

October 31, 2022

President Karen Fann  
Speaker Rusty Bowers  
1700 West Washington Street  
Phoenix, AZ 85007

Dear President Fann and Speaker Bowers,

Pursuant to sections 32-3104 and 32-3106, Arizona Revised Statutes, the Arizona Dental Hygienists' Association (AzDHA) hereby submits the attached report requesting an expansion of the scope of practice for the profession of dental hygiene.

The proposal would modify current law to add the following authorities to the dental hygiene scope of practice:

- Dental hygiene diagnosis,
- Dental hygiene treatment planning,
- Limited prescriptive authority for fluorides and topically-applied antimicrobial agents, and
- Administration of injectable botulinum toxins (Botox, Dysport, Xeomin, etc.) and dermal fillers (Juvederm, Restylane, Sculptra, etc.) for therapeutic or cosmetic purposes.

Thank you for your consideration.

Sincerely,

Jeanette Lalli, RDH  
President  
Arizona Dental Hygienists' Association

## BACKGROUND

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Dental hygienists are licensed professionals who deliver preventative dental care and provide educational, clinical, and therapeutic dental hygiene procedures including gathering diagnostic information, providing prophylaxis and non-surgical periodontal therapy. To obtain a dental hygiene license from the Arizona Board of Dental Examiners (BODEX), a dental hygienist must be at least 18 years of age, be of good moral character, complete an approved dental hygiene program, pass the National Board Dental Hygiene examination, pass a regional or state clinical examination, and pass the Arizona Jurisprudence Examination. Additionally, a registered dental hygienist must complete at least 45 credit hours of recognized continuing dental education in a triennial period<sup>i</sup>. As of October 1, 2022, BODEX licenses 5,217 dental hygienists.

Dental hygienists work with dentists and other healthcare providers in a variety of public and private employment settings with a goal of providing optimum oral healthcare. In addition to private dental offices, dental hygienists work in hospitals, long-term care facilities, public health institutions, public and private schools, government-sponsored programs, private charitable organizations, and social services organizations.

A dental hygienist may practice under the general supervision of a dentist or a physician in an in-patient hospital setting<sup>ii</sup>. Additionally, a dental hygienist who meets specified qualifications may enter an affiliated practice relationship with a dentist and may initiate treatment and treat patients without the supervision of a dentist pursuant to the affiliated practice agreement<sup>iii</sup>. Affiliated practice dental hygienists (APDHs) practice in a variety of community-based settings and play a key role in the expansion of access to oral healthcare services in Arizona.

To further the impact of dental hygienists and improve patient experience and access to care, the AzDHA seeks to expand the scope of practice for dental hygienists to include the following authorities.

1. Dental hygiene diagnosis is defined by the Commission on Dental Accreditation (CODA) as “the identification of an existing or potential oral health problem that a dental hygienist is educationally qualified and licensed to treat<sup>iv</sup>.” In other words, dental hygiene diagnosis is limited to those conditions for which the treatment is in the dental hygiene scope of practice.
2. Dental hygiene treatment planning is the authority to develop and implement a dental hygiene care plan to address the oral healthcare needs of the patient. A dental hygiene treatment plan is limited to those services included in the dental hygiene scope of practice.
3. Limited prescribing authority allows dental hygienists to prescribe, administer, and dispense fluoride supplements, topically-applied fluorides, and topically-applied anti-microbial agents.
4. Botulinum toxin and dermal filler administration authority allows dental hygienists to inject botulinum toxin (Botox, Xeomin, Dysport, etc.) and dermal fillers (Juvederm, Restylane, Sculptra, etc.) for the functional or cosmetic enhancement of the gums, cheeks, jaws, lips, oral cavity, and associated structures of the maxillofacial areas. We propose this authority be limited to dental

hygienists who have either received satisfactory training in these procedures from a CODA-accredited dental hygiene institution or successfully completed a specific training program or continuing education course, such as required by the American Academy of Facial Esthetics (AAFE), in injectables and facial fillers. Additionally, we propose that a dental hygienist administering Botox or dermal fillers may do so only at the request of a dentist and under the general supervision of a dentist; this authority would not extend to dental hygienists practicing pursuant to an affiliated practice agreement.

