Mouth Care Matters

The importance of dysphagia screening and oral hygiene care following stroke.

I have no financial disclosures or conflicts of interest with information presented today.

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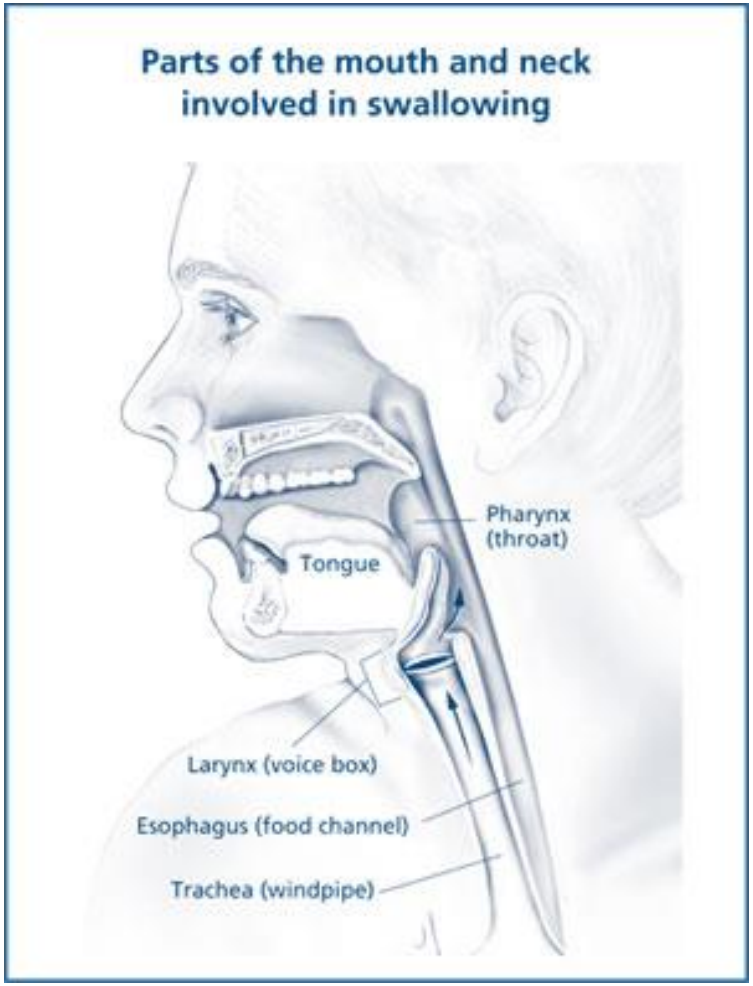
What is Dysphagia?

- Simply stated it is difficulty swallowing.
- Difficulty can arise at any or all the “stages” of swallowing including the oral, pharyngeal and esophageal stages.
  - Swallowing is a complex and synchronous process that we often take for granted.
  - Eating and swallowing compromises both volitional and reflexive behaviors and incorporates more than 30 muscles and nerves.
  - Dysphagia can be a symptom of many medical conditions

Signs and Symptoms of Dysphagia

- Coughing
- Throat Clearing
- Wet vocal quality
- Poor secretion management
- Difficulty chewing
- Spitting out food
- Unexplained weight loss
- Pain with swallowing
- Pocketing of food
- Report of food sticking in throat or the chest

Basic Anatomy of the Swallow



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SLP Recommendations in Individuals with Dysphagia

- Based upon beside clinical assessment and instrumental studies.
- Cleared for nutrition without any clinical concerns
- Modified diet – including solid texture modification and/or introduction of thickened fluids
  - Modified foods have less nutritional value and the risk of dehydration increases with introduction of thickened fluids.
- NPO with need for temporary and or long-term nutrition
- Need for goals of care discussion and benefit of a palliative care consult
- Always including the patient and family in the discussion and creating a plan and intervention that meets their goals and needs.

