

Oral Care for Nursing Home and Care-Dependent Patients



Course Author(s): Luke Burroughs, RDH, MPH; Molly Mihlbachler, RDH, MS

CE Credits: 2 hours

Intended Audience: Dentists, Dental Hygienists, Dental Students, Dental Hygiene Students, Dental Assistants, Dental Assisting Students, Dental Educators, Office Managers

Date Course Online: 10/31/2024

Last Revision Date: NA

Course Expiration Date: 10/30/2027

Cost: Free

Method: Self-instructional

AGD Subject Code(s): 750

Online Course: www.dentalcare.com/en-us/ce-courses/ce686

Disclaimers:

- P&G is providing these resource materials to dental professionals. We do not own this content nor are we responsible for any material herein.
- Participants must always be aware of the hazards of using limited knowledge in integrating new techniques or procedures into their practice. Only sound evidence-based dentistry should be used in patient therapy.

Conflict of Interest Disclosure Statement

- Luke Burroughs reports no conflicts of interest associated with this course. He has no relevant financial relationships to disclose.
- Molly Mihlbachler reports no conflicts of interest associated with this course. She has no relevant financial relationships to disclose.

Short Description

Learn about Oral Care for Nursing Home and Care-Dependent Patients. This free continuing education course seeks to educate dental professionals on the oral health needs common to nursing home residents and care-dependent patients, as well as the role dental professionals can play in promoting oral health among these populations and their caregivers.

Course Contents

- Introduction
- Our Aging Population
- Prevalence of Oral Disease in Nursing Homes
- Importance of Oral Health
- Oral Care for Residents
- Brushing
- Denture Care
- Residents With Dry Mouth
- Residents Who Have Suffered from Strokes
- Residents with Cognitive Impairments
- Unconscious Residents
- Improving the Standards of Care
- Conclusion
- References/Additional Resources

Overview

This course is designed to educate dental professionals on the oral health needs common to nursing home residents and care-dependent patients, as well as the role dental professionals can play in promoting oral health among these populations and their caregivers. These are vulnerable populations that suffer from multiple barriers, such as reduced access to oral healthcare, potential physical or mental limitations, and dependence on others for daily care. Among nursing home residents, oral conditions and related effects on general health include dental decay, periodontal disease, fungal infections, abscesses, aspiration pneumonia, and many conditions related to dietary deficiencies. The dental community plays a critical role in treating the patients that visit dental offices and clinics. However, dental professionals are also needed to educate nursing staff, caregivers, and patients who are confined to long-term facilities or their homes.

Learning Objectives

Upon completion of this course, the dental professional should be able to:

- Explore the demographic and oral health status trends of nursing home residents in the United States.
- Discuss the major oral health concerns for nursing home residents and care-dependent patients.
- Describe the general practices for proper oral hygiene dental professionals should communicate to these populations and their caregivers.

- Explain risk factors, general health effects, oral health effects, and mouth care methods for residents who are unconscious, who have suffered from strokes, who have dry mouth, or who have cognitive impairments.
- Explore the challenges of delivering oral healthcare in long-term care facilities, as well as the policies and strategies related to oral healthcare surveillance, assistance, regulation, and education.

Introduction

Nursing home residents and care-dependent adults are a vulnerable population often facing neglected oral health due to caregiver time constraints, lack of training, and the low prioritization of non-emergent care. Nurse aides, responsible for a wide range of tasks, often struggle to complete daily oral care. To address this gap, dental professionals must play a key role in educating caregivers on the importance of oral health and equipping them to better meet the oral care needs of their patients. This course aims to provide best practices and verbiage for dentists, hygienists, and other dental personnel to effectively train nursing home staff on maintaining residents' oral health. We will also discuss relevant government regulations, the specific oral health challenges faced by this population, and practical strategies to improve caregiver education and patient outcomes.

Our Aging Population

Older adults represent one of the fastest-growing segments of the population. In the U.S., nearly 15% of the population is currently aged 65 and over, with projections showing a 5% increase by 2030.¹ As people age, their risk for health conditions, including oral disease, significantly increases, especially when they become dependent on others for care. However, while the at-risk population of older adults is growing, the working-age population is shrinking. This demographic shift leads to a growing demand for caregivers, yet the available workforce is insufficient to meet this need.

Nurse aides, who are often the primary caregivers for older adults, typically receive minimal training on oral care. This lack of preparation leaves many unable to provide

effective oral care, particularly for residents with complex needs. Given the increasing number of older adults, it is more important than ever to ensure nurse aides are properly educated on how to deliver effective oral care and understand its critical impact on overall health.

Prevalence of Oral Disease in Nursing Homes

There are approximately 1.2 million people living in nursing home facilities in the U.S., and this number is expected to grow.² However, surveillance data specifically distinguishing the oral health needs of older adults who are care-dependent or residing in nursing homes is limited.¹ This lack of detailed information makes it challenging to address disparities effectively. Identifying which individuals are most at risk for oral disease would allow for more targeted and efficient allocation of resources. Broad categories, such as “adults aged 75 years or older,” dilute efforts and hinder focused interventions.

For example, while the American Dental Association notes that edentulism rates have declined, with more people retaining their teeth into old age, about 50% of this population still suffer from root caries.³ However, without specific data on how many of these individuals live in long-term care facilities, addressing and reducing disease in this population becomes difficult.

Most available information on nursing home residents’ oral health comes from studies with convenience samples or small populations. For instance, a study published by the American Geriatrics Society evaluated the oral care of 67 residents and 47 nurse aides, finding that only 16% of residents received adequate oral care in nursing homes.¹ The study highlighted deficits, such as inadequate brushing (less than two minutes), lack of flossing, oral assessments, rinsing with mouthwash, and failure to use clean gloves during oral care.⁴

Although these findings are based on a limited sample, they provide valuable insights into the oral care shortcomings in nursing homes. The US Code of Federal Regulations requires

nursing homes to assess residents’ dental health and provide necessary care, yet there is no comprehensive data on compliance.¹ To effectively address these issues, there is a pressing need for enhanced surveillance of current practices in nursing homes regarding oral care.

