The International Federation of Dental Hygienists

Prevention & Treatment

WHITE PAPER SERIES

**Providing a Global Perspective on the Multi-Faceted Impact of Dental Hygienists**

# Oral Health for People with Complex Health Needs

Oral health professionals are treating patients with myriad health issues on a regular basis. This paper explores the association between complex health issues and oral health. Conditions such as diabetes, cancer, pneumonia, and cardiovascular diseases are discussed. Also addressed are the unique oral care needs of patients undergoing palliative care and those at end of life.

IFDH
INTERNATIONAL FEDERATION OF DENTAL HYGIENISTS

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The International Federation of Dental Hygienists

# Prevention & Treatment WHITE PAPER SERIES

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The IFDH Prevention & Treatment White Paper Series is published over a three-year period to provide evidence-based guidance and information to its over 30 national association country members of Dental Hygienists, Dental Therapists, Oral Health Therapists and Oral Therapists.

The White Papers are valuable resources to use in advocacy efforts and for collaborating with like-minded stakeholders in dentistry, medicine and education.

The series shows the valuable role of the Dental Hygienist, Dental Therapist, Oral Health Therapist and Oral Therapist in advancing the World Health Organization's Global Strategy on Oral Health. The series includes:

- **Oral Health During Pregnancy**
- **Impact of Sustainability**
- **Cost Effectiveness of Prevention**
- **Aging & Oral Care**
- **Behavioral Change**
- **Oral Health for People with Complex Health Needs**

The series also shows other professions how Dental Hygienists, Dental Therapists, Oral Health Therapists and Oral Therapists are needed members of the healthcare team, and when empowered to practice to the full extent of their abilities, can ultimately improve the overall health of their patients and communities.

IFDH appreciates the support of Haleon in the production of this series.

IFDH INTERNATIONAL FEDERATION OF DENTAL HYGIENISTS

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# Introduction

Oral health is an important part of overall health. People with complex health needs are especially at risk for developing oral infections. Individuals with diabetes, cancer, cardiovascular disease, and respiratory conditions are at increased risk for developing oral infections that can impact their systemic conditions. Those receiving palliative care and end-of-life care, as well as people living in skilled nursing facilities and those who experience long term stays in hospitals, are also at increased risk for developing oral infections that will compromise their overall health. Once oral infections develop, these complex health conditions can become more serious.

Nurses, physicians, and other direct care staff lack the knowledge to recognize and prevent oral infections. Dental hygienists are educated and trained to provide preventive oral health services to a variety of people of all ages and all health conditions.

Therefore, dental hygienists are the key oral health professionals to help manage oral conditions in people with complex health needs. Additionally, dental therapists and oral health therapists are being utilized to improve access to oral care around the globe. Unfortunately, these oral health professionals are limited in their ability to fully utilize their education and training due to restrictive practice acts and settings.

The purpose of this White Paper is to discuss the oral health needs of people with complex health conditions and how dental hygienists can contribute to preventing oral infections, improving oral health, and overall health. Dental therapists and oral therapists also play an important role in meeting the oral needs of people with complex health conditions.

# Oral Health

The United States Surgeon General declared in 2000 that one cannot be healthy without good oral health. [1] Further, the World Health Organization Bangkok Declaration highlights this fact in its title, "No Health Without Oral Health." [2] The importance of oral health as a component of overall health continues to be stressed across all healthcare professions. An important step was taken by the FDI World Dental Federation General Assembly in 2016 when they approved a new definition of oral health. [3] This definition incorporates the complex nature of oral health and how it impacts more than just the mouth. The definition states:

"Oral health is multifaceted and includes the ability to speak, smile, smell, taste, touch, chew, swallow, and convey a range of emotions through facial expressions with confidence and without pain, discomfort, and disease of the craniofacial complex. Further attributes of oral health:

- It is a fundamental component of health and physical and mental well-being. It exists along a continuum influenced by the values and attitudes of people and communities.
- It reflects the physiological, social, and psychological attributes that are essential to the quality of life.
- It is influenced by the person's changing experiences, perceptions, expectations, and ability to adapt to circumstances." [3]

