

Commission on Dental Accreditation

Accreditation Standards for Advanced Dental Education Programs in Pediatric Dentistry

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Accreditation Standards for Advanced Dental Education Programs in Pediatric Dentistry

Document Revision History

Date	Item	Action
August 7, 2020	Accreditation Standards for Advanced Dental Education Programs in Pediatric Dentistry	Adopted
July 1, 2021	Accreditation Standards for Advanced Dental Education Programs in Pediatric Dentistry	Implemented
August 6, 2021	Revised Mission Statement	Adopted
January 1, 2022	Revised Mission Statement	Implemented
February 11, 2022	Addition of Sole Primary Operator to Definition of Terms and Revision to Standard 4-7 Intent Statement	Adopted and Implemented

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Mission Statement of the Commission on Dental Accreditation

The Commission on Dental Accreditation serves the public and dental professions by developing and implementing accreditation standards that promote and monitor the continuous quality and improvement of dental education programs.

Commission on Dental Accreditation
Adopted: August 5, 2016; Revised August 6, 2021

ACCREDITATION STATUS DEFINITIONS

PROGRAMS THAT ARE FULLY OPERATIONAL:

Approval (*without reporting requirements*): An accreditation classification granted to an educational program indicating that the program achieves or exceeds the basic requirements for accreditation.

Approval (*with reporting requirements*): An accreditation classification granted to an educational program indicating that specific deficiencies or weaknesses exist in one or more areas of the program. Evidence of compliance with the cited standards or policies must be demonstrated within a timeframe not to exceed eighteen (18) months if the program is between one and two years in length or two years if the program is at least two years in length. If the deficiencies are not corrected within the specified time period, accreditation will be withdrawn, unless the Commission extends the period for achieving compliance for good cause. Identification of new deficiencies during the reporting time period will not result in a modification of the specified deadline for compliance with prior deficiencies.

Circumstances under which an extension for good cause would be granted include, but are not limited to:

- sudden changes in institutional commitment;
- natural disaster which affects affiliated agreements between institutions; faculty support; or facilities;
- changes in institutional accreditation;
- interruption of an educational program due to unforeseen circumstances that take faculty, administrators or students away from the program.

Revised: 8/17; 2/16; 5/12; 1/99; Reaffirmed: 8/13; 8/10, 7/05; Adopted: 1/98

PROGRAMS THAT ARE NOT FULLY OPERATIONAL: A program which has not enrolled and graduated at least one class of students/residents and does not have students/residents enrolled in each year of the program is defined by the Commission as not fully operational. The accreditation classification granted by the Commission on Dental Accreditation to programs which are not fully operational is “initial accreditation.” When initial accreditation status is granted to a developing education program, it is in effect through the projected enrollment date. However, if enrollment of the first class is delayed for two consecutive years following the projected enrollment date, the program’s accreditation will be discontinued, and the institution must reapply for initial accreditation and update pertinent information on program development. Following this, the Commission will reconsider granting initial accreditation status.

Initial Accreditation is the accreditation classification granted to any dental, advanced dental or allied dental education program which is not yet fully operational. This accreditation classification provides evidence to educational institutions, licensing bodies, government or other granting agencies that, at the time of initial evaluation(s), the developing education program has the potential for meeting the standards set forth in the requirements for an accredited educational program for the specific occupational area. The classification “initial accreditation” is granted based upon one or more site evaluation visit(s).

Revised: 7/08; Reaffirmed: 8/13; 8/10; Adopted: 2/02

Preface

Maintaining and improving the quality of advanced dental education programs is a primary aim of the Commission on Dental Accreditation. The Commission is recognized by the public, the profession, and the United States Department of Education as the specialized accrediting agency in dentistry.

Accreditation of advanced dental education programs is a voluntary effort of all parties involved. The process of accreditation assures students/residents, the dental profession, specialty boards and the public that accredited training programs are in compliance with published standards.

Accreditation is extended to institutions offering acceptable programs in the following disciplines of advanced dental education: dental public health, endodontics, oral and maxillofacial pathology, oral and maxillofacial radiology, oral and maxillofacial surgery, orthodontics and dentofacial orthopedics, pediatric dentistry, periodontics, prosthodontics, advanced education in general dentistry, general practice residency, dental anesthesiology, oral medicine, and orofacial pain. Program accreditation will be withdrawn when the training program no longer conforms to the standards as specified in this document, when all first-year positions remain vacant for a period of two years or when a program fails to respond to requests for program information. Exceptions for non-enrollment may be made by the Commission for programs with “approval without reporting requirements” status upon receipt of a formal request from an institution stating reasons why the status of the program should not be withdrawn.

Advanced dental education may be offered on either a certificate-only or certificate and degree-granting basis.

Accreditation actions by the Commission on Dental Accreditation are based upon information gained through written submissions by program directors and evaluations made on site by assigned site visitors. The Commission has established review committees to review site visit and progress reports and make recommendations to the Commission. Review committees are composed of representatives nominated by dental organizations and nationally accepted certifying boards. The Commission has the ultimate responsibility for determining a program’s accreditation status. The Commission is also responsible for adjudication of appeals of adverse decisions and has established policies and procedures for appeal. A copy of policies and procedures may be obtained from the Director, Commission on Dental Accreditation, 211 East Chicago Avenue, Chicago, Illinois 60611.

This document constitutes the standards by which the Commission on Dental Accreditation and its site visitors will evaluate advanced dental education programs in each discipline for accreditation purposes. The Commission on Dental Accreditation establishes general standards which are common to all disciplines of advanced dental education, institution and programs. Each discipline develops discipline-specific standards for education programs in its discipline. The general and discipline-specific standards, subsequent to approval by the Commission on Dental Accreditation, set forth the standards for the education content, instructional activities, patient care responsibilities, supervision and facilities that should be provided by programs in the particular discipline.

As a learned profession entrusted by the public to provide for its oral health and general well-being, the profession provides care without regard to race, color, religion, national origin, age, disability, sexual orientation, status with respect to public assistance or marital status.

The profession has a duty to consider patients' preferences, and their social, economic and emotional circumstances when providing care, as well as to attend to patients whose medical, physical and psychological or social situation make it necessary to modify normal dental routines in order to provide dental treatment. These individuals include, but are not limited to, people with developmental disabilities, cognitive impairments, complex medical problems, significant physical limitations, and the vulnerable elderly. The Standards reconfirm and emphasize the importance of educational processes and goals for comprehensive patient care and encourage patient-centered approaches in teaching, research and oral health care delivery.