Importance of Oral Health

Impact on Overall Health

Although nursing home staff are focused on the health of the residents in their care, they are often unaware of the impact oral health has on overall health. Dental professionals can play a key role in communicating this connection, including the following information. Plaque (biofilm) is the source of harmful bacteria that lives within the oral cavity. When we educate our patients on plaque removal, they are often motivated by the prevention of halitosis (bad breath), caries development, and gum disease. However, biofilm and oral disease, specifically periodontitis, is also linked to other systemic and inflammatory illnesses including diabetes, pulmonary conditions, cardiovascular disease, and dementia.¹ These conditions are prevalent in nursing home residents, making plaque removal a vital component in maintaining their health. For example, aspiration pneumonia is one of the leading preventable causes of death in nursing homes due to increased dysphagia (difficulty swallowing) combined with harmful oral bacteria that can cause infections in the lungs.^{5,6} When a resident aspirates (inhales/breathes an object into the lungs) harmful plaque, the plaque travels to the lungs, potentially causing pneumonia. Simply removing the plaque can reduce the risk of pneumonia, prevent illness, and stop the progression of existing illness.

Impact on Quality of Life

Oral health is a critical factor in determining quality of life. While oral health issues may not always be life-threatening, they represent a major public health concern due to their high prevalence, particularly among older adults.⁷ Teeth play a vital role in smiling, speaking, and eating. When these functions are compromised by tooth or mouth pain, it can lead to decreased confidence, social withdrawal, and poor nutrition. In fact, poor oral health is the

most significant risk factor for malnutrition in older adults.¹ Consistent, proper oral care can prevent oral disease and pain, thereby enhancing quality of life.

Oral Care for Residents

Nurse aides often manage the care of multiple residents, and residents encounter different aides daily. To ensure efficient and accurate oral care, it is essential to organize and label each resident's oral care supplies. Specific areas or containers for each resident's items, such as toothbrushes, interdental aids, and artificial saliva, should be designated to avoid confusion and ensure that all necessary aids are consistently used. Additionally, place disposable gloves near the oral care supplies to remind aides to use clean gloves for each session.

Nurse aides should actively support and encourage residents with their oral care routines, staying well-informed about each resident's care plan. Care plans, which include initial health assessments and ongoing evaluations, detail the specific needs and preferences for each resident's care. These plans may specify the use of oral care aids, the presence of dentures or partials, and any supplemental agents needed, such as artificial saliva for dry mouth.

For residents capable of performing self-care, nurse aides should monitor their oral care practices to ensure that they are thorough and effective. For those needing assistance, aides should consult the care plan and apply appropriate techniques and approaches tailored to each resident's individual needs.

Brushing

The following brushing guidelines should be reinforced to nursing staff. Adhering to universal brushing standards is essential for maintaining oral health in all patients. These standards include:

- Wash hands and wear new gloves before performing oral care.
- Position the patient upright or have them stand at a sink if applicable.
- Brush at least twice daily for two minutes each time.⁹

- Use a soft-bristle toothbrush; electric toothbrushes are preferred for their effectiveness.¹⁰
- Brush all natural teeth and dentures, covering all tooth surfaces including the biting surfaces.
- Clean the patient's tongue to remove bacteria.
- Rinse the mouth with water after brushing.
- Replace the toothbrush or toothbrush head every three months, after illness, or when bristles become frayed.¹⁰

When planning oral care, consider whether the resident can brush independently, requires assistance, or is unable to provide care for themselves.

Monitoring & Assisting

Even if a resident can brush their own teeth, caregivers should monitor to ensure effective brushing. For residents with memory issues, reminders or visual cues, such as placing the toothbrush on the sink, may be helpful.¹⁰ Caregivers may need to assist by applying toothpaste and initiating the brushing process.

For residents who are capable of self-care but struggle with manual dexterity, caregivers can use a hand-over-hand technique to guide the brush. Positioning behind or beside the patient, the caregiver places their hand over the resident's hand to assist with brushing while allowing the patient to participate actively.⁷ Electric toothbrushes are advantageous due to their effectiveness over manual toothbrushes, as are wide, ergonomic handles, and smaller brush heads that fit into limited mouth openings.¹¹

For residents with limited grip strength, such as those who have had a stroke, modifications can enhance their ability to brush independently. Adding foam tubing, tennis balls, or ergonomic grips can make the toothbrush handle larger and easier to grasp. If gripping is no longer possible, a utensil holder or rubber band can be used to secure the toothbrush to the resident's hand.¹¹

Providing Care

When providing oral care for residents who are unable to perform it themselves, caregivers must exercise patience, clear communication, and

Figure 1a - Sample Oral Care Plan[®]

Table 4. Overcoming Obstacles to Oral Health – Daily Mouth Care Plan			
Resident's Name: _____		Date _____	
Assessed By (Staff) _____		(Dental Professional) _____	
<i>Assessment</i>			
Describe current daily mouth care plan (Natural Teeth & Dentures) Dentures <input type="checkbox"/> Y <input type="checkbox"/> N Daily Tooth/Denture brushing <input type="checkbox"/> 1x <input type="checkbox"/> 2x <input type="checkbox"/> 3x Brushes Own Teeth/Dentures If yes, for how much time? _____ Daily flossing <input type="checkbox"/> Y <input type="checkbox"/> N Daily mouth rinse <input type="checkbox"/> Y <input type="checkbox"/> N Dentures stored <input type="checkbox"/> Wet <input type="checkbox"/> Dry		Physical challenges to mouth care <input type="checkbox"/> Y <input type="checkbox"/> N Describe _____ _____ _____ _____	
		Behavioral challenges to mouth care <input type="checkbox"/> Y <input type="checkbox"/> N Describe _____ _____ _____ _____	
<i>Create-A-Plan: Tools and Products</i>			
	Tools		
TOOTH BRUSHES	<input type="checkbox"/> Electric <input type="checkbox"/> 1x/day <input type="checkbox"/> Adapted <input type="checkbox"/> 2x/day <input type="checkbox"/> Two-sided <input type="checkbox"/> 3x/day <input type="checkbox"/> Standard <input type="checkbox"/> Denture TB		
BETWEEN TEETH	<input type="checkbox"/> Inter-proximal brush <input type="checkbox"/> 1x/day <input type="checkbox"/> Adapted floss holder <input type="checkbox"/> 2x/day <input type="checkbox"/> Super floss <input type="checkbox"/> 3x/day <input type="checkbox"/> Standard floss		
AIDS	<input type="checkbox"/> Mouth prop <input type="checkbox"/> 1x/day <input type="checkbox"/> Perio-Aid <input type="checkbox"/> 2x/day <input type="checkbox"/> Rubber tip stimulator <input type="checkbox"/> 3x/day <input type="checkbox"/> Disclosing tablets		
	Products	Use	Medications
	Xylitol: <input type="checkbox"/> Mints <input type="checkbox"/> Rinse* (can use swab) <input type="checkbox"/> Spray <input type="checkbox"/> Gum	3x/day	<input type="checkbox"/> Chlorhexidine
	<input type="checkbox"/> Floride Rinse (can use swab)	2x	<input type="checkbox"/> Floride varnish
	Floride Toothpaste <input type="checkbox"/> Standard <input type="checkbox"/> Sensitive <input type="checkbox"/> Denture Cleaner	2-3x/day	<input type="checkbox"/> High Concentration Fluoride Toothpaste <input type="checkbox"/> MI Paste
	Dry Mouth Products <input type="checkbox"/> Gel <input type="checkbox"/> Spray <input type="checkbox"/> Rinse* (can use swab) <input type="checkbox"/> Toothpaste <input type="checkbox"/> Baking Soda	At day 1x day	<input type="checkbox"/> Other _____
			7 days out of each month
			4x/year
			At least 1x day