This definition clearly shows how oral health is integrally involved with a person's overall general health. Poor oral health can contribute to poor nutrition, depression and social isolation, missed days of work and school, pain, delayed healing and increased risk for other infections, and other complications. [4] The effects of poor oral health can be seen across all age groups and socially disadvantaged populations. [4] Limited access to dental care and inability to pay for it greatly increase the risk of developing poor oral health and poor general health. For people with complex health conditions, this risk increases and is often compounded by their inability to manage their health condition. While all health conditions may put people at risk for developing poor oral health and having it impact their ability to control it, there are a few health conditions where people are especially at risk. These include:

- Diabetes
- Cancer
- Cardiac conditions
- Hospitalized individuals
- Palliative care patients
- End of life patients

### What Is The Impact of Poor Oral Health?

- Poor oral health impacts speaking, socializing, and overall quality of life
- It can affect the ability to eat and get optimal nutrition
- It makes it difficult to manage blood sugar levels/ maintain good glycemic control in people with diabetes
- It can negatively affect hospitalized patients' outcomes
- There's a possible link to strokes and cardiovascular diseases
- There's a link between poor oral health and aspiration pneumonia, ventilator & non-ventilator hospital acquired pneumonia (NVHAP)
- There's a possible link to Alzheimer's disease

Oral health professionals such as dental hygienists, dental therapists, and oral therapists are the licensed, educated professionals to provide the preventive and oral health services required by people with complex health conditions. Yet, these oral health professionals are limited by practice acts in their ability to provide their services to all people in all settings without dental supervision. This limits these professionals from expanding their services to the most vulnerable patients. The way oral health delivery services are provided need to change if the oral needs of the public are to be met. [4,5]

## Health Conditions That Require Preventive Oral Health Initiatives

Patients who suffer from several common systemic conditions have been shown to benefit from preventive oral care. The scope of this White Paper is to highlight these conditions and how preventive oral care interventions can impact not only the oral health of those individuals but the overall health and quality of life as well.

### Diabetes

People with diabetes are at increased risk for periodontal disease, tooth loss, bacterial and fungal oral infections, and delayed healing. [6,7] Xerostomia is also an issue and can exacerbate the development of oral infections. Poor oral health makes it difficult to maintain good glycemic control. [6,7] Poor glycemic control can lead to serious systemic issues, such as blindness, circulation problems, delayed wound healing, strokes, kidney failure, and limb amputations. [6,7]

Preventive services such as oral prophylaxis and oral health education are an important part of maintaining good oral health for people with diabetes. Twice daily toothbrushing, once daily interdental cleaning, use of fluoride toothpaste, daily cleaning of partial and full dentures, routine oral care preventive visits, and controlling blood glucose levels are all important ways to have good oral health. Research has demonstrated that good glycemic control leads to improved periodontal health, and that improved periodontal health leads to better glycemic control. [6,7] This "two-way relationship" is especially vital for individuals with diabetes.

**Oral Care for Patients with Diabetes**

- Gingivitis
- Periodontitis
- Oral Infections
- Preventive dental care every 3-4 months
- Excellent toothbrushing, flossing/interdental cleaning
- Fluoride toothpaste & rinse

Dental hygienists provide the preventive oral care and oral health education that people with diabetes require to maintain good glycemic control. Regular preventive oral care also enables the clinician to monitor oral and systemic changes and to discover diabetes-related problems at an early stage. In many countries, dental hygienists and other oral health professionals provide glucose monitoring chairside. [6,7] Dental hygienists can work with the diabetes nurse educator and the diabetes dietician to provide oral health education and nutrition suggestions for maintaining good oral health and good glycemic control. They can also educate newly diagnosed individuals about the importance of good oral health as part of their diabetes care. Treating and educating patients with diabetes is an ideal example of how dental hygienists, dental therapists, and oral therapists can be integrated into the broader healthcare setting. This is a great opportunity for an oral health expert to work with our colleagues in healthcare.

