



# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF BEHAVIORAL HEALTH AND DEVELOPMENTAL SERVICES

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### Office of Integrated Health Health & Safety Alert/Information

## Dental Health Awareness Health & Safety Alert

### Introduction

Oral health (teeth, gums and tongue) has been directly connected to overall physical health. Poor oral health can also impact an individual's quality of life, the ability to eat, sleep and live without pain (1) (12) (16).

The lips, teeth, the bony portion of the roof of the mouth (hard palate), the muscular back part of the roof of the mouth (soft palate), the area behind the wisdom teeth (retro-molar trigone), the front of the tongue, the gums (gingiva), the inner lining of the lips and cheeks (buccal mucosa) and the floor of the oral cavity are all parts of the mouth (Figure 1) (17).

The mouth contains as many as 700 different types of bacteria (10). Saliva is the body's natural defense of washing away bacteria and neutralizing acids from foods. Regular brushing of the teeth and flossing keeps the bacteria in the mouth under control (12).

When proper oral hygiene is not done regularly, bacteria increase which can lead to tooth decay (caries), gum disease (gingivitis), and deterioration of bone and gums (periodontal disease) (12).

Poor oral health can cause illness throughout the body (30). Bacteria from the mouth has been linked to infections in the heart (Endocarditis) and the lungs (Pneumonia) (9) (12) (3).

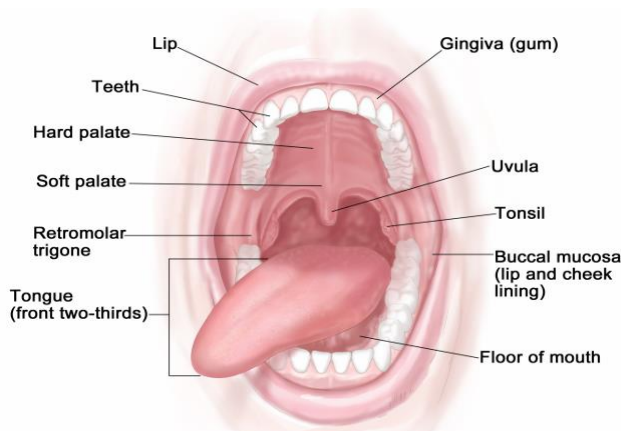


Figure 1.

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## Poor Oral Health and Oral Bacteria Can Negatively Impact Health

Harmful bacteria can cause inflamed, bleeding gums, tooth decay and infection in the mouth. However, the same harmful bacteria in the mouth can spread infection throughout the body to the lungs, heart, urinary system, etc. (9) (12) (3) (30).

Studies show bacteria from the oral cavity have been found in the intestines, lungs, heart, placenta, and brain. There are many connections between poor oral health and urinary tract infections (UTI), bronchitis, pneumonia, emphysema, chronic obstructive pulmonary disease, endocarditis (inflammation of the heart), high blood pressure, and other chronic cardiovascular conditions (30).

Scientists at Colgate have established a clear link between poor oral health and respiratory disease (23). Talk to the individual's PCP or dentist if the individual is having an infection that won't go away or keeps recurring.

The individual's PCP may want to prescribe an antiseptic mouth rinse to reduce risk for infections in other parts of the body. Chlorhexidine oral antiseptic rinse has been shown to reduce incidence of both aspiration pneumonia and ventilator-associated pneumonia (25) (27) (29). There is also evidence to support the use of oral antiseptic rinses to reduce the viral load of SARS-CoV-2 and other coronaviruses although more research is recommended to establish a conclusive link (28) (29).

## Proper Oral Hygiene

Recommendations for good oral hygiene are:

- Teeth brushing at least twice a day with a soft-bristled brush using fluoride toothpaste.
- Flossing daily and/or seeking recommendations from the dentist.
- Rinsing the mouth with a fluoride mouthwash, to remove food particles left behind after eating, when possible.
- Limiting food high in added sugars and eating a balanced diet of 5 servings of fruits and vegetables daily.
- Replacing the individual's toothbrush when bristles are splayed, worn or missing.
- Scheduling regular dental checkups and cleanings as recommended by the dentist.
- Avoiding tobacco use (cigarettes, dipping tobacco, etc.).
- Contacting the individual's dentist as soon as possible when/if changes within the mouth or teeth occur (18).