Figure 1b - Sample Oral Care Plan⁸

Table 4 (continued) Overcoming Obstacles to Oral Health – Daily Mouth Care Plan				
<i>Create-A-Plan: Physical/Behavior Plan</i>				
Level of Participation <input type="checkbox"/> Full Participation <input type="checkbox"/> Partial Participant-Can complete some tasks <input type="checkbox"/> None – Person is completely dependent.		Prompts to use: <input type="checkbox"/> Physical (hand-over-hand) <input type="checkbox"/> Pointing <input type="checkbox"/> Physical (touch) <input type="checkbox"/> Verbal		
<i>Creating Conditions for Success</i>				
Person	Who will work with individual?	<input type="checkbox"/> Caregiver	<input type="checkbox"/> CNA	<input type="checkbox"/> Family Member
Place	Best position	<input type="checkbox"/> Bedside <input type="checkbox"/> Couch	<input type="checkbox"/> Wheel-chair <input type="checkbox"/> Recliner	<input type="checkbox"/> Bean bag chair <input type="checkbox"/> Other
Time	Best time or day	<input type="checkbox"/> AM_____	<input type="checkbox"/> PM_____	<input type="checkbox"/> Other_____
<i>Involve the Individual</i>				
List Choices offered: (Ex. Do you prefer the couch or bedside? Which flavor toothpaste?) A. _____ B. _____ C. _____		Desensitization: Use gradual introduction (Ex. Start with the person holding a hair brush, then a toothbrush, then hold the toothbrush to the lips.) Steps being worked on: 1. _____ 2. _____ 3. _____		
Limit Setting by individual: (Ex. I can brush the top teeth for 20 seconds, then you take over.) A. _____ B. _____ C. _____		Shaping: Use rewards when a task is completed in the direction of a goal. (Ex. As the person completes each task, expect more from the next task before the reward is given.) Steps being worked on: 1. _____ 2. _____ 3. _____		
List Rewards Offered: (Ex. Keep rewards healthy - a TV show, Xylitol mints, music, book) A. _____ B. _____ C. _____				
<i>Professional Dental Care Plan</i>				
Last dental cleaning appointment: Date _____ Next Appointment Date _____ Dental Check-up recommended every: _____Months Type of Dental setting: <input type="checkbox"/> Dental office <input type="checkbox"/> no special considerations <input type="checkbox"/> Dental office (check one) – <input type="checkbox"/> No special support <input type="checkbox"/> oral/conscious/deep sedation/ <input type="checkbox"/> behavior/physical supports <input type="checkbox"/> Hospital or Surgi-center <input type="checkbox"/> Will not tolerate any of the above settings (RDhAP) Dental Provider Name: _____ PH: _____ Address: _____ Email: _____				

Figure 1c - Sample Oral Care Plan⁸

Table 5. Resident's Mouth Care Plan								Week of: _____
Name: _____								
Date of last Dental Exam and Cleaning/Prophylaxis:								
	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.	
Date								
Daily Brushing	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	Yes/No	
Morning								
Afternoon								
Evening								
Floss/interdental								
Morning								
Afternoon								
Evening								
Rinse/Spray used								
Morning								
Afternoon								
Evening								
Area of concern identified:	Top Jaw	Lower Jaw	Date Found	Date Reported	Date Resolved			
Gums are red								
Gums are bleeding								
Brown/Black area on tooth								
Broken Tooth								
Swollen Area								
Individual expresses pain in an area								
Other								
Resident's Level of Participation:								
_____ Full: Self Care/Independent								
_____ Partial: Needs some assistance								
_____ Completely dependent								
Referral/Avenue for Treatment:				Obstacle inhibiting treatment:				
_____				_____				
_____				_____				
_____				_____				

adaptability. Always explain the procedure to the resident before starting, even if they may not be able to respond. Clear communication helps set expectations and can ease any discomfort or anxiety, ensuring the resident remains calm and cooperative.

Some patients have difficulty opening or staying open. In such cases, caregivers can use a foam bite guard, mouth rest, or the two-toothbrush technique to help maintain an open mouth.¹¹ The two-toothbrush technique involves using the handle of a second toothbrush as a bite block while performing oral care. This method helps prevent jaw fatigue and accidental biting, making the procedure more comfortable for the resident.

Removing toothpaste from residents' mouths can be difficult. If possible, guide them to expectorate into a sink, cup, or towel. If they cannot do this or if rinsing is not feasible, use a damp cloth or gauze to gently wipe their mouth clean.¹¹ This method helps maintain effective oral care while accommodating the resident's abilities.

Mouth Care for Unconscious or Immobile Residents

For residents who are unconscious or immobile, mouth care must still be performed twice daily. In these cases, mouth swabs or oral sponges can be used in place of a toothbrush and toothpaste to remove plaque. Caregivers should position the resident's head to the side during the procedure to prevent swallowing, aspiration, or choking.

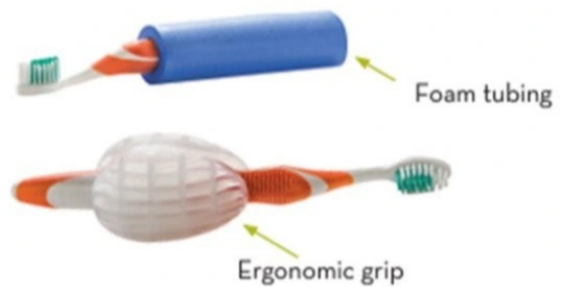
Tongue Brushing

A significant amount of plaque accumulates on the tongue. It is essential for caregivers to include tongue brushing in every mouth care routine and to monitor the tongue for changes in color or coating, documenting any variations observed. Neglecting the tongue can leave harmful bacteria in the mouth, increasing the risk of oral and systemic diseases, particularly if aspiration occurs.

