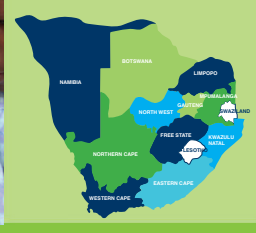
Best care Always!



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PREVENT VENTILATOR-ASSOCIATED PNEUMONIA (VAP)

The 4 infection prevention Best Care Always! Interventions:

- VAP – Ventilator-associated-Pneumonia
- CLABSI – Central-line associated Bloodstream Infections
- SSI – Surgical Site Infections
- UTI – Urinary Tract Infections

Best Care Always Pilot Intervention:

- Antibiotic Stewardship

Goal:

To improve clinical outcome for the ventilated patient by preventing ventilator-associated pneumonias.

A "bundle" is a collection of processes needed to effectively and safely care for patients undergoing particular treatments with inherent risks. Several interventions are "bundled" together and, when combined, significantly improve patient care outcomes.

Background:

- Ventilator-associated pneumonia (VAP) is the leading cause of death among healthcare associated infections. Studies show that hospital mortality of ventilated patients who develop VAP is 46% compared to 32% for ventilated patients who do not develop VAP (1)
- VAP leads to an extended period of mechanical ventilation and a longer length of stay (LOS) in critical care units and in hospital, once discharged to a nursing unit
- Evidence shows that implementing core interventions, together with consistent adherence ensures a better patient outcome
- Training and continuous reinforcement of adherence is required

Intervention:

There are key elements contained in the VAP Bundle

1. Elevate the head of the bed to between 30 and 45 degrees
2. Daily assessment of readiness to extubate patient and "sedation vacation"
3. Oral decontamination, with an antiseptic solution
4. Prophylaxis for peptic ulcer disease
5. Prophylaxis for deep venous thrombosis

Compliance with the VAP bundle has been most successful when all elements are executed together.

Other evidence-based elements of care are not excluded and may be added to the Central Line Bundle by individual facilities, for example:

- Hand hygiene
- Use of oral rather than nasal tubes
- Glucose management
- Nutrition

We are engaging with our collaborative partners to understand any key differences for the South African setting and will be updating the VAP One-Pager as this work is finalized.
Please submit any suggestions for improvement to info@bestcare.org.za

For more in depth information and implementation guidelines consult the "Getting Started Kits"

References and Resources:

- Hawe, Caroline S, Ellis, Kirsteen S, Cairns, Chris JS and Longmate, Andrew. Reduction of VAP: active versus passive guideline implementation. Intensive Care Med 2009 July; 35:1180-1186.
- Ibrahim EH, Tracy L, Hill C, et al. The occurrence of ventilator-associated pneumonia in a community hospital: Risk factors and clinical outcomes. Chest 2001 Aug; 120(2):555-561.
- Rello J, Ollendorf DA, Oster G, et al. VAP Outcomes Scientific Advisory Group. Epidemiology and outcomes of ventilator-associated pneumonia in a large US database. Chest. 2002 Dec; 122(6):2115-2121.
- Stokowski, A. An update on preventing ventilator-associated pneumonia in adults. Published 04/28/2009. http://cme.medscape.com/viewarticles/591015_print (Accessed 05/13/2009)
- Institute for Healthcare Improvement. 5 Million Lives Campaign www.ihi.org
- Safer Healthcare Now! Campaign. www.saferhealthcarenow.ca

We wish to thank and acknowledge the Institute for Healthcare Improvement (IHI) and the Canadian Safer Healthcare Now! campaigns, particularly the extensive resources made available on their websites. Links are provided to both these websites for further support.

Intervention Measures:

- VAP rate = (Number of Ventilator-Associated Pneumonias / Number of ventilator days) x 1000
- VAP bundle compliance rate
  The focus for phase one is to develop measurement capability. Goals will be set by individual facilities.

Examples of measurements and goals of compliance are:

1. VAP rate: Goal - decrease the VAP rate by 25% in one year
2. VAP bundle compliance: Goal - 85% of patients mechanically ventilated should receive a minimum of 4 elements

Definition of VAP:

Ventilator-associated pneumonia is pneumonia that occurs in patients requiring continuous assisted ventilation through either a tracheostomy or endotracheal tube. The assisted device must have been in situ within the 48 hour period prior to onset of infection and for a minimum of 2 consecutive days. Diagnostic criteria: new or worsening or persistent infiltrate, consolidation or cavitation on chest x-ray compatible with pneumonia and one of:

- WBC > 12,000 or < 4,000
- Temperature greater than 38 degrees Celsius, with no other recognised cause
- Altered mental status, with no other cause, in > 70 years and at least 2 of the following:

1. New onset of purulent sputum, change in sputum character or increase in secretions
2. Altered mental status, with no other cause, in >70 years
3. Inspiratory crackles/bronchial breath sounds on auscultation
4. Worsening gas exchange

The Website contains the full Getting Started Kit, and links to other resources for this strategy.