## **INCREASED SCOPE FACTORS PURSUANT TO A.R.S. 32-3106**

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### **1. Why an increased scope of practice is beneficial, including the extent to which health care consumers need and will benefit from safe, quality care from practitioners with this scope of practice.**

#### Dental hygiene diagnosis and dental hygiene treatment planning

Both dental hygiene diagnosis and dental hygiene treatment planning are key components of the dental hygiene process of care; in fact, as of 2018, the United States Office of Management and Budget's Standard Occupational Classification classifies dental hygienists as "Healthcare Diagnosing or Treating Practitioners" – the same category as dentists, physicians, pharmacists, nurses, physical therapists, and other healthcare providers.<sup>v</sup>

The addition of dental hygiene diagnosis and treatment planning to Arizona dental hygienists' scope of practice will streamline patient care, improve patients' understanding of and involvement in their dental hygiene care, and enhance coordination of care across providers. Dental hygienists are *the* dental hygiene experts; while working in coordination with a dentist or other practitioner to address issues outside the dental hygienist scope of practice, dental hygienists are qualified to identify and address dental hygiene conditions. In both direct access settings (hygienists practicing pursuant to affiliated practice agreements) and under general supervision, dental hygienists' diagnosis and treatment planning will reduce patients' need for duplicative care, accelerate delivery of appropriate oral health education and interventions, and improve patient outcomes.

A key component of diagnosis is *communication* – both to the patient and to other providers. Naming the condition improves a patient's understanding of his or her condition and treatment plan, resulting in greater acceptance of the treatment plan and better patient outcomes. The results of a 2015 systematic review of the dimensions of patient-centered care indicate that the two most important dimensions are "patient involvement in care" and "clinician-patient communication."<sup>vi</sup> Requiring a patient to see multiple providers to receive his or her diagnosis creates an unnecessary information barrier and increases the odds that the patient's condition goes undiagnosed.

In addition to improving communication with the patient about his or her healthcare, dental hygiene diagnosis improves communication and understanding of the patient's health across providers and over time. The healthcare delivery system has increasingly moved toward integration of care to the benefit of the patient's overall health and dental hygiene diagnosis enhances a dental hygienist's ability to

communicate with a patient’s healthcare team outside of dentistry “who, for example, might not understand the significance of bleeding on probing, but will know that gingivitis or periodontal disease is a condition that is a health concern.”<sup>vii</sup> Furthermore, documentation of a dental hygiene diagnosis provides a reference point for future providers and improves continuity of patient care.

Adding dental hygiene treatment planning to the dental hygienist scope of practice will also benefit patients. A treatment plan includes establishing priorities for care, setting goals and evaluation measures related to existing dental hygiene problems, identifying interventions appropriate for client needs, and developing a written care plan for use during dental hygiene therapy. A treatment plan not only establishes a cohesive, step-by-step path to achieve the best dental hygiene outcome for a patient, but also lays the foundation for documentation and may serve as a guide for insurance reimbursement. While a dentist may currently dental hygiene treatment plan for a patient, a dentist may not be as accessible to a patient, and dental visits may be better spent assessing and treating issues beyond the dental hygienists’ scope.

As stated later in this report, both dental hygiene diagnosis and treatment planning are required competencies for all dental hygienists in the U.S.

#### Limited prescribing authority

AzDHA proposes allowing dental hygienists to prescribe, administer, and dispense fluoride supplements, topically-applied fluorides (e.g. varnishes, toothpastes, rinses, silver diamine fluoride), and topically-applied antimicrobial agents (e.g. chlorhexidine and periodontal sulcus fibers and gels). Fluoride agents and topically-applied antimicrobial agents serve as prophylactic tools to prevent diseases such as tooth decay, gingivitis, and periodontal disease. None of these medications are

#### EXAMPLE 1

A dental hygienist examines a patient and finds significant gingival redness, swelling, and bleeding, but no evidence of bone loss. The dental hygienist communicates the gingivitis diagnosis to the patient and provides dental hygiene treatment including oral health education and debridement to remove plaque and calculus. Because the patient demonstrated limited toothbrushing skills, a prescription for 0.12% chlorhexidine mouth rinse was provided and a follow-up appointment was scheduled.

#### EXAMPLE 2

A 72-year-old patient presents with brown, soft, crumbling enamel on multiple mandibular teeth at the gingival margin. While taking medical and dental history, it is discovered the patient has xerostomia from cardiac medications and sucks on sweet candies daily to alleviate dry mouth symptoms. The hygienist provides patient education and recommends sugarless candies and gums with xylitol and salivary substitute rinses for xerostomia. The hygienist refers the patient to a dentist to address rampant caries.

#### EXAMPLE 3

A 9-year-old child, accompanied by his mother, presents with numerous dental caries (tooth decay). After obtaining informed consent, the affiliated practice dental hygienist performs a prophylaxis, applies silver diamine fluoride (a caries-arresting medication) on cavitated carious lesions in two affected primary teeth, places sealants on unaffected permanent 1st molars, and applies 5% fluoride varnish. The dental hygienist instructs mother and child on effective toothbrushing and provides nutritional counseling and a prescription for 1.1% sodium fluoride gel to be used at home daily using the brush-on method. The dental hygienist refers the child to a dentist for further care.

controlled substances and so prescriptions can be written using an NPI (National Provider Identifier) number, which dental hygienists have or can obtain.

