

**Abstraction Instrument for Validation of Selected AHRQ
Quality Indicators**

PSI 11: Postoperative Respiratory Failure (January 10, 2008; Draft 4.15)

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Section 1: Abstractor details

1.1 Date abstraction completed

__/__/____

1.2 Abstractor identification number

Section 2: Record identification/validation

2.1 AHRQ Study identification number

2.2 Medical record number/Patient control number

2.3 Date of birth

__/__/____

2.4 Gender

- Male
- Female

2.5 Date of admission

___/___/____

2.6 Date of discharge

__/__/____

Section 3: Ascertainment of Event

3.1 Does the chart identify that the patient had an operative procedure during this hospital admission?

- Yes → Identify where operative procedure was performed:
 - Operating Room (O.R)
 - Interventional Radiology Lab (I.R)
 - Special Procedure (Endoscopy Lab)
 - Catheterization Lab (Cath Lab)
 - Bedside
 - Other
- No → If NO, explain why the patient was reported as having an operative procedure in the TEXT BOX.

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3.2 Was this hospital admission elective?

- Yes
- No → IF NO, please explain in the TEXT BOX.
- Uncertain or documentation insufficient

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3.3 What was the admission source?

- Emergency Department (ED) → IF YES, explain in the TEXT BOX.
- Direct Admission
- Transferred from another acute care hospital
- Transferred from a long-term care or residential facility
- Unknown
- Other (specify): _____

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3.4 Did the patient have a tracheostomy tube placed during this hospitalization?

- Yes → answer 3.4a thru 3.4c
- No ,a tracheostomy tube was present on admission
- No, a tracheostomy tube was not present on admission nor placed during this hospitalization

3.4a Date of tracheostomy: __/__/____

3.4b Was the only operative procedure that the patient underwent during this hospitalization a tracheostomy?

- Yes ⇒ If **YES**, explain in the TEXT BOX and END the abstraction
- No

3.4c Was the tracheostomy performed before the first operating procedure?

- Yes
- No

3.5 Status of acute respiratory failure. Check all that apply.

- Diagnosis of acute respiratory failure was present on admission
- Diagnosis of acute respiratory failure was not present at admission but preceded first operative procedure. (answer Q3.5a)

3.5a Date of acute respiratory failure diagnosis: __/__/____

- Diagnosis of acute respiratory failure **after** first operative procedure (answer Q 3.5b)

3.5b Date of acute respiratory failure diagnosis: __/__/____

- Diagnosis of acute respiratory failure was not made during this admission (then answer Q 3.5c)

3.5c Comment on the circumstances that caused this case to be flagged for postoperative respiratory failure.

For the next four questions (Q3.6-3.9), the “principal diagnosis “is the condition that was found “after study” to be chiefly responsible for occasioning the admission of the patient.

3.6 Was pregnancy or some condition related to pregnancy the “**principal diagnosis?**”

- Yes → IF YES to Q3.6, explain why the chart was most likely flagged for abstraction in the TEXT BOX and END the abstraction.
- No

3.7 Did the patient have any of the following respiratory diseases or disorders as the **“principal diagnosis?”**

- Acute respiratory failure
- Chronic obstructive pulmonary disease (COPD)
- Bronchitis
- Asthma
- Pneumonia or other respiratory infection
- Congestive heart failure (CHF) with pulmonary edema
- Pulmonary embolism
- Interstitial pneumonitis or fibrosis
- Cancer of the lung or respiratory tract
- Chest trauma
- Pleural effusion
- Spontaneous pneumothorax
- Other major respiratory illness
- No disease of the respiratory system as the primary diagnosis

IF YES to any of the above conditions, please justify why this condition is the principal diagnosis in the TEXT BOX below and END the abstraction.

3.8 Did the patient have any diseases/disorders of the circulatory system as the **“principal diagnosis?”**

- Acute myocardial infarction
- Heart failure
- Cardiac arrhythmia
- Cardiac valvular disease
- Peripheral vascular disease
- Hypertension
- Endocarditis

- Coronary artery disease (CAD)
- Other major circulatory disorder
- No disease of the circulatory system as the primary diagnosis

If YES to any of the above conditions, please justify why this condition is the principal diagnosis in the TEXT BOX below and END the abstraction.

3.9 Does the medical record indicate that the patient had any of the following neuromuscular disorders? Check all that apply.

- Myoneural disorder (e.g., myasthenia gravis, Eaton-Lambert syndrome)
- Acute infective polyneuritis (e.g., Guillain-Barre syndrome)
- Muscular dystrophy or other myopathy (e.g., myopathy of critical illness)
- No, the patient had none of the listed neuromuscular disorders

IF YES to any of the above conditions, specify the exact diagnosis in the TEXT BOX and then END the abstraction.

Section 4: Risk Factors

4.1 Does the medical record indicate that the patient had any of the following non-exclusionary neuromuscular related risk factors? Check all that apply.