## Cancer

A cancer diagnosis is devastating to receive, and the treatment is extensive, complex, and life-altering. Treatment can include chemotherapy, radiation therapy, or surgery, or any combination of those treatments. Patients will need lifetime follow-up to assure that there is no recurrence, or any new cancer has developed. Poor oral health can cause a delay in the start of treatment, increase the risk of infection or bleeding, and affect the outcome of the treatment. [8] In addition, oral complications that include oral mucositis, xerostomia, oral bacterial, viral, and fungal infections, and taste alterations are all influenced by poor oral health which can then impact overall quality of life. [8]

### Cancer Survivors

- "There are millions of adults and children who are cancer survivors. An individual is considered a cancer survivor from the time of diagnosis through the rest of life. As a result, what being a survivor means to you may change over time.
- For those who completed treatment, many say that although they were relieved when it ended, it was hard to transition to a new way of life. It was like entering another world where they had to adjust to new feelings, new problems, changes in support, and different ways of looking at the world.
- For some people, dealing with cancer becomes a way of life. Careful monitoring will still need to occur. For some, physical problems or emotional issues persist for years."

*https://www.cancer.gov/about-cancer/coping/survivorship#:~:text=There%20are%20millions,persist%20for%20years*

It is important for patients with any type of cancer diagnosis to receive a complete oral examination, radiographs, and any corrective restorative therapy including teeth extractions prior to the onset of cancer therapy. Preventive therapy, including oral prophylaxis, fluoride, and oral health instructions, is key to managing the oral complications that may arise from the cancer treatment. Poor oral health can delay or impact the cancer treatment schedule, which ultimately could affect the ability to successfully treat the cancer. [8]

Dental hygienists should see any newly diagnosed patient as soon as possible before the start of cancer treatment. Communicating with the oncologist and oncology nurse is critical to receive all the information prior to the start of any dental treatment. Along with the dentist, the dental hygienist should complete all preventive oral care and provide detailed oral care instructions to help the person manage and/or prevent any oral complications or oral infections that might arise during cancer treatment. The dental hygienist can also set up a regular schedule for the patient during and after cancer treatment to help maintain good oral health and identify any new issues before they become problems.

### After Cancer Treatment: Oral Care

- Post-treatment dental care is equally important once treatment has concluded to reduce chronic oral complications
- While each cancer diagnosis and treatment presents different oral health challenges, the diagnosis that presents the most challenges post-treatment is oral, head & neck cancer
- Post-treatment oral health challenges will depend on whether pre-treatment dental care was received or not

### Box 1: Collaboration in Cancer Care

As both an RDH and oncology nurse, I worked with two head and neck cancer surgeons, developed patient education materials for patients going through Head and Neck Cancer (HNC) surgery, made referrals for pre-treatment dental care, taught nurses, residents, medical students, and nursing students about oral complications and how to prevent/manage them.

# Hospitalized Patients and Pneumonia

Hospitalized patients are at increased risk for developing oral infections that can lead to systemic medical complications.[9,10,11] Patients at highest risk include those in the ICU, those on ventilators, older adults, and those requiring extended stays.[9,10,11] The most serious medical complication is pneumonia, either ventilator-associated pneumonia (VAP) or non-ventilator hospital-acquired pneumonia (NV-HAP). Oral bacteria and oral debris can become dislodged and aspirated by patients, causing it to lodge deep in the lungs, leading to pneumonia. These types of pneumonia can be difficult to treat if the oral infection and poor oral health remain present.

Dental hygienists who are part of a hospital care team can play an important role in preventing and managing the oral infections that lead to both types of pneumonia. Dental hygienists can educate nurses and other direct care staff on the most effective ways to provide oral care and recognize oral infections. Dental hygienists, dental therapists, or oral therapists could work bedside to provide oral care services to improve the oral health of the patient. Nurses can teach dental hygienists about the medical complexities the patient is experiencing and the two can work together to improve oral health of the patient. It is a great opportunity for dental hygienists, dental therapists, and oral therapists to learn and work alongside our colleagues in medicine and nursing.

**Box 2: Collaboration in Intensive Care**

An example of this is a dental hygienist who is also a nurse here in Missouri who has developed an oral care protocol to demonstrate to the Intensive Care Unit (ICU) nurses at her hospital how and why providing oral care is important to reducing the incidence of ventilator-dependent pneumonias in their patients.