Both fluoride agents and topically-applied antimicrobial agents are safe and effective treatment options with low risks of complications. The most common undesirable side effect of fluoride ingestion is fluorosis, a cosmetic disorder where the teeth become speckled during the early maturation stage of enamel formation<sup>viii</sup>. Use of topically-applied antimicrobial agents is also low-risk for the patient with the greatest challenge being increasing rates of bacterial resistance and hypersensitivity reactions<sup>ix</sup>.

Allowing dental hygienists to prescribe, administer, and dispense these medications will streamline patient care and improve accessibility for patients. Patients will not have to wait for a dentist to be physically present, which will improve patient care options in direct access settings and reduce rescheduling and wait times in general supervision settings. Ensuring that safe, preventative tools are readily available to patients in the oral healthcare settings at which they present is not only convenient for patients, but also improves the chances that patients take advantage of these preventative measures.

#### Botulinum toxin and dermal filler administration authority

Botox and similar agents produce transient dose-dependent weakening of muscle activity by inhibiting acetylcholine release at the neuromuscular junction<sup>x</sup>. Botox was first approved by the FDA for the treatment of strabismus, blepharospasm, and hemifacial spasms in 1989; since then, it has been approved for a variety of therapeutic and cosmetic purposes<sup>xi</sup>. In the dentistry, Botox offers a new, nonsurgical option for patients – particularly those patients for whom conventional treatments have not been successful. Botox is commonly used as part of a dental treatment plan for bruxism (teeth grinding), excessive gingival display, orthodontic relapse due to severe muscle movement, sialorrhea (excessive saliva), trigeminal neuralgia (a chronic pain condition of the trigeminal cranial nerve), hemifacial spasms, temporomandibular joint disorders, oromandibular pain, and more<sup>xii</sup>. Additionally, Botox and dermal fillers may be administered in a dental office for cosmetic purposes, providing patients with improved confidence in a familiar setting through a safe, non-surgical procedure. Botox has a remarkable safety record. In the 14 years following its initial FDA approval, only 36 cases of severe adverse effects were reported to the FDA.

Physicians, nurses, dentists, cosmetologists, aestheticians, and certified laser technologists may currently administer Botox and dermal fillers under Arizona law. Allowing appropriately trained dental hygienists to administer Botox, similar agents, and dermal fillers at the request of and under the general supervision of a dentist will increase accessibility for patients and create more opportunity to receive these services at their regular oral health provider. Moreover, allowing dental hygienists to provide these services will enable dental offices in which Botox and dermal fillers are available to better streamline their care as the supervising dentists see fit – dentists may delegate these services to their hygienists and utilize their time with patients to address oral healthcare issues beyond the dental hygienists' scope.

- 2. Whether those health professionals seeking an increased scope of practice currently have or will be required to have didactic and clinical education from accredited professional schools or training**

**from recognized programs that prepare them to perform the proposed scope of practice, and details on what that education or training includes for that proposed scope of practice.**

Dental hygiene education includes an average of 84 credit hours for an associate degree or 118 credit hours for a baccalaureate degree. Accredited dental hygiene programs require an average of 2,932 clock hours of curriculum, including 659 hours of supervised dental hygiene instruction<sup>xiii</sup>. Over the course of this education, dental hygienists are well-prepared for the scope expansion sought. See the Appendix for examples of Arizona’s dental hygiene programs.

#### Dental hygiene diagnosis and dental hygiene treatment planning

Dental hygiene programs assess a student’s ability to identify the signs and symptoms of disease, recognize and understand the nature of the disease process, synthesize information, identify the conditions or diseases, understand the methods of treatment and management, and apply appropriate methods to arrest disease progression<sup>xiv</sup>. The CODA Accreditation Standards for Dental Hygiene Education Programs require all dental hygiene program curriculums to “provide the student with knowledge of oral health and disease as a basis for assuming responsibility for assessing, planning and implementing preventative and therapeutic services.”<sup>xv</sup> Moreover, all graduates must be competent in providing the dental hygiene process of care, as outlined below:

- a. Comprehensive collection of patient data to identify the physical and oral health status;
- b. Analysis of assessment findings and use of critical thinking in order to address the patient’s dental hygiene treatment needs;
- c. Establishment of a dental hygiene care plan that reflects the realistic goals and treatment strategies to facilitate optimal oral health;
- d. Provision of patient-centered treatment and evidence-based care in a manner minimizing risk and optimizing oral health;
- e. Measurement of the extent to which goals identified in the dental hygiene care plan are achieved; and
- f. Complete and accurate recording of all documentation relevant to patient care.

All hygienists graduating from accredited dental hygiene programs are already well-prepared to perform dental hygiene diagnosis and dental hygiene treatment planning.

