Ventilator Associated Event Webinar

VAE/VAP Prevention – Getting to the Next Level

March 6, 2014
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AHA/HRET (HEN) Ventilator Associated Events (VAE) Virtual Meeting—Summary Disclosure & Accreditation Statement

March 6, 2014

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WebEx Introduction and Tutorial
WebEx Quick Reference

• Please use Chat to “All Participants” for questions

• For technology issues only, please Chat to “Host”

• Dial-in Info: Communicate/Join Teleconference (in menu)
WebEx Audio

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  • Dial-in with your phone. **Important: You must be logged into the platform before you dial-in**
  • Dial-in on your computer
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OBJECTIVES

• Identify methods for incorporating VAE surveillance monitoring and 2014 NHSN reporting changes into daily workflow.

• Explore strategies that will increase reliable execution of VAP bundle elements on head of bed elevation and oral care.

• Discover methods to test and implement each of the ABCDE Bundle Elements.
POLLING QUESTION #1
SHARE YOUR ROLE
POLLING QUESTION #2
SHARE YOUR BACKGROUND
POLLING QUESTION #3
SHARE YOUR VAE/VAP PREVENTION
So You’ve Implement the VAP Bundle...

IS IT WORKING?
Have You Reached Your Goal?
Do you have 95 – 100% Reliability?
What do you know?

- When & where do your patients develop VAE?
- What’s the day to day compliance of bundles?
- What’s in the way?
“Look and you will find it – what is unsought will go undetected”

~ Sophocles
<table>
<thead>
<tr>
<th>Top Ten List</th>
<th>Ideas to Test:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Increase fluid intake</td>
<td>1. Test the impact of increased fluid intake on patient outcomes</td>
</tr>
<tr>
<td>2. Implement regular exercise programs</td>
<td>2. Evaluate the feasibility and effectiveness of exercise programs</td>
</tr>
<tr>
<td>3. Enhance communication with patients and families</td>
<td>3. Assess the impact of improved communication strategies</td>
</tr>
<tr>
<td>4. Decrease use of restrictive immobilization devices</td>
<td>4. Compare outcomes with and without immobilization</td>
</tr>
<tr>
<td>5. Promote early mobilization and functional activity</td>
<td>5. Investigate the benefits of early mobilization programs</td>
</tr>
<tr>
<td>6. Improve nutritional support</td>
<td>6. Study the effectiveness of different nutritional interventions</td>
</tr>
<tr>
<td>7. Implement fall prevention interventions</td>
<td>7. Evaluate the success of fall prevention strategies</td>
</tr>
<tr>
<td>9. Increase access to rehabilitation services</td>
<td>9. Determine the most beneficial rehabilitation protocols</td>
</tr>
<tr>
<td>10. Provide comprehensive discharge planning</td>
<td>10. Analyze the role of discharge planning in reducing readmissions</td>
</tr>
</tbody>
</table>

**VAP/VAE Top Ten Checklist**

- Include elements of the bundle in change nurse rounds
- Implement changes to the bundle in patient care areas
- Evaluate need for changes according to evidence-based guidelines
- Assemble interdisciplinary team for implementation of changes
About Us

• We are in Norfolk, Nebraska, a community of 25,000 residents.
• Regional referral center about 2 hours from Omaha & Lincoln
• 227 bed acute care facility, 129 staffed beds.
• 9 bed ICU & 14 bed step down unit
• Provide comprehensive cardiovascular Care
• Home town of Johnny Carson!
Our VAP/VAE Prevention Journey
What Did We Learn?

• It takes a village & redundancy!
• Reminders are helpful such as the electronic charting.
• All are monitoring – if anyone notices HOB not at 30 degrees or oral cares not done – they raise it or notify the patient’s nurse to determine if there is a contraindication.
Making Oral Care Routine

• Oral care is part of the electronic medical record (EMR) documentation—serves as a reminder
• Oral care kits – each room stocked with kits that need to be used every 24 hours – serves as a visual reminder
• Nurse and Respiratory Therapist (RT) work as a team.
• Oral care not just for ventilated patient, used for patients in on bipap, etc.
Head of Bed (HOB)

- HOB reminder on rounding sheet!
- HOB is part of the EMR documentation for nursing and RT – serves as a reminder
- Everyone is monitoring – if they see HOB down they correct or notify nurse
- Nurse, RT and the Nurse Aides work together
What Can Others Learn From Our Journey?

• Teamwork! – physicians, nurses, respiratory therapists, nurse aides
  – Leadership walks the talk! They actively support staff to do the right thing.