Reporting

Nurse aides and caregivers play a crucial role in detecting oral health issues. As they conduct

Make the toothbrush handle bigger.



Make the toothbrush easier to hold.



Figure 2 - Toothbrush Modifications¹¹



Figure 3 - Two-Toothbrush Technique¹¹

daily mouth care, they should be trained to identify and document any abnormalities. Healthy oral tissue should be pink, firm, and moist, without bleeding. Any white or red lesions, as well as cracks, chips, or dark areas on the teeth, should be documented and reported for follow-up care. Additionally, caregivers should ask daily screening questions such as, "Do you have any pain in your mouth?" or "Is anything in your mouth bothering you?" to uncover potential issues that may require further attention.

Denture Care

Dentures and other dental appliances should be documented in each resident's care plan. However, if a nurse aide is unfamiliar with these appliances, identifying them can be challenging, and time constraints may lead to neglect in proper denture care.

Nursing staff should understand that dentures are essential, costly prosthetics that help residents eat and speak effectively. They should be treated with the same care as natural teeth. Proper denture care includes the following steps:

- **Remove Dentures:** Ensure dentures are removed each night, either by the resident or with assistance.
- **Inspect for Damage:** Examine the dentures for cracks, broken clasps, or damaged teeth each time they are handled.
- **Clean Thoroughly:** Brush dentures with a denture brush every night and after each meal to remove food particles and plaque.
- **Clean the Mouth:** Brush and rinse the resident's mouth each night to remove denture adhesive and plaque.
- **Soak Dentures:** When not in use, soak dentures in warm or cold water and/or a denture cleaner to keep them hygienic.
- **Rinse and Inspect:** Rinse dentures and the mouth each morning or when dentures are placed back in the mouth.
- **Examine Oral Tissue:** Check the resident's mouth for sores or injuries each time dentures are removed.
- **Document and Report:** Record and report any abnormalities or concerns.

Residents may be in an unfamiliar environment and may experience cognitive delays or dementia, leading them to misplace or confuse their dentures. To prevent mix-ups, always verify the denture's identifier after removal and before reinserting it to ensure it is the correct appliance for each resident.

Residents With Dry Mouth

Dental professionals should also communicate the care recommendations described below to nursing staff for residents with specific conditions or needs, such as xerostomia, history of stroke, and cognitive impairments.

Older adults are more likely to experience chronic health conditions that require medical interventions.² Many of these interventions result in xerostomia, or dry mouth, where there is insufficient salivary flow to maintain adequate moistness in the mouth.¹² This leads to multiple symptoms and oral health risks. Xerostomia is often a pharmaceutical side effect to common drugs such as antihypertensives, anticholinergics, antidepressants, and diuretics that are prescribed for many nursing home residents and care-dependent patients.¹³ Xerostomia is also prevalent in patients who have undergone head and neck radiation for cancer treatment, as well as those with Sjogren syndrome. Patients who rely on others for assistance with eating and drinking, and those who have difficulty swallowing, are at risk of dehydration, which can lead to xerostomia as well.

Dry mouth symptoms are numerous and lead to multiple sequelae. Patients experience discomfort from reduced lubrication in the oral cavity, which can lead to a higher incidence of trauma, particularly in those with dentures and other oral appliances. It can also inhibit communication, which can cause other problems to remain unreported or misunderstood by caregivers. The lack of salivary flow reduces the clearance of food debris, bacterial plaque, and acidity. This leaves the dentition prone to higher rates of caries and the periodontium at greater risk for periodontal infection and destruction. The resultant pain, tooth loss, and oral and systemic infections cause illness, lower nutrient intake, and a reduced quality of life.¹⁴

Some instances of xerostomia can be prevented or treated after monitoring for signs of dry mouth. For instance, if the symptom is a side effect of a medication, this should be reported to the patient's physician to evaluate if the medication or dosage is appropriate for the patient. There are also saliva stimulants that can be prescribed to increase salivary flow. Other practical measures that are recommended include ensuring that residents have plenty to drink, and some will need assistance or reminders. Caffeinated beverages can contribute to dehydration and dry mouth,

so these should be avoided. All signs and symptoms of xerostomia, such as oral dryness or stickiness, or difficulty eating, swallowing, or speaking, should be reported to the resident's nurse so the patient can be evaluated, and the appropriate measures added to the treatment plan.

Xerostomia must be addressed in every patient, but there are many cases where it cannot be prevented or eliminated, as when radiation, essential medication, or another condition causes the symptom to persist. In these cases, methods of mitigation to increase moisture and or stimulate salivary flow are critical. First and foremost, the resident must stay hydrated. In addition, xylitol products such as mouth rinses, lozenges, or tablets can help patients by stimulating salivary flow, acting as a non-cariogenic sweetener, inhibiting cariogenic bacteria, and neutralizing oral pH.¹⁵ Saliva substitutes can also be used to lubricate the oral cavity and reduce discomfort. As with all residents, caregivers must ensure that frequent and thorough oral care is performed for these patients, particularly as they are more prone to dental caries and the other more immediate symptoms that accompany xerostomia.

Important Reminders for Caregivers:

- Report dry mouth to the resident's nurse. This is a common problem in older adults and often due to polypharmacy (taking multiple medications).
- Provide frequent sips of water throughout the day because these residents don't have enough saliva, which is a major cause of tooth decay.
- Perform mouth care after each meal.
- Notify the resident's nurse of sores or discomfort caused by dentures, which are worsened in the presence of xerostomia.
- Follow the plan of care, using mouth rinses, oral gels, lozenges, or other products to relieve dry mouth.