## Disparity and Inequity Related to Dental Health

The 2000 U.S. Surgeons General’s Report, *Oral Health in America*, concluded:

*“There are profound and consequential disparities in the oral health of our citizens. Indeed, what amounts to a ‘silent epidemic’ of dental and oral diseases is affecting some population groups” (4).*

Oral healthcare in the U.S. continues to be a symbol of inequity and disparity with little change over the last twenty years. Individuals who are uninsured, low-income, members of racial and/or ethnic minorities, immigrants, those who live in rural communities and individual’s with intellectual and/or developmental disabilities have reduced access to dental care and/or quality oral health care for various reasons (4) (10).

Since the founding of the first medical school in the U.S., dentistry has been considered autonomous and separate from primary healthcare. The two separate systems of care over the centuries have negatively impacted individuals with limited economic support, reduced health literacy skills, and psychosocial resources, making dental care more accessible to those with higher education levels and wealth (10).

Approximately 43% of the U.S. population has no dental coverage. Fewer people are enrolling in dental schools, reducing the availability of dentists nationwide. Dental services are not covered by many of the major health insurances, but can be purchased separately, making dental care accessible only to those who can afford the additional costs (10).

Since July 1, 2021, all adults receiving Medicaid in the Commonwealth of Virginia are entitled to receive full dental benefits. Prior to that date those on Medicaid had a difficult time paying for the additional cost of dental care out of pocket due to the expense of services and availability of dental care (10).

<b>WHO QUALIFIES?</b> All adults over the age of 21 years old who have health insurance through Medicaid are eligible to see a dentist.	<b>WHEN DOES IT BEGIN?</b> 
<b>WHAT IS COVERED?</b> Going to the dentist! Teeth cleanings, filling cavities, dentures, and more!	<b>QUESTIONS?</b> Call DentaQuest at 888.912.3456, or visit <a href="http://www.vahealthcatalyst.org/AdultDentalBenefit/">www.vahealthcatalyst.org/AdultDentalBenefit/</a>

## Chronic Dental Conditions

The ability to speak, chew, swallow, smile, smell, taste, touch, and communicate a variety of emotions through facial expression with confidence and without pain, discomfort or disease of the face and/or mouth is the definition of good oral health (16) (3).

### Tooth Caries

The most common oral health condition experienced by both children and adults are tooth caries (cavities) and/or tooth decay. A cavity (caries) can occur when food and drink containing sugar (carbohydrates) leaves a coating on teeth called plaque. Germs (bacteria) live on plaque and produce acids which cause decay (breakdown) of the outer layer of the tooth (enamel).

This decay can create a tiny hole or cavity (caries) in the tooth (20) (22). Routine oral hygiene (brushing teeth and flossing) and regular visits to the dentist can reduce plaque and lower risk of a cavity (caries) (20) (Figure 2) (14) (3).



Figure 2.

If left untreated, tooth caries can progress into a very painful infection which may cause an abscess. An abscess is a pus-filled pocket caused by a bacterial infection and can occur in or around the gums, under the teeth, in the jawbone, etc.

The infection can then spread to other parts of the body and cause sepsis, which can lead to death, if left untreated. Regular dental check-ups, teeth cleanings and the use of fluoride can significantly reduce tooth decay but will not completely prevent it from occurring (14) (3).

Fluoride is a mineral that can help prevent cavities by making the outer surface (enamel) of the tooth more resistant to acid attacks, which cause tooth decay. Most over-the-counter toothpastes and mouthwashes contain fluoride (14) (3).

Many community water systems (CWS) add fluoride to their water, but some do not. In 2020, 72.7% of the U.S. population received water via a CWS. However, only 62.9% of those individuals served by a CWS actually received water containing levels of fluoride

which meet the Department of Health and Human Services (HHS) fluoridation standard which is 0.7 mg. of fluoride ions per Liter (26).

Some bottled water contains fluoride, but many do not. If unsure, check the bottle's label to see if it has fluoride listed or go to the company's website for more information. Some well water contains trace amounts of fluoride but may not be at levels high enough to lower risk of tooth decay.

The fluoride content of well water can only be determined through laboratory testing. Your local public health department can tell you where to have your home's well water tested (21).

Primary care providers (PCP) in rural areas often prescribe oral fluoride pills as a supplement to their pediatric patients, and some rural communities offer fluoride treatments in the public school system. Since many individuals in rural areas have no access to a CWS containing fluoride, ask the individual's PCP if oral fluoride pills are an option for the individual (6) (3) (18).