• Redundancy:
  – EMR documentation reminders
  – 24 hour oral care kits
  – Rounding sheet
  – Ventilator orders in EMR automatic order bundle elements
  – HOB and oral care to every ICU patient
Henry Mayo Newhall Memorial hospital
ZERO VAP PROJECT

Jung Kim, RN, CCRN, MSN
Eric Sheidenberger, RRT
03/06/2014
About Us

- 227-bed not-for-profit acute care hospital.
- Services—trauma, emergency, intensive care, open heart, stroke, STEMI, maternity, surgery, nursing, wound care, behavioral health, acute rehabilitation, as well as cancer, cardiology, imaging, laboratory, digestive, respiratory services and physical and occupational therapies.
- Intensive Care Unit—18 beds, complex surgical and medical problems.
Our VAP Prevention

- HMNMH developed the Zero VAP Quality Group on February 2011, and initiated the VAP prevention strategy.
- Our Goal is to achieve Zero VAP rate for three years.
- In-service / Education—On-line Module education (annually now), face to face in-service.
- Everyday audit—Charge nurses audit VAP bundle compliance everyday.
- Feedback—Monthly and Quarterly post results of compliance rates and VAP rates (e-mail/staff meeting).
Our VAP Prevention

- FASTHUGS (acronym) – Feeding, Analgesia, Sedation, Deep Venous Thrombosis Prophylaxis, HOB Elevated 30-45 degrees unless contraindicated, peptic Ulcer Disease Prophylaxis, Glucose Control, Daily Sedation Vacations and Assessment of Readiness to Extubate.

1. Oral care every 2 hours

- Decrease bio film in the mouth reduce infection.
- Chlorhexidine mouth rinse twice a day to reduce bio load in the mouth. Needed to be approved by Critical Care and Pharmacy and Therapeutics Committee due to change in product and cost variance
- Suction oral/pharyngeal area every 2 hours.
Our VAP Prevention

2. Elevate Head Of Bed (HOB) 30-45 degrees
   (unless contraindicated)
   - Improves tidal volume.
   - Prevent sliding down.
   - Protects Skin Integrity.
   - Reduces Aspiration.

3. Sedation Vacation (unless contraindicated)
   - Allows a patient to follow commands.
   - Assessment of readiness to remove the breathing tube.
Our VAP Prevention

4. Peptic Ulcer Prophylaxis (PUD)
   - Prevents stomach ulcers.

5. Deep Vein Thrombosis Prophylaxis (DVT)
   - Prevents blood clots.

6. Obtain MD order to get patient Out Of Bed (OOB) in chair/stand/ambulate unless contraindicated.

7. Respiratory Role
   - Rotate position of ETT at least daily
Respiratory Role cont.

- 72 hour suction catheters
  - Less contamination
- Heated wire circuits
  - Long term vents or increased Respiratory rates
- PIP and Plateau pressure monitoring
  - Increased pressures
- Minimal use of saline unless indicated
  - Thick secretions
- Shared suctioning responsibility
  - RT/RN
- Cuff pressure monitoring
  - Under or over inflation
- Anchorfast
  - Rotation of tube
Our VAP Prevention

- VAP Bundle Compliance Check List

<table>
<thead>
<tr>
<th>VAP Bundle Compliance Check List</th>
<th>ICCU</th>
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Additional comment section. When form is completed for the month return to Jung Kim ICCU Clinical Coordinator.
Our VAP Prevention

- The Nurses’ Compliance with VAP Bundle Data
Our VAP Prevention

- HMNMH’s mean VAP rate was 3.2 (State rate=1.2) before VAP bundle implementation, then significantly decreased to Zero rate after EBP intervention (VAP Bundle).
• The education (intervention) increased the nurse’s knowledge of prevention strategy to heighten awareness of safety and increase compliance.

• Maintaining high nurses’ compliance with the VAP prevention strategy decreased the VAP rates and have had only 1 VAP in 3 years (last VAP Sept. 2012).

• Continued education and consistent follow up from the leadership led to nurse’s high compliance.

• The education and continued follow up were a key to ensure nurse’s high compliance. The nurse’s compliance impacted VAP rates.
What Barriers Did We Encounter?

• Human behaviors—decreased attention, carelessness, and personal neglect of interventions, and individual’s resistance to change or refusal to accept new concepts.

• Nurses’ negative attitude that makes nurses feel comfortable even if they do not follow the policies.

• Resistance to accept new strategy or policy, routine habits that are hard to change or lack of awareness of importance, and when patients do not get hurt or injured, nurses tend not to change.
How Did We Overcome These Barriers?

• Achieving high (90-100%) compliance with a new project requires leadership’s follow up such as audits and counseling.

• Leadership’s collaboration and support are one of the imperative methods to success.

• Continued education and consistent feedback from leadership will change nurses’ behavior and increase nurses’ compliance.

• Now, following VAP bundle became one of nurses’ routine duties.
What Can Others Learn From Our Journey?

• HMNMH will continue to monitor the nurse’s compliance and discuss with ICU staff the correlation between compliance and the VAP rate.

• HMNMH will continue to use on-line learning module (Health Stream) to educate the ICU staff prevention strategy of HAIs especially for new hires.

• HMNMH will continue to reinforce the staff and continue to provide follow up from leadership.