#### Limited prescribing authority

The CODA Accreditation Standards for Dental Hygiene Education Programs require that all dental hygiene students receive biomedical science content that includes pharmacology, microbiology, and immunology and dental hygiene students learn about fluorides and chemotherapeutic (antimicrobial) agents throughout their dental hygiene curriculum. In their clinical preparation, students are expected to develop comprehensive dental hygiene treatment plans that include not only fluorides and antimicrobials that are professionally applied but also recommended products that are available to patients as over the counter products or by prescription.

#### Botulinum toxin and dermal filler administration authority

Dental hygienists routinely administer local anesthesia injections and these intraoral injection techniques are considerably more difficult to learn than Botox and dermal filler injections. Local anesthesia has been a part of dental hygienist scope in Arizona for 50 years and, while there is not a CODA accreditation standard related to injections, dental employers in Arizona expect this competency and dental hygienists must have training and certification to be employable. This proposal further recommends that dental hygienists be required to either receive training in Botox and dermal filler administration from a CODA-accredited institution or successfully complete a training program or education course, such as the one provided by the American Academy of Facial Esthetics (AAFE).

**3. Whether the subject matter of the proposed increased scope of practice is currently tested by nationally recognized and accepted examinations for applicants for professional licensure and the details of the examination relating to the increased scope of practice**

Dental hygiene diagnosis and dental hygiene treatment planning

Arizona law requires that an applicant for dental hygiene licensure pass the National Board Dental Hygiene Examination (NBDHE) and a clinical examination administered by another state or regional testing agency in the United States<sup>xvi</sup>. The NBDHE covers both diagnosis and treatment planning thoroughly<sup>xvii</sup>. The CDCA and WREB dental hygiene examination, the ADEX, includes two skill-specific clinical and simulated clinical examinations, the Patient Treatment Clinical Examination (PTCE) and the Computer Simulated Clinical Examination (CSCE) OSCE. The PTCE evaluates candidates on their clinical and judgement skills, while the OSCE is designed to assess various levels of diagnosis and treatment planning knowledge, skills, and abilities. Most clinical exams require candidates to complete patient continuing care plans outlining the treatment plan for the visit and future dental hygiene treatment plans<sup>xviii</sup>.

Limited prescriptive authority

The NBDHE includes prescribed therapies, chemotherapeutic agents, pharmacology, toxicology, microbiology and immunology, and use of preventative agents such as fluorides<sup>xix</sup>. These test questions are both basic knowledge questions but also decision-making questions in which a situation is described to the student and they are required to make a determination regarding what sort of product the patient needs.

Botulinum toxin and dermal filler administration authority

The NBDHE does not include testing on injections or Botox or dermal fillers specifically, nor do the standard patient-based PTCE or OSCE clinical exams. However, because Arizona employers expect dental hygienists to be qualified to administer local anesthesia, most dental hygienists take the WREB local anesthesia exam or a comparable exam. Again, we recommend that dental hygienists be required to either receive training in these procedures from a CODA-accredited institution or successfully complete a specific training program or education course, such as the one provided by the American Academy of Facial Esthetics (AAFE), on injectables and facial fillers.

**4. The extent to which the proposed increased scope of practice will impact the practice of those who are currently licensed in this state or the entry into practice of those individuals who have relocated from other states with substantially equivalent requirements for registration, certification, or licensure as this state.**

This proposed scope of practice expansion will enable dental hygienists currently licensed in Arizona to better utilize their training and expertise. Because all dental hygienists' education and testing cover dental hygiene diagnosis and treatment planning as well as subject matter relevant to the limited prescribing authority sought, all Arizona dental hygienists are prepared to provide these services. Additionally, this scope expansion will make Arizona a more appealing destination for out-of-state dental hygienists seeking a rewarding career where they can practice at the top of their profession – particularly dental hygienists coming from states in which this scope is already granted.

The addition of botulinum toxin and dermal filler authority to the dental hygiene scope of practice will give existing or new licensees the option to pursue training so that they may perform these procedures; the practices of those licensees who choose not to pursue additional training will remain unchanged.

**5. The extent to which implementing the proposed increased scope of practice may result in savings or a cost to this state and to the public.**

The Centers for Disease Control and Prevention (CDC) recognizes professional dental hygiene care as a cost-effective measure toward health.<sup>xx</sup> While this scope expansion is likely to result in a savings to the state and the public, the extent is difficult to calculate. We suggest considering the following factors.

Dental hygiene diagnosis and treatment planning

Improved communication with the patient and across the patient's healthcare providers regarding the patient's oral health is likely to hasten acceptance of the treatment plan and improve understanding about oral health implications for the patient's overall health. Additionally, the ability to provide a patient with a dental hygiene diagnosis and treatment plan in a direct access setting reduces the patient's need for redundant care – if the dental hygienist can tell the patient he or she has gingivitis, for example, the patient does not need to set a separate appointment with dentist to receive the same information. Rather, the patient's dental appointment can be dedicated to those issues and services beyond the scope of dental hygiene. By improving communication, streamlining patient care, and reducing redundancies, the patient saves time and money and is likely to experience better oral health outcomes.