### Periodontal Disease

Periodontal disease is an inflammation and/or infection of the gums (gingivitis) (Figure 3) which causes a breakdown of the bone supporting the teeth. If periodontal disease is left untreated, gums can become infected, and the bone surrounding the teeth deteriorates causing the teeth to become loose. Periodontal disease may lead to a preventable tooth extraction (tooth removal) if left untreated (3) (18).



Figure 3.

Two main causes of periodontal disease are poor oral hygiene and tobacco use. Genetic susceptibility to tooth decay, as well as chronic health conditions, such as diabetes, and autoimmune diseases can also increase risk for developing periodontal disease (3) (18). There is also a connection between periodontal disease, poor oral health and pneumonia.

## Oral Cancer

Cancers of the lip, and the oropharynx (part of the throat at the back of the mouth) are types of oral cancers. In the United States, the rates of oral cancers are three times higher in males than females. Studies have shown a connection to the human papillomavirus (HPV) in some oral cancers. Early screening and detection are key to reducing the risk for developing oral cancer (Figure 4) (3) (18).

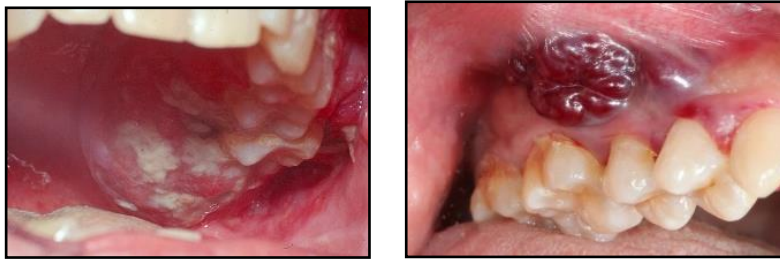


Figure 4.

## Dental Health and Individuals with Intellectual and Developmental Disabilities (IDD)

Poor oral health is the second most common health condition which negatively impacts individuals with intellectual and developmental disabilities (IDD) (5) (16) (13).

Many individuals with IDD are fully or partly dependent on their caregivers to assist them with oral care needs and/or have inadequate brushing techniques (7) (16) (13).

Factors contributing to poor oral health for individuals with IDD are:

- The degree and/or level of ID affecting understanding of the importance of oral health.
- Level of physical independence when performing tasks such as brushing teeth.
- Underlying health conditions such as dysphagia or history of aspirations.
- Living situations which impact access to dental care.
- Dental anxiety, fear and/or the capability to tolerate dental treatments.
- Behaviors and/or sensory impairment affecting their ability to cooperate during dental treatments.
- Age of the individual.
- Communication difficulties.



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- Other co-occurring disabilities such as autism, which can cause sensory issues which negatively impact the individual's compliance with brushing (e.g. tongue thrusting, hyper-gag reflex, etc.) (7) (11) (16) (13).

IDD-related health challenges, which may impact an individual's ability to receive adequate dental care are:

- Behavior ranging from fidgeting to violent temper tantrums, and/or self-injurious behaviors.
- Inability of the individual to be able to cognitively understand or physically follow a command made by dental staff for them to open their mouth, lean their head back, hold still for x-rays, bite down, etc.
- Wheelchair accessibility issues which negatively impact the individual's ability to access the dentist's office and transfer into the dental chair without assistance.
- Neuromuscular problems affecting the mouth such as rigid or loose facial muscles, drooling, gagging and swallowing issues.
- Uncontrolled body movements such as tardive dyskinesia.
- Cardiac disorders common in individuals diagnosed with Down syndrome and other genetically linked IDD disorders.
- Gastroesophageal reflux (GERD) and rumination, which is common in individuals diagnosed with IDD (8).
- Uncontrolled Epilepsy and seizure disorders.
- Visual impairments along with hearing loss and/or deafness.
- Latex allergies.
- Adverse medication side effects such as dry mouth (Xerostomia) (15) (16) (7).

Some common oral health issues affecting individuals with IDD are:

- Tooth caries (cavities) and/or tooth decay associated with diet and oral hygiene habits (Figure 2) (15) (16).
- Periodontal disease occurs at a younger age due to poor oral hygiene, damaging oral habits, and level of disability (Figure 3) (15) (16).

- Gingival hyperplasia (an overgrowth of gum tissue around the teeth) as a result of medications such as anticonvulsants, antihypertensive and immunosuppressant's (Figure 5) (15) (16).



Figure 5.

- Malocclusion (imperfect positioning of the teeth when the jaws are closed) are associated with intraoral and perioral muscular abnormalities, delayed tooth eruption, and underdevelopment of the upper jaw, nose and eye sockets (Figure 6) (15) (16).