• Best practice is evidence based practice to enhance patient’s outcomes.
Three Components to Zero VAP

1. Leadership Support
2. Education
3. Nurse’s Compliance

ZERO VAP!
Data Reporting - LET’S MAKE IT EASY
Possible or Probable VAP

Positive results of laboratory/microbiological testing

Infection-Related Ventilator-Associated Complication (IVAC)

General, objective evidence of infection/inflammation

Ventilator-Associated Condition (VAC)

Baseline period of stability or improvement, followed by sustained period of worsening oxygenation

Patient on mechanical ventilation > 2 days
Data Reporting – Let’s Make It Easy
University of Kansas Hospital

Carol Cleek, RN, MSN, CCNS, CCRN
Director of Emergency and Critical Care Services
March 6th, 2014
About Us

- Tertiary and quaternary hospital; the teaching hospital for the State of Kansas
- Licensed for 644 beds
- Currently more than 4,700 employees with over 1,700 RNs
- Magnet designation X2
- Accreditations include TJC, CARF, CAP, Level 1 ACS Trauma, ABA verified Burn Center, Comprehensive Stroke Center, NCI designated Cancer Center, Blood Bank, Radiology, FACT and Chest Pain Center
- 8 adult ICU’s, PICU and Level 3 NICU
Daily Surveillance Tool

http://www.cdc.gov/nhsn/about.html
How do you drive consistency in practice?

Good checklists, on the other hand are precise. They are efficient, to the point, and easy to use even in the most difficult situations. They do not try to spell out everything — a checklist cannot fly a plane. Instead, they provide reminders of only the most critical and important steps — the ones that even the highly skilled professional using them could miss. Good checklists are, above all, practical.”

— Atul Gawande, *The Checklist Manifesto: How to Get Things Right*
Do you have a checklist?

Development and Implementation of an ICU Quality Improvement Checklist

Steven Q. Simpson, MD
Douglas A. Peterson, MS, RN
Amy R. O’Brien-Ladner, MD
Example

ICU Daily Quality Checklist

Date:

University of Kansas ICU Daily Quality Checklist

1) Sedation: Protocol ordered? □ Yes □ No
   □ Midazolam □ Dexametomidine
   □ Propofol □ Study drug □ none
   □ Sedation interrupted this AM
   □ MAAS score @ 0400: _____ □ RASS score @ 0400: _____

2) Analgesia: Protocol ordered? □ Yes □ No
   □ Fentanyl □ Morphine □ None

3) Neuromuscular blockade:
   Protocol ordered? □ Yes □ No
   □ Vecuronium □ Cisatracurium
   □ None
   □ Train of 4: _____

4) Delirium: Protocol ordered? □ Yes □ No
   □ None noted
   □ As-needed haloperidol/risperidol

Your Name: ________________

10) Disposition/code status
   □ DNR □ DNI □ Full code
   □ Advance directive in chart □ DPOA in chart
   □ Palliative care consulted
   □ SW consulted

11) Glucose control
   □ Insulin protocol ordered? □ Yes □ No
   □ conventional (100–150) □ tight (80–110)
   Hours in parameters (0400 to 0400): _____

12) Severe Sepsis: Present? □ Yes □ No
   Protocol ordered? □ Yes □ No
   Central line placed? □ Yes □ No
   Svo2 monitored? □ Yes □ No value? _____
   Lactic acid tested? □ Yes □ No value? _____

Place Patient Sticker Here
Example
ICU Daily Quality Checklist

5) **DVT prophylaxis:** Standard ICU orders? ☐ Yes ☐ No
☐ Sub-Q unfractionated heparin ☐ Sub-Q enoxaparin
☐ SCDs ☐ Foot pumps
☐ **Full anticoagulation with:**
☐ Heparin: PTT ☐ Enoxaparin
☐ Warfarin INR ☐
☐ Major bleeding ☐ Minor bleeding ☐ Location: ______

6) **Stress ulcer prophylaxis**
☐ Lansoprazole: ☐ enteral ☐ parenteral: ☐ twice daily ☐ drops
☐ Esomeprazole: ☐ enteral ☐ parenteral: ☐ twice daily ☐ drops
☐ Famotidine: ☐ enteral ☐ parenteral: ☐ twice daily ☐ drops
☐ TPN+ drug: __________________________

7) **Head of bed**
Mechanically ventilated? ☐ Yes ☐ No
≥30°? ☐ Yes ☐ No
Recorded on bedside chart? ☐ Yes ☐ No

Drotrecogin-α protocol active? ☐ Yes ☐ No

13) **Therapies**
☐ ordered ☐ active
☐ OT ☐ active
☐ Speech ☐ active

14) **Central line** ☐ None
#1 ☐ Subclavian ☐ Internal jugular ☐ Femoral
☐ PICC ☐ Non-SC
☐ Left ☐ Right ☐ Tunneled ☐ Date placed: ______
If non-SC, reason documented? ☐ Yes ☐ No
#2 ☐ Subclavian ☐ Internal jugular ☐ Femoral
☐ PICC ☐ Non subclavian
☐ Left ☐ Right ☐ Tunneled ☐ Date placed: ______
If non-SC, reason documented? ☐ Yes ☐ No
#3 ☐ Subclavian ☐ Internal jugular ☐ Femoral
☐ PICC ☐ Non-SC
# SICU Quality Checklist