Dysphagia in Stroke Patients

- There is a high incidence of dysphagia in stroke patients.
- Evidence suggests that between 30%-65% of individuals with a stroke will develop some difficulty swallowing.
- Dysphagia post stroke may improve and resolve during the first week, but about 11%-13% of stroke patients have persistent dysphagia 6 months post the event.

Development of Dysphagia in Stroke

- Results from loss of neural connectivity within the neural swallowing network.
- Often associated with pharyngeal muscular dysfunction and incoordination.
- Some studies suggest that location of stroke impacts presence and severity of dysphagia.
  - More dysphagia in right hemisphere versus left hemisphere strokes
  - Infarcts within the brainstem and within the infratentorial region result in a higher incidence of dysphagia.

Complications of Dysphagia in Stroke

- Malnutrition
- Dehydration
- Pulmonary complications
- Social Isolation
- Dependency
- Mortality
- Caregiver Burden

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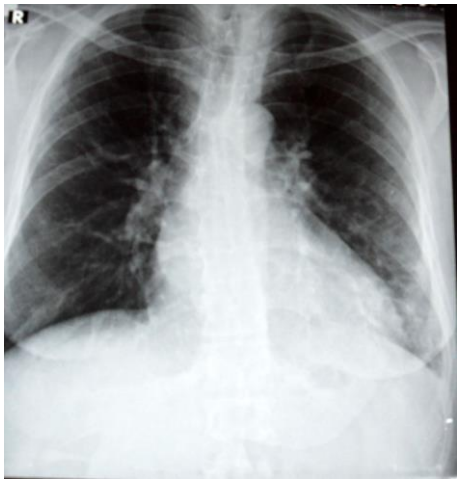
Stroke Associated Pneumonia

- High incidence of pneumonia in the stroke population.
- Stroke associated pneumonia develops within the first 7 days of stroke onset and impacts between 2.3-44% of stroke patients.
- Estimated that between 43-72% of stroke associated pneumonia occurs within 72 hours of the event, making it imperative to identify our high-risk patients and implement strategies to prevent SAP.



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More Pneumonia in Stroke but Why?

- Dysphagia is a predictor of stroke associated pneumonia given the high prevalence of dysphagia in stroke patients.
  - **But there is a higher incidence of pneumonia in stroke patients with dysphagia than dysphagia patients overall.**
- Oral Flora is altered post stroke.
- Stroke Induced Immunosuppression
  - Increases the likelihood of development of a bacterial infection.
  - Fever leads to neuronal excitotoxicity and electrolyte imbalances which can in turn worsen stroke

Risk Factors For Stroke Associated Pneumonia

- Stroke Severity and Higher NIHSS
- Dysphagia and its severity
- Older Age
- Mechanical Ventilation
- Altered level of consciousness
- History of chronic respiratory disease
- Presence of nasogastric feeding tube
- Dependency for Oral care

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Can we Prevent Stroke Associated Pneumonia?

- Implementing an evidenced based practice bundle may help reduce the incidence of stroke associated pneumonia.
  - Early screening of stroke patients for dysphagia
  - Airway and position management
  - Oral hygiene care early and often throughout the hospital stay.
  - Post-pyloric nutrition in those who are not cleared for oral nutrition
  - Early and frequent mobilization

What is a Dysphagia Screen?

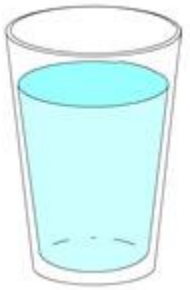
- A minimally invasive, informal assessment
- Can indicate the presence of clinical signs/symptoms that may be indicators of dysphagia with focus upon identifying overt signs of aspiration.
- **Quick and Easy**
- **Should have both good sensitivity and specificity – avoiding over or under referrals to speech pathology**
- **Reliable and Intra-Reliable across administrators**
- Pass/fail system determining:
  - The likelihood that dysphagia exists.
  - Whether oral intake is safe for the patient for nutrition, hydration, and medication.
  - If the patient requires further swallow evaluation by speech-language pathology.

