



Ventilated Patient Oral Care Road Map

MHA’s road maps provide hospitals and health systems with evidence-based recommendations and standards for the development of topic-specific prevention and quality improvement programs, and are intended to align process improvements with outcome data. Road maps reflect published literature and guidance from relevant professional organizations and regulatory agencies, as well as identified proven practices. MHA quality and patient safety committees provide expert guidance and oversight to the various road maps.

Each road map is tiered into fundamental and advanced strategies:

- **Fundamental strategies** should be prioritized for implementation, and generally have a strong evidence base in published literature in addition to being supported by multiple professional bodies and regulatory agencies.
- **Advanced strategies** should be considered in addition to fundamental strategies when there is evidence the fundamental strategies are being implemented and adhered to consistently and there is evidence that rates are not decreasing and/or the pathogenesis (morbidity/mortality among patients) has changed.

Operational definitions are included to assist facility teams with road map auditing and identifying whether current work meets the intention behind each road map element.

Resources linked within the road map include journal articles, expert recommendations, electronic order sets and other pertinent tools which organizations need to assist in implementation of best practices.

Road map sections	Road map questions (if not present at your hospital or answering no, please see next column for suggested resources)	If specific road map element is missing, consider the following resources:
Preparation and infrastructure	<p>FUNDAMENTAL (check each box if “yes”)</p> <ul style="list-style-type: none"> <input type="checkbox"/> Organizational resource needs are identified and completed in accordance to oral care protocol. <ul style="list-style-type: none"> - Good source documents include: supplies, staff, protocol, documentation, system to track, etc. <input type="checkbox"/> The organization has a process in place to review and evaluate data on a regular basis for learning and improvement opportunities. <ul style="list-style-type: none"> - The organization analyzes metrics: outcome measures, such as possible ventilator-associated pneumonia (PVAP) rate or ICD-10 billing coding and/or process measures, such as compliance rate of oral care documentation or identification of current oral condition. <input type="checkbox"/> The interdisciplinary team meeting includes discussion regarding oral care in the intensive care unit (ICU) and meets on a regular basis. [2] <ul style="list-style-type: none"> - The team may consist of the infection preventionist, quality personnel, physicians, nursing, respiratory therapy, speech language pathology, physical therapy, and pharmacy. 	<ul style="list-style-type: none"> • Consider AHRQ’s Appendix J: Definitions and Techniques for Oral Care with Chlorhexidine (CHG) Protocol when developing an oral care process. • AHA-What is your hospital doing about the #1 hospital-acquired infection? Provides a broad overview of the importance of oral care in both ventilated and non-ventilated hospital patients. • APIC Guide to the Elimination of VAP • Our Patient’s Microbiome-For Better or Worse provides insight on the role that oral bacteria play in connection with ventilator-associated pneumonia. • ASHA - The Power of a Toothbrush discusses the importance of oral hygiene and advocating for appropriate oral care for patients.

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Preparation and infrastructure, continued	<ul style="list-style-type: none"> <input type="checkbox"/> The interdisciplinary team has defined roles and expectations of oral care protocol. <ul style="list-style-type: none"> - Team includes a designated coordinator to lead/oversee the assessment process and representatives involved in providing the required oral care. <input type="checkbox"/> Staff are trained and educated on policies and procedures in administering the oral care assessment, as well as when to contact a provider for care outside of their scope of work. <ul style="list-style-type: none"> - Staff may include roles such as the clinician, nursing and respiratory therapy. <input type="checkbox"/> The organization's activities of daily living nursing documentation address the needs of nursing staff when providing oral care. 	<ul style="list-style-type: none"> • Staff education and awareness regarding oral care and other health care complications is integral in prevention. Consider this example of educational cards visible in staff cubbies as an easy reminder. • Journal of Critical Care: VAP trans colonization • Journal of Medical Microbiology: Microbial profiling of dental plaque from mechanically ventilated patients • This presentation by the ADA Foundation and GlaxoSmithKline discusses the impact of oral health and its linkage to whole body health with a specific focus on the population of older adults and persons with disabilities.
Patient risk assessment	<p>ADVANCED (check each box if "yes")</p> <ul style="list-style-type: none"> <input type="checkbox"/> The organization has a screening process in place to identify ventilated patients at higher risk for PVAP. <ul style="list-style-type: none"> - Factors associated with higher risk of acquiring ventilator-associated pneumonia are identified and taken into consideration when determining frequency of oral care (i.e. prolonged ICU stay, difficulty weaning, smoking, number of loose or missing teeth, bleeding on brushing, trauma, dry mouth, history of seeing dentist, those at high risk for aspiration). [3] <input type="checkbox"/> Organization identifies a method to communicate to the patient care team that the patient has an increased risk of PVAP. <ul style="list-style-type: none"> - Patients with increased risk of PVAP due to risk factors addressed above are communicated between care team members (i.e. documentation in medical record, conversation at huddle/rounds, sign, etc.) <input type="checkbox"/> The organization implements a process to identify and address patients with dry mouth <ul style="list-style-type: none"> - The organization has interventions in place to treat dry mouth (i.e. consult with pharmacist to identify medication impact, consult dietician or speech language pathologist if NPO, apply product designed to treat dry mouth, after oral care, etc.) 	<ul style="list-style-type: none"> • AACN VAP Risk Factors list three types of risk factors that may increase a patient's risk for VAP. • Consider using this sample oral assessment tool created by the MHA Oral Health Committee to assist in determining patient oral health status. • SHEA/IDSA/AHA/APIC/CDC/TJC FAQs "Ventilator-Associated Pneumonia" • Manufacturer example studies of reducing VAP/HAP Risk Factors