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SURVEY FIELDS</strong></td>
<td></td>
</tr>
<tr>
<td>MRN</td>
<td>7830035</td>
</tr>
<tr>
<td>Room No</td>
<td>2651</td>
</tr>
<tr>
<td>Nurse</td>
<td>LS</td>
</tr>
<tr>
<td>ADM DT</td>
<td>10/15/2013</td>
</tr>
<tr>
<td><strong>Sedation</strong></td>
<td></td>
</tr>
<tr>
<td>Continuous Sedation Infusion Ordered?</td>
<td>no</td>
</tr>
<tr>
<td><strong>Analgesia</strong></td>
<td></td>
</tr>
<tr>
<td>Continuous analgesia infusion ordered?</td>
<td>yes</td>
</tr>
<tr>
<td>Does the patient have pain?</td>
<td>no</td>
</tr>
<tr>
<td><strong>Delirium</strong></td>
<td></td>
</tr>
<tr>
<td>Does the patient screen positive for delirium?</td>
<td>no</td>
</tr>
<tr>
<td><strong>Mechanical Ventilation</strong></td>
<td></td>
</tr>
<tr>
<td>Mechanically ventilated (exclude BIPAP)?</td>
<td>yes</td>
</tr>
<tr>
<td>HOB elevated 30-45 degrees?</td>
<td>yes</td>
</tr>
<tr>
<td>Active weaning protocol?</td>
<td>yes</td>
</tr>
<tr>
<td>If no weaning protocol, why?</td>
<td></td>
</tr>
<tr>
<td>ET Tube?</td>
<td>yes</td>
</tr>
<tr>
<td>If yes, date intubated</td>
<td>10/21</td>
</tr>
<tr>
<td>Was SBT performed in last 24 hours?</td>
<td>no</td>
</tr>
<tr>
<td>If no, why?</td>
<td>PEEP 8</td>
</tr>
<tr>
<td>Was oral care performed Q2 hours (including yes brushing teeth q 12 hours)?</td>
<td>yes</td>
</tr>
<tr>
<td>Supraglottic suctioning Q 12 hours?</td>
<td>yes</td>
</tr>
<tr>
<td>P/F Ratio</td>
<td>245</td>
</tr>
<tr>
<td><strong>Mobility</strong></td>
<td></td>
</tr>
<tr>
<td>Activity</td>
<td>PUM</td>
</tr>
<tr>
<td>PT/OT orders?</td>
<td>yes</td>
</tr>
</tbody>
</table>
## Example

### SICU Daily Quality Checklist

#### Glucose Control
- Insulin protocol ordered?  yes
- Select insulin protocol ordered  SQ sliding scale
- Hours within range (100-139 ml/dl) in the past 24 hrs

#### VTE Prophylaxis
- SCDs  yes
- Chemical Prophylaxis  Lovenox
- Is VTE prophylaxis contraindicated?  no
- If yes, why

#### Stress Ulcer Prophylaxis
- Stress Ulcer prophylaxis present?  yes

#### Nutrition
- NPO?  yes
- If yes, hours without nutrition? since admit
- Enteral  no
- Parenteral  no
- Oral diet?  no
- Does patient need or have a swallow eval by speech?  no
- Does the patient have a bowel regimen?  yes
- Date of last BM  10/21
Quality Checklists

• Do you have a checklist?
• Are you using it routinely and aggregating the data?
• Do you have one for the core items for areas where intubated patients go and include in handoffs?
• Do you have a checklist for transporting intubated patients – internally and with EMS – for maintaining precautions?
## Sample of Reviews