- Dementia (e.g., Alzheimer's disease, vascular dementia)
- Spinocerebellar disease (e.g., Friedreich's ataxia, primary cerebellar degeneration)
- Parkinson's disease
- Motor neuron disorder (e.g., amyotrophic lateral sclerosis, progressive bulbar palsy)
- Multiple sclerosis or other demyelinating disorder
- Quadriplegia, paraplegia, or hemiplegia
- Poliomyelitis (including chronic polio)
- Other chronic neurologic or neuromuscular disorder:
Specify _____
- None of the above

4.2 Indicate the Preoperative Anesthesia Coding (ASA physical status) for the initial operation as indicated in the anesthesiology record. Check One.

- ASA I (normal, healthy patient)
- ASA II (patient with mild systemic disease)
- ASA III (patient with severe systemic disease)
- ASA IV (patient with severe systemic disease that is a constant threat to life)
- ASA V (moribund patient who is not expected to survive without the operation)
- Not documented

4.3 Height and weight prior to first surgery:

Height:
____.____ (cm) or __ ft __ inches

Unknown/not documented

Weight:
____.____ (kg) or ____ pounds (lbs)

Unknown/not documented

Section 5: Evaluation and Treatment

Complete the following set of questions for each operation performed during this hospital admission prior to the first diagnosis of postoperative respiratory failure.

Duplicate this page for each additional operative performed prior to the first diagnosis of respiratory failure. **Operating room trip number: _ _**

5.1 Indicate the name(s) and ICD-9-CM procedure code(s) for each major procedure performed during this operation. Limit your answer to the top three procedures. Do not include incidental or minor procedures:

Procedure: _____ . ____ [ICD-9-CM]
 Procedure: _____ . ____ [ICD-9-CM]
 Procedure: _____ . ____ [ICD-9-CM]

5.2 Operative date and times:

Operative date & times	Date	Time: (24 hr clock)
Anesthesia induction/start:	____ / ____ / ____	____:____ <input type="checkbox"/> Time unknown
Surgery start:	____ / ____ / ____	____:____ <input type="checkbox"/> Time unknown
Surgery finish:	____ / ____ / ____	____:____ <input type="checkbox"/> Time unknown
Anesthesia finish:	____ / ____ / ____	____:____ <input type="checkbox"/> Time unknown

5.3 Identify the type of anesthesia used on this operation. Select all that apply.

- General by inhalation (IF Yes, answer Q5.4)
 - Endotracheal
 - Laryngeal mask airway
 - Mask
- Regional (If yes, answer Q5.3a)
- Local
- Conscious sedation

5.3a Type of regional anesthesia delivery:

- Spinal
- Lumbar epidural → Was the epidural retained for postoperative pain control?
 - Yes No
- Thoracic epidural → Was the epidural retained for postoperative pain control?
 - Yes No
- Peripheral nerve or plexus block

Duplicate this page for each additional operative performed prior to the first diagnosis of respiratory failure. **Operating room trip number: _ _**

5.4 IF YES to Q 5.3(general inhalation anesthesia), what type of intra-operative neuromuscular blockade agent was used? Check all that apply.

- Atracurium
- Rocuronium
- Pancuronium
- None (skip to Q5.5)
- Other—write the name of the medication
- Cisatracurium
- Vecuronium

5.4a If any of the agents in Q5.4 were given, was it reversed pharmacologically?

- Yes
- No

5.5 Indicate the estimated blood loss (mL) that is recorded in the surgeon’s record for this operation. Use the anesthesiologist’s record if the blood loss is not recorded in the surgeon’s record.

_____ mL Not documented

5.6 State the date and time the patient first got out of bed postoperatively:

Date: __/__/____ Time: __: __

- Patient never got OOB
- Time unknown

5.7 Was the patient intubated for the operation?

- Yes → If yes, complete the following table.
- No

Intubation	Immediate reason for Intubation	Extubation
1. Initial intubation: Date __ __ ____ Time __: __	<input type="checkbox"/> Routine intubation (e.g., surgery) <input type="checkbox"/> Airway compromise <input type="checkbox"/> Hypoxia <input type="checkbox"/> Hypoventilation <input type="checkbox"/> Other Airway concerns: explain below: Comment:	Date __ __ ____ Time: __: __

Duplicate this page for each additional operative performed prior to the first diagnosis of respiratory failure. Operating room trip number: _ _

5.8 Was the patient intubated or reintubated **after** the initial operation but prior to any additional operations?

- Yes → If yes, complete the following table for each post-operative intubation.
- No

This table is for intubations after the initial operation. Complete this table for each intubation up to the 5th. If the patient was **not** intubated after his or her initial operation, SKIP to Q5.8. **Duplicate** this table for each intubation up to and including the 5th occurrence.

Intubation # ___	Immediate reason for Intubation		Extubation # ___
Date: ___/___/___ Time: ___:___	<input type="checkbox"/> Routine intubation (e.g., surgery) <input type="checkbox"/> Airway compromise <input type="checkbox"/> Hypoxia <input type="checkbox"/> Hypoventilation <input type="checkbox"/> Other Airway concerns → explain below:		Date: ___/___/___ Time: ___:___
Comments:			
	ABG Pre-intubation	Oxygen Saturation Pre-intubation	ABG Post-intubation
Date:	___/___/___	___/___/___	___/___/___
Time:	___:___	___:___	___:___
FiO ₂ (%)	___ %	___ %	___ %
PaO ₂ (mmHg) or SaO ₂ (%)	___ mm Hg	___ %	___
PaCO ₂ (mmHg)	___	___	___
pH	___	___	___
Respiratory rate	___	___	Ventilatory Support <input type="checkbox"/> Yes <input type="checkbox"/> No
Indicate the condition(s) that contributed to the patient's re-intubation:		Where in the hospital was this patient intubated?	
<input type="checkbox"/> Pneumonia <input type="checkbox"/> Fluid overload/pulmonary edema <input type="checkbox"/> Pulmonary embolism <input type="checkbox"/> Atelectasis <input type="checkbox"/> Mucous plugging <input type="checkbox"/> Other airway obstruction (bronchospasm) <input type="checkbox"/> Aspiration <input type="checkbox"/> Sepsis / SIRS (not pulmonary) <input type="checkbox"/> ARDS <input type="checkbox"/> Poor respiratory effort <input type="checkbox"/> Oversedation (overnarcotization). <input type="checkbox"/> Other _____		<input type="checkbox"/> Intensive care unit (ICU) <input type="checkbox"/> Step-down unit (e.g., SD or telemetry unit) <input type="checkbox"/> Medical surgical unit <input type="checkbox"/> Post-anesthesia care unit(PACU) <input type="checkbox"/> Procedure room <input type="checkbox"/> Operating room <input type="checkbox"/> Other → If other, state: _____	

Comments:

Once this table has been completed for up to the 5th occurrence of post-operative intubation, go to Q5.14.

For patients that never had an endotracheal tube inserted postoperatively, complete Q5.10-5.14.

5.10 What was the lowest arterial PO₂ measured after the patient's first operation? Indicate the corresponding date and time.

Date: __ / __ / ____ Time: __: __ ____ mmHg (skip to Q5.11)

- or No arterial blood gas performed
 Documentation insufficient

5.11 What was the highest arterial PCO₂ measured after the patient's first operation? Indicate the corresponding date and time.

Date: __ / __ / ____ Time: __: __ ____ mmHg

- or No arterial blood gas performed (skip to Q5.12)
 Documentation insufficient

5.12 What was the lowest oxygen saturation (SaO₂) measured after the patient's first operation (e.g., pulse oximetry reading)? Indicate the corresponding date and time.

Date: __ / __ / ____ Time: __: __ ____ . __%

- Documentation insufficient

5.13 What was the **highest** level of breathing support after the patient's first operation?

- Nasal cannula
 Face mask
 BIPAP/CPAP
 Critical documentation missing

5.14 Indicate the condition(s) as stated by the physician that were potentially responsible for the occurrence of postoperative respiratory failure. Check all that apply.

- Pneumonia
 Fluid overload/pulmonary edema

- Pulmonary embolism
- Atelectasis
- Mucous plugging
- Other airway obstruction (bronchospasm)
- Aspiration
- Sepsis/SIRS (unrelated to a primary pulmonary process)
- ARDS
- Oversedation including overnarcotization
- Poor respiratory effort
- Other → IF other, indicate the condition in the TEXT BOX
- Critical documentation missing

ALL PATIENTS:

5.15 Complete this table for all patients who used patient controlled epidural analgesia during the first 48 hours following the first operation.

Characteristic		Patient controlled epidural analgesia
First use (must be within 48 hours of the first operation)	Date	__ / __ / ____
	Time	__ : __
Last use (can be any time during the hospital stay)	Date	__ / __ / ____
	Time	__ : __
Level		<input type="checkbox"/> Thoracic <input type="checkbox"/> Lumbar
Were opiates administered?		<input type="checkbox"/> Yes <input type="checkbox"/> No
Was a local anesthetic medication (e.g., lidocaine or bupivacaine) administered?		<input type="checkbox"/> Yes <input type="checkbox"/> No

- Patient did not receive post-operative epidural PCA within the first 48 hours.

Section 6: Outcomes

6.1 Does the chart suggest that the patient experienced any of the following adverse effects as a result of respiratory failure? Check all that apply.

- Residual disability or impairment of normal function
- Discharged from hospital with a tracheostomy
- Transfer to a long-term care hospital for the purpose of ongoing ventilator management
- Death
- None of the above or not documented

6.2 Was the patient readmitted to your facility within 30 days of discharge?

- Yes → IF YES, answer Q6.3.
- No
- Critical documentation missing

6.3 If there are special circumstances or comments related to this case that you feel are important that were not captured in the survey, please state in the TEXT BOX. (Keep comments to 200 words or less).

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