The profession adheres to ethical principles of honesty, compassion, kindness, respect, integrity, fairness and charity, as exemplified in the ADA Principles of Ethics and Code of Professional Conduct and the ADEA Statement on Professionalism in Dental Education.

General standards are identified by the use of a single numerical listing (e.g., 1). Discipline-specific standards are identified by the use of multiple numerical listings (e.g. 1-1, 1-1.2, 1-2).

Definitions of Terms Used in Pediatric Dentistry Accreditation Standards

The terms used in this document (i.e. shall, **must**, should, can and may) were selected carefully and indicate the relative weight that the Commission attaches to each statement. The definitions of these words used in the Standards are as follows:

Must or Shall: Indicates an imperative need and/or duty; an essential or indispensable item; mandatory.

Intent: Intent statements are presented to provide clarification to the advanced dental education programs in pediatric dentistry in the application of and in connection with compliance with the Accreditation Standards for Advanced Dental Education Programs in Pediatric Dentistry. The statements of intent set forth some of the reasons and purposes for the particular Standards. As such, these statements are not exclusive or exhaustive. Other purposes may apply.

Examples of evidence to demonstrate compliance include: Desirable condition, practice or documentation indicating the freedom or liberty to follow a suggested alternative.

Should: Indicates a method to achieve the standards.

May or Could: Indicates freedom or liberty to follow a suggested alternative.

Graduates of discipline-specific advanced dental education programs provide unique services to the public. While there is some commonality with services provided by specialists and general dentists, as well as commonalities among the specialties, the educational standards developed to prepare graduates of discipline-specific advanced dental education programs for independent practice should not be viewed as a continuum from general dentistry. Each discipline defines the educational experience best suited to prepare its graduates to provide that unique service.

Competencies: Statements in the advanced dental education standards describing the knowledge, skills and values expected of graduates of discipline-specific advanced dental education programs.

Competent: Having the knowledge, skills and values required of the graduates to begin independent, unsupervised discipline-specific practice.

In-depth: Characterized by thorough knowledge of concepts and theories for the purpose of critical analysis and synthesis.

Understanding: Knowledge and recognition of the principles and procedures involved in a particular concept or activity.

Other Terms:

Institution (or organizational unit of an institution): a dental, medical or public health school, patient care facility or other entity that engages in advanced dental education.

Sponsoring institution: primary responsibility for advanced dental education programs.

Affiliated institution: support responsibility for advanced dental education programs.

Advanced dental education student/resident: a student/resident enrolled in an accredited advanced dental education program.

A degree-granting program is a planned sequence of advanced courses leading to a master's or doctoral degree granted by a recognized and accredited educational institution.

A certificate program is a planned sequence of advanced courses that leads to a certificate of completion in an advanced dental education program.

Student/Resident: The individual enrolled in an accredited advanced dental education program.

International Dental School: A dental school located outside the United States and Canada.

Evidence-based dentistry: Evidence-based dentistry is an approach to oral health care that requires the judicious integration of systematic assessments of clinically relevant scientific evidence, relating to the patient's oral and medical condition and history, with the dentist's clinical expertise and the patient's treatment needs and preferences.

Formative Assessment*: guiding future learning, providing reassurance, promoting reflection, and shaping values; providing benchmarks to orient the learner who is approaching a relatively unstructured body of knowledge; and reinforcing students' intrinsic motivation to learn and inspire them to set higher standards for themselves.

Summative Assessment*: making an overall judgment about competence, fitness to practice, or qualification for advancement to higher levels of responsibility; and providing professional self-regulation and accountability.

Resident Clinical Log (RCL): A secure and valid account of procedures and experiences of a student/resident maintained by the program for use in evaluation, accreditation, quality assurance and other purposes.

Treatment: Refers to direct care provided by the student/resident for that condition or clinical problem.

Management: Refers to provision of appropriate care and/or referral for a condition consistent with contemporary practice and in the best interest of the patient.

REFERENCE MANUAL: The most current version of The American Academy of Pediatric Dentistry Oral Health Policies and Recommendations.

Sole Primary Operator: The student/resident providing the assessment, drug delivery, treatment, monitoring, discharge and emergency prevention/management in conjunction with other medical personnel as required by institutional policies. Each patient encounter shall have only one (1) sole primary operator.

Interprofessional Education** : When students/residents and/or professionals from two or more professions learn about, from and with each other to enable effective collaboration to improve health outcomes. (*Adapted from the WHO 2010*)

Social Determinants of Health*** : The social determinants of health are the conditions in which people are born, grow, live, work and age. These circumstances are shaped by the distribution of money, power and resources at global, national and local levels. The social determinants of health are mostly responsible for health inequities - the unfair and avoidable differences in health status seen within and between countries. (*From the WHO*)

*Epstein, R. M. (2007). *Assessment in Medical Education*. *The New England Journal of Medicine*, 387-96.

** *Definition adapted from the World Health Organization (WHO). (2010). Framework for action on interprofessional education & collaborative practice. Geneva: World Health Organization.*

*** *Definition from the World Health Organization (WHO). (Retrieved from https://www.who.int/social_determinants/sdh_definition/en/, 2019)*

STANDARD 1 - INSTITUTIONAL COMMITMENT/PROGRAM EFFECTIVENESS

The program **must** develop clearly stated goals and objectives appropriate to advanced dental education, addressing education, patient care, research and service. Planning for, evaluation of and improvement of educational quality for the program **must** be broad-based, systematic, continuous and designed to promote achievement of program goals related to education, patient care, research and service.

The program **must** document its effectiveness using a formal and ongoing outcomes assessment process to include measures of advanced education student/resident achievement.

***Intent:** The Commission on Dental Accreditation expects each program to define its own goals and objectives for preparing individuals for the practice of pediatric dentistry and that one of the program goals is to comprehensively prepare competent individuals to initially practice pediatric dentistry. The outcomes process includes steps to: (a) develop clear, measurable goals and objectives consistent with the program's purpose/mission; (b) develop procedures for evaluating the extent to which the goals and objectives are met; (c) collect and maintain data in an ongoing and systematic manner; (d) analyze the data collected and share the results with appropriate audiences; (e) identify and implement corrective actions to strengthen the program; and (f) review the assessment plan, revise as appropriate, and continue the cyclical process.*

The financial resources **must** be sufficient to support the program's stated goals and objectives.