<table>
<thead>
<tr>
<th>Type of VAE</th>
<th>Quarter</th>
<th>Unit</th>
<th>Medical Management of Ventilator</th>
<th>Unanticipated Patient Decline</th>
<th>RT Management Varied from Protocol</th>
<th>Unable to Determine</th>
<th>Antibiotic</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAC, IVAC, PoVAP, Pr VAP</td>
<td>Quarter 1, 2, or 3</td>
<td></td>
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</tr>
<tr>
<td>IVAC</td>
<td>Quarter 1</td>
<td>CICU</td>
<td>Inc. PEEP from 5 to 10, FIO2 dec. from 40 to 30</td>
<td>X (Vent settings worsened the following days)</td>
<td></td>
<td></td>
<td>Vancomycin</td>
<td></td>
</tr>
<tr>
<td>IVAC</td>
<td>Quarter 1</td>
<td>MICU</td>
<td>N/A</td>
<td>X</td>
<td></td>
<td></td>
<td>Erythromycin</td>
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<tr>
<td>VAC</td>
<td>Quarter 1</td>
<td>MICU</td>
<td></td>
<td>X</td>
<td></td>
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<tr>
<td>VAC</td>
<td>Quarter 1</td>
<td>MICU</td>
<td></td>
<td>X</td>
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<tr>
<td>VAC</td>
<td>Quarter 1</td>
<td>MICU</td>
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<td>X</td>
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<tr>
<td>VAC</td>
<td>Quarter 1</td>
<td>MSICU</td>
<td></td>
<td>X</td>
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<tr>
<td>IVAC</td>
<td>Quarter 1</td>
<td>MSICU</td>
<td>Inc. PEEP from 10 to 14, dec. FIO2 from 70 to 50</td>
<td></td>
<td></td>
<td></td>
<td>Azithromycin</td>
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<tr>
<td>VAC</td>
<td>Quarter 1</td>
<td>MSICU</td>
<td></td>
<td>X</td>
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<tr>
<td>Pr VAP</td>
<td>Quarter 1</td>
<td>NEICU</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td>Levofloxacin</td>
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<tr>
<td>Pr VAP</td>
<td>Quarter 1</td>
<td>NEICU</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td>Levofloxacin</td>
<td></td>
</tr>
<tr>
<td>Po VAP</td>
<td>Quarter 1</td>
<td>NEICU</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td>Merrem</td>
<td>Intubated at an Outside Hospital.</td>
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<tr>
<td>VAC</td>
<td>Quarter 1</td>
<td>NEICU</td>
<td>Inc. PEEP from 5 to 8, dec. FIO2 from 60 to 50 to 40</td>
<td>X (Worsening Temp)</td>
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<td></td>
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<td>Pt expired 2 days later</td>
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<tr>
<td>VAC</td>
<td>Quarter 1</td>
<td>SICU</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>Pt Expired on Day 4 therefore could not meet criteria for IVAC</td>
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<tr>
<td>IVAC</td>
<td>Quarter 1</td>
<td>SICU</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td>Erythromycin</td>
<td>for gastric motility</td>
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<tr>
<td>IVAC</td>
<td>Quarter 1</td>
<td>TICU</td>
<td>Inc. PEEP from 5 to 8, dec. FIO2 from 60 to 40</td>
<td></td>
<td></td>
<td></td>
<td>Zosyn</td>
<td></td>
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<tr>
<td>VAC</td>
<td>Quarter 1</td>
<td>TICU</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>WBC increased from 3.5 to 13.3</td>
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<tr>
<td>VAC</td>
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<td>TICU</td>
<td>Inc. PEEP from 5 to 10, dec. FIO2 from 90 to 50 then 60</td>
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<td></td>
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<tr>
<td>VAC</td>
<td>Quarter 1</td>
<td>TICU</td>
<td>PEEP dec. from 5 to 0 for 3 days, then increased to 6</td>
<td></td>
<td></td>
<td></td>
<td>?? PEEP Dropped to 0 for 2 days</td>
<td></td>
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<tr>
<td>Po VAP</td>
<td>Quarter 1</td>
<td>TICU</td>
<td></td>
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New for 2014

Coming in 2014 ...

- “As of January 1, 2014, VAE surveillance will become patient location-based. It will no longer be patient age-based. VAE surveillance will be restricted to adult inpatient locations; VAE surveillance will not be performed in pediatric, mixed age, or neonatal patient locations. See protocol page 10-1 for more information.”

Resources
at www.hret-hen.org

Updated
VAP/VAE
Change
Package
2013
### Top 10 VAP/VAE Checklist

<table>
<thead>
<tr>
<th>Top Ten Evidence Based Interventions</th>
<th>In Place</th>
<th>Not Applicable</th>
<th>Notes</th>
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<td>VAP/VAP/VAE Prevention</td>
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</table>

**Additional Resources:**
- [Top 10 VAP/VAE Checklist](https://www.hret-hen.org)

Resources at www.hret-hen.org
Questions?
Implementing the ABCDE Bundle-
MAKING IT WORK
Reducing ICU-induced delirium & muscle weakness through:

ABCDE
ABCDEs

Spontaneous Awakening Trials

Spontaneous Breathing Trials

Coordination of Awakening and Breathing Trials

Choice of Sedatives

Delirium Assessment and Monitoring

Exercise/Early Mobility
Delray Medical Center

Lisa Andrews MS- HSA  RRT- NPS
VAE Webinar
March 6, 2014
About Us

- 493 Beds
- Level 1 Trauma Center
- Comprehensive Stroke Center
- Cardiac, Medical, Cardiovascular Surgery & Neuro ICU
- 55 Critical care beds
- 600 Physicians
Our VAP Prevention

- Established a “VAP” team – multidisciplinary approach
- Daily Rounding on ICU patients
- Performance Improvement Measure- RT supervisors
  - Weaning readiness tool developed- collaborative effort RT, RN and medical staff
- Early Mobilization Protocol established in ICU
- RT primarily responsible for oral care Q4 with RN alternate
Respiratory Therapy VAP Prevention Rounding Tool