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Oral care	<p>FUNDAMENTAL (check each box if “yes”)</p> <p><input type="checkbox"/> The facility has a process in place for all patients to conduct daily brushing and swabbing of the oral cavity per product and physician guidelines.</p> <ul style="list-style-type: none"> - A recommended frequency for attending to the ventilated patient's oral cavity has been identified as brushing twice daily and swabbing with water or other comparable moistening solution every 2-4 hours. After the completion of swabbing or brushing, it is recommended to suction the patient oral cavity with a covered yankauer. [1] <p><input type="checkbox"/> The facility has a process in place to rinse the patient mouth with an oral antiseptic.</p> <ul style="list-style-type: none"> - Utilize chlorhexidine twice daily or other comparable approved, evidence-based antiseptic following the brushing of teeth. Suctioning is recommended to remove any remaining antiseptic solution. [1-2] <p><input type="checkbox"/> The facility has a process in place for the use of subglottic suctioning (continuous or intermittent) to prevent aspiration and the risk of ventilator-associated pneumonia. A recommended frequency for subglottic suctioning has been identified as every six hours. [5-8]</p> <ul style="list-style-type: none"> - Use an endotracheal tube with a dorsal lumen above the endotracheal cuff to allow drainage by continuous suctioning of tracheal secretions that accumulate in the subglottic area. [4-7] - If using intermittent suctioning, conduct regularly to achieve a continuous-like system. [6] - Perform subglottic suctioning prior to transport and before changes to head of bed elevation, extubation or deflation of the endotracheal tube cuff, if present. <p><input type="checkbox"/> The organization completes documentation of the oral care provided including the antiseptic rinse in a method accessible to various providers. [2]</p>	<ul style="list-style-type: none"> • AACN Practice Alert Oral Care for Patients at Risk for VAP • The Centers for Disease Control and Prevention (CDC): Guidelines for Preventing Health-Care-Associated Pneumonia (HICPAC) • IHI How-to Guide: Prevent Ventilator Associated Pneumonia • SHEA/IDSA: A Compendium of Strategies to Prevent Healthcare-Associated Infections in Acute Care Hospitals • Consistency in providing oral care is achieved by having a set protocol for patients on the unit. This example manufacturer Oral Care Protocol provides an example of an oral care procedure to follow for ventilated patients utilizing their product. • For recommendations, guidelines, and published outcomes of utilizing CHG rinse review: Stryker-The role of 0.12% CHG in the ventilated patient. • Use this link to review current literature on the use of oral Chlorhexidine to prevent ventilator-associated pneumonia in adults.

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Care coordination	<p>ADVANCED (check each box if “yes”)</p> <p><input type="checkbox"/> A process exists for staff to communicate and document abnormal findings regarding the patient oral cavity.</p> <ul style="list-style-type: none"> - Abnormal findings with the patient oral cavity include excessive bleeding, ulcerations, thrush, loose teeth, etc. <p><input type="checkbox"/> Upon transitioning patients to a lower level of care from the ICU there is a process in place to communicate oral care and/or future dentistry needs with the patient, family and receiving patient care unit; for all previously vented patients.</p> <p><input type="checkbox"/> There is a process in place to communicate recommended oral care when a patient transitions to a different level of care and/or discharged from the hospital setting.</p> <ul style="list-style-type: none"> - A different level of care could be identified as transferring out of the ICU, inpatient to outpatient, admission to a skilled nursing facility or assisted living facility, etc. 	<ul style="list-style-type: none"> • AHRQ Care Coordination • Example of Care Coordination: A managed teams approach • AHRQ Survey: Care Coordination Quality Measure for Primary Care
Continuous surveillance strategy	<p>FUNDAMENTAL (check each box if “yes”)</p> <p><input type="checkbox"/> The organization has a process in place to track, trend and distribute data on specified outcome measures.</p> <p><input type="checkbox"/> The organization conducts audits of randomized patient charts and observes oral care provided to ventilated patients on a periodic basis</p> <ul style="list-style-type: none"> - Audits and observations are completed on a frequency as determined by the interdisciplinary team to measure protocol adherence. The staff member can collect information such as observations during rounds to see if oral care is completed, who documented the oral care, the supply of resources available in the patient room, etc. <p><input type="checkbox"/> Staff members are made aware of outcome measure results (i.e. verbal, visual, report out at huddle, etc.).</p>	<ul style="list-style-type: none"> • Consider this resource for use by the infection preventionist outlining criteria used to define a case of PVAP - CDC Ventilator Associated Events • Examples of oral care auditing templates to utilize or edit to fit your hospital needs are listed here: <ul style="list-style-type: none"> - Template #1 - Template #2 • Manufacturer performance improvement template example

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Continuous surveillance strategy, continued	<p>ADVANCED (check each box if “yes”)</p> <p><input type="checkbox"/> When PVAP is detected, a root cause analysis or critical incident review are completed to discover gaps in care. Learnings are used in preventing additional cases and communicated to the unit.</p> <ul style="list-style-type: none"> - Follow the National Healthcare Safety Network (NHSN) surveillance protocol for PVAP included in the Centers for Disease Control (CDC) ventilator-associated event (VAE) surveillance protocol (pg. 15-21). 	

References

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5. Johns Hopkins Armstrong Institute for Patient Safety and Quality. CUSP for Mechanically Ventilated Patients - Ventilator Associated Pneumonia (CUSP 4 MVP-VAP). Available at https://www.hopkinsmedicine.org/armstrong_institute/improvement_projects/infections_complications/mechanically_ventilated_patients.html
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