

VAP physician survey

Your opinion on the approach to detecting ventilator-associated complications and pneumonia

In this section please provide your opinion about the most appropriate approach to detecting ventilator-associated complications and pneumonia. Please indicate how much you agree/disagree with the following statements:

When detecting ventilator-associated pneumonia certain clinical criteria such as unexplained worsening oxygenation should be met before proceeding to diagnostic tests to diagnose pneumonia	<input type="checkbox"/> Disagree strongly <input type="checkbox"/> Disagree <input type="checkbox"/> Agree <input type="checkbox"/> Agree strongly
If you disagree please comment:	
Ventilator-associated pneumonia may be viewed as a complication of mechanical ventilation on a continuum of ventilator-associated complications (e.g. accidental extubation, pneumothorax)	<input type="checkbox"/> Disagree strongly <input type="checkbox"/> Disagree <input type="checkbox"/> Agree <input type="checkbox"/> Agree strongly
If you disagree please comment:	
Surveillance of ventilator-associated complications should be confined to monitoring for ventilator-associated pneumonia	<input type="checkbox"/> Disagree strongly <input type="checkbox"/> Disagree <input type="checkbox"/> Agree <input type="checkbox"/> Agree strongly
If you disagree please comment:	
Surveillance of ventilator-associated complications including ventilator-associated pneumonia, should be routine	<input type="checkbox"/> Disagree strongly <input type="checkbox"/> Disagree <input type="checkbox"/> Agree <input type="checkbox"/> Agree strongly
If you disagree please comment:	
Other potential complications of mechanical ventilation such as pneumothorax should be included in routine quality surveillance	<input type="checkbox"/> Disagree strongly <input type="checkbox"/> Disagree <input type="checkbox"/> Agree <input type="checkbox"/> Agree strongly
If you disagree please comment:	

Clinical criteria for ventilator-associated pneumonia

In this section please provide your opinions regarding the **current common clinical criteria for ventilator-associated pneumonia**. Please indicate how much you agree/disagree with the following statements:

1. Changes in breathing, cough or chest sounds		
1a	New onset or worsening cough or dyspnoea or tachypnoea ^(a)	<input type="checkbox"/> Disagree strongly <input type="checkbox"/> Disagree <input type="checkbox"/> Agree <input type="checkbox"/> Agree strongly
1b	Rales or bronchial breath sounds ^(a)	<input type="checkbox"/> Disagree strongly <input type="checkbox"/> Disagree <input type="checkbox"/> Agree <input type="checkbox"/> Agree strongly
If you disagree please comment:		

a = Centers for Disease Control

2. Increasing oxygen requirements and changes in mechanical ventilator settings		
2a	Oxygenation PaO ₂ /FiO ₂ ^(a) 0 - 240 or ARDS 2 - < 240 and no ARDS	<input type="checkbox"/> Disagree strongly <input type="checkbox"/> Disagree <input type="checkbox"/> Agree <input type="checkbox"/> Agree strongly
2b	Worsening gas exchange, increased oxygen requirements or increased ventilator demand. ^(b)	<input type="checkbox"/> Disagree strongly <input type="checkbox"/> Disagree <input type="checkbox"/> Agree <input type="checkbox"/> Agree strongly
2c	After a period of stability or improvement on the ventilator, the patient has at least one of the following indicators of worsening oxygenation: ^(c) 1) Minimum daily FiO ₂ values increase ≥0.20 (20 points) over baseline and remain at or above that increased level for ≥ 2 calendar days. 2) Minimum daily PEEP values increase ≥3 cmH ₂ O over baseline and remain at or above that increased level for ≥ 2 calendar days.	<input type="checkbox"/> Disagree strongly <input type="checkbox"/> Disagree <input type="checkbox"/> Agree <input type="checkbox"/> Agree strongly
2d	Decreased PaO ₂ ^(d)	<input type="checkbox"/> Disagree strongly <input type="checkbox"/> Disagree <input type="checkbox"/> Agree <input type="checkbox"/> Agree strongly
If you disagree please comment:		

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a = CPIS criteria, b = Centers for Disease Control, c = National Healthcare Safety Network (CDC 2012), d = American College of Chest Physicians