Date of Review: _______________               Room Number: _______________

Please complete the below audit by checking “Yes” or “No” as appropriate

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Yes</th>
<th>No</th>
<th>Comment</th>
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<tbody>
<tr>
<td>1. Head of bed elevated between 30-40°</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Patient’s teeth and mouth are clean, free from secretions (reflects oral care done as well as documented)</td>
<td></td>
<td></td>
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<tr>
<td>3. Dated and current mouth care kit at bedside</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>4. Documentation of HME change per policy</td>
<td></td>
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<tr>
<td>5. Suction set-up is present and in-line suction through the EET is in place</td>
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<tr>
<td>6. Documentation reflects oral care per policy</td>
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</tr>
<tr>
<td>7. EET tape is clean</td>
<td></td>
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<tr>
<td>8. ETT is rotated per policy and documentation reflects action</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>9. Vent charged</td>
<td></td>
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</tbody>
</table>

Name of Reviewer: _______________________   Date: ________________  
(Please Print)
Prevention

• Incorporated Best Practice Interventions checklist into EHR
• Part of ventilator order sets – SAT/SBT
• RT & RN night shift assesses patients for weaning readiness
• Day shift RT & RN begin weaning trial
• Early Mobilization Protocol – RT, PT & RN assess readiness via algorithm
What Did We Learn/ Barriers?

- Oral Care
- HOB
- Accountability
- SAT & SBT
- Early Mobilization
- Hard Wiring
SAT/SBT

- Protocol
- Utilize specific inclusion/exclusion criteria
- RT & RN driven

- Incorporate into Daily Rounding/Report
How Did We Overcome These Barriers/What Did We Learn

- Collaboration
- Daily Bed Huddles
- User Friendly Tools
- Concurrent Rounding
- Education
- Transparency
- Weekly IC Analysis
- VAE Alert report
Questions?
Henry Mayo Newhall Memorial Hospital

Cynthia Enriquez, RN, CCRN
Delirium
3/6/14
About Us

Located in the beautiful Santa Clarita Valley, Henry Mayo was Established in 1975. We are a 238 bed, Not for Profit Community Hospital and Level II Trauma Center.

We have over 400 Dedicated Medical Staff, over 1,300 Talented Employees and over 300 Helpful and Highly Skilled Volunteers.

Our focus is on a single Vision: To Create the Ideal Patient Centered Environment to Surpass Expectation.
When studying for the CCRN test I noticed this new addition, “Delirium.” We all see it as “Sundowners” and those of us who work ICU, call this change in mental status, “ICU Psychosis”. We tell our families/patients,” Don’t worry, it’ll clear when they get out of the unit” ……………….But do they?

A year ago I applied to be a Sr. Clinical and needed a project to bring to the unit. Aha! Delirium! It sounded so very important a few years ago, so I read a little bit more about it. WOW!

50-80% of ventilated patients develop delirium
Our ABCDE Journey

• 10% remain delirious at hospital discharge
• Delirium causes increased mortality rates even once our patients get home.
• After getting approvals from the various committees, a team was created involving: Pharmacy, IT, ICU Director, ICU Manager, Medical Director, Respiratory Therapy and myself, RN.
• With the help of Vanderbilt website, Our “D” in the ABCDE bundle is taking shape.
What Did We Learn?

• We learned that we are already doing these types of assessments necessary for the ABCDE Bundle. All we need to do is “Bundle” them. Get us all on the same page, assessing in the same way, using the same tools, documenting on one intervention.
What Barriers Did We Encounter?

- We decided that we would change from Ramsey Sedation Scale (RSS) to Richmond Agitation Sedation Scale (RASS). So this involves changing a bit more than we thought, involving documentation and pharmacy. This will also require us to add another step for our education phase. But we really are not worried. IT, Pharmacy and now Education are working together to make this change. Please know that you do not have to change your scale, you’ll just need to correlate with the terms and descriptions of the RASS.
How Did We Overcome These Barriers?

• We are a work in progress. We meet every 2 weeks as a team and talk over any concerns and ideas. We are a team! So when things get a little tough or scary through the process look to your team.
What Can Others Learn From Our Journey?

- Healthcare is always about communication and teamwork.
- Be brave to step forward. We can make a difference for a more successful, healthier outcome.
KentuckyOne Health Jewish Hospital

Jessica Ertel, BS, BSN, RN
Clinical Nurse Educator
March 6, 2014
About Us

• KentuckyOne Health - Jewish Hospital
  – Flagship facility for KentuckyOne Health, a regional health network that includes over 70 facilities

• Urban, acute care medical center with teaching affiliations

• 5 specialty ICUs with 52 beds (Transplant, Surgical, Cardiovascular Surgery, Cardiac, Medical and Neuro ICUs) - All implemented simultaneously

• An intensivist program with 4 separate groups of critical care physician teams
Our VAP Prevention

• VAP committee:
  – ICU nurse managers, Director of Critical Care nursing, Infection Control RN, RT manager, PT manager and Critical Care Pharmacist
  – Meets monthly to review data and discuss strategies for improvement
Why ABCDE?