Benefits of Dysphagia Screening For Stroke

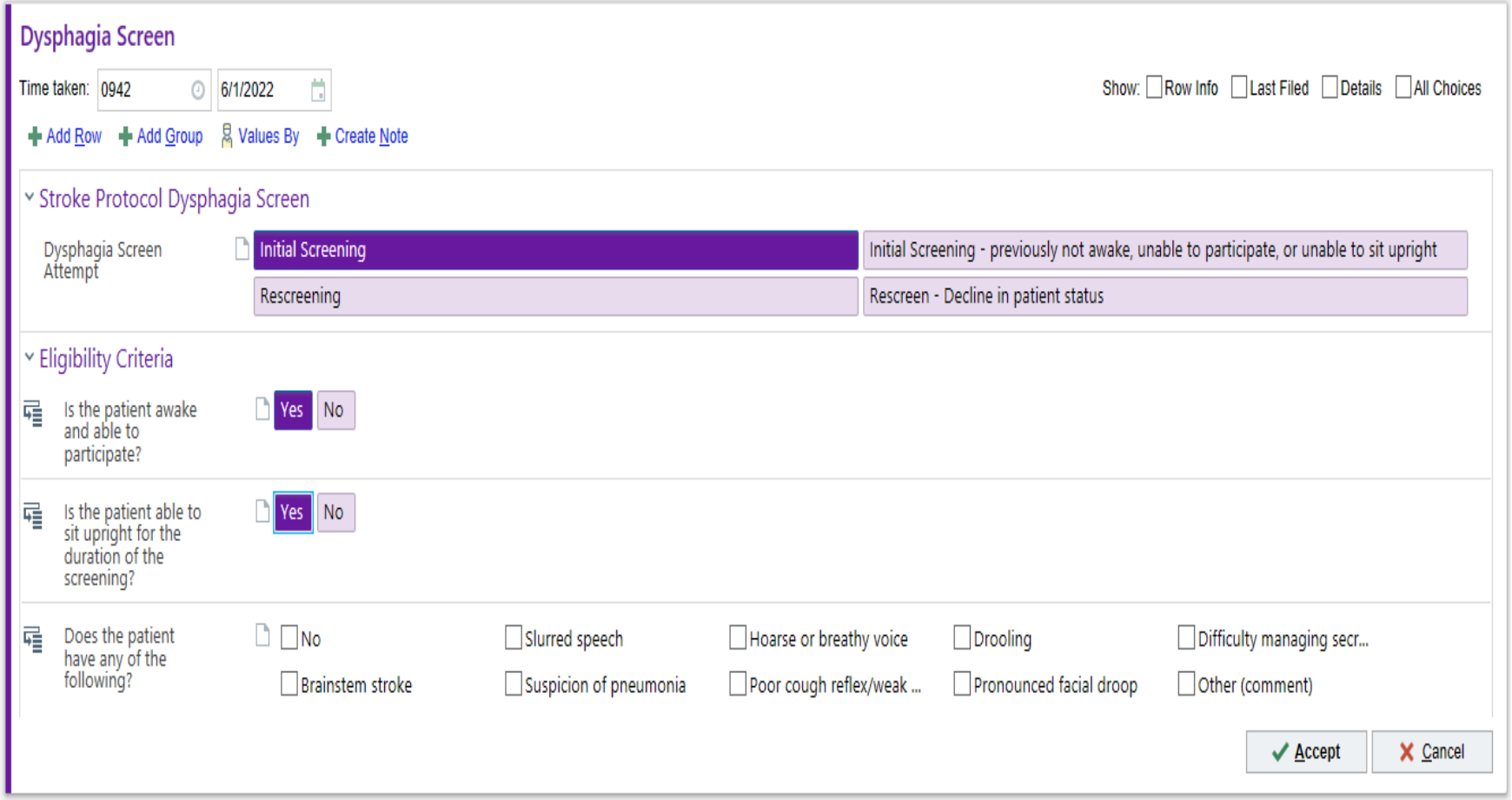
- Reduction in
  - Pneumonia
  - Morbidity
  - Mortality
  - Dependency
  - Length of Stay
  - Health Care Costs
- Despite the above the Joint Commission retired dysphagia screening from its “Get with the Guidelines” stroke guidelines in 2010 because there has been disparity in establishing what a dysphagia screen should be. But we all agree it is critical to preventing adverse outcomes in our stroke patients.