Limited prescribing authority

Fluoride agents and topically-applied antimicrobial agents are important preventative and therapeutic tools to stave off or treat diseases such as tooth decay, gingivitis, and periodontal disease. By improving access to preventative care both in direct access settings and under general supervision, patients are likely to suffer from fewer preventable oral health diseases, save time and money, and avoid expensive surgical interventions.

### Botulinum toxin and dermal filler administration authority

Adding Botox and dermal filler administration authority to the dental hygienists' scope of practice will streamline patients' dental care and make these services more easily accessible in dental offices – potentially saving patients the need to seek out treatment from other providers. Additionally, these services are safe and often more affordable than alternative treatment options, like surgeries.

## **6. The relevant health profession licensure laws, if any, in this or other states.**

### Dental hygiene diagnosis

Dental hygiene diagnosis is permitted in Colorado and Oregon without the supervision of a dentist. It is permitted in Connecticut under general supervision.

### Dental hygiene treatment planning

Dental hygiene treatment planning is permitted in California, Colorado, Kansas, Nevada, and Oregon without the supervision of a dentist. It is permitted under general supervision or pursuant to a collaborative practice agreement in Iowa, Minnesota, New York, and North Dakota.

### Limited prescriptive authority

Dental hygienists have prescriptive authority in Colorado, Maine, Maryland, Montana, New Mexico, and Oregon without the supervision of a dentist and in Tennessee under general supervision of a dentist.

### Botulinum toxin and dermal filler administration authority

No states currently have rule or law expressly permitting dental hygienists to administer cosmetic Botox or fillers. In some states, there are no specific rules about whether hygienists can provide dermal fillers or Botox injections. Regulating bodies in those states either take no action regarding the practice or evaluate cases individually when they come up.

## **7. Recommendations, if any, from the applicable regulatory entity or entities, from the department of health services, and from accredited educational or training programs.**

To the best of our knowledge, the Department of Health Services and other applicable entities have not made recommendations concerning this scope expansion.

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<sup>i</sup> Dental Practice Act, Ariz. Stat. § 32-1284 - 32-1285. <https://www.azleg.gov/arsDetail/?title=32> and Board of Dental Examiners Dental Hygienists, Ariz. Admin. Code R4-11-1204. [https://apps.azsos.gov/public\\_services/Title\\_04/4-11.pdf](https://apps.azsos.gov/public_services/Title_04/4-11.pdf)

<sup>ii</sup> Dental Practice Act, Ariz. Stat. § 32-1281. <https://www.azleg.gov/viewdocument/?docName=https://www.azleg.gov/ars/32/01281.htm>

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- iv Accreditation Standards for Dental Hygiene Education Programs. Commission on Dental Accreditation. Chicago, Illinois, 2018. Retrieved from  
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- xviii 2020 Dental Hygiene Examination Candidate Guide. Western Regional Examining Board. Phoenix, Arizona, 2020. Retrieved from [https://wreb.org/Candidates/Hygiene/hygienePDFs/2020\\_DH\\_Forms/2020\\_WREB\\_Candidate\\_Guide\\_HYG\\_v1101\\_2019.pdf](https://wreb.org/Candidates/Hygiene/hygienePDFs/2020_DH_Forms/2020_WREB_Candidate_Guide_HYG_v1101_2019.pdf)
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APPENDIX:  
Arizona Dental Hygiene Program Summaries

Maricopa County Community College District Dental Hygiene Programs Curriculum  
*Phoenix College, Rio Salado Community College, and Mesa Community College*

**Award:** AAS

**Total credits:** 92-102.5

**Description:** The Associate in Applied Science (AAS) in Dental Hygiene degree prepares students to become primary care oral health professionals. A licensed dental hygienist may provide education, assessment, diagnostic, preventive and therapeutic services, research, and administrative services that support overall health through the promotion of optimal oral health. Hygienists may be employed in general or specialty dental practice in private or public healthcare settings. The program also prepares students for university transfer. The dental hygiene program offers a rigorous, intensive, science-based curriculum. Students will provide services in clinical settings and will develop a commitment to the community through enrichment experiences serving diverse populations. Successful students will develop and demonstrate critical thinking, as well as ethical and professional behaviors required by the field.