• Under the directive of the VAP committee at Jewish Hospital, we decided to implement ABCDE to:
  – Decrease incidence of delirium
  – Increase mobility in the ICU patient
  – Decrease VAE, ventilator days, ICU days
  – Adopt 2013 Pain, Agitation and Delirium Guidelines
  – Enhance interdisciplinary communication and rounding
Delirium

• Introduction to delirium included risks, mortality rates, after effects
• Preventative measures
• Assessment and Interventions
  – CAM-ICU tool
• Treatment options
  – Non-pharmacologic
  – Pharmacologic
Stop and THINK

The following mnemonic may be helpful in determining the cause of ICU delirium

• **Toxic Situations**
  – CHF, shock, dehydration, Deliriogenic medications
  – New organ failure (e.g., liver, kidney)

• **Hypoxemia**

• **Infection/sepsis (nosocomial)**

• **Immobilization**

• **Nonpharmacologic interventions**
  – Hearing aids, glasses, reorienting, sleep protocols, music, noise control, ambulation

• **K+ or electrolyte problems**
Pain, Agitation and Delirium Treatment

- House wide sedation, pain and delirium order sets updated and approved by prescribers
- Generalized concepts with a treatment decision flow chart
- Emphasis on pain management over sedatives, especially benzodiazepines
- Highlighted “Pain as the source of agitation” and use of Propofol or Dexmedetomidine for sedation
What Did We Learn?

• Staff engagement
  – ~3 months after implementation, 50% involvement of RNs
  – No incidence of negative events d/t mobility

• Team effort with RT, RN, and PT
  – Coordination working well with rounding
More Learning

• Reconsiderations
  – Amount of new charting
  – Amount of new requirements in rounding
  – Information overload of ABCDE bundle
  – Frequent reminders needed, not hard wired into vocabulary

• Point person(s) to coordinate all processes and emphasize new innovation

• Supply needs and use of equipment
Changes for Physical Therapy

• Proactive in “Early Mobility” implementation in 7/2013
  – 5 months prior to ABCD pieces of bundle
• 2 Dedicated PTs in the ICUs (MICU & TS/NICU)
• Increased mobility of patients in the ICU with multiple events of OOB on the ventilator
• Created “Early Mobility Safety Screen” and “Progressive Mobility Pathway”
• Enhanced cooperation of nursing before PT evaluation and intervention is needed/ordered
• Encouraging use of Passive ROM by nursing, escalating with tolerance of activity
• Due to presence on units, decreased turnaround time between consult and seeing patient
Early Mobility Screen
Is the patient ready to start the Progressive Mobility Protocol?

Neurological Assessment
Is the patient’s RASS score +1 to -2 and able to follow 3 or 4 step commands?
-STEP 1 of Progressive Mobility Protocol as tolerated
-Seek MD advice during Multi-Disciplinary Rounding
-Reassess tomorrow

Respiratory Assessment
Does the patient meet any of the following criteria?
-PEEP >10 and/or FiO2 > 0.70
-Frequent desaturation or SpO2 <90%
-Respiratory rate > 35
-Seek MD advice during Multi-Disciplinary Rounding
-Reassess tomorrow

Cardiovascular Assessment
Does the patient meet any of the following criteria?
200 > Systolic BP < 90 mm Hg
110 > Mean Arterial Pressure < 65 mm Hg
130> Heart Rate < 50 bpm
Onset of new arrhythmia
New or increased vassopressor in the last 2 hours
-Seek MD advice during Multi-Disciplinary Rounding
-Reassess tomorrow

Initiate Progressive Mobility Protocol and/or consult PT/OT

Special Considerations
-Lab Values
-Patient Lines & Drains
-Pending Medical Imaging Procedures
-Respiratory Therapy, Physical Therapy & Nursing to discuss assistance required with ventilated patients during multi-disciplinary rounds
-Ask MD for Physical Therapy consult for any post surgical total joint replacement or fractures. (Weight bearing restrictions/Precautions)
-Neurologist/Neuro Surgeon Recommendations

Created by Bryan Wright, MPT, PT
Progressive Mobility Protocol

**STEP 1**
- PROM Exercise
- Progressive Upright Mobility

*Can the patient bend elbows/knees w/o assistance?*

- **NO**
  - Activity Recommendations:
    - ROM Exercise - UE/LE 10 reps, 2-3x daily
    - Progressive Upright Mobility - Chair mode in bed and/or cardiac chair as tolerated 2-3x/Daily

- **YES**
  - **STEP 2**
    - Sit or Dangle on Edge of Bed
    - *Can the patient sit on the edge of the bed without assistance and kick 1 leg up and hold for 5 seconds?*

- **NO**
  - Activity Recommendations:
    - Ask for PT Consult
    - Sit on the edge as tolerated with assistance, 2-3x/daily
    - ROM Exercise - UE/LE 10 reps, 2-3x/daily
    - Progressive Upright Mobility - Chair mode in bed and/or cardiac chair as tolerated 2-3x/Daily