Figure 6.

- Damaging oral habits such as:
  - Bruxism: (teeth grinding), cheek biting, nail biting.
  - Tongue thrusting: the tongue is pushed against the front teeth forcefully.
  - Food pouching: holding or leaving chewed food in the cheek.
  - Rumination: chewing food, swallowing, and then regurgitating the food back into the mouth and swallowing again.
  - Pica: eating of objects and/or substances which are not food.
  - Mouth breathing: breathing through an open mouth instead of the nose.
  - Self-injurious behaviors: picking at the gums, biting the lips, hitting the face (15) (16).



- Oral malformations such as defects in tooth enamel, high lip lines, high or narrow palettes, cleft palate (open palate), and variations in the number of teeth, size and shape (Figure 7) (15) (16).

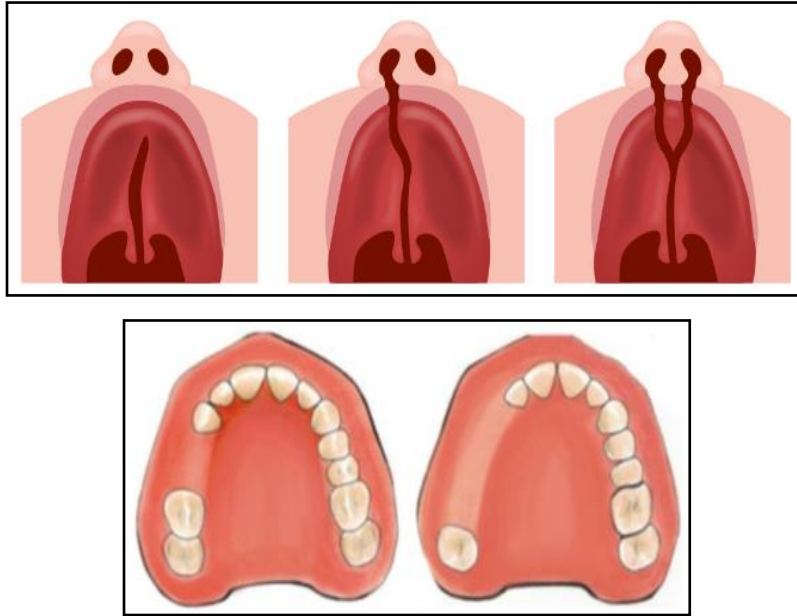


Figure 7.

- Edentulousness (the state of having no natural teeth) due to tooth extractions. This can occur when an individual needs extensive dental restorative interventions which are not covered by their dental insurance, or the individual has/had no dental insurance.

Having no teeth has a negative health impact on individuals because it puts them at an extremely high risk for choking and aspiration due to a decreased ability to chew foods properly. Missing teeth can also impact verbalization and speech clarity (27).

- Individuals with any missing teeth should always be evaluated by a Speech Language Pathologist (SLP) to determine how the missing teeth affect the individual's ability to chew, swallow and speak. Strategies may be ordered by the SLP to help lower their choking risk, assist with swallowing and eating, and help with their speech clarity (7) (27).

- Craniofacial anomalies such as asymmetry, malformations and hypoplasia of the face and jaw can also negatively impact the oral health of individuals with I/DD. **Individuals with any anomalies should also be evaluated by an SLP (Figure 8) (15) (16).**



Figure 8.

- Oral injuries and/or physical trauma experienced from falls or accidents may occur more often among individuals with seizure disorders or cerebral palsy. Any fall or physical trauma which involves damage to the mouth requires immediate professional care (15) (16). **Take the individual immediately to their dentist, or to the nearest emergency room.**
- Diagnosing oral pain is often challenging among individuals with IDD who are unable to communicate. Due to this, their dentist may need to seek more information from the individual's primary care provider (PCP), psychiatrist and/or their behavior analyst to help determine if a new behavior is due to oral pain, or not.

Grimacing, guarding, food refusal, self-injurious behaviors, vocal outbursts, or emotional changes are common indicators of pain for individuals with IDD who are non-verbal and/or those who have communication difficulties (2).

## Caregiver Considerations

- Caregivers and direct support professional (DSP) who receive oral health education training do a better job at assisting and positively influencing those they support with oral hygiene (5) (13).
- Caregivers can have a more positive impact on the oral care compliance of individuals with IDD when they have a calm, kind and helpful attitude which promotes good, routine, oral hygiene practices (5) (13).

