

Postulated Mechanism of Action	Patient subgroups it would be applied to (if none indicated, collect among all patients)	Patient subgroups for whom this measure may be contra-indicated (e.g., risk of harm)	Notes
Reduces antimicrobial count.		Those that have an allergy to any of the components of treatment.	
Reduces antimicrobial count.		Those that have an allergy to any of the components of treatment.	<p>If the patient had no culture, but was still treated, select "no" here.</p>
			The answer is "no" if a patient did not get Mupirocin pre-op but was started on it post-op.
			If the patient had no culture, but was still treated, select "yes" here.

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Lung Protective Ventilation	Intra-operative Lung Protective Ventilation	If no value, leave blank What was the highest tidal volume (ml) the last hour before the end of surgery (i.e., patient would have been off bypass)? Data likely in the anesthesia bypass record (suggested value: >200 and <800).	Excessive tidal volumes and/or distending pressures may promote lung injury and prolong ventilator days leading to an increased risk of postoperative pneumonia. 1. The acceptance data value of Positive end-expiratory pressure (PEEP) : >0 and <25 (if data value out of this range in data entry, will give the error and rejected) 2. The acceptance data value of Highest Tidal Volume: >200 and <800. (if data value out of this range in data entry, will give the error and rejected)		None	Primary intra-operative data source: anesthesia records
	Intra-operative Lung Protective Ventilation	What was the highest positive end expiratory pressure during the last hour before the end of surgery? End of surgery defined as SKIN INCISION STOP (Seq #2270 of the STS manual) (i.e., patient would have been off bypass). Data likely in the anesthesia bypass record (suggested value: >0 and <25).				

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Post-operative Lung Protective Ventilation	What was the highest tidal volume (ml) between the 2nd hour after admission to the ICU up through the 1st hour before extubation? (suggested value: >200 and <800). Use returned tidal volume.	Excessive tidal volumes and/or distending pressures may promote lung injury and prolong ventilator days leading to an increased risk of postoperative pneumonia. 1. The acceptance data value of Highest Tidal Volume: >200 and <800. (if data value out of this range in data entry, will give the error and rejected)	Patients on mandatory ventilation	Patients in active weaning (i.e., pressure support modes - severe metabolic acidosis as low tidal volumes may worsen acidosis by adding a respiratory component)	Primary post-operative data source: Respiratory Care flow sheet
Post-operative Lung Protective Ventilation	What was the highest peak inspiratory pressure during the 2nd hour after admission to the ICU up through the 1st hour before extubation? (suggested value: <25).	2. The acceptance data value of Peak Inspiratory Pressure: <60. (if data value less than or equal to 60 in data entry, will give the error and rejected)			
Diagnosis Date	Patient had post-operative pneumonia				
	Yes				
	No				
	If yes, indicate the date (mm/dd/20yy) when the patient met criteria for STS diagnosis of pneumonia.		Patients diagnosed with post-operative pneumonia.		
Please document the extent of compliance with the following components of ICU care while the patient was intubated. This includes the total experience of all intubations.					If the patient was intubated twice, e.g., please look at documentation during both
Was the patient intubated for more than 24 hours?					
	Yes				
	No				