Residents Who Have Suffered from Strokes

Cerebrovascular accident (CVA), or stroke, is one of the most common severe medical events among the population. The greatest risk factor for CVA is hypertension, which is

prevalent in the United States, particularly among older adults. 76% of older adults >65 years of age have hypertension, compared to 47% of the general adult population in the United States.¹⁶ The prevalence of CVA increases with age and is higher among nursing home residents and care-dependent adults than among the general population.¹⁷

The effects of a stroke are well-documented and recognizable, but they also vary from patient to patient. These include hemiplegia (paralysis from the midline on either the right or left side of the body), aphasia (difficulty speaking or understanding language), memory and cognition problems, ataxia (trouble with movement or coordination) and mobility limitations, dysphagia (difficulty with swallowing), and aspiration.¹⁸

It is necessary for caregivers in nursing homes and other settings to plan and perform care that will mitigate the results of strokes, including oral health risks. First, patients should always be allowed the autonomy and respect that is due to everyone. This means that with whatever level of independence the patient can perform their own oral care, they should be given the supplies and instruction to do so. And for patients who have the disabilities or limitations described above, caregivers should help supplement their care to the degree required in each case. This requires a balance of ensuring independence but also providing the level of assistance that is adequate to ensure optimal oral care. Many residents have the capability to continue their own oral care routine provided they are given the proper oral aids. These could include floss holders, electric toothbrushes, and devices for fixing a toothbrush to a surface to brush removable appliances.¹⁹ All of these are helpful aids for those who have suffered hemiplegia, leaving them with limited dexterity, the use of only one hand, or the use of their non-dominant hand. All of these approaches are designed to help achieve thorough oral hygiene, which must also be at the proper frequency—at least twice per day as well as after each meal and before bedtime.

Important Reminders for Caregivers:

- Prevent resident from choking on saliva and toothpaste by keeping them upright and helping them lean forward, as stroke patients often have difficulty with swallowing.
- Ensure thorough cleaning of all teeth and entire vestibule, as stroke patients may have impaired control of tongue or one side of face.
- Promote as much resident independence as possible, offering only the amount of assistance necessary for optimal oral care.

Residents with Cognitive Impairments

Another group of health conditions that often necessitate nursing home care or assistance with personal care are cognitive impairments, including Alzheimer's disease and other forms of dementia, as well as cognitive deficiencies related to strokes or physical trauma.

Cognitive impairments vary widely in both the nature of the impairments and their severity, and these can affect a patient's oral health in a number of ways. Communication problems are one of the barriers, which can prevent patients from notifying caregivers of mouth pain or from requesting assistance with oral care. Memory impairments can also prevent patients from keeping to a routine or even being aware of whether they have performed oral care recently. Furthermore, Cognitive impairments sometimes lead to resistance to care and combative behavior in patients who don't understand what caregivers are doing to help them and have feelings of fear or aggression.²⁰

Depending on the severity and specific manifestations of each patient's situation, the level of possible independence and the ability to participate in one's oral hygiene routine will differ from patient to patient. As far as it is possible, accommodation and encouragement should be offered for independence and participation in self-care. However, the plan of care should also include adequate assistance to achieve thorough and frequent oral care. This plan will have to be updated and modified over time, especially when considering the progressive nature of many forms of dementia.

Providing care for residents that exhibit combative or fearful behavior can be especially challenging for nursing staff as well as family caregivers.²¹ There are different approaches that can make providing adequate care possible in situations where resistance or confusion had previously frustrated caregivers and left patients without adequate care and prone to dental decay, periodontal infections, and unobserved pathologies and symptoms.²²

Patients may be confused about what is happening and grab or play with toothbrushes or dental care aids. Some effective methods to try with these patients include:

- Distracting the resident by giving them something else to hold.
- Reassuring them by holding their hand or rubbing their back.
- Speaking to them or singing during care.
- Handing them the toothbrush as this can jog their memory and they begin to brush their own teeth.

Patients may also bite down on the toothbrush or dental care aid when confused instead of allowing the caregiver to perform care. Massaging the jaw will sometimes prompt them to open their mouth, or simply moving the brush around in the vestibule and asking them to open will sometimes elicit the desired reaction. Another method is similar to using a bite block in a dental office—when the patient bites down on a safe object such as the plastic of a second toothbrush or another item that isn't small enough to choke on or will not damage their teeth—a toothbrush can then be inserted between the teeth that are propped open by the object they are biting on. This allows the caregiver to brush the lingual and occlusal surfaces of the teeth, which can often be neglected in patients with this automatic biting response.

Aggressive or combative behavior is one of the most difficult situations to address. Caregivers want to provide care, but patients may resist or show aggression toward the caregiver, causing them to avoid providing care and leaving the patient without the necessary oral hygiene.²³ It is important not to give up and to try various

approaches in order to follow through and ensure care is provided. This includes finding optimal times for certain patients that may be more cooperative at certain times of day (such as after eating breakfast) or in certain settings (such as when in the bathtub or shower). It may also require trying different caregivers, as some patients respond differently to different individuals. Having a second person reassure the patient or hold their hands, or creating a distraction like television or singing, is also effective with some patients. Most importantly, oral care should not be avoided, but rather different approaches should be tried to find the methods that work best for each patient.

Important Reminders for Caregivers:

- For residents with dementia or confusion, provide oral care at least twice each day, especially after the last meal or oral medication.²⁴
- For residents that forget, are unable, or are resistant to care, follow best practices to ensure optimal cooperation and oral hygiene.
- Be observant of resident discomfort or problems in the mouth since residents may not be able to perceive or report pain.
- Promote as much resident independence as possible.

Unconscious Residents

Special care must be provided to any resident who is not conscious, particularly because unconsciousness or impaired consciousness places the resident at a risk for aspiration and subsequent health problems including aspiration pneumonia. This is a likely situation among nursing home residents or patients that are terminally ill, those medicated for advanced illness, or others with severe brain damage caused by strokes, cancer, or other conditions.²⁵

A state of unconsciousness places a patient in total dependence on their caregivers, including for their oral care. This state also increases the likelihood of mouth-breathing, which leads to xerostomia. This can lead to higher rates of caries and infections, including fungal infections such as candidiasis (also known as thrush), most often caused by the pathogenic yeast *Candida albicans*. Aspiration is one of the

greatest risks posed by unconsciousness, as any saliva, oral medication, or water or products used to cleanse or moisten the mouth can be aspirated into the lungs.

As with all patients, the plan of care should be followed when providing mouth care to unconscious patients. The caregiver will need to carefully turn the patient to their side so that any liquid can drain out of the mouth instead of risking aspiration. For the same reason, any water or products used to cleanse the mouth or provide comfort should be used minimally to avoid liquid pooling in the mouth or running back to the airway. Because these patients are likely to have dry mouth, frequent moistening is necessary with these precautions, as well as the use of a water-based lip balm.