3. Changes in the appearance or quantity of tracheal secretions		
3a	Tracheal secretions ^(a) 0 - none/scant 1 - non-purulent 2 - purulent	<input type="checkbox"/> Disagree strongly <input type="checkbox"/> Disagree <input type="checkbox"/> Agree <input type="checkbox"/> Agree strongly
3b	Tracheal secretions ^(b) 0 - Scant 1 - Moderate 2 - Large (1 additional point added for purulent sputum)	<input type="checkbox"/> Disagree strongly <input type="checkbox"/> Disagree <input type="checkbox"/> Agree <input type="checkbox"/> Agree strongly
3c	New onset of purulent sputum or change in character of sputum or increased respiratory secretions or increased suctioning requirement ^(c)	<input type="checkbox"/> Disagree strongly <input type="checkbox"/> Disagree <input type="checkbox"/> Agree <input type="checkbox"/> Agree strongly
3d	Purulent tracheobronchial secretions ^(d)	<input type="checkbox"/> Disagree strongly <input type="checkbox"/> Disagree <input type="checkbox"/> Agree <input type="checkbox"/> Agree strongly
If you disagree please comment:		

a = CPIS criteria, b = Simplified CPIS criteria, c = Centers for Disease Control, d = American College of Chest Physicians

4. Administration of antimicrobials		
4a	Administration of antimicrobials (in addition to two or more clinical criteria) ^(a)	<input type="checkbox"/> Disagree strongly <input type="checkbox"/> Disagree <input type="checkbox"/> Agree <input type="checkbox"/> Agree strongly
4b	Administration of new antimicrobials and continued use for ≥ 4 days (in addition to clinical criteria or criteria derived from diagnostic tests) ^(b)	<input type="checkbox"/> Disagree strongly <input type="checkbox"/> Disagree <input type="checkbox"/> Agree <input type="checkbox"/> Agree strongly
If you disagree please comment:		

a = Skrupky et al.(2012) in addition to American College of Chest Physicians criteria, b = National Healthcare Safety Network (CDC 2012)

Criteria for ventilator-associated pneumonia derived from diagnostic tests

In this section you will be asked to provide your opinions regarding current commonly used criteria for ventilator-associated pneumonia derived from diagnostic tests. Please indicate how much you agree/disagree with the following statements:

5. Changes in chest radiology		
5a	Chest X-ray ^(a) 0 – No infiltrate 1 – diffuse or patchy infiltrate 2 – Lobar infiltrate	<input type="checkbox"/> Disagree strongly <input type="checkbox"/> Disagree <input type="checkbox"/> Agree <input type="checkbox"/> Agree strongly
5b	Radiological – Two or more serial chest Xrays with at least one of the following: ^(b) <ul style="list-style-type: none"> • New or progressive and persistent infiltrate • Consolidation • Cavitation • Pneumatocoeles in infants ≤ 1 year 	<input type="checkbox"/> Disagree strongly <input type="checkbox"/> Disagree <input type="checkbox"/> Agree <input type="checkbox"/> Agree strongly
5c	Radiographic evidence of alveolar infiltrates, air bronchograms or new or worsening infiltrates ^(c)	<input type="checkbox"/> Disagree strongly <input type="checkbox"/> Disagree <input type="checkbox"/> Agree <input type="checkbox"/> Agree strongly
If you disagree please comment:		

a = Simplified CPIS criteria, b = Centers for Disease Control, c = American College of Chest Physicians

6. Signs of a systemic inflammatory response		
6a	Temperature ^(a) 0 - 36.5 – 38.4°C 1 - 38.5 – 38.9°C 2 - <36 or >39°C	<input type="checkbox"/> Disagree strongly <input type="checkbox"/> Disagree <input type="checkbox"/> Agree <input type="checkbox"/> Agree strongly
6b	White cell count ^(a) 0 – 4,000 – 11,000/mm ³ 1 - <4,000 or >11,000/mm ³ 2 - <4,000 or >11,000/mm ³ AND band forms \geq 50%	<input type="checkbox"/> Disagree strongly <input type="checkbox"/> Disagree <input type="checkbox"/> Agree <input type="checkbox"/> Agree strongly

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6c	<p>For any patient at least ONE of the following^(b)</p> <ul style="list-style-type: none"> • Fever (>38°C) • Leukopenia (<4000 WBC/mm³) or leukocytosis (\geq12000 WBC/mm³) 	<input type="checkbox"/> Disagree strongly <input type="checkbox"/> Disagree <input type="checkbox"/> Agree <input type="checkbox"/> Agree strongly
6d	<p>On or after calendar day 3 of mechanical ventilation and within 2 calendar days before or after the onset of worsening oxygenation, the patient meets both of the following criteria:^(c)</p> <p>1) Temperature >38°C or <36°C, OR white blood cell count \geq12,000 cells/mm³ or \leq4,000 cells/mm³</p> <p>AND</p> <p>2) A new antimicrobial agent(s) is started, and is continued for \geq4 calendar days.</p>	<input type="checkbox"/> Disagree strongly <input type="checkbox"/> Disagree <input type="checkbox"/> Agree <input type="checkbox"/> Agree strongly
6e	<p>Temperature >38°C or <36°C^(d)</p>	<input type="checkbox"/> Disagree strongly <input type="checkbox"/> Disagree <input type="checkbox"/> Agree <input type="checkbox"/> Agree strongly
<p>If you disagree please comment:</p>		