# Cardiovascular Diseases

The role of oral bacteria and periodontitis has long been linked to heart disease and strokes.[12] Periodontitis is a chronic, inflammatory infection that involves the gingiva, periodontal ligament, and bone. It is this inflammatory process that is believed to be involved in increasing the risk for cardiovascular disease and strokes.[12] Poor oral health with heavy plaque biofilm, calculus formation, bone destruction, and bleeding provides the ideal environment for oral bacteria to enter the bloodstream.[12] Once the oral bacteria enter the bloodstream, it travels throughout the body, can attach to heart valves causing bacterial endocarditis, lodge deeply in the lungs to cause pneumonia, clump together with other blood products to form thrombi that cause blockages or lead to strokes, and travel to newly placed orthopedic joint replacements.[12,13]

Dental hygienists, dental therapists, and oral therapists can work with their colleagues in nursing and medicine to help prevent oral infections from causing heart and other vascular complications. Hands-on preventive care, including scaling and root planing, biofilm removal, fluoride, and oral care education for the patient, caregiver, and staff can have a positive impact on cardiovascular health. Additional education may be required for nurses and caregivers to ensure that good oral care is continued after an event such as a stroke. The importance of maintaining good oral health afterwards is equally important to prevent further complications.[14]

**Oral Care for Hospitalized Patients**

- Exam the mouth daily
- Look for signs of dental disease and oral infections
- Address oral problems immediately
- Involve other disciplines
- Perform oral care twice daily or more if needed
- Assist the patient if needed
- Tailor oral care to specific needs of individual patients

# Palliative Care and End of Life Care

Palliative care and end-of-life care are frequently thought to be the same thing. Palliative care refers to providing disease management, symptom control, and improved quality of life for people with incurable chronic diseases such as Chronic Obstructive Pulmonary Disease (COPD), emphysema, neurological conditions, advanced cancer, etc. End-of-life care or hospice is comfort care provided to people with a terminal illness and a limited time left. While the focus for both is improved quality of life, one area that is frequently overlooked is oral health.

For the palliative care patient, poor oral health can have a negative impact on the ability to manage their chronic disease. Oral infections such as candidiasis, xerostomia caused by medications, loose or missing teeth, pain, inability to self-perform oral care or relying on caregivers, all contribute to poor oral health and a negative impact on palliative care.[15] Patients and their caregivers may not understand the importance of good oral health and why performing daily oral care and having regular preventive care visits is still necessary.[16]

**Palliative Care**

- Supportive care
- Symptom management
- Disease management/treatment
- Quality of Life

**Hospice**

- Comfort care
- Treatment discontinued
- Pain control
- Symptom management
- Transition / dying support

For the hospice patient, comfort care is the key at end-of-life, including oral care. Xerostomia is the main oral issue as the patient is mouth breathing most of the time. Providing moisture and gentle cleaning of the oral cavity is a constant need for these patients. Caregivers may be unfamiliar or even uncomfortable with providing oral care to their loved one, as they may believe they are causing pain or that it is unnecessary.[17]

Professional caregivers such as nurses may be more focused on managing other comfort issues, such as disease pain, that they may miss the oral pain the person is experiencing. Keeping the mouth clean, moist, and free of infection is one way to provide comfort care to a person at end-of-life.[17,18,19] However, professional caregivers, such as nurses, may not feel they have the knowledge or skills to provide oral care for these patients.

Palliative care and hospice are two areas where dental hygienists are not being utilized. Their knowledge of the oral cavity and expertise in oral care could be paired with the nurse's knowledge of palliative care and hospice to both learn from each other and work together to meet the oral care needs of both types of patients.

**Palliative Care**

- Focus on preventive care and oral infection prevention
- Good oral care includes toothbrushing, flossing/ interdental cleaning, fluoride toothpaste
- Regular dental care

**Hospice Care**

- Focus on comfort care
- Frequent oral care with very soft toothbrush, warm water, and non-foaming toothpaste
- Xerostomia management

**Box 3**

As a dental hygienist, I presented a lecture about oral care for palliative and hospice patients to Washington University School of Medicine Palliative Medicine Grand Rounds. I also presented a lecture with a speech pathologist on the importance of oral care with hospitalized adults and older adults to Pennsylvania Hospital Interprofessional Grand Rounds.