***Intent:** The institution should have the financial resources required to develop and sustain the program on a continuing basis. The program should have the ability to employ an adequate number of full-time faculty, purchase and maintain equipment, procure supplies, reference material and teaching aids as reflected in annual budget appropriations. Financial allocations should ensure that the program will be in a competitive position to recruit and retain qualified faculty. Annual appropriations should provide for innovations and changes necessary to reflect current concepts of education in the advanced dental education discipline. The Commission will assess the adequacy of financial support on the basis of current appropriations and the stability of sources of funding for the program.*

The sponsoring institution **must** ensure that support from entities outside of the institution does not compromise the teaching, clinical and research components of the program.

Examples of evidence to demonstrate compliance may include:

- Written agreement(s)
- Contract(s)/Agreement(s) between the institution/program and sponsor(s) related to facilities, funding, and faculty financial support.

Advanced dental education programs **must** be sponsored by institutions, which are properly chartered, and licensed to operate and offer instruction leading to degrees, diplomas or certificates with recognized education validity. Hospitals that sponsor advanced dental education programs **must** be accredited by an accreditation organization recognized by the Centers for Medicare and Medicaid Services (CMS). Educational institutions that sponsor advanced dental education programs **must** be accredited by an agency recognized by the United States Department of Education. The bylaws, rules and regulations of hospitals that sponsor or provide a substantial portion of advanced dental education programs **must** ensure that dentists are eligible for medical staff membership and privileges including the right to vote, hold office, serve on medical staff committees and admit, manage and discharge patients.

United States military programs not sponsored or co-sponsored by military medical treatment facilities, United States-based educational institutions, hospitals or health care organizations accredited by an agency recognized by the United States Department of Education or accredited by an accreditation organization recognized by the Centers for Medicare and Medicaid Services (CMS) **must** demonstrate successful achievement of Service-specific organizational inspection criteria.

The authority and final responsibility for curriculum development and approval, student/resident selection, faculty selection and administrative matters **must** rest within the sponsoring institution.

The institution/program **must** have a formal system of quality assurance for programs that provide patient care.

The position of the program in the administrative structure **must** be consistent with that of other parallel programs within the institution and the program director **must** have the authority, responsibility, and privileges necessary to manage the program.

USE OF SITES WHERE EDUCATIONAL ACTIVITY OCCURS

The primary sponsor of the educational program **must** accept full responsibility for the quality of education provided in all sites where educational activity occurs.

1-1 All arrangements with sites where educational activity occurs, not owned by the sponsoring institution, must be formalized by means of current written agreements that clearly define the roles and responsibilities of the parties involved. The following items must be covered in such inter-institutional agreements:

- a. Designation of a single program director;**
- b. The teaching staff;**
- c. The educational objectives of the program;**
- d. The period of assignment of students/residents; and**
- e. Each institution's financial commitment.**
- f. Documentation of the liability coverage**

***Intent:** The items that are covered in inter-institutional agreements do not have to be contained in a single document. They may be included in multiple agreements, both formal and informal (e.g., addenda and letters of mutual understanding).*

1-2 A Commission-accredited advanced education program in pediatric dentistry must use, among other outcomes measures, the successful completion by its graduates of the American Board of Pediatric Dentistry certification process.

Intent: This is one of the many measures of outcomes assessment that a program may use in their outcomes assessment process.

1-3 For each site where educational activity occurs, there must be an on-site clinical supervisor who is qualified by education and/or clinical experience in the curriculum areas for which he/she is responsible.

Intent: All pediatric dental faculty are educationally qualified pediatric dentists. All non-pediatric dentistry members of the teaching staff are educationally qualified or have special expertise in their area(s) of instruction.

If the program utilizes educational activity sites for clinical experiences or didactic instruction, please review the Commission's Policy on Reporting and Approval of Sites Where Educational Activity Occurs in the Evaluation and Operational Policies and Procedures manual (EOPP).

STANDARD 2 - PROGRAM DIRECTOR AND TEACHING STAFF

The program **must** be administered by one director who is board certified in the respective advanced dental education discipline of the program. (All program directors appointed after January 1, 1997, who have not previously served as program directors, must be board certified.)

***Intent:** The director of an advanced dental education program is to be certified by a nationally accepted certifying board in the advanced dental education discipline. Board certification is to be active. The board certification requirement of Standard 2 is also applicable to an interim/acting program director. A program with a director who is not board certified but who has previous experience as an interim/acting program director in a Commission-accredited program prior to 1997 is not considered in compliance with Standard 2.*

Examples of evidence to demonstrate compliance may include:

- For board certified directors: Copy of board certification certificate; letter from board attesting to current/active board certification.
- (For non-board certified directors who served prior to January 1, 1997: Current Biosketch identifying previous directorship in a Commission on Dental Accreditation- or Commission on Dental Accreditation of Canada-accredited advanced dental education program in the respective discipline; letter from the previous employing institution verifying service.)

The program director **must** be appointed to the sponsoring institution and have sufficient authority and time to achieve the educational goals of the program and assess the program's effectiveness in meeting its goals.

Documentation of all program activities **must** be ensured by the program director and available for review.

2-1 The program director **must** be evaluated annually.

2-2 Administrative Responsibilities: The program director **must** have sufficient authority and time to fulfill administrative program assessment and teaching responsibilities in order to achieve the educational goals of the program including:

***Intent:** Program directors with remote programs have resources to visit these programs.*

2-2.1 Student/Resident selection, unless the program is sponsored by federal services utilizing a centralized student/resident selection process.

2-2.2 Curriculum development and implementation.

2-2.3 Ongoing evaluation of program goals, objectives and content and outcomes assessment.

Intent: *The program uses a formal and ongoing outcomes assessment process to include measures of advanced education student/resident achievement that relate directly to the stated program goals and objectives.*

- 2-2.4 Annual evaluations of faculty performance by the program director or department chair; including a discussion of the evaluation with each faculty member.
- 2-2.5 Evaluation of student/resident performance.
- 2-2.6 Participation with institutional leadership in planning for and operation of facilities used in the educational program.
- 2-2.7 Evaluation of student's/resident's training and supervision in affiliated institutions.
- 2-2.8 Maintenance of records related to the educational program, including written instructional objectives, course outlines and student/resident clinical logs (RCLs) documenting the completion of specified procedures and/or patient complexity, including:
 - a) nitrous oxide analgesia patient encounters as primary operator
 - b) patient encounters in which sedative agents other than nitrous oxide (but may include nitrous oxide in combination with other agents) are used
 - c) operating room cases
 - d) clinical procedures (e.g. emergency, trauma, restorative, preventative, orthodontic, multi-disciplinary, etc.)
 - e) patient diversity/complexity (e.g. well-patient, medically complex, special needs, hospital based, etc.)