- **YES**
  - **STEP 3**
    - Standing
    - *Can the patient weight shift left → right and take a single step f/wd/bwd without losing balance?*

- **NO**
  - Activity Recommendations:
    - Ask for PT consult
    - Marching in place
    - Weight shifts
    - Heal/ toe raises,
    - 1 step f/wd/bwd
    - *use assistive device as needed*

- **YES**
  - **STEP 4**
    - Transfers
    - *Can the patient march in place for 5 reps while maintaining balance?*

- **NO**
  - Activity Recommendations:
    - Ask for PT consult
    - Bed ↔ Chair
    - Bed ↔ Commode
    - Bed ↔ Wheelchair
    - *use assistive device as needed*

- **YES**
  - **STEP 5**
    - Ambulation
    - *Does the patient demonstrate a steady gait and good safety awareness?*

- **NO**
  - Activity Recommendations:
    - Ask for PT consult
    - Standing & Transfer Activities
    - Ambulate as tolerated 2-3x/daily with assistance & assistive device
    - *use assistive device as needed*

- **YES**
  - Ambulate patient 2-3x daily & increase distance as tolerated
Moving through the Pathway

Progressive Mobility Protocol

**STEP 1**
- PROM Exercise
- Progressive Upright Mobility
  *Can the patient bend elbows/knees w/o assistance?*

**Activity Recommendations**
- ROM Exercise - UE/LE 10 reps, 2-3x daily
- Progressive Upright Mobility - Chair mode in bed and/or cardiac chair as tolerated 2-3x/Daily

**STEP 2**
- Sit or Dangle on Edge of Bed
  *Can the patient sit on the edge of the bed without assistance and kick 1 leg up and hold for 5 seconds?*

**Activity Recommendations**
- Ask for PT Consult
- Sit on the edge as tolerated with assistance, 2-3x/daily
- ROM Exercise - UE/LE 10 reps, 2-3x daily
- Progressive Upright Mobility - Chair mode in bed and/or cardiac chair as tolerated 2-3x/Daily

**STEP 3**
- Standing
  *Can the patient weight shift left→right and take a single step fwd/bwd without losing balance?*

**Activity Recommendations**
- Ask for PT consult
- Marching in place
- Weight shifts
- Heel/toe raises,
- 1 step fwd/bwd
  *use assistive device as needed*
Successes with Implementation

Successes with Early Mobility

• Multidisciplinary participation in teaching and attending education sessions
• Degree of staff interest at the teaching sessions
• Orally intubated patients up in chair
• Ambulating trached patients while on ventilator
• PT presence in ICU decreased time from order evaluation and treatment
• PT involved 6-7 days per week more patients seen
• Growth and development of multidisciplinary team
Challenges and Barriers

Challenges

• Physician/provider acceptance and endorsement
• Staff "buy in” – need strong champions
• Perceived added time/work for multidisciplinary team rounds
• Collaboration/coordination of all members of the multidisciplinary team to come together for one unified cause
• Rounding script and pathway tools not used
• Need for increase in available equipment (cardiac chairs, lifts)
What Can Others Learn From Our Journey?

Recommendations

• Proceed with “buy in” from MD liaison
  – Challenges in rounding with inconsistent focus of each reportable aspect (CAM-ICU, RASS, Step on Progressive Mobility Pathway)

• Pilot in one area first and celebrate the positives

• Institute enthusiastic champions of the project in all disciplines

• “Advertisement” and house wide awareness
  – Isolation of great things going on does not help spread the word

• Provide ongoing education and keep momentum
Important references and credits

- Vanderbilt University Medical Center
  Center for Health Services Research - icudelirium.org
- “Diving into Delirium: Evidence-based Approaches to Critical Care Management” - 2 day workshop given by Aimee Hoskins and Cayce Strength, researchers and presenters from Vanderbilt
- Brian Kuhn, MBA, RRT, Manager, Cardiopulmonary Services, Kentucky One Health
- Katie Ruf, PharmD, BCPS, Critical Care Clinical Specialist, KentuckyOne Health
- Bryan Wright, MPT, PT, Clinical Supervisor Physical Therapy Services, Jewish Hospital and Frazier Rehab Institute
VAE/VAP Prevention – Getting to the Next Level

Webinar Closing

March 6, 2014
I’m not telling you it’s going to be easy.
I’m just telling you it’s going to be worth it.
Next Steps

• Meet with your team
• Plan a small test of change
• Do PDSA!

Top Ten Tuesday
Now Make a Commitment in the Chat Box

➢ Name, Hospital, Commitment
Resources

- HRET Data Team hendatasupport@aha.org
- Improvement Advisor Cheryl Ruble cruble@cynosurehealth.org
- State Hospital Association
- Change Packages (www.hret-hen.org)
- Listserv
Reminders

• Instructions on how to claim CEUs will be sent via email 24-48 hours after the event.

• To join the INFECTIONS LISTSERV®, login to HRET-HEN.org and click on the button.

• An evaluation survey on this boot camp will appear when you close out of the WebEx platform. Please let us know how we are doing!