## Conclusion

Oral health is a critical and vital part of overall health. And yet there is still a need for education and access to oral care for patients and healthcare providers. Dental hygienists are uniquely qualified by virtue of their education, training, and licensure to help improve access to oral care.[20] Working as part of an interprofessional team of healthcare providers allows the dental hygienist to be part of the solution. Restrictive practice acts and limitations on their ability to practice to their full educational scope, prevent a dental hygienist's ability to fully practice their profession and provide oral care to people with complex health conditions.

Currently, there are dental hygienists, dental therapists, and oral therapists practicing in settings where they are allowed to practice to the level of their education and training. Dental therapists can provide simple restorative and preventive therapy to individuals who lack access to oral care services. Dental hygienists can be employed in pediatric and adult cancer hospitals, public health settings, and skilled nursing facilities. They can practice mobile teledentistry and own their own dental hygiene practices. As collaborators in care, dental hygienists can teach nursing and medical students about the importance of a clinical oral exam as part of the Head, Eyes, Ears, Nose and Throat (HEENT) exam, they can explain to nursing and medical colleagues the importance of oral health as part of overall health, and can be an active part of interprofessional education programs in nursing, physical therapy, occupational therapy, speech pathology, and nutrition. With their unique background and skills in prevention, dental hygienists are the key oral health professionals to be the change agent in integrating oral health into overall health.

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# Mission

The International Federation of Dental Hygienists is an international non-profit association uniting national organizations of Dental Hygienists, Dental Therapists, Oral Therapists and Oral Health Therapists. By fostering leadership and collaboration, IFDH is the principal advocate for the oral hygiene profession globally and promotes excellence in oral health, education, research and practice.

# Vision

IFDH is dedicated to enhancing the recognition of the Dental Hygienist, Dental Therapist, Oral Therapist and Oral Health Therapist as being the key provider of preventive oral health care worldwide and ensuring that oral health is integrated as a key aspect of our patients' overall health.

# Author

**Deborah S. Manne, MSN,RN, RDH, FADHA**

Deborah Manne is a registered dental hygienist and a master's prepared, head and neck oncology clinical nurse specialist with a minor in gerontological nursing. Currently, she is an Adjunct Instructor, IPE, Saint Louis University (SLU); Adjunct Instructor, Trudy Busch Valentine School of Nursing at SLU; Adjunct Instructor, Division of Head and Neck Surgical Oncology, Dept. of OTO-HNS, SLU School of Medicine; and Adjunct Instructor, Graduate Periodontics Program, Center for Advanced Dental Education, SLU.

As an RDH, she has been both a traditional and a non-traditional dental hygienist in her 50 years of practice. She has practiced in general and periodontal practices; in a skilled nursing facility under general supervision; as the clinical hygienist for the Graduate Periodontal Residents at Saint Louis University Center for Dental Education; taught pre-clinic and senior dental hygiene clinic as well as periodontics and public health to dental hygiene students; and served as the oral care specialist for the two head and neck cancer surgeons at a major academic center.

Deborah has lectured around the country on the oral complications of cancer therapies, the importance of oral cancer early detection and screening, and the role of the dental hygienist. Her recent presentations were at Special Care Dentistry virtual conference; Interprofessional Grand Rounds (virtual) at Pennsylvania Hospital; and the Missouri Dental Hygienists' Association.

As a head and neck oncology nurse, Deborah has been the leading voice on the importance of oral health as part of overall health for over 30 years. She has practiced as a bedside oncology nurse, in radiation oncology, head and neck surgery oncology, nurse navigator for patients with head and neck and lung cancer receiving chemotherapy; and as a Cancer Center oncology nurse educator. Deborah also organized and ran community wide free oral cancer screenings at SLU for several years. Deborah has lectured to the first-year medical students at Saint Louis University School of Medicine each spring on the topic "The Clinical Oral Exam". She has also developed lectures on "The Clinical Oral Exam" for NP students and "Oral Care for Older Adults" for undergraduate nursing students.

Deborah has received numerous awards including the ADHA Alfred C. Fones Award and the ADHA Irene Newman Award; the MDHA Missouri Dental Hygienist of the Year; and most recently, awarded Professional Fellow status by ADHA. She is also a published author including chapters in several editions of Esther Wilkins' Clinical Practice of the Dental Hygienist.

Deborah is passionate about teaching the next generation of healthcare providers!

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