**Required courses:** Pharmacology, Oral Pathology, Emergency Medicine, Dental Radiography, Head and Neck Anatomy, Pre-Clinical Dental Hygiene, Dental Anatomy, Embryology and Histology, Dental Radiography Laboratory, Prevention of Dental Disease, Dental Hygiene Theory I, Dental Hygiene Clinic I, Dental Materials, Dental Materials Laboratory, Dental Hygiene Theory II, Dental Hygiene Clinic II, Practice Management, Periodontics, Dental Anesthesia, Community Oral Health, Dental Hygiene Theory III, Dental Hygiene Clinic III

**Program learning outcomes:**

1. Adhere to state and federal laws, recommendations, and regulations in the provision of oral healthcare.
2. Systematically assess comprehensive data on the general and oral health needs of patients from diverse populations.
3. Use critical decision making to interpret data and create a dental hygiene diagnosis.
4. Design and present a patient-centered dental hygiene care plan utilizing evidence-based research and professional standards.
5. Implement comprehensive dental hygiene services to achieve and maintain patients' optimal health.
6. Evaluate the outcome of dental hygiene care during active and maintenance treatment phases and refer to appropriate healthcare providers if indicated.
7. Record accurate, consistent, and complete documentation throughout the process of care.
8. Employ effective interpersonal communication with patients, families, and the healthcare team in a culturally competent, ethical, and professional manner.
9. Practice professional and ethical behaviors as accepted by healthcare professionals.
10. Demonstrate self-assessment and self-regulation strategies for lifelong learning.
11. Advocate for healthy communities through the provision of community-based preventative and therapeutic oral healthcare services.

## NORTHERN ARIZONA UNIVERSITY

**Award:** BS

**Total credits:** 123

**Description:** The Northern Arizona University Dental Hygiene Department offers the only Bachelor's Degree in Dental Hygiene in the State of Arizona. With a national reputation for educating dental hygiene professionals since its inception in 1973, the program offers a high-quality education. Students complete two years of prerequisite didactic instruction in preparatory areas such as human anatomy and physiology, chemistry, microbiology, nutrition, human behavior and statistics and then apply to the program. Once students enter the program, a strong emphasis is placed on gaining extensive clinical experience. Regular clinic rotations require students to provide dental hygiene care at the NAU Dental Hygiene Clinic, the Hopi Health Care Facility, the Yavapai Apache Dental Clinic, Flagstaff Medical Center, and at North Country Healthcare. Faculty connect these field experiences to coursework, so students actively apply their knowledge of Oral Pathology, Oral Medicine, Pharmacology and Periodontics to their work with patients in the clinic. In addition to regular clinical rotations, students must complete a minimum two-week summer externship in a dental public health facility serving American Indian, military, or underserved populations throughout Arizona, in selected sites outside Arizona, or Internationally. Graduates are prepared to practice in diverse settings with special emphasis on rural communities and other underserved populations through a curriculum centered in public health. Their capstone project requires the origination of a public health project that requires exhaustive assessment and planning. Projects are then implemented and outcomes are evaluated in a final written report. This public health emphasis specifically prepares graduates to write grant proposals and serve in public health administrative roles. Students graduating from NAU's Bachelor of Science in Dental Hygiene are optimally poised to enter advanced dental therapy programs, work in independent practice, and/or work in affiliated practice.

**Required courses:** Orientation to Dental Hygiene, Cultural Diversity in Healthcare, Unity of Life I: Life of the Cell, Human Anatomy/Physiology I, Microbiology, Microbiology Lab, General Pathology, Fundamental Chemistry, Fundamental Chemistry Lab, Critical Reading and Writing in the University Community, Human Nutrition, Introduction to Psychology, Introduction to Sociology, Applied Statistics, Human Anatomy/Physiology I Lab, Human Anatomy/Physiology II, Human Anatomy/Physiology II Lab, Oral Medicine and Pharmacology I, Head and Neck, Oral and Dental Anatomy, Oral Histology and Embryology, Periodontics I, Oral Radiology, Oral Pathology and Cariology, Oral Pain Management, Oral Medicine and Pharmacology II, Restorative and Dental Materials, Periodontics II, Oral Health and Disease Prevention, Public Health Externship, Community Health Assessment and Program Planning, Program Implementation and Evaluation Capstone, Professionalism, Professional Development for Dental Hygiene, Oral Health Research, Preclinical Dental Hygiene, Clinic I: Seminar and Labs, Clinic II: Patients, Clinic III: Advanced Procedures, Clinic IV: Oral Health Outcomes Capstone

**Program learning outcomes:**

- Patient Care: Provide oral health care and case management for diverse population
  - Systematically collect and analyze data on general, oral and psychosocial health status of a variety of individuals including a comprehensive exam and interpretation of appropriate diagnostic information including radiographic, periodontal, and other data needed to assess the patient's needs
  - Use critical decision making based on assessment data to reach conclusions about oral health needs to determine the dental hygiene diagnosis and need for care coordination