- Prior to a dental appointment consider scheduling a “get to know you visit” to help desensitize and familiarize individuals with their dentist and dental staff. This will allow individuals to see where the office is located, meet dental staff and experience the waiting room. Visiting the dental office before a scheduled appointment has been shown to reduce fear, anxiety and resistant behaviors (15).
- To help reduce an individual’s anxiety and fear related to a dental visit, try to schedule both “get to know you visits” and dental appointments at the time of day when the individual is usually at their best (16).

If scheduling staff are resistant to scheduling an appointment at a certain time of day, explain “why” you are requesting an appointment at that particular time. Sometimes if dental staff know “why” you are requesting a particular time, they are more likely to accommodate your request. Knowing “why” you are requesting a specific time for an appointment will also help persuade other healthcare provider’s scheduling staff to accommodate your request as well.

- Caregivers should locate and save an individual’s tooth if it is broken or knocked out of the mouth due to accidental fall or injury. Caregivers should locate the missing tooth or pieces of the fractured tooth and store them in a tooth-saver kit to take with the individual to the dentist (Figure 9) (15). It is a good idea to have a kit on-hand prior to the dental emergency. Tooth-saver kits can be purchased at department stores, pharmacies and online.



Figure 9.

- Caregivers should be mindful of possible aspiration of tooth fragments if an individual has accidentally broken a tooth. A chest x-ray may be required to confirm whether or not a tooth has been aspirated into the windpipe (trachea) or lungs (15).
- When choosing a toothpaste and/or mouthwash, check the label to make sure it does contain fluoride (6).
- Flavoring and or texture of toothpaste might be an issue for some individuals, check with the dentist for alternative suggestions.

- Adaptive toothbrushes can be used by caregivers to help the individual to perform or assist with daily oral hygiene. Adaptive toothbrushes (Figure 10) are particularly helpful to individuals who have a tremor, muscle weakness, poor grip or poor fine motor skills. Individuals with IDD should be involved in their own daily oral care whenever possible because increased independence can help build self-esteem (24).



Figure 10.

## Resources

**The Office of Integrated Health (OIH) at DBHDS:** If you have any questions about the information contained in this Health & Safety Alert, or need additional resources or support, please email your questions to the Office of Integrated Health’s nursing team at: [communitynursing@dbhds.virginia.gov](mailto:communitynursing@dbhds.virginia.gov)

**The OIH Dental Team:** Was developed to assist individuals living in the community within the Commonwealth, the OIH Dental team took the program to a mobile platform. The mobile unit is a rolling dental office equipped to provide exams, x-rays, cleanings and basic fillings with tele-dentist oversight capability. The mobile unit serves individuals who may lack the ability to visit a dentist in their community. To qualify for OIH dental services, the individual must be 21 years or older, diagnosed with an intellectual or developmental disability, and unable to secure dental services within a year. To find out more information and/or to contact the OIH Dental Team, please send an email to: [dentalteam@dbhds.virginia.gov](mailto:dentalteam@dbhds.virginia.gov)

To request OIH Dental Services, please fill out the [Online Referral Form](#) and a member of the OIH Dental Team will be in contact with you as soon as possible. Please ensure you only submit one referral per individual. \*\*\*Please note – there is no save feature on the form. Fill out the form in its entirety prior to submitting.

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Find DBHDS Human Rights Department Contacts [here](#).

Link to the COVLC (Commonwealth of Virginia Learning Center) [here](#).

If you have any questions about the COVLC, please contact Keiana Bobbitt at [Keiana.Bobbitt@dbhds.virginia.gov](mailto:Keiana.Bobbitt@dbhds.virginia.gov)

**Virginia Department of Health's [Individuals with Special Oral Health Care Needs Program](#):** The purpose of the program is to improve access to dental services for individuals with special health care needs (ISHCN). The program provides oral health educational materials, and courses to medical/dental professionals, lay health workers, caseworkers, educators, direct support professionals, students training for the dental profession, and other individuals working with ISHCN. The courses are tailored to the audience and often cover many topics, including the importance of oral health care for ISHCN, commonly seen conditions with orofacial implications, disability etiquette, hygiene adaptations for people with home care challenges, and other topics related to oral health for ISHCN.

Click [here](#) to find a dentist for individuals with special health care needs and very young children. Select 'advanced search' for a more specific search.