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Daily assessment of oral care with CHG	Was there compliance with daily oral care with chlorhexidine?	Oral hygiene care methods may be effective at combatting possibly pathogenic flora.		Contra-indications for CHG (i.e., existing allergy)	All of the time means compliance every day that the patient is intubated.	From the IHI "how to" guide: Administration recommends 0.12% oral chlorhexidine for use as mouth rinse. In a meta-analysis by Chan and colleagues published in 2007 in the British Medical Journal, eleven studies were evaluated for effect of oral decontamination on the incidence of ventilator-associated pneumonia and mortality in mechanically ventilated adults. Results of that analysis concluded that oral decontamination of mechanically ventilated adults using chlorhexidine is associated with a lower risk of ventilator-associated pneumonia.
	All of the time				Some of the time means compliance on some, but not all, days while the patient is intubated.	
	Some of the time (Pertains to compliance. There was documentation of this measure every day the patient was intubated.)				Not always documented means that it was documented on some, but not all days.	
	Not always documented (i.e. if there isn't documentation of this measure every day the patient was intubated)					
	Not applicable - patient extubated <24 hours					
Spontaneous awakening	Perform spontaneous awakening trials daily		All patients on mechanical ventilation being treated with sedative medication (e.g., lorazepam, midazolam, propofol, fentanyl, morphine, meperidine, hydromorphone, or dexmedetomidine).	Surgical reasons or some of the following: Patients receiving a sedative infusion for active seizures or alcohol withdrawal, escalating sedative doses due to ongoing agitation, neuromuscular blockade, evidence of active myocardial ischemia within the previous 24 hours, evidence of increased intracranial pressure.		
	All of the time				The clinical team suggested that the patient should not receive a spontaneous awakening trial.	
	Not always documented (i.e. if there isn't documentation of this measure every day the patient was intubated)					
	Some of the time (Pertains to compliance. There was documentation of this measure every day the patient was intubated.)					
	Clinical contra-indication					
Not applicable						
Spontaneous breathing trials	Perform spontaneous breathing trials daily		All patients on mechanical ventilation.	None	A trial of spontaneous breathing is defined as a period of time where ventilator support is removed. Examples of how this may be done include:	
	All of the time					

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	<p>Not always documented (i.e. if there isn't documentation of this measure every day the patient was intubated)</p> <p>Some of the time (Pertains to compliance. There was documentation of this measure every day the patient was intubated.)</p> <p>Clinical contra-indication</p> <p></p> <p>Was spontaneous breathing trial always done at the same time as the spontaneous awakening trials?</p> <p>All of the time</p> <p>Not always documented (i.e. if there isn't documentation of this measure every day the patient was intubated)</p> <p>Some of the time (Pertains to compliance. There was documentation of this measure every day the patient was intubated.)</p>				<ul style="list-style-type: none"> Breathe through a T-tube circuit, or Breathe through a ventilator circuit using "flow triggering" with continuous positive airway pressure of 0–5 cm of water and/or pressure support ventilation with 5–8 cm of water. 	
Use of subglottic suctioning	<p>Indicate if subglottic suctioning was performed thru a subglottic port-equipped endotracheal tube (N/Y)</p> <p></p> <p>Yes</p> <p>No</p> <p>Not applicable</p>	Subglottic suctioning may reduce bacteria burden		None	<p></p> <p>Had a subglottic port-equipped endotracheal tube and did suctioning.</p> <p>Had a subglottic port-equipped endotracheal tube but did not do suctioning.</p> <p>This measure may not be applicable if a center does not have subglottic port-equipped endotracheal tubes.</p>	
Reasons for each Re-intubation	<p>Was the patient re-intubated?</p> <p>Yes</p> <p>No</p> <p>Not applicable</p> <p>Please select any of the reasons for re-intubation (more than one selection as needed). Re-intubation: Whether the patient was reintubated during the hospital stay after the initial extubation. This may include patients who have been extubated in the OR and require intubation in the postoperative period. Do not code reintubation if the patient self extubates and is immediately reintubated. If patient returns to the OR and intubation is required postoperatively, code Yes to reintubated.</p> <p>Upper airway obstruction</p>		Patients previously intubated		Primary data sources: Respiratory therapy flow sheet or nursing/physician progress notes	