- Collaborate with patient and other health professionals to formulate individualized comprehensive dental hygiene care plans
- Perform preventive and therapeutic dental hygiene interventions
- Determine the effectiveness of dental hygiene interventions and provide appropriate follow-up care and/or health maintenance
- Improving Health in Individuals and Communities
  - Promote the values of oral and general health and wellness
  - Respect the goals, values, beliefs and preferences of others
  - Assess community oral health needs and resources
  - Plan community-based oral health programs
  - Implement community-based oral health programs
  - Evaluate outcomes of health promotion and disease prevention activities
- Core Competencies:
  - Demonstrate professional, ethical and legal behavior
  - Use critical thinking and problem solving in the provision of evidence-based practice
  - Provide dental hygiene care based on accepted scientific theories and the current standard of care that is humane, empathetic, and caring
  - Perform self-assessment for life-long learning and professional growth
  - Act as a change agent to improve community oral health and/or advance the profession through service activities and affiliations with professional organizations
  - Communicate effectively with individuals and groups from diverse populations

PIMA COMMUNITY COLLEGE

**Award:** AAS

**Total credits:** 74.5 not including preparatory coursework

**Description:** Dental Hygienists are increasing their scope of practice across the country. At Pima, you will learn to work collaboratively with patients using a patient-centered and evidence-based approach in multidisciplinary teams of health professionals. Pima will prepare you to take national and regional licensing exams to either work as a dental hygienist or pursue a Bachelor of Science degree in Dental Hygiene. You will receive state-of-the-art, hands-on training in Pima's Dental Clinic and be taught by dental professionals.

**Required courses:** Dental Hygiene I, Dental Hygiene I Clinical, Dental and Oral Morphology, Dental and Oral Morphology Lab, Oral Embryology and Histology, Preventative Dentistry, Oral Radiography, Oral Radiography Clinical, Periodontology, Oral Pathology, Pharmacology, Dental Materials, Dental Materials Lab, Dental Hygiene II, Dental Hygiene II Lab, Dental Hygiene II Clinical, Pain and Anxiety Control for Dental Hygiene, Pain and Anxiety Control for Dental Hygiene Clinical, Ethics and Practice Management, Nutrition for Oral Health, Advanced Periodontal Services, Advanced Periodontal Services Clinical, Community and Dental Health Education, Clinical Dental Hygiene III, Clinical Dental Hygiene IV, Microbiology, Business and Professional Communication, Computer Literacy, Topics in Mathematics, English Composition

**Program learning outcomes:**

1. Apply evidence-based practice, methodology, and technological practices in the dental field.
2. Demonstrate and evaluate effective interpersonal and communication skills to interact with diverse population groups and other members of the health care team.
3. Demonstrate the ability to provide oral health programs to diverse communities and populations to prevent oral disease and promote oral health
4. Articulate, demonstrate, and evaluate strategies and experiences which promote ethics, ethical reasoning and professionalism.
5. Demonstrate critical thinking and decision-making skills to provide effective and efficient dental hygiene services and for life-long learning.
6. Apply the dental hygiene process of care to diverse population groups.

## MOHAVE COMMUNITY COLLEGE

**Award:** AAS

**Total credits:** 95

**Description:** The Dental Hygiene Program is designed to equip the student with the knowledge and skills necessary to take the national and state licensing examinations for Dental Hygiene. Students must adhere to the prescribed program if they are to complete the program and become eligible to take the exams. This program is designed for a student to become a dental hygienist in a two-year period (after completion of general education requirements) at Mohave Community College.

**Required courses:** Pre-Clinical Dental Hygiene, Dental Radiography, Research Strategies in Dental Hygiene, Dental Anatomy, Head and Neck Anatomy, Current Issues and Ethics in Dental Care, Clinic I, Periodontology, Applied Pharmacology, Anesthesiology, Clinic II, Dental Materials, Clinic III, Periodontology II, General and Oral Pathology, Practice Management, Nutrition in Dental Hygiene, Community Dental Health

**Program learning outcomes:**

1. Core Competencies: The dental hygienist must possess the ethics, values, skills, and knowledge integral to all aspects of the profession. These competencies are foundational to all of the roles of the dental hygienist.
  - C.1 Apply a professional code of ethics in all endeavors.
  - C.2 Adhere to state and federal laws, recommendations, and regulations in the provision of oral health care.
  - C.3 Use critical thinking skills and comprehensive problem-solving to identify oral health care strategies that promote patient health and wellness.
  - C.4 Use evidence-based decision making to evaluate emerging technology and treatment modalities to integrate into patient dental hygiene care plans to achieve high-quality, cost-effective care.
  - C.5 Assume responsibility for professional actions and care based on accepted scientific theories, research, and the accepted standard of care.
  - C.6 Continuously perform self-assessment for lifelong learning and professional growth.
  - C.7 Integrate accepted scientific theories and research into educational, preventive, and therapeutic oral health services.
  - C.8 Promote the values of the dental hygiene profession through service-based activities, positive community affiliations, and active involvement in local organizations.
  - C.9 Apply quality assurance mechanisms to ensure continuous commitment to accepted standards of care.
  - C.10 Communicate effectively with diverse individuals and groups, serving all persons without discrimination by acknowledging and appreciating diversity.
  - C.11 Record accurate, consistent, and complete documentation of oral health services provided.
  - C.12 Initiate a collaborative approach with all patients when developing individualized care plans that are specialized, comprehensive, culturally sensitive, and acceptable to all parties involved in care planning.
  - C.13 Initiate consultations and collaborations with all relevant health care providers to facilitate optimal treatments.
  - C.14 Manage medical emergencies by using professional judgment, providing life support, and utilizing required CPR and any specialized training or knowledge.