**[VDH Resources: Dental Care Every Day - A Caregiver's Guide](#)**

**[VDH Training: Oral Health Care for Individuals with Special Health Care Needs \(ISHCN\)](#)** Target Audience: Medical/Dental professionals, lay health workers, caseworkers, educators, direct support professionals, students training for the dental profession, other individuals working with ISHCN. Contact Information: Kami A. Piscitelli, ISHCN Oral Health Coordinator at: [kami.piscitelli@vdh.virginia.gov](mailto:kami.piscitelli@vdh.virginia.gov)

**Virginia Health Catalyst** works to ensure all Virginians have equitable access to comprehensive health care which includes oral health. [Virginia Health Catalyst created a strategic framework](#) based on four interconnected systems: 1) public health, 2) state & local policies; 3) clinical and community care; and 4) public awareness. To achieve comprehensive health care, each of these four pillars must be strong. These pillars guide



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their work and shape the lens through which they advance health throughout the Commonwealth. You can find their website at this link: <https://vahealthcatalyst.org/>

You can find the Virginia Health Catalyst Resource Library [here](#).

**Oral Health Kansas:** [Adaptive Devices for Toothbrushes](#)

**National Institute of Dental and Craniofacial Research Booklet Series:**

[Continuing Education: Practical Oral Care for People with Developmental Disabilities](#)

[Practical Oral Care for People with Autism](#)

[Practical Oral Care for People with Cerebral Palsy](#)

[Practical Oral Care for People with Down Syndrome](#)

[Practical Oral Care for People with Intellectual Disability](#)

#### **References:**

- (1) [Boseman, C. R. \(2018, April\). Addressing the oral health crisis in the U.S and abroad. \*Exceptional Parent Magazine\*. 46-48.](#)
- (2) [Compton, K., DiGiorgio, C., & Burson, H. \(2016, January\). Dental pain management in patients with intellectual disabilities. \*Journal of Pain Management\*, 9\(2\), 177-181.](#)
- (3) [Division of Oral Health, National Center for Chronic Disease Prevention and Health Promotion. \(2020, November\). Basic oral health. \*The Centers for Disease Control and Prevention\*.](#)
- (4) [Fischer, D. J., O'Hayre, M., Kusiak, J. W., Somerman, M. J. & Hill, C. V. \(2017\). Oral health disparities: A perspective from the National Institute of Dental and Craniofacial Research. \*American Journal of Public Health\*. 107\(S1\), 36-38. Doi: 10.2105/AJPH.2016.303622](#)
- (5) [Gonzalez, E.E., Nathe, C.N., Logothetis, D.D., Pizanis, V.G. & Sanchez-Dils, E. \(2012, December\). Training caregivers: Disabilities and dental hygiene. \*International Journal of Dental Hygiene\*, 11, 293–297. Doi: 10.1111/idh.12019](#)
- (6) [Hecker, L. \(2020, August\). Fluoride: Friend or foe? \*RDH PennWell Corporation\*.](#)
- (7) [Kinnear, D., Allan, L., Morrison, J., Finlayson, J., Sherriff, A., Macpherson, L., Henderson, A., Ward, L., Muir, M. & Cooper, S. A. \(2019, December\). Prevalence of factors associated with edentulousness \(no natural teeth\) in adults with intellectual disabilities. \*Journal of Intellectual Disability Research\*, 63\(12\), 1475–1481. Doi: 10.1111/jir.12628](#)
- (8) [McDowell, C., Barry, J., & Smyth, S. \(2017\). Reducing Rumination of a Child with Autism Spectrum Disorder Using Post-Meal Tooth Brushing. \*Psychology and Psychological Research International Journal\*, 2\(3\), 1-6.](#)