Standardized Dysphagia Screening

- Completed for all TIA/Stroke patients who arrive to the ED
- Completed before giving anything by mouth including medication
- Inclusion of an exclusionary criteria checklist and active water administration.
  - Recommended to use a 3 oz water challenge (continuous drinking) as research has shown aspiration response even in “silent aspirators” is volume dependent – allowing staff to capture more at-risk patients
    - Small single sips may not capture at risk patients – as volume not sufficient to
    - trigger a sensory response
- Education on dysphagia screening for nurses to enable accurate/reliable/efficient completion and the confidence to initiate oral medications and po nutrition



EPIC FLOW SHEET – Exclusionary Check List



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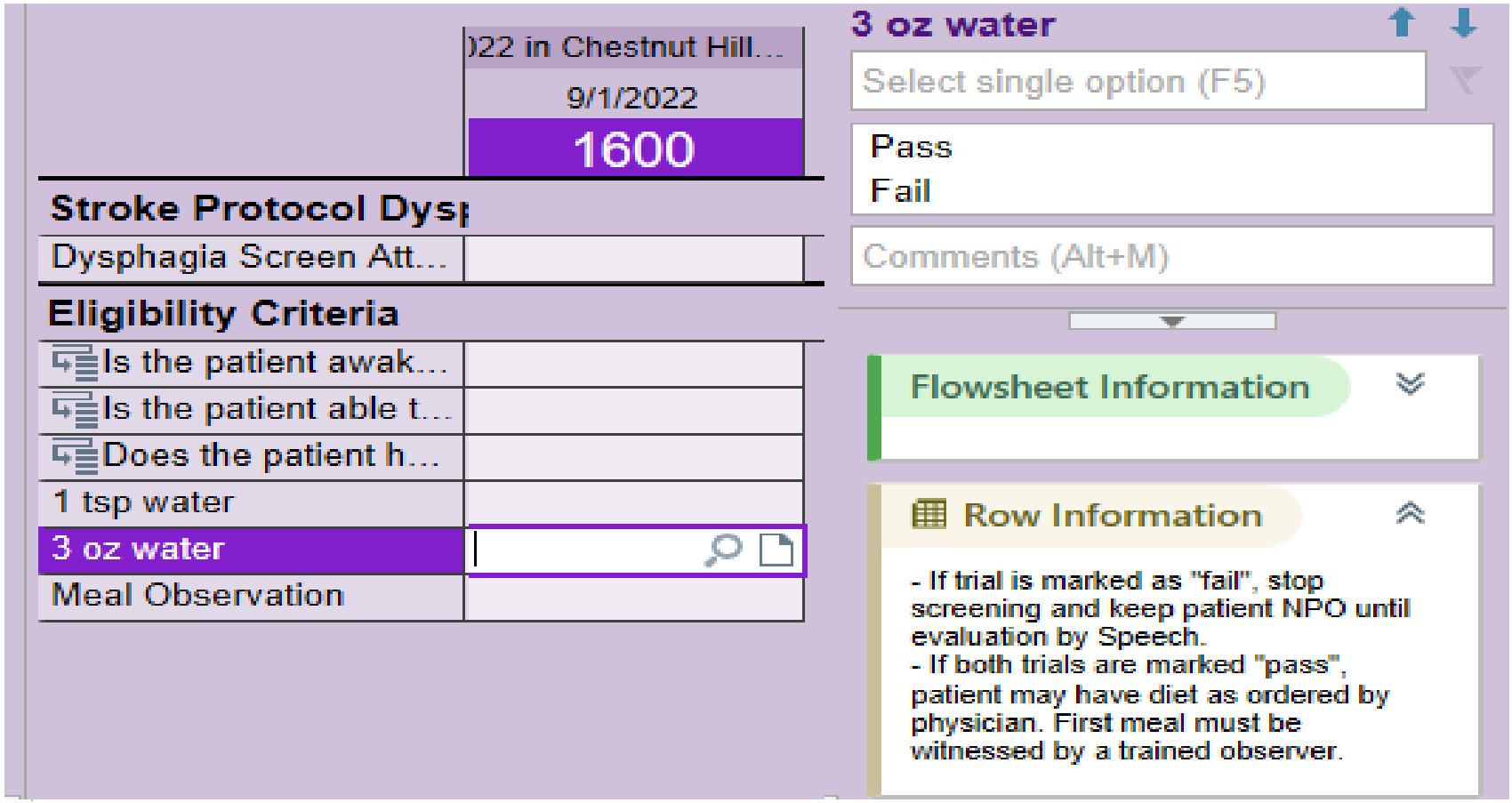
EPIC FLOW SHEET – Active Administration



