAL TRACHEAL STENOSIS

**ICD-9-CM Esophageal resection procedure codes:**

424	ESOPHAGECTOMY	4258	THORAC INTERPOSITION NEC
4240	ESOPHAGECTOMY NOS	4259	THORAC ESOPHAG ANAST NEC
4241	PARTIAL ESOPHAGECTOMY	426	STERN ESOPHAG ANAST
4242	TOTAL ESOPHAGECTOMY	4261	STERN ESOPHAGOGASTROSTOM
425	THORAC ESOPHAG ANAST	4262	STERN ESOPHAGOGASTROSTOM
4251	THORAC ESOPHAGOGASTROSTOM	4263	STERN SM BOWEL INTERPOS
4252	THORAC ESOPHAGOGASTROSTOM	4264	STERN ESOPHAGOENTER NEC
4253	THORAC SM BOWEL INTERPOS	4265	STERN LG BOWEL INTERPOS
4254	THORAC ESOPHAGOENTER NEC	4266	STERN ESOPHAGOCOLOS NEC
4255	THORAC LG BOWEL INTERPOS	4268	STERN INTERPOSITION NEC
4256	THORAC ESOPHAGOCOLOS NEC	4269	STERN ESOPHAG ANAST NEC

**ICD-9-CM Procedure on lung cancer codes:**

3239	OTH SEG LUNG RESECT NOS	3259	OTHER PNEUMONECTOMY NOS
3249	LOBECTOMY OF LUNG NEC		

**ICD-9-CM Procedure on nose, mouth and pharynx codes:**

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214	RESECTION OF NOSE	2742	WIDE EXCISION OF LIP LES
2161	DIATHER/CRYO TURBINECTOM	2743	EXCISION OF LIP LES NEC
2162	TURBINATE FRACTURE	2749	EXCISION OF MOUTH NEC
2169	TURBINECTOMY NEC	2753	CLOSURE OF MOUTH FISTULA
2172	OPEN REDUCTION NASAL FX	2754	REPAIR OF CLEFT LIP
2199	NASAL OPERATION NEC	2755	FULL-THICK GRFT TO MOUTH
2231	RADICAL MAXILLARY ANTROT	2756	SKIN GRAFT TO MOUTH NEC
2239	EXT MAXILLARY ANTROT NEC	2757	PEDICLE ATTACH TO MOUTH
2241	FRONTAL SINUSOTOMY	2759	MOUTH REPAIR NEC
2242	FRONTAL SINUSECTOMY	2761	SUTURE OF PALATE LACERAT
2250	SINUSOTOMY NOS	2762	CLEFT PALATE CORRECTION
2251	ETHMOIDOTOMY	2763	REVIS CLEFT PALAT REPAIR
2252	SPHENOIDOTOMY	2764	INSERT PALATAL IMPLANT (2004)
2253	MULTIPLE SINUS INCISION	2769	OTH PLASTIC REPAIR PALAT
2260	SINUSECTOMY NOS	2771	INCISION OF UVULA
2261	C-LUC EXC MAX SINUS LES	2772	EXCISION OF UVULA
2262	EXC MAX SINUS LESION NEC	2773	REPAIR OF UVULA
2263	ETHMOIDECTOMY	2779	OTHER UVULA OPERATIONS
2264	SPHENOIDECTOMY	2792	MOUTH INCISION NOS
2271	NASAL SINUS FISTULA CLOS	2799	ORAL CAVITY OPS NEC
2279	NASAL SINUS REPAIR NEC	280	PERITONSILLAR I & D
229	OTHER NASAL SINUS OPS	284	EXCISION OF TONSIL TAG
242	GINGIVOPLASTY	285	EXCISION LINGUAL TONSIL
251	DESTRUCTION TONGUE LES	2891	INCIS TO REMOV TONSIL FB
252	PARTIAL GLOSSECTOMY	2892	EXCIS TONSIL/ADENOID LES
253	COMPLETE GLOSSECTOMY	2899	TONSIL/ADENOID OPS NEC
254	RADICAL GLOSSECTOMY	290	PHARYNGOTOMY
2559	REPAIR OF TONGUE NEC	292	EXC BRANCHIAL CLEFT CYST
2594	OTHER GLOSSOTOMY		DESTRUCT PHARYNGEAL LES (1980 -
2599	TONGUE OPERATION NEC	293	1991)
2621	SALIVARY CYST MARSUPIAL	2931	CRICOPHARYNGEAL MYOTOMY (1991)
2629	SALIV LESION EXCIS NEC	2932	PHARYNGEAL DIVERTICULEC (1991)
2630	SIALOADENECTOMY NOS	2933	PHARYNGECTOMY (1991)
2631	PARTIAL SIALOADENECTOMY	2939	EXCIS/DESTR LES PHAR NEC (1991)
2632	COMPLETE SIALOADENECTOMY	294	PLASTIC OP ON PHARYNX
2641	SUTURE OF SALIV GLND LAC	2951	SUTURE OF PHARYNGEAL LAC
2642	SALIVARY FISTULA CLOSURE	2952	CLOS BRANCH CLEFT FISTUL
2649	SALIVARY REPAIR NEC	2953	CLOS PHARYNX FISTULA NEC
2699	SALIVARY OPERATION NEC	2954	LYSIS PHARYNGEAL ADHES
270	DRAIN FACE & MOUTH FLOOR	2959	PHARYNGEAL REPAIR NEC
271	INCISION OF PALATE	2992	DIVIS GLOSSOPHARYNG NERV
2731	LOC EXC BONY PALATE LES	2999	PHARYNGEAL OPERATION NEC
2732	WIDE EXC BONY PALATE LES		

**ICD-9-CM Degenerative neurological disorder diagnosis codes:**

2900	SENILE DEMENTIA UNCOMP	2940	AMNESTIC SYNDROME
29010	PRESENILE DEMENTIA	2941	DEMENTIA IN OTH DISEASES
29011	PRESENILE DELIRIUM		DEMENTIA IN OTH DISEASES WO
29012	PRESENILE DELUSION	29410	BEHAVRAL (OCT00)
29013	PRESENILE DEPRESSION		DEMENTIA IN OTH DISEASES
29020	SENILE DELUSION	29411	WBEHAVIORAL (OCT00)
29021	SENILE DEPRESSIVE	2948	ORGANIC BRAIN SYND NEC
2903	SENILE DELIRIUM	2949	ORGANIC BRAIN SYND NOS
29040	ARTERIOSCLER DEMENT NOS	3100	FRONTAL LOBE SYNDROME
29041	ARTERIOSCLER DELIRIUM	3102	POSTCONCUSSION SYNDROME
29042	ARTERIOSCLER DELUSION	3108	NONPSYCHOT BRAIN SYN NEC
29043	ARTERIOSCLER DEPRESSIVE	3109	NONPSYCHOT BRAIN SYN NOS
2908	SENILE PSYCHOSIS NEC	3310	ALZHEIMERS DISEASE
2909	SENILE PSYCHOT COND NOS	3311	FRONTOTEMPORAL DEMENTIA
2930	ACUTE DELIRIUM		PICKS DISEASE
2931	SUBACUTE DELIRIUM		

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33119	OTHER FRONTOTEMPORAL DEMENTIA	33182	DEMENTIA WITH LEWY BODIES
3312	SENILE DEGENERAT BRAIN	797	SENILITY WITHOUT MENTION OF PSYCHOSIS