- 
- (9) [Norwood, K.W. & Slayton, R. L. \(2013\). Oral health care for children with developmental disabilities. \*American Academy of Pediatrics\*. 131\(3\), 614–619. doi:10.1542/peds.2012-3650](#)
  - (10) [Northridge, M. E., Kumar, A., & Kaur, R. \(2020, April\). Disparities in access to oral health care. \*Annual Rev Public Health\*. 41, 513–535. Doi: 10.1146/annurev-publhealth-040119-094318.](#)
  - (11) [Pathmashri, V. P., & Kumar, M. P. \(2018\). Dental Management of Children with Autism Spectrum Disorders. \*Drug Invention Today\*, 10\(7\).](#)
  - (12) [Salinas, T. J. \(2019, June\). Oral health: A window to your overall health. \*Mayo Clinic\*.](#)
  - (13) [Selbera, L. M., Boyd, L. D., Vineyard, J., & Smallidge, D. L. \(2021, April\). Impact of oral health education on the knowledge, behaviors, attitudes, and self-efficacy of caregivers for individuals with intellectual and developmental disabilities. \*The Journal of Dental Hygiene\*, 95\(2\), 21-27.](#)
  - (14) [Sullivan, L. W. \(2017, June\). Oral Health: Basic tenets for a healthy, productive life. \*American Journal of Public Health\*. 107\(S1\), 39-40. Doi: 10.2105/AJPH.2017.303958](#)
  - (15) [U.S. Department of Health and Human Services, National institutes of Health \(NIH\), and National Institute of Dental and Craniofacial Research \(NIDCR\) \(2017, September\). \*Practical Oral Care for People with Developmental Disabilities\*.](#)
  - (16) [Wilson, N. J., Lina, Z., Villarosa A., & Georgea, A. \(2019\) Oral health status and reported oral health problems in people with intellectual disability: A literature review. \*Journal of Intellectual & Developmental Disability\*, 44\(3\), 292–304.](#)
  - (17) [Winslow, T. \(2012\). Anatomy of the oral cavity. \[Figure, Anatomy of the oral cavity...\]](#)
  - (18) [World Health Organization \(WHO\). \(2020, March\). Oral health: Key facts.](#)
  - (19) [Manduchi, B., Walshe, M., Burke, É., Carroll, R., McCallion, P., & McCarron, M. \(2021\). Prevalence and risk factors of choking in older adults with intellectual disability: Results from a national cross-sectional study. \*Journal of Intellectual & Developmental Disability\*, 46\(2\), 126-137.](#)

#### **Additional References (added when updated)**

- (20) [Centers for Disease Control and Prevention. \(2024a, May\). About cavities.](#)
- (21) [Centers for Disease Control and Prevention \(2024b, May\). Community Water Fluoridation Frequently Asked Questions.](#)
- (22) [Cleveland Clinic \(2023\). Cavities.](#)
- (23) [Colgate Global Scientific Communications \(2023, Jan, p. 2\). How Oral Bacteria Can Affect Your Lungs.](#)
- (24) [Droubi, L., Laflouf, M., Alkurdi, S., Sauro, S., Mancino, D., Haikel, Y., & Kharouf, N. \(2021, August\). Does Customized Handle Toothbrush Influence Dental Plaque Removal in Children with Down Syndrome? A Randomized Controlled Trial. In \*Healthcare\* \(Vol. 9, No. 9, p. 1130\). MDPI.](#)

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- (25) [Hollaar, V. R., van der Putten, G. J., van der Maarel-Wierink, C. D., Bronkhorst, E. M., de Swart, B. J., & Creugers, N. H. \(2017\). The effect of a daily application of a 0.05% chlorhexidine oral rinse solution on the incidence of aspiration pneumonia in nursing home residents: a multicenter study. BMC geriatrics, 17, 1-11.](#)
  - (26) [Hung, M., Mohajeri, A., Chiang, J., Park, J., Bautista, B., Hardy, C., & Lipsky, M. S. \(2023\). Community Water Fluoridation in Focus: A Comprehensive Look at Fluoridation Levels across America. International journal of environmental research and public health, 20\(23\), 7100.](#)
  - (27) [Martínez-Arnau, F. M., Núñez-Cortés, R., Valderrama-Mejía, J. M., Cruz-Montecinos, C., Carrasco, J. J., & Cortés-Amador, S. \(2023\). Reduced lip seal strength and missing teeth are associated with poorer masticatory performance in young adults with intellectual disabilities: a cross-sectional analytical study. Journal of intellectual disability research : JIDR, 67\(7\), 630–639.](#)
  - (28) [Mateos-Moreno, M. V., Mira, A., Ausina-Márquez, V., & Ferrer, M. D. \(2021\). Oral antiseptics against coronavirus: in-vitro and clinical evidence. Journal of Hospital Infection, 113, 30-43](#)
  - (29) [Sbricoli, L., Schiavon, L., Brunello, G., Brun, P., Becker, K., & Sivoletta, S. \(2023\). Efficacy of different mouthwashes against COVID-19: A systematic review and network meta-analysis. Japanese Dental Science Review, 59, 334-356.](#)
  - (30) [Sedghi, L., DiMassa, V., Harrington, A., Lynch, S. V., & Kapila, Y. L. \(2021\). The oral microbiome: Role of key organisms and complex networks in oral health and disease. Periodontology 2000, 87\(1\), 107-131](#)