Important Reminders for Caregivers:

- Provide oral care every two hours for residents who are unconscious or unresponsive.²⁶
- Turn resident to side to prevent fluid from going into airway (this can cause a serious lung infection called aspiration pneumonia).
- Use lightly moistened mouth swabs to clean inside of mouth (do not use lemon swabs since they are acidic).
- Utilize a moist soft toothbrush without toothpaste to clean all tooth surfaces.
- Keep lips moist with water-based lubricant each time oral care is given.
- Do not use toothpaste or try to rinse, which may cause choking.
- Look inside mouth and report any red or white areas on gums or tongue.

Improving the Standards of Care

The challenges that face patients and their caregivers when assistance is needed both in nursing facilities and at home cannot be met only by providing instruction to caregivers. In order to provide optimal care and the needed system of oral healthcare for this population, multiple strategies must be employed. This is the only way that the ideal standards of oral care at the national, state, and local levels can be realized.

Surveillance of Oral Care Needs

Although it is widely recognized that there are

urgent oral health needs in this population, understanding the actual scope of the problem is dependent on adequate surveillance, and there is a paucity of data. One of the reasons that the standard of care is not adequate in nursing homes is that the surveillance of care needs to be improved at the national, state, and local levels. Improved collection of data through oral health surveys in nursing homes is needed at the regional and state levels. The Association of State and Territorial Dental Directors (ASTDD) Basic Screening Survey (BSS) for Older Adults is an effective tool to measure the extent and nature of dental needs in a population. The BSS collects data about number of teeth remaining in the dentition, untreated tooth decay, denture ownership and use, posterior tooth occlusion, presence of plaque and calculus, periodontal needs, dental fractures and tooth mobility, xerostomia, and suspected oral pathology (such as abscesses and tumors). However, such surveys are expensive and challenging to conduct, and most states do not have current survey data.²⁷

Model Programs in United States

At a more local level, there are other strategies that can be implemented to promote greater surveillance, which leads to improved diagnosis and treatment. These include surveys of older adult patients of private practices and safety-net providers. Training nursing staff in long-term care facilities to better assess oral health conditions in their patients is a crucial element in addressing this problem. This includes screening for oral cancer. Simple and routine oral cancer screenings must be done in care facilities to ensure more cancers are detected in their early stages when treatment is more successful and survival more likely. As present, only one-third of oral cancers are detected in their early stages, while two-thirds progress to more advanced stages and are less likely to respond to treatment.²⁸

There are outside agencies in various states and communities that serve as role models to stakeholders in other localities that seeking to improve the oral health of this population. In New York, Columbia Dental School's initiative ElderSmile has provided screenings and referrals at senior centers.²⁹ In Minnesota,

Apple Tree Dental operates mobile portable dental programs that serve older adults for whom a visit to a dental office would not be possible. Michigan's Coalition for Oral Health for the Aging provides advocacy, professional and public education, and research in this domain. And Oral Health America's Wisdom Tooth Project created educational programs for older adults and caregivers. These are just a few of the significant initiatives that can be emulated by other programs across the country with the same mission.

As described in detail in this course, another important consideration is to bring oral health education directly to seniors and their caregivers. ADA and University of the Pacific produced an outstanding course with this goal in mind, entitled *Overcoming Obstacles to Oral Health*.³⁰ Collaborations like these between professional and academic stakeholders are an effective method to distill best practices and make them available to the people who need them. This course serves to improve health literacy, as well as address cultural considerations. It addresses the unique needs for both daily oral care and professional dental treatment that patients with dementia and their caregivers need to understand.

Improving Geriatric Education in Dental and Dental Hygiene Schools

Geriatric dental education is an area that deserves greater emphasis and more time among dental curricula. This is true in both the classroom and the clinic. Too little time is dedicated to teaching geriatric dentistry and there is insufficient clinical education focused on this population. To remedy this deficit, the America Dental Education Association (ADEA) developed a series on geriatric dentistry. Geriatric training residencies and specialties should also be advocated and promoted in all states. One notable program that can serve as an example for training dental hygienists in this area is the geriatrics program for registered dental hygienists at the University of Minnesota.³¹ Continuing education courses in geriatric dentistry should also be developed and promoted by national, state, and local dental and dental hygiene associations.

Dental Coverage Under Medicare and Medicaid

For older adults, accessing dental care can be quite challenging. Those who are retired and had dental coverage as an employee benefit often no longer have dental coverage.³² This lack of coverage comes at a time in their lives when many of the factors discussed in this course make dental care a necessity for preventing infections, maintaining quality of life, and protecting other body systems impacted by oral disease. Since the inception of Medicare and Medicaid in 1965 under President Lyndon B. Johnson, it has been difficult for older adults to access dental care.

The primary purpose of Medicare is to provide healthcare for seniors, but dental care is only covered in very limited situations where it can be shown to be medically necessary (e.g., prior to organ transplants or cardiac valve replacement).³³ This excludes all the preventive and restorative care that is essential to the oral and overall health of every senior.

The primary purpose of Medicaid is to provide healthcare for those in financial need. Medicaid coverage has improved in many states, where adult coverage has been added for emergency or routine dental services in addition to the coverage of minors in all states. However, finding providers who accept Medicaid as well as coordinating care for patients living in facilities make available services difficult to access. Fortunately, many states have recently increased their Medicaid reimbursement for dental services.³⁴ Ohio is one of the latest to increase its reimbursement, by 93% in 2024.³⁵ Hopefully, the policy trends to include routine dental care for adults and to expand reimbursement will contribute improved access to dental care for seniors, particularly those facing barriers common to nursing home residents and care-dependent patients.

To address oral health regulations in long-term care facilities, each state will need to address both how dental care is funded and how oral health standards are set and regulated. Medicaid Reimbursement for adults varies from state to state for dental coverage. In order for seniors without dental insurance and

without the means to pay privately to receive care, routine dental treatment—including preventive services—should be available to Medicaid-eligible adults. Also, although federal standards require regular dental assessment and treatment, in facilities receiving Medicaid funding, compliance with the standards is difficult to enforce or monitor, and oral care standards can be even harder to maintain in assisted living and hospice facilities. Funding must be allocated to ensure that these standards are actually monitored and enforced.¹ Furthermore, at the state level, oral health for nursing home residents and care-dependent adults will improve if each state requires that long-term care facilities conduct oral health assessments that screen for any signs and symptoms of oral disease and that care plans are regularly updated for all patients.