2. Health Promotion and Disease Prevention: Since Health Promotion and Disease Prevention is a key component of health care, changes within the healthcare environment require the dental hygienist to have a general knowledge of wellness, health determinants, and characteristics of various patient communities. The hygienist needs to emphasize both prevention of disease as well as effective health care delivery.
  - HP.1 Promote positive values of overall health and wellness to the public and organizations within and outside the profession.
  - HP.2 Respect the goals, values, beliefs, and preferences of all patients
  - HP.3 Refer patients who may have physiological, psychological, or social problems for comprehensive patient evaluation.
  - HP.4 Identify individual and population risk factors and develop strategies that promote health-related quality of life.
  - HP.5 Evaluate factors that can be used to promote patient adherence to disease prevention or health maintenance strategies.
  - HP.6 Utilize methods to ensure the health and safety of the patient and the oral health professional in the delivery of care.
3. Community Involvement: The dental hygienist must appreciate his/her role as a health professional at the local, state, and national levels. This role requires the graduate dental hygienist to assess, plan, and implement programs and activities to benefit the general population. In this complex role, the dental hygienist must be prepared to influence others to facilitate access to care and services.
  - CM.1 Assess the oral health needs of the community to determine action plans and availability of resources to meet the health care needs.
  - CM.2 Provide screening, referral, and educational services that allow patients to access the resources of the health care system.
  - CM.3 Provide community oral health services in a variety of settings.
  - CM.4 Facilitate patient access to oral health services by influencing individuals or organizations for the provision of oral health care.
  - CM.5 Evaluate reimbursement mechanisms and their impact on the patient's access to oral health care.
  - CM.6 Evaluate the outcomes of community-based programs and plan for future activities.
  - CM.7 Advocate for effective oral health care for underserved populations.
4. Patient Care: Because the dental hygienists' role in patient care is ever changing, yet central to the maintenance of health, dental hygiene graduates must use their skills to assess, diagnose, plan, implement, and evaluate treatment
  - Assessment
    - PC.1 Systematically collect, analyze, and record data on the general, oral, and psychosocial health status of a variety of patients using methods consistent with medicolegal principles.
    - PC.2 Recognize predisposing and etiologic risk factors that require intervention to prevent disease.
    - PC.3 Recognize the relationships among systemic disease, medications, and oral health that impact overall patient care and treatment outcomes.
    - PC.4 Identify patients at risk for a medical emergency and manage the patient care in a manner that prevents an emergency.
  - Dental Hygiene Diagnosis

PC.5 Use patient assessment data, diagnostic technologies, and critical decision-making skills to determine a dental hygiene diagnosis, a component of the dental diagnosis, to reach conclusions about the patient's dental hygiene care needs.

Planning

PC.6 Utilize reflective judgment in developing a comprehensive patient dental hygiene care plan.

PC.7 Collaborate with the patient and other health professionals as indicated to formulate a comprehensive dental hygiene care plan that is patient centered and based on the best scientific evidence and professional judgment.

PC.8 Make referrals to professional colleagues and other health care professionals as indicated in the patient care plan.

PC.9 Obtain the patient's informed consent based on a thorough case presentation.

Implementation

PC.10 Provide specialized treatment that includes educational, preventive and therapeutic services designed to achieve and maintain oral health. Partner with the patient in achieving oral health goals.

Evaluation

PC.11 Evaluate the effectiveness of the provided services, and modify care plans as needed.

PC.12 Determine the outcomes of dental hygiene interventions using indices, instruments, examination techniques, and patient self-reports as specified in patient goals.

PC.13 Compare actual outcomes to expected outcomes, reevaluating goals, diagnoses, and services when expected outcomes are not achieved.

5. Professional Growth and Development

PGD.1 Pursue career options within health care, industry, education, research, and other roles as they evolve for the dental hygienist.

PGD.2 Develop practice management and marketing strategies to be used in the delivery of oral health care.

PGD.3 Access professional and social networks to pursue professional goals.