*To the best of the OIHSN Nursing Team's knowledge the information contained within this alert is current and accurate. If the reader discovers any broken or inactive hyperlinks, typographical errors, or out-of-date content please send email to [communitynursing@dbhds.virginia.gov](mailto:communitynursing@dbhds.virginia.gov) to include the title of the Health & Safety alert with specifics details of concern.*

# Dental Health Awareness Quiz

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Email Address: \_\_\_\_\_

Quiz:

1. The health of a person's teeth, gums and tongue is directly connected to:
  - a. Their reproductive fertility.
  - b. Some aspects of their health.
  - c. Their oral health only.
  - d. Their overall physical health.
2. An accumulation of bacteria in the mouth can lead to:
  - a. Tooth decay (caries).
  - b. Gum disease (gingivitis).
  - c. Deterioration of bone.
  - d. Deterioration of gums (periodontal disease).
  - e. All of the above.
3. There are connections between poor oral health and the following health conditions:
  - a. Bronchitis.
  - b. Pneumonia.
  - c. Urinary Tract Infections (UTI).
  - d. Endocarditis.
  - e. All of the above.
4. It is best practice to brush your teeth:
  - a. Twice a day or after every meal.
  - b. Once a week.
  - c. Once, when you wake up.
  - d. Once, before bed.
5. The most common oral health condition experienced by both children and adults is:
  - a. Oral cancer.
  - b. Tooth caries (cavities) also known as tooth decay.
  - c. Bruxism.
  - d. Xerostomia.
6. Fluoride is a mineral which helps prevent cavities by making the outer surface (enamel) of the tooth more resistant to acid attacks, which cause:
  - a. Reflux.
  - b. Tooth decay.
  - c. Teeth to fall out.
  - d. GERD.
7. Pica is a disorder, which compels individuals to eat:
  - a. Objects and/or substances, which are not food.
  - b. Spicy food.
  - c. Too much food.
  - d. Chocolate.

# Dental Health Awareness Quiz

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Email Address: \_\_\_\_\_

8. Any fall or physical trauma which involves damage to the individual's mouth, requires immediate professional care, so you should take the individual to their dentist or to \_\_\_\_\_ if their dentist's office is closed.
  - a. The nearest emergency room immediately.
  - b. The mall.
  - c. The nearest PCP's office.
  - d. The chiropractor.
9. A "get to know you visit", also referred to as a "pre-appointment visit" prior to the actual dental treatment appointment, can help to:
  - a. Lower the anxiety level of individuals with IDD.
  - b. Encourage tooth brushing.
  - c. Encourage flossing.
  - d. Reduce cavities.
10. The following negatively affects oral health:
  - a. Tobacco
  - b. Diets high in sugar.
  - c. Never flossing.
  - d. Brushing less than twice per day.
  - e. All of the above.
11. Flossing once a \_\_\_\_\_ is recommended to reduce the risk of tooth decay.
  - a. Week
  - b. Month
  - c. Year
  - d. Day
12. The new adult dental benefit went into effect in Virginia on...
  - a. July 1, 1990.
  - b. July 1, 2000
  - c. July 1, 2021
13. What percent of the U.S. population have no dental coverage?
  - a. 43%
  - b. 10%
  - c. 75%
  - d. 60%
14. There are many connections between poor oral health and the following health conditions:
  - a. Urinary tract infections (UTI).
  - b. Bronchitis, pneumonia, and emphysema.
  - c. Chronic obstructive pulmonary disease.
  - d. Endocarditis (inflammation of the heart), high blood pressure and other chronic cardiovascular conditions.
  - e. All of the above.

# Dental Health Awareness Quiz

Name: \_\_\_\_\_ Date: \_\_\_\_\_

Email Address: \_\_\_\_\_

15. Some evidence supports the use of oral chlorhexidine antiseptic rinse to reduce the incidence of the following illnesses:
- a. Aspiration pneumonia.
  - b. Ventilator-associated pneumonia.
  - c. SARS-CoV-2 and other coronaviruses.
  - d. All of the above.

## Evaluation:

1. Was the information presented in this Health & Safety Alert helpful?
  - a. Yes
  - b. No
2. Will you use this Health & Safety Alert information to train other staff?
  - a. Yes
  - b. No
3. Will you attend the Regional Nursing Meeting to obtain the Continuing Nursing Education (CNE) unit for this Health & Safety Alert?
  - a. Yes
  - b. Yes, but I would have attended the meeting regardless
  - c. No
  - d. No, I am not a nurse
4. What topic(s) would you like to have presented in a Health & Safety Alert for CNE's?

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5. Other Comments:

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