Intent: *These records are to be available for on-site review: overall program objectives, objectives of student/resident rotations, specific student/resident schedules by semester or year, completed student/resident evaluation forms for current students/residents and recent alumni, self-assessment process, curricula vitae of faculty responsible for instruction. The RCL provides programs with data required for program improvement and gives students/residents and official record of clinical procedures required by regulatory boards and hospitals. The RCL may be comprised of a HIPAA-compliant patient and procedure log and/or a printout of procedure codes, for example, and may be compiled by the program, student/resident, and/or staff.*

- 2-2.9 Responsibility for overall continuity and quality of patient care.
- 2-2.10 Oversight responsibility for student/resident research.

2-2.11 Responsibility for determining the roles and responsibilities of associate program director(s) and their regular evaluation.

2-3 Activities of Teaching Staff:

2-3.1 Pediatric dentistry members of the teaching staff, including those at sites where educational activity occurs, **must** be certified by the American Board of Pediatric Dentistry or have completed the educational requirements to pursue board certification.

For clinical disciplines other than pediatric dentistry, the supervising faculty member responsible for the specific discipline **must** be credentialed in that discipline within the institution.

***Intent:** The curriculum is taught by educationally qualified pediatric dentists and, when necessary to enhance training, by credentialed faculty members for the curriculum areas for which they are responsible.*

2-3.2 Internationally trained pediatric dentists **must** demonstrate evidence of educational qualifications, licensure and credentialing as required by the institution.

***Intent:** Individuals who are graduates of Commission on Dental Accreditation accredited programs or those with which the Commission on Dental Accreditation has reciprocity are exempt from this requirement.*

2-3.3 The program clinical faculty and attending staff **must** have specific and regularly scheduled clinic assignments to ensure the continuity of the program.

2-3.4 Clinical faculty **must** be immediately available to provide direct supervision to students/residents for all clinical sessions.

***Intent:** Clinical faculty are physically in the treatment area for clinical sessions with scheduled patients and, immediately available within one minute, for all sedation patients. Indirect supervision should only be used after careful consideration of the competence of the student/resident and also based on the delineation of privileges and procedure types. Clinical faculty are held accountable for responsibilities and attendance. Certain funding sources require specific faculty to student/resident ratios which should be observed.*

2-3.5 The faculty includes members who are engaged in scholarly activity.

2-4 The program **must** show evidence of an ongoing faculty development process.

***Intent:** Ongoing faculty development is a requirement to improve teaching and learning, to foster curricular change, to enhance retention and job satisfaction of faculty, and to maintain the vitality of academic dentistry as the wellspring of a learned profession.*

Examples of evidence to demonstrate compliance may include:

- Participation in development activities related to teaching, learning, and assessment
- Attendance at regional and national meetings that address contemporary issues in education and patient care
- Mentored experiences for new faculty
- Scholarly productivity
- Presentations at regional and national meetings
- Examples of curriculum innovation
- Maintenance of existing and development of new and/or emerging clinical skills
- Documented understanding of relevant aspects of teaching methodology
- Curriculum design and development
- Curriculum evaluation
- Student/Resident assessment
- Cultural, gender, and generational competency
- Use of technology in didactic and clinical components of the curriculum
- Evidence of participation in continuing education activities

2-5 All faculty, including those at major and minor educational activity sites, **must** be calibrated to ensure consistency in training and evaluation of students/residents that supports the goals and objectives of the program.

***Intent:** The students/residents receive comparable training and evaluation by all faculty.*

Examples of evidence to demonstrate compliance may include:

- Ongoing faculty training
- Documentation of faculty participation in calibration exercises
- Calibration training manuals
- Periodic monitoring for compliance

STANDARD 3 - FACILITIES AND RESOURCES

Institutional facilities and resources **must** be adequate to provide the educational experiences and opportunities required to fulfill the needs of the educational program as specified in these Standards. Equipment and supplies for use in managing medical emergencies **must** be readily accessible and functional.

***Intent:** The facilities and resources (e.g.; support/administrative staff, allied personnel and/or technical staff) should permit the attainment of program goals and objectives. To ensure health and safety for patients, students/residents, faculty and staff, the physical facilities and equipment should effectively accommodate the clinic and/or laboratory schedule.*

The program **must** document its compliance with the institution's policy and applicable regulations of local, state and federal agencies, including but not limited to radiation hygiene and protection, ionizing radiation, hazardous materials, and bloodborne and infectious diseases. Policies **must** be provided to all students/residents, faculty and appropriate support staff and continuously monitored for compliance. Additionally, policies on bloodborne and infectious diseases **must** be made available to applicants for admission and patients.

***Intent:** The program may document compliance by including the applicable program policies. The program demonstrates how the policies are provided to the students/residents, faculty and appropriate support staff and who is responsible for monitoring compliance. Applicable policy states how it is made available to applicants for admission and patients should a request to review the policy be made.*

Students/Residents, faculty and appropriate support staff **must** be encouraged to be immunized against and/or tested for infectious diseases, such as mumps, measles, rubella hepatitis B, prior to contact with patients and/or infectious objects or materials, in an effort to minimize the risk to patients and dental personnel.

***Intent:** The program should have written policy that encourages (e.g., delineates the advantages of) immunization for students/residents, faculty and appropriate support staff.*

All students/residents, faculty and support staff involved in the direct provision of patient care **must** be continuously recognized/certified in basic life support procedures, including cardiopulmonary resuscitation.

***Intent:** Continuously recognized/certified in basic life support procedures means the appropriate individuals are currently recognized/certified.*

The use of private office facilities as a means of providing clinical experiences in advanced dental education is only approved when the discipline has included language that defines the use of such facilities in its discipline-specific standards.