Federal and State Regulations

Nursing homes are required by federal law to assess the dental needs of their residents and coordinate access to necessary dental care.¹ In addition, state-specific requirements may reinforce or add to what is required by federal law. For example, the Ohio Revised Code requires that “The nursing home shall provide all residents who cannot give themselves adequate personal care with such care as is necessary to keep them clean and comfortable.”³⁶ However, nursing homes are neither equipped nor compelled through adequate enforcement to comply with such general yet far-reaching regulations. Only a multipronged approach that includes both policy changes and practical training for caregivers can begin to address this problem.

Conclusion

Meeting the oral health needs of nursing home residents and care-dependent adults requires multiple strategies at various levels. Policy changes will be needed to ensure access to care, financial coverage for care provided, and creating and enforcing the standards of daily care by caregivers. Dental professionals are an essential stakeholder in this process, as they can advocate for policy changes, provide care for this patient population in private practice and public health settings, and participate in educating nursing staff and other caregivers.

Course Test Preview

To receive Continuing Education credit for this course, you must complete the online test. Please go to: www.dentalcare.com/en-us/ce-courses/ce686/start-test

- 1. Approximately how many people in the United States are living in nursing homes?**
 - A. 5.1 million
 - B. 500,000
 - C. 1.2 million
 - D. 3 million
- 2. What percentage of people aged 75 years or older have root caries according to the American Dental Association?**
 - A. 5%
 - B. 25%
 - C. 50%
 - D. 90%
- 3. According to the study conducted by the American Geriatrics Society, what percentage of nursing home residents receive adequate oral care?**
 - A. 95%
 - B. 52%
 - C. 25%
 - D. 16%
- 4. Periodontitis is linked to systemic diseases such as diabetes, pulmonary conditions, cardiovascular disease, and dementia.**
 - A. True
 - B. False
- 5. Which of the following is a risk factor for aspiration?**
 - A. Age-related changes in taste perception
 - B. Presence of root caries
 - C. Dysphagia
 - D. Increased salivary flow
- 6. Poor oral health is one of the leading risk factors for malnutrition.**
 - A. True
 - B. False
- 7. What is the name of the written documents that include initial health assessments and intake information as well as continued assessments throughout a resident's time in the facility?**
 - A. Care plan
 - B. Intake form
 - C. Chart
 - D. Treatment plan
- 8. Which technique can be used by nurse aides to guide a resident's brushing if they have difficulty with manual dexterity?**
 - A. Hand-over-hand technique
 - B. Independent brushing technique
 - C. Mirroring technique
 - D. Verbal instruction technique

- 9. What is the purpose of using the two-toothbrush technique during oral care for residents?**
- A. To prevent aspiration
 - B. To decrease plaque formation
 - C. To reduce tooth pain
 - D. To facilitate mouth opening
- 10. Which of the following is an important step in caring for dentures?**
- A. Place dentures on a clean surface at night
 - B. Do not remove all adhesive when brushing a denture
 - C. Examine the denture each time it is removed for cracks or broken clasps
 - D. Only remove denture when resident asks you to do so
- 11. Xerostomia leads to a lower risk of oral trauma in patients with dentures.**
- A. True
 - B. False
- 12. Xerostomia due to inadequate salivary flow can lead to discomfort and difficulty speaking, swallowing, and eating. This is often caused by taking multiple medications, known as:**
- A. prescription overload
 - B. drug-induced dehydration
 - C. xeropharmacy
 - D. polypharmacy
- 13. What is the number one risk factor for a cerebrovascular accident (stroke)?**
- A. dementia
 - B. high blood pressure
 - C. periodontal disease
 - D. tachycardia
- 14. Which of the following terms is used to describe difficulty with speech and understanding language after a cerebrovascular accident?**
- A. aphasia
 - B. ataxia
 - C. aspiration
 - D. hemiplegia
- 15. Which describes the best timing for nurse aides to assist residents suffering from dementia or confusion with their oral care?**
- A. in the morning
 - B. after each meal
 - C. in the evening
 - D. at least twice each day, especially after the last meal or oral medication
- 16. Which fungal pathogen is most likely to cause the yeast infection candidiasis in the oral cavity?**
- A. Actinomyces viscosus
 - B. Candida tropicalis
 - C. Candida albicans
 - D. Streptococcus mutans

- 17. Which describes the technique to avoid aspiration when providing oral care to an unconscious patient?**
- A. The patient should be turned to the side.
 - B. The patient should be raised to an upright position.
 - C. The patient should not receive oral care.
 - D. The patient should receive oral care only once per day.
- 18. Which of the following is NOT included as part of the Association of State and Territorial Dental Directors (ASTDD) Basic Screening Survey (BSS) for older adults?**
- A. number of teeth remaining in the dentition
 - B. denture ownership and use
 - C. tooth mobility
 - D. current radiographs
- 19. The healthcare assistance programs Medicaid and Medicare began in 1965 under the administration of which United States President?**
- A. Ronald W. Reagan
 - B. Lyndon B. Johnson
 - C. Harry S. Truman
 - D. Richard M. Nixon
- 20. There is no federal requirement for nursing homes to assess the dental needs of their residents and coordinate access to necessary dental care.**
- A. True
 - B. False