a = CPIS criteria, b = Centers for Disease Control, c = National Healthcare Safety Network (CDC 2012), d = American College of Chest Physicians

<p>7. Microbial growth in tracheal secretions</p>		
7a	<p>Culture of tracheal secretions^(a)</p> <p>0 - Pathogenic bacterial culture minimal or no growth</p> <p>1 - Pathogenic bacteria cultured moderate or no growth</p> <p>2 - Moderate or greater growth of pathogenic bacteria as on original gram stain</p>	<input type="checkbox"/> Disagree strongly <input type="checkbox"/> Disagree <input type="checkbox"/> Agree <input type="checkbox"/> Agree strongly
7b	<p>Purulent respiratory secretions (from one or more specimen collections) AND one of the following:^(b)</p> <ul style="list-style-type: none"> • Positive culture of endotracheal aspirate, $\geq 10^5$ CFU/ml or equivalent semi-quantitative result • Positive culture of bronchoalveolar lavage, $\geq 10^4$ CFU/ml or equivalent semi-quantitative result 	<input type="checkbox"/> Disagree strongly <input type="checkbox"/> Disagree <input type="checkbox"/> Agree <input type="checkbox"/> Agree strongly

	<ul style="list-style-type: none"> • Positive culture of lung tissue, $\geq 10^4$ CFU/ml or equivalent semi-quantitative result • Positive culture of protected specimen brush, $\geq 10^3$ CFU/ml or equivalent semi-quantitative result 	
If you disagree please comment:		

a = CPIS criteria, b = American College of Chest Physicians

Current practices regarding ventilator-associated pneumonia surveillance

In this section please provide information on your current practices regarding the ventilator-associated pneumonia surveillance.

8a	Does the unit, in which you work for the majority of time, monitor the incidence of ventilator-associated pneumonia? If 'yes' please answer question 8b, if 'no' please answer question 8c.	<input type="checkbox"/> Yes - monitored by ICU <input type="checkbox"/> Yes - monitored by Infection Control <input type="checkbox"/> No
8b	Please indicate the person(s) responsible for detecting ventilator-associated pneumonia in the unit in which you work.	<input type="checkbox"/> Routine practice of ICU team <input type="checkbox"/> Infectious Diseases/microbiology specialists <input type="checkbox"/> Collaborative process between ICU and Infectious Diseases/Infection Control <input type="checkbox"/> Not diagnosed <input type="checkbox"/> Other _____
8c	If ventilator-associated pneumonia rates are not monitored in the unit in which you work please indicate the reason(s).	<input type="checkbox"/> Diagnosis is too difficult <input type="checkbox"/> Resource issues <input type="checkbox"/> Other _____
8d	Is standardised criteria used when detecting ventilator-associated pneumonia in the unit in which you work FOR ADULTS?	<input type="checkbox"/> Yes (please answer question 9) <input type="checkbox"/> No (please answer question 10)
8e	If standardised criteria are used please indicate which one. (See descriptions in the appendix/attachment)	<input type="checkbox"/> Other (specify) _____ <input type="checkbox"/> Centers for Disease Control <input type="checkbox"/> American College of Physicians <input type="checkbox"/> CPIS (please specify version) _____
8f	If standardised criteria are not used please indicate the reason(s).	<input type="checkbox"/> Criteria are too subjective <input type="checkbox"/> Criteria lack validity <input type="checkbox"/> Criteria do not apply to many patients

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		<input type="checkbox"/> Other _____
8g	Please indicate the most frequent method of sampling respiratory secretions for the purposes of ventilator-associated pneumonia surveillance.	<input type="checkbox"/> No specific method <input type="checkbox"/> Blind BAL ^a <input type="checkbox"/> Bronchoscopically guided BAL
	Please add any comments you would like to make regarding the ventilator-associated pneumonia surveillance:	

a = bronchoalveolar lavage. Blind BAL is performed to obtain respiratory secretions from the alveoli using a specifically designed double suction catheter without bronchoscopy (insert in an information box)