3-1 Students/Residents and faculty engaged in the provision of sedation in which sedative agents other than nitrous oxide (but may include nitrous oxide in combination with other agents) are

used **must** have training in and maintenance of age-specific advanced life support (e.g., PALS, ACLS, PEARS), in accordance with current recommendations of the REFERENCE MANUAL, and institutional and state regulations.

***Intent:** Guidelines require that providers of sedation have these credentials.*

3-2 Private practitioners who provide training **must** have faculty appointments.

***Intent:** Private offices can be used for training and should meet the same facility standards as institutional facilities.*

3-3 The program **must** have access to clinical facilities that include:

3-3.1 Space designated specifically for the advanced dental education program in pediatric dentistry.

3-3.2 Flexibility to allow for changes in equipment location and for additions or deletions to improve operating efficiency, and promote efficient use of dental instrumentation and allied personnel.

3-3.3 Diagnostic imaging and laboratory facilities in close proximity to the patient treatment area.

3-3.4 Accessibility for patients with special health care needs.

3-3.5 Recovery area facilities.

***Intent:** A recovery area is defined as a designated space equipped properly for patients recovering from sedation. This space must provide for observation/monitoring by appropriately trained personnel. This could be the operatory where the child was sedated.*

3-3.6 Reception and patient education areas.

***Intent:** Patient education may also occur in treatment areas.*

3-3.7 A suite equipped for carrying out comprehensive oral health care procedures under general anesthesia and/or sedation.

***Intent:** The treatment facility could be an appropriately-equipped ambulatory suite in a non-hospital setting.*

3-3.8 Inpatient facilities to permit management of general and oral health problems for individuals with special health care needs.

***Intent:** Students/Residents have the opportunity to manage oral health problems of inpatients with serious medical problems. Individuals with special health care needs include*

those with medical, physical, psychological or social circumstances that require modification of dental treatment. These individuals include (but are not limited to) people with developmental disabilities, complex medical problems and significant physical limitations.

3-3.9 A sufficient number of operatories to accommodate the number of students/residents enrolled.

3-4 Personnel resources **must** include:

3-4.1 Adequate administrative and clerical personnel.

3-4.2 Adequate allied dental personnel assigned to the program to ensure clinical and laboratory technical support are suitably trained and credentialed.

***Intent:** Allied dental personnel are expected to be available for operating room cases, conscious/deep sedation patients, surgical procedures and behavior management situations. There are instances when a student/resident assisting another student/resident may be beneficial as long as the experience does not negatively impact the students'/residents' education. Clinic scheduling and off-service rotations will be considered in assessing adequacy of allied dental personnel.*

3-5 Research Facilities: Facilities **must** be available for students/residents to conduct basic and/or applied (clinical) research.

3-6 Information Resources: Appropriate information resources **must** be available including access to biomedical textbooks, dental journals, online resources, and other sources pertinent to the area of pediatric dentistry practice and research.

***Intent:** Students/Residents have access to electronic-based information resources in the program.*

3-7 Patient Availability: An adequate and diverse pool of patients requiring a sufficient scope, volume and variety of oral health care needs and a delivery system to provide ample opportunity for training **must** be available, including healthy individuals as well as individuals with special health care needs. These health care needs **must** include, but are not limited to, medical, physical, psychological, or social situations that make consideration of a wide range of assessment and care options necessary.

***Intent:** Documentation of the scope, volume and variety of patients and procedures completed by the students/residents, including those with complex impairment who require substantial functional support and modifications to dental treatment, will be provided via the RCLs as described in Standard 2-2.8. These records are to be available for on-site review.*

STANDARD 4 – CURRICULUM AND PROGRAM DURATION

The advanced dental education program **must** be designed to provide special knowledge and skills beyond the D.D.S. or D.M.D. training and be oriented to the accepted standards of the discipline's practice as set forth in specific standards contained in this document.

***Intent:** The intent is to ensure that the didactic rigor and extent of clinical experience exceeds pre-doctoral, entry level dental training or continuing education requirements and the material and experience satisfies standards for the discipline.*

Advanced dental education programs **must** include instruction or learning experiences in evidence-based practice. Evidence-based dentistry is an approach to oral health care that requires the judicious integration of systematic assessments of clinically relevant scientific evidence, relating to the patient's oral and medical condition and history, with the dentist's clinical expertise and the patient's treatment needs and preferences.

Examples of evidence to demonstrate compliance may include:

- Formal instruction (a module/lecture materials or course syllabi) in evidence-based practice
- Didactic program course syllabi, course content outlines, or lecture materials that integrate aspects of evidence-based practice
- Literature review seminar(s)
- Multidisciplinary grand rounds to illustrate evidence-based practice
- Projects/portfolios that include critical reviews of the literature using evidence-based practice principles (or "searching publication databases and appraisal of the evidence")
- Assignments that include publication database searches and literature appraisal for best evidence to answer patient-focused clinical questions.

The level of discipline-specific instruction in certificate and degree-granting programs **must** be comparable.

***Intent:** The intent is to ensure that the students/residents of these programs receive the same educational requirements as set forth in these Standards.*

If an institution and/or program enrolls part-time students/residents, the institution/program **must** have guidelines regarding enrollment of part-time students/residents. Part-time students/residents **must** start and complete the program within a single institution, except when the program is discontinued. The director of an accredited program who enrolls students/residents on a part-time basis **must** ensure that: (1) the educational experiences, including the clinical experiences and responsibilities, are the same as required by full-time students/residents; and (2) there are an equivalent number of months spent in the program.

GOALS OF ADVANCED EDUCATION IN PEDIATRIC DENTISTRY

- 4-1 An advanced dental education program in pediatric dentistry **must** prepare a graduate who is competent in providing both primary and comprehensive preventive and therapeutic oral health care for infants and children through adolescence, including individuals with special health care needs. The program educates future pediatric dentists to be competent in communicating and collaborating with other members of healthcare and social disciplines, to facilitate the provision of health care.

Intent: Students/Residents are trained to provide services in institutional, private, and/or public health settings. The program should encourage the development of a critical and inquiring attitude that is necessary for the advancement of practice, research, and teaching in pediatric dentistry.

All curricula **must** be formulated in accordance with the REFERENCE MANUAL, if applicable.

- 4-2 Students/Residents **must** participate in interprofessional education and collaborative practice programs and receive training to assume a leadership role as a care team member in oral healthcare initiatives.