References/Additional Resources

1. Sifuentes AMF, Lapane KL. Oral health in nursing homes: What we know and what need to know. *J Nurs Home Res Sci*. 2020;6:1-5.
2. U.S. Department of Health and Human Services, Office of Health Promotion and Disease Prevention. Social Determinants of health and older adults. (n.d.). Accessed July 30, 2024.
3. American Dental Association. Floss/interdental cleaners. Accessed July 30, 2024.
4. Coleman P, Watson NM. Oral Care Provided by Certified Nursing Assistants in Nursing Homes. *J Am Geriatr Soc*. 2006;54:138-143. doi:10.1111/j.1532-5415.2005.00565.x
5. Eisenstadt ES. Dysphagia and aspiration pneumonia in older adults. *J Am Acad Nurse Pract*. 2010;22(1):17-22. doi:10.1111/j.1745-7599.2009.00470.x
6. Langmore SE, Skarupski KA, Park PS, Fries BE. Predictors of aspiration pneumonia in nursing home residents. *Dysphagia*. 2002;17(4):298-307. doi:10.1007/s00455-002-0072-5
7. Baiju RM, Peter E, Varghese NO, Sivaram R. Oral Health and Quality of Life: Current Concepts. *J Clin Diagn Res*. 2017;11(6):ZE21-ZE26. doi:10.7860/JCDR/2017/25866.10110
8. Sparling E, Lee JC, Mineo B, Viswanathan B, Cheng M. Oral health care management: recommendations for long-term care facilities. Center for Disabilities Studies, University of Delaware; Division of Public Health, Bureau of Oral Health and Dental Services; DentaQuest Foundation. Published February 2017. Accessed July 31, 2024.
9. American Dental Association. Toothbrushes. American Dental Association. Accessed July 10, 2024.
10. National Institute of Dental and Craniofacial Research. Oral Health and Aging Information for Caregivers. Accessed July 30, 2024.
11. Wang P, Xu Y, Zhang J, et al. Comparison of the effectiveness between power toothbrushes and manual toothbrushes for oral health: a systematic review and meta-analysis. *Acta Odontol Scand*. 2020;78(4):265-274. doi:10.1080/00016357.2019.1697826.
12. Mayo Clinic. Dry mouth. December 19, 2023. Accessed April 29, 2024.
13. Ito K, Izumi N, Funayama S, et al. Characteristics of medication-induced xerostomia and effect of treatment. *PloS one*. 2023;18:e0280224-e0280224.
14. Choi J, Kim M, Kho H. Oral health-related quality of life and associated factors in patients with xerostomia. *International journal of dental hygiene*. 2021;19:313-322.
15. Veiga N, Figueiredo R, Correia P, Lopes P, Couto P, Fernandes GVO. Methods of Primary Clinical Prevention of Dental Caries in the Adult Patient: An Integrative Review. *Healthcare (Basel)*. 2023;11:1635.
16. Ho VS, Cenzer IS, Nguyen BT, Lee SJ. Time to benefit for stroke reduction after blood pressure treatment in older adults: A meta-analysis. *Journal of the American Geriatrics Society (JAGS)*. 2022;70:1558-1568.
17. Heshmatollah A, Dommershuijsen LJ, Fani L, Koudstaal PJ, Ikram MA, Ikram MK. Long-term trajectories of decline in cognition and daily functioning before and after stroke. *Journal of neurology, neurosurgery and psychiatry*. 2021;92:1158-1163.
18. [1] Teasell R, Hussein N, McClure A, Meyer M. Stroke: More than a 'Brain Attack'. *International journal of stroke*. 2014;9:188-190.
19. Kwok C, McIntyre A, Janzen S, Mays R, Teasell R. Oral care post stroke: a scoping review. *Journal of oral rehabilitation*. 2015;42:65-74.
20. Lauritano D, Moreo G, Vella FD, et al. Oral health status and need for oral care in an aging population: A systematic review. *International journal of environmental research and public health*. 2019;16:4558.
21. Ho BV, Maarel-Wierink CD, Vries R, Lobbezoo F. Oral health care services for community-dwelling older people with dementia: A scoping review. *Gerodontology*. 2023;40:288-298.
22. Mouth Care Without a Battle - Best practices. Accessed April 30, 2024.
23. Gao SS, Chu CH, Young FYF. Oral health and care for elderly people with alzheimer's disease. *International journal of environmental research and public health*. 2020;17:1-8.

24. Alzheimer's Association. (n.d.). Dental care. Alzheimer's Disease and Dementia. Accessed July 29, 2024.
25. Sandvik RKNM, Husebo BS, Selbaek G, et al. Oral symptoms in dying nursing home patients. Results from the prospective REDIC study. BMC oral health. 2024;24:129-129.
26. Mosby's Nursing Video Skills-Basic. Performing Oral Hygiene for an Unconscious Patient. (n.d.). Accessed July 29, 2024.
27. Association of State and Territorial Dental Directors. States with BSS oral health data. Accessed April 30, 2024.
28. Centers for Disease Control and Prevention. Improving diagnoses of oral cancer. Accessed April 30, 2024..
29. Eldersmile Program. Columbia University Neighbors. Accessed April 30, 2024.
30. University of the Pacific. Overcoming Obstacles. Accessed April 30, 2024.
31. University of Minnesota School of Dentistry. Mini residency in geriatrics and long-term care for the dental team - October 2024. School of Dentistry. Accessed April 30, 2024.
32. FAIR Health. Dental coverage for retirees. Accessed July 29, 2024.
33. Medicare.gov. Dental Services. Accessed July 29, 2024.
34. Garvin J. ADA highlights state advocacy wins to improve dental Medicaid. June 29, 2022. Accessed April 30, 2024..
35. Coughlin K. Historic Medicaid dental fee increases in state budget. ohioefda. July 3, 2023. Accessed April 30, 2024.
36. Ohio Administrative Code - Rule 3701-17-14: Plan of care; treatment and care: Discharge planning, bathing. Accessed April 29, 2024.

Additional Resources

- No Additional Resources Available

About the Authors



Luke Burroughs, RDH, MPH

Luke Burroughs is Program Director and Associate Professor of Dental Hygiene at the University of Cincinnati Blue Ash College, Cincinnati, Ohio, where he has taught since 2015. He graduated from the Raymond Walters College (now UC Blue Ash) Dental Hygiene Program in 2010 and worked in private practice before earning his MPH from New Mexico State University in 2015. He is an active member of the American Dental Hygienists' Association. Having been a nurse aide serving nursing home residents and hospice patients prior to being a dental hygienist, one of his primary interests of research and advocacy is the oral health of nursing home residents. In 2022, Luke worked with Molly Mihlbachler to rewrite the nurse aide guidelines in Ohio.

Email: burrouls@ucmail.uc.edu



Roger P. Levin, DDS

Molly Mihlbachler is an Assistant Professor of Dental Hygiene and first-year Clinic Coordinator at the University of Cincinnati Blue Ash College in Cincinnati, OH. Before becoming a dental hygienist and educator, she worked as a Certified Nurse Assistant. She has presented at state and national conferences on teaching and hygiene practices, but advocacy for the aging population remains a core passion of hers. Molly has helped to locally educate nurses and aides on dental hygiene techniques, presented on the oral health of residents, and co-wrote new standards for nurse aide curriculum in Ohio. Molly is a current and active member of her local component of the American Dental Hygienists' Association (ADHA), contributing to the advancement of dental hygiene practices.

Email: mihlbama@ucmail.uc.edu