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Post Dysphagia Screen

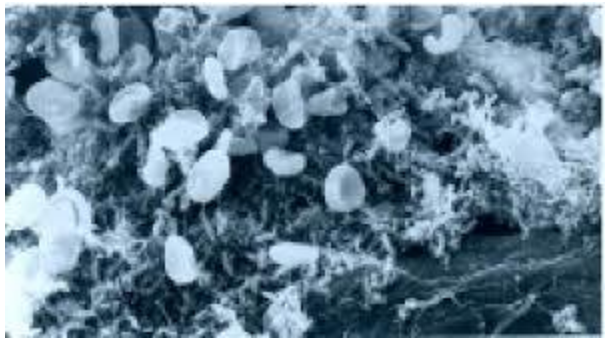
- If a patient passes the dysphagia screen in its entirety the patient can begin oral nutrition and receive oral medication.
- If a patient fails the dysphagia screen the patient is referred for a Speech Pathology Evaluation
- Completion of Video Fluoroscopic Swallow Study (VFSS) and or Fiberoptic Endoscopic Evaluation of Swallowing (FEES) as appropriate.

Why is Oral Hygiene Care Imperative for All Individuals who are Hospitalized?

- Hospital Acquired Pneumonia is now THE most common hospital acquired infection,
- 1 in every 4 hospital acquired infections is pneumonia (Magill et al. NEJM, CDC 2018)
- Majority of these are NVHAP (60%) (Magill et al. NEJM, CDC 2018) •
- NVHAP is found on ALL hospital units – mostly outside the ICU (Carey, Munro et al. 2021; Baker & Quinn, 2018)
- Associated mortality = 15.5 to 30.9%. •
- 8.4 X more likely to die than equally sick patients (Micek et al. 2016)
- Less likely to go home after NVHAP = Long term care (25%) (Baker & Quinn, 2018)
- Readmissions (19%) and ICU utilization (46%) (Baker & Quinn, 2018)
- NVHAP estimated cost is about $40,000.

Oral Microbiome

- The oral cavity is covered by a protective mucous membrane, serous fluids, a mixture of microorganisms which is comprised of bacteria, viruses and fungi.
- Microbiome – are the microorganisms in a particular environment.
- 1-10 trillion microorganisms live in the oral cavity alone
- The oral cavity includes several distinct microbial habitats, such as teeth, gingival sulcus, attached gingiva, tongue, cheek, lip, hard palate, and soft palate.
- In healthy individuals our oral microbiome maintains homeostasis or stable equilibrium.



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What is Biofilm?

- A thin, slimy film of bacteria that adheres to a surface.
- Biofilm forms when bacteria stick to the surface of a wet environment.
- When there is poor oral hygiene food debris and plaque form a thick bacterial biolfilm which cannot be penetrated by saliva and its immune properties.
- Combine poor oral hygiene with the stressors of an acute hospitalization/illness, immunosuppression post stroke and the natural balance of our oral microbiome is disrupted and we have a ripe environment for invasive organisms.

Oral Hygiene Protocol - A Modifiable Risk Factor For Prevention of SAP

- We can't eliminate aspiration of secretions – but we can reduce the bacterial burden.
- Multiple studies identify a reduction in incidence of SAP in patients who receive routine oral hygiene care
- Three Pillars of Pneumonia
  - Presence of Aspiration
  - An Immuno- Compromised Host
  - Poor oral hygiene

  - **But by providing standard/routine oral hygiene care we can reduce the incidence of pneumonia.**

Barriers to Adequate Oral Care Post Stroke

- Lack of knowledge about oral care as infection prevention for staff as well as buy in from team members
- Inadequate supplies and resources for provision of oral care
- Fear of harm
- Lack of time
- Lack of evidenced based assessment tools and protocols for oral care in stroke population as well as general acute care population
- Increased dependency for care given hemiplegia post stroke in some individuals.

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Some Guidance for Oral Care in Acute Care Setting

- Initial Oral Care Assessment upon admission - completed by nursing
  - Screening or the oral structures and overall health of the oral cavity
- Structured oral care completed **– There is ongoing debate as what constitutes enough oral care – this is likely to be patient/situation dependent but an oral health assessment tool helps to guide practice.**
- Use of Soft Toothbrush with **peroxide and baking soda** base for independent patients or those who can provide some assistance.
- **Alcohol free** antiseptic oral rinse – those who can rinse and spit
- Use of mouth moisturizer for dependent patients.
- **Suction toothbrush/swab – dependent patients**
- Denture care
- **Documentation –for consistency and accountability**

Dependent for Oral Care

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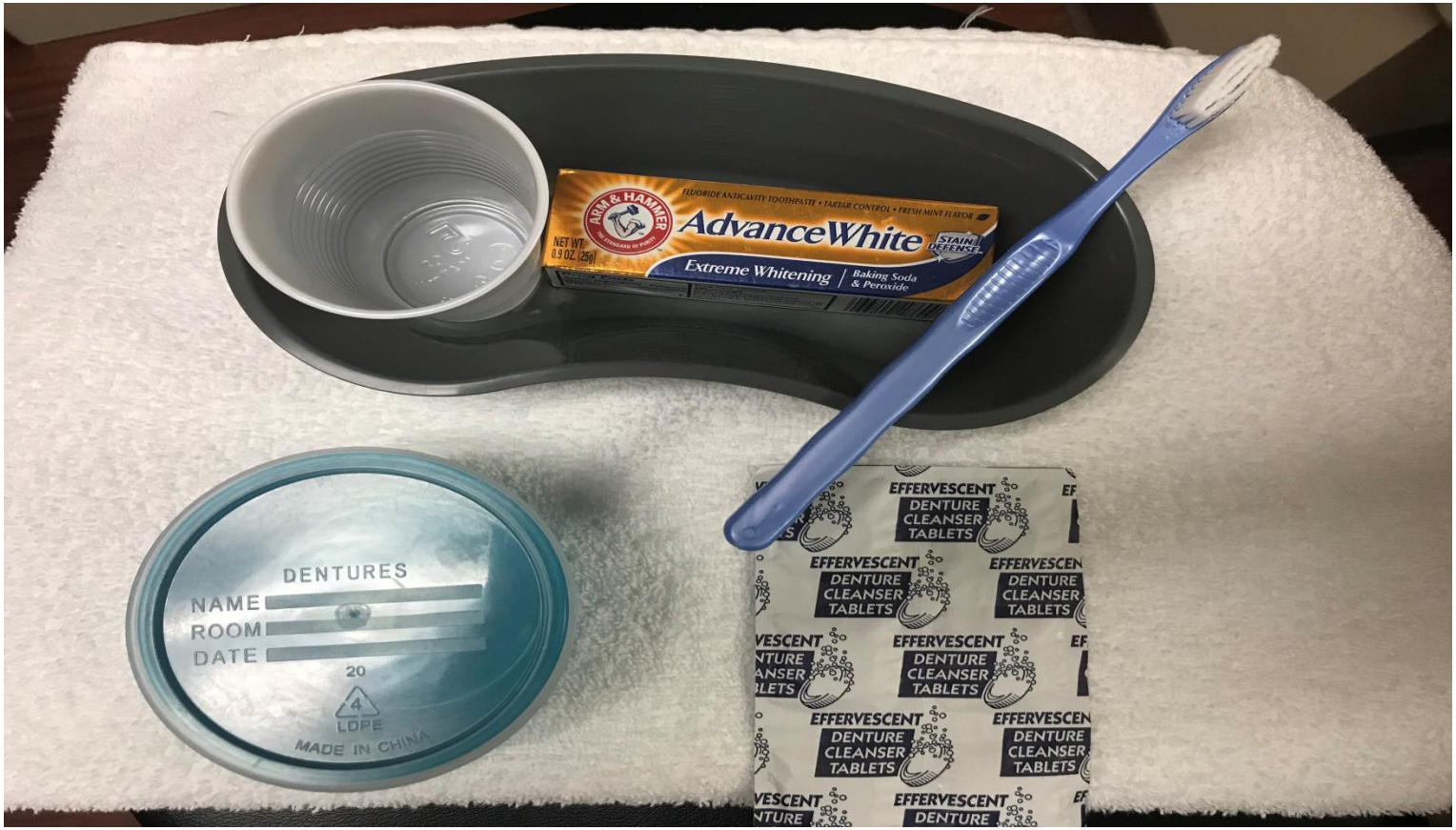
Independent or Requires Some Assistance



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Tips for Prevention of NVHAP including SAP

- **Maintaining regular oral care**
- Maintaining patient mobility –early and often
- Elevating the head of the patient's bed
- Reducing the use of acid-suppressing medications
- Minimizing sedation
- Performing dysphagia screening in stroke and high-risk patients
- Following standardized processes to place and manage feeding tubes
- Using incentive spirometry – especially our non-ambulator patients
- Education of the patient and family/caregivers about NVHAP prevention

NVHAP (including Stroke Associated Pneumonia) Remains under the Radar

- NVHAP is a significant patient safety and quality of care concern but , it is not currently recognized as one of the NDNQI measures; nor is it one of the conditions that the Centers for Medicare & Medicaid Services (CMS) requires hospitals to report to the Centers for Disease Control & Prevention (CDC) National Healthcare Safety Network; and it is not integrated into the CMS current pay-for-reporting or performance programs.

But Likely not for Long…

- NOHAP – National Organization for NV-HAP Prevention
  - Resources unbranded for distribution of non-branded education for providers and patients.
- Veterans Affair Initiative – HAPPEN – Hospital Acquired Pneumonia Prevention by Engaging Nurses.
  - **They Estimate the cost is about $3-$5.00 per patient and needs 2 extra minutes of direct nursing care per shift.**
  - **Providing consistent/daily oral hygiene care to all hospitalized and long term care residents has helped reduced the incidence of NVHAP**

- Joint Commission Call To Action – September 13, 2021
  - Quick Safety Issue 61
  - Includes recommended NVHAP prevention strategies and safety actions to consider

How do we improve and reduce NVHAP and SAP?

- Need to establish an interprofessional team

- Nursing assistants, RNs, respiratory, speech and language (SLP),
- infection prevention, MD, Administration, Dietary Services,
- Supply Chain

- A clear protocol, education and competency for staff to feel
- confident when providing oral care.

- Awareness of our hospital numbers in reference to pneumonia

- Buy In and support from administrators and clinical staff alike.

Questions?

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