Intent: Students/Residents should understand the roles of members of the healthcare team and have educational experiences, particularly clinical experiences that involve working with other healthcare professional students and practitioners. Students/Residents should have educational experiences in which they coordinate patient care within the healthcare system relevant to dentistry.

PROGRAM DURATION

- 4-3 The duration of an advanced dental education program in pediatric dentistry **must** be a minimum of 24 months of full-time formal training.

CURRICULUM

- 4-4 The program **must** provide the opportunity to extend the student's/resident's diagnostic ability, basic and advanced clinical knowledge and skills, and critical judgment beyond that provided in predoctoral education. The program must also provide experience in closely related areas to ensure that students/residents become competent in comprehensive care.

Intent: A supporting portion of the curriculum extends the student's/resident's educational experience and enhances his/her ability to think critically and independently and to communicate information clearly, effectively and accurately.

BIOMEDICAL SCIENCES

4-5 Biomedical sciences **must** be included to support the clinical, didactic and research portions of the curriculum. The biomedical sciences may be integrated into existing curriculum designed especially for the pediatric dentistry program.

***Intent:** Instruction in biomedical sciences need not occur only in formal courses. Such instruction may be acquired through clinical activities, off-service rotations and other educational activities.*

Instruction **must** be provided at the understanding level in the following biomedical sciences with an emphasis on the infant, child and adolescent, including individuals with special health care needs:

- a. **BIostatistics, Health Informatics and Clinical Epidemiology:** Including probability theory, descriptive statistics, hypothesis testing, inferential statistics, meta-analysis, systematic review, principles of clinical epidemiology and research design;
- b. **Pharmacology:** Including pharmacokinetics, pharmacogenetics, potential drug interactions and adverse side effects with emphasis on oral manifestations, pain and anxiety control, drug dependency and substance use disorders;
- c. **Microbiology:** Including immunology, oral microbiome, infectious disease with emphasis on head and neck manifestations, including dental caries and periodontal disease;
- d. **Embryology:** Including principles of embryology with a focus on the developing head and neck, and craniofacial anomalies;
- e. **Genetics:** Including human chromosomal anomalies/syndromes, Mendelian, polygenic and epigenetic patterns of inheritance, expressivity, basis for genetic disease, pedigree construction, physical examination and laboratory evaluation methods, genetic factors in craniofacial disease and formation and management of genetic diseases;
- f. **Anatomy:** Including a review of general as well as head and neck anatomy; and
- g. **Pathophysiology:** Including a review of major organ diseases with emphasis on head and neck manifestations and the modification of the delivery of oral health care. There will be an understanding of the epidemiology, etiopathogenesis, clinical presentation, diagnostic imaging and laboratory studies, differential diagnosis, treatment and prognosis for these diseases.

CLINICAL SCIENCES

BEHAVIOR GUIDANCE

- 4-6 Didactic Instruction: Didactic instruction in behavior guidance **must** be at the in-depth level and include:
- a. Physical, psychological and social development. This includes the basic principles and theories of child development and the age-appropriate behavior responses in the dental setting;
 - b. Child behavior guidance in the dental setting and the objectives of various guidance methods;
 - c. Principles of communication, listening techniques, and communication with parents and caregivers;
 - d. Principles of informed consent relative to behavior guidance and treatment options;
 - e. Principles and objectives of sedation and general anesthesia as behavior guidance techniques, including indications and contraindications for their use in accordance with the REFERENCE MANUAL; and
 - f. Recognition, treatment and management of adverse events related to sedation and general anesthesia, including airway problems.

***Intent:** The term “treatment” refers to direct care provided by the residents/student for that condition or clinical problem. The term “management” refers to provision of appropriate care and /or referral for a condition consistent with contemporary practice and in the best interest of the patient.*

- 4-7 Clinical Experiences: Clinical experiences in behavior guidance **must** enable students/residents to achieve competency in patient management using behavior guidance:
- a. Experiences **must** include infants, children and adolescents including individuals with special health care needs, using:
 1. Non-pharmacological techniques;
 2. Sedation; and
 3. Inhalation analgesia.
 - b. Students/Residents **must** perform adequate patient encounters to achieve competency:
 1. Students/Residents **must** complete a minimum of 20 nitrous oxide analgesia patient encounters as primary operator; and
 2. Students/Residents **must** complete a minimum of 50 patient encounters in which sedative agents other than nitrous oxide (but may include nitrous oxide in combination with other agents) are used. The agents may be administered by any route.

- a. Of the 50 patient encounters, each student/resident **must** act as sole primary operator in a minimum of 25 sedation cases.
- b. Of the remaining sedation cases (those not performed as the sole primary operator), each student/resident **must** gain clinical experience, which can be in a variety of activities or settings, including individual or functional group monitoring and human simulation.
- c. All sedation cases **must** be completed in accordance with the recommendations of the REFERENCE MANUAL and/or applicable institutional policies and state regulations.

***Intent:** Programs will provide or make available adequate opportunities to meet the above requirements which are consistent with those experiences required by jurisdictions with policies regulating pediatric sedation in dental practice. The numbers of encounters cited in the Standard represents the minimal number of experiences required for a student/resident. In the sole primary operator role, the student/resident is expected to provide the assessment, drug delivery, treatment, monitoring, discharge and emergency prevention/management in conjunction with other medical personnel as required by institutional policies. Each patient encounter shall have only one (1) sole primary operator.*

In the remaining sedation cases, where the student/resident is not the primary operator, the supplemental cases provide the student/resident with:

- (1) direct clinical participation in patient care in an observational, data-gathering, monitoring, and/or recording capacity,
- (2) simulation experiences with direct clinical application to elements of the REFERENCE MANUAL, or
- (3) participation in ongoing activities related to specific patient care episodes such as quality improvement and safety initiatives, apparent cause analysis, Morbidity & Mortality conferences, and/or clinical rounds that review essential elements of an actual patient sedation visit.

These experiences require documentation and inclusion in the RCL. It is not an appropriate learning experience for groups of students/residents to passively observe a single sedation being performed. The intent of this standard is not for multiple operators to provide limited treatment on the same sedated patient in order to fulfill the sedation requirement.