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	<p>Impaired clearance of secretions</p> <p>Respiratory failure (respiratory rate>30, or PCO2>60mmHg, or pH<7.25, or depressed conscious level, or based on judgment of the treating/managing physician)</p> <p>Acute hypoxia (P02<60) secondary to:</p> <p>Acute post-operative lung injury syndrome</p> <p>Acute post-operative fluid overload</p> <p>Acute post-operative pneumonia</p> <p>Inadequate respiratory parameters, e.g. due to pain</p> <p>Insecure airway</p> <p>Cardiovascular (tamponade, dysrhythmia with hemodynamic instability, cardiac arrest)</p> <p>Neurological impairment</p> <p>Return to the operating room to address bleeding concerns</p> <p>Post-operative bleeding (>100 cc/hour for 2 consecutive hours)</p> <p>Accidental extubation</p> <p>Prolonged effects of anesthesia and sedation</p> <p>Other () free text</p>					
Open ICU	Physicians, irrespective of specialty, can admit patients into the ICU absent mandatory intensivist consultation.					
Semi-open ICU	Daily ICU rounds by an intensivist, ICU directorship by an intensivist, or simply the presence of a full-time intensivist in the ICU.					
Semi-closed ICU	Open ICU model in which all patients receive mandatory consultation from an intensivist. The internist, family physician, or surgeon remains a co-attending-of-record with intensivists collaborating in the management of all ICU patients.					
Closed ICU	Patients admitted to the ICU are transferred to the care of an intensivist assigned to the ICU on a full-time basis. Generally, patients are accepted to the ICU only after approval/evaluation by the intensivist. For periods typically ranging from one week to one month at a time, the intensivist's clinical duties predominantly consist of caring for patients in the ICU, with no concurrent outpatient responsibilities.					
Surgeon-led ICU without Intensivist	Surgeon provides oversight of the patient while in the ICU, including daily rounding and management. Management of the patient does not involve the use of an intensivist, but may include consultation by other providers (e.g., pulmonologist, nephrologist).					
Post-operative ICU management only collect once (single answer only)	<p>Which clinical service primarily manages the patient while in the ICU</p> <p>Cardiac surgery</p> <p>Intensivist/Critical Care</p> <p>Cardiology</p>	Type of ICU specialist may influence early detection and treatment to prevent pneumonia.				

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	Shared Other					
Patient received formal consult during the admission	Did the patient receive at least 1 formal clinical consult during the admission? (N/Y)	Appropriate consultation by a specialist may influence early detection and treatment to prevent pneumonia.				
Type and use of consult services, during the entire hospital stay	If yes, by which clinical service (more than one selection as needed). Anesthesiology Pulmonology Critical Care Cardiology General Surgery Nephrology Internal Medicine Neurology Infectious Disease Endocrinology Gastroenterology Intensivist Respiratory Therapy Speech Therapy Physical Therapy Other	Appropriate consultation by a physician or other clinical specialist (including RT, PT, and speech therapy) may influence early detection and treatment to prevent pneumonia.			When answering this question, please only consider the service an individual is providing, irrespective of their training. E.g. if an intensivist is also a pulmonologist by training, just select intensivist. If the intensivist is not called upon as a pulmonologist, you would not select "pulmonology critical care." If you have an intensivist as part of your regular management team, there would not be a consult for one.	
Time to Chair	If times are not known, leave blank. Please type in the colon when listing the time, as the system does not automatically populate it. What was the date/time when the patient was transferred to chair? mm/dd/yyyy hh - 24 hr clock Not documented Not applicable (e.g. patient remained in bed)	Early progressive mobility reduces postoperative / pneumonia complications, ICU LOS, hospital LOS, ventilator days, VAE's, and readmission rates				
Time to Ambulation	What was the date/time when the patient began ambulating? mm/dd/yyyy hh - 24 hr clock Not documented	Early progressive mobility reduces postoperative / pneumonia complications, ICU LOS, hospital LOS, ventilator days, VAE's, and readmission rates	Hemodynamically stable patient & ambulating at baseline	Patients not ambulating at baseline	Ambulation: If there is evidence in the medical record that a patient took more than one step, or there is mention of "ambulation."	

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	Not applicable (e.g. patient remained in bed)					
Time to Ambulation>150ft	What was the date/time when the patient began ambulating greater than	Early progressive mobility reduces postoperative / pneumonia complications, ICU LOS, hospital LOS, ventilator days, VAE's, and readmission rates	Hemodynamically stable patient & ambulating at baseline	Patients not ambulating at baseline		
	mm/dd/yyyy					
	hh - 24 hr clock					
	Not documented					
	Not applicable (e.g. patient remained in bed)				N/A - e.g. patient remained in bed or ambulated less than 150 ft.	
Use of bronchodilator	Indicate whether oral and/or inhaled bronchodilator or inhaled (not oral or IV) steroid medications were given to the patient post-operatively. (1=yes, 2=no, 3=unknown)	Improve pulmonary function				