**1.0 Definition**

Ventilator Associated Pneumonia (VAP) is defined as an infection in the lungs after at least 48 hrs on mechanical ventilation.

The challenge faced when dealing with the neonatal population is the lack of evidence to support best practice. Most of the practices are extrapolated from the adult/pediatric literature.

**2.0 Recommendations and Reasoning**

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| VENTILATOR CIRCUIT | Explanations |
| * Minimal disconnection/disruption
* If disconnected, cover circuit "Y" to keep clean
* Minimize condensation
* Drained away from the patient
* If needed, drain onto sterile gauze
* Provide enough slack
* Change circuit Q30 days + PRN
 | * Prevent potentially contaminated condensation in the circuit from going back into the patient
* Breaking the circuit has been linked with higher VAP rates
* Minimize contamination of the patient’s environment
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| RESPIRATORY CARE EQUIPMENT |  |
| * Cover resus bagging equipment when not in use
* Change T-Piece resuscitator/ resus bag Q30D + PRN
* Do not routinely instill saline for suction
* Always use in-line suction catheter (change Q7 days)
 | * Minimize contamination of the patient’s environment
* Use of inline suction catheter prevent circuit disconnection and minimize lung collapse
* Instilling saline will cause contaminant lining the inside of the ETT to go back into the patient. Benefit must outweigh the risks.
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| INTUBATION |  |
| * Use new ETT for every attempt.
* Use sterile gloves.
* Keep equipment clean; do not place directly on patient’s bed or tuck equipment under mattress.
* Daily assessment of patient’s readiness for extubation
 | * Intubation is a clean procedure with some aseptic techniques. ETT should be sterile. Blades should be from a new package.
* Sterile gloves recommended as nonsterile gloves may have been contaminated as they are not individually wrapped.
* Esophageal intubation is common with unsuccessful intubation attempts; rendering that ETT exposure to gastric content, so each attempt should start with a new clean ETT.
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| MOUTH CARE  |  |
| * Mouth care every 2-4 hours
* Oral suction and/or OIT
* Thoroughly suction mouth before every handle / reposition
* Oral-Nasal Suction Device change Q1D + PRN
 | * In addition to uncuffed ETT, many neonates also have issues with reflux. Diligent oral care is important to prevent microaspiration of oral and gastric contents.
* Low immune function in premature infant is a high-risk factor for VAP. Human milk and colostrum have considerable concentration of immunoglobins. Oral Immunotherapy (OIT) using human milk may reduce VAP (and other infections) through early introduction of antibodies even in babies that cannot have enteral feeds. The use of H2 receptor blockers increases the risk for developing VAP.
* Suction catheters should be disposed after each use.
* Neosuckers (or baby yankers) should be cleaned/rinsed after each use and disposed of on a regular basis.
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| HEAD OF BED (HOB) ELEVATED  |  |
| * Keep HOB elevated to 10-30 degrees unless contraindicated.
* Thoroughly suction mouth before lowering HOB
* Support patient from sliding down the bed
 | * Helps with condensation staying away from patient.
* Minimize microaspiration of oral and gastric contents.
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| HAND HYGIENE |  |
| 4 moments for Hand Hygiene* Before initial patient/ patient environment contact
* Before a clean/ aseptic procedure
* After body fluid exposure risk
* After patient/ patient environment contact
 | * General widely accepted process to prevent any infection.
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DISCLAIMER:

This guideline outlines the approach to VAP prevention in NICU patients. It is not intended as a substitute for clinical judgment. Clinical judgement must supersede any suggestions. If any specific questions, please contact the care team and the Neonatologist in-charge.