GROWTH & DEVELOPMENT

- 4-8 Didactic Instruction: Didactic instruction in craniofacial growth and development **must** be at the in-depth level with content to enable the student/resident to understand and manage the diagnosis and appropriate treatment modalities for malocclusion problems affecting orofacial form, function, and esthetics in infants, children, adolescents, and individuals with special health care needs. This includes, but is not limited to, an understanding of:

- a. Theories of normative dentofacial growth mechanisms;
- b. Principles of diagnosis and treatment planning to identify normal and abnormal dentofacial growth and development;
- c. Differential classification of skeletal and dental malocclusion in children and adolescents;
- d. The indications, contraindications, and fundamental treatment modalities in guidance of eruption and space supervision procedures during the developing dentition that can be utilized to obtain an optimally functional, esthetic, and stable occlusion;
- e. Basic biomechanical principles and the biology of tooth movement. Growth modification and dental compensation for skeletal problems including limitations; and
- f. Appropriate consultation with and/or timely referral to other specialists when indicated to achieve optimal outcomes in the developing occlusion.

4-9 Clinical Experiences: Clinical experiences **must** enable students/residents to achieve competency in:

- a. Diagnosis and management of dental, skeletal, and functional abnormalities in the primary, mixed, and young permanent dentition stages of the developing occlusion; and
- b. Treatment of those conditions that can be corrected or significantly improved by evidence-based early interventions which might require guidance of eruption, space supervision, and interceptive orthodontic treatments. These transitional malocclusion conditions include, the recognition, diagnosis, appropriate referral and/or focused management of:
 - 1. Space maintenance and arch perimeter control associated with the early loss of primary and young permanent teeth;
 - 2. Transverse arch dimensional problems involving simple posterior crossbites;
 - 3. Anterior crossbite discrepancies associated with localized dentoalveolar crossbite displacement and functional anterior shifts (e.g. pseudo-Class III);
 - 4. Anterior spacing with or without dental protrusion;
 - 5. Deleterious oral habits;
 - 6. Preservation of leeway space for the resolution of moderate levels of crowding;
 - 7. Ectopic eruption, ankylosis and tooth impaction problems; and
 - 8. The effects of supernumerary (e.g. mesiodens) and/or missing teeth.

ORAL FACIAL INJURY AND EMERGENCY CARE

4-10 Didactic Instruction: Didactic instruction in oral facial injury and emergency care in infants, children, adolescents, and individuals with special health care needs **must** be at the in-depth level and include:

- a. Evaluation, diagnosis and management/treatment of dentoalveolar trauma to the primary, mixed and permanent dentitions, such as repositioning, replantation,

- treatment of fractured teeth, and stabilization of intruded, extruded, luxated, and avulsed teeth;
 - b. Evaluation, diagnosis, and management/treatment of the pulpal, periodontal and associated soft and hard tissues following traumatic injury;
 - c. Evaluation of injuries including fractures of the maxilla and mandible and referral for treatment by the appropriate specialist; and
 - d. Assessment, evaluation, management and reporting of child abuse and neglect and non-accidental trauma.
- 4-11 Clinical Experiences: Clinical experiences in oral facial injury and emergency care **must** enable students/residents to achieve competency in:
- a. Evaluation, diagnosis and management of traumatic injuries of the oral and perioral structures including the soft tissues, and the primary and permanent dentition;
 - b. Emergency services including assessment and management/treatment of dental pain and infections; and
 - c. Interprofessional and collaborative care management for patients with complex orofacial/dentoalveolar injuries.

ORAL DIAGNOSIS, ORAL PATHOLOGY, ORAL RADIOLOGY AND ORAL MEDICINE

- 4-12 Didactic Instruction: Didactic instruction in oral diagnosis, oral pathology, oral radiology and oral medicine with emphasis on the most frequently encountered and important anomalies, diseases and lesions that affect the infant, child, adolescent and individuals with special health care needs **must** be at the in-depth level and include:
- a. Epidemiology, etiology, clinical and radiographic findings, differential diagnosis, management/treatment, and prognosis of entities affecting the oral and maxillofacial region, including gingival and periodontal diseases;
 - b. Head and neck manifestations of systemic diseases, behavioral disorders and genetic conditions;
 - c. Referral requirements to appropriate professionals;
 - d. Radiation theory, hygiene and safety;
 - e. Radiographic imaging selection and technique for oral diagnosis including modifications for individuals with special health care needs; and
 - f. Radiographic interpretation of normal anatomy, anomalies and oral and maxillofacial lesions/diseases.

Didactic instruction **must** be at the understanding level in:

- g. Ordering and performing uncomplicated oral biopsies, adjunctive tests including salivary gland function, microbial cultures and common, baseline laboratory studies; and
- h. Ordering advanced head and neck imaging, including CBCT and MRI and recognizing deviations from normal.

4-13 Clinical Experiences: Clinical experiences in oral diagnosis, oral pathology, oral radiology and oral medicine **must** enable students/residents to achieve competency in:

- a. Detecting and providing differential diagnoses of common and important oral and maxillofacial lesions, including gingival and periodontal diseases;
- b. Obtaining and interpreting oral and maxillofacial images;
- c. Using radiation hygiene and recommended radiographic images; and
- d. Managing/Treating common oral and maxillofacial lesions and diseases, including gingival and periodontal diseases.

COMPREHENSIVE ORAL HEALTH CARE

PREVENTION AND HEALTH PROMOTION

4-14 Didactic Instruction: Didactic instruction in prevention **must** be at the in-depth level and include:

- a. Characteristics and role of the dental home;
- b. Perinatal oral health and infant oral health;
- c. Assessment of the risk of dental caries manifestations, periodontal disease, dental trauma and malocclusion;
- d. Anticipatory guidance;
- e. Patient/parent/caregiver education on home care;
- f. Communication strategies to help patients/parents/caregivers guide behavior change, such as teach back and motivational interviewing;
- g. Prevention of dental disease strategies including;
 1. Fluorides and non-fluoride caries preventive and remineralizing agents;
 2. Diet, nutrition and sugars, and their role in oral health and disease;
 3. Pit and fissure sealants;
- h. Trauma prevention;
- i. The scientific basis for the etiology, detection, diagnosis, prevention, management and restorative treatment of dental caries manifestations; and
- j. The provision of a risk-based, patient/family-centered comprehensive treatment plan that includes a prevention and health promotion plan.

Didactic Instruction: Didactic instruction in prevention **must** be at the understanding level and include:

- k. Social determinants of health; and
- l. Relationship between oral health and systemic conditions.

4-15 Clinical Experiences: Clinical experiences **must** enable students/residents to achieve competency in the provision of:

- a. Risk-based, patient/family-centered prevention and health promotion plans for patients and families in the context of a dental home;
- b. Infant oral health;
- c. Anticipatory guidance;

- d. Dental caries risk assessment and related risk of caries lesion progression;
- e. Risk-based dental caries management protocols including risk reduction methods and early management of dental caries lesions;
- f. Patient/Parent/Caregiver education on oral hygiene practices, diet and nutrition;
- g. Effective communication strategies to help guide behavior change;
- h. Prevention of dental disease strategies including the use risk-based dental caries management protocol; and
- i. Use of fluoride and non-fluoride dental caries lesion preventive and remineralizing agents.

DIAGNOSIS OF CARIES, NON-RESTORATIVE MANAGEMENT AND RESTORATIVE TREATMENT

4-16 Didactic Instruction: Didactic instruction **must** be at the in-depth level and include:

- a. Caries lesion detection and diagnosis techniques; and
- b. Caries lesion management strategies.

***Intent:** Dental caries management strategies may include active surveillance to assess disease and lesion progression; minimally invasive restorative treatment and determination of when to restore; deep caries lesion excavation and partial decay excavation; pit and fissure sealant indications, technique and materials; resin infiltration; restorative and prosthetic therapy indications, techniques and dental materials, including conventional restorations, interim therapeutic restorations, alternative restorative techniques and esthetic restorations; and remineralization and dental caries lesion arresting strategies.*

4-17 Clinical Experiences: Clinical experiences **must** enable students/residents to achieve competency in:

- a. Caries lesion detection and diagnosis.
- b. Caries management strategies that include:
 1. Active surveillance to assess disease progression;
 2. Minimally invasive restorative treatment and determination of when to restore;
 3. Deep decay excavation and partial decay excavation;
 4. Pit and fissure sealant indications, technique and materials;
 5. Restorative and prosthetic therapy indications, techniques and dental materials, including conventional restorations, interim therapeutic restorations, alternative restorative techniques and esthetic restorations; and
 6. Remineralization and dental caries lesion arresting strategies.

PULP THERAPY

4-18 Didactic Instruction: Didactic instruction **must** be at the in-depth level and include:

- a. Pulp histology and pathology of primary and young permanent teeth, including indications and rationale for various types of indirect and direct pulp therapy; and
- b. Management of pulpal and periradicular tissues in the primary and developing permanent dentition.

***Intent:** Pulp therapy management strategies may include vital pulp therapy for primary teeth, including indirect pulp treatment, direct pulp cap, pulpotomy; non-vital pulp treatment for primary teeth including pulpectomy; vital pulp therapy for young permanent teeth including apexogenesis, indirect pulp treatment, direct pulp cap, partial pulpotomy for carious exposures, partial pulpotomy for traumatic exposures; and non-vital pulp therapy for young permanent teeth including apexification, pulpal regeneration and decoronation.*

4-19 Clinical Experiences: Clinical experiences **must** enable students/residents to achieve competency in:

- a. Diagnosis of pulpal disease in primary and permanent teeth;
- b. Vital and non-vital pulp therapy in primary teeth;
- c. Vital pulp therapy in immature permanent teeth;
- d. Management of non-vital pulp therapy in immature permanent teeth; and
- e. Treatment/Management of pulpal disease in mature permanent teeth, including emergency care, stabilization and referral to specialists.

MANAGEMENT OF A CONTEMPORARY DENTAL PRACTICE

4-20 Didactic Instruction: Didactic instruction **must** be at the understanding level and include:

- a. The design, implementation and management of a contemporary practice of pediatric dentistry, emphasizing business skills for proper and efficient practice;
- b. Jurisprudence and risk management specific to the practice of Pediatric Dentistry;
- c. Use of technology in didactic, clinical and research endeavors, as well as in practice management and telehealth systems;
- d. Principles of biomedical ethical reasoning, ethical decision making and professionalism as they pertain to the academic environment, research, patient care and practice management; and
- e. Working cooperatively with consultants and clinicians in other dental specialties and health fields, including interprofessional education activities.

Didactic instruction **must** be at the in-depth level for the following:

- f. The development and monitoring of systems for prevention and management of adverse events and medical emergencies in the dental setting;
- g. Exposure to the principles of quality management systems and the role of continuous process improvement in achieving overall quality in the dental practice setting;
- h. Exposure to the principles of ethics and professionalism in dental practice is an integral component of all aspects of this process improvement experience; and

- i. Employing principles of quality improvement, infection control, and safety, including an understanding of the mechanisms to ensure a safe practice environment.

Intent: (d) Graduates should draw on a range of resources such as professional codes, regulatory law, and ethical theories to guide judgment and action for issues that are complex, novel, ethically arguable, divisive, or of public concern, (e) The student/resident learns to prevent, recognize and manage common medical emergencies for infants and children through adolescence and when to refer to other health care professionals and (g) Graduates should experience the elements of process improvement and the manner in which to involve the entire team.

Examples of evidence may include (d and g):

- Participation in courses or seminars involving biomedical ethics and/or informed consent issues;
- Institutional review boards;
- Literature reviews;
- Discussion of case scenarios;
- Emergency drills;
- Quality improvement projects;
- Interprofessional education and practice experiences;
- Standardized simulations;
- Standardized case studies; and
- Standardized clinical scenarios.

4-21 Clinical Experiences: Clinical experiences **must** enable students/residents to be involved in a structured system of continuous quality improvement for patient care.

Intent: Programs are expected to involve students/residents in quality improvement activities to understand the process and contribute to patient care improvement.

INDIVIDUALS WITH SPECIAL HEALTH CARE NEEDS

4-22 Didactic Instruction: Didactic instruction **must** be at the in-depth level and include:

- a. Formulation of treatment plans for individuals with special health care needs.
- b. Medical conditions and the alternatives in the delivery of dental care that those conditions might require.
- c. Management of the oral health of individuals with special health care needs, i.e.:
 1. Medically compromised;
 2. Physically compromised or disabled; and diagnosed to have developmental disabilities, psychiatric disorders or psychological disorders.
 3. Transition to adult practices

Intent: (a) The student/resident learns how and when to modify dental care options as required by a patient's medical condition; and (c) Individuals with special health care needs include those with

medical, physical, psychological or social circumstances that require modification in normal dental routines to provide dental treatment.

4-23 Clinical Experiences: Clinical experiences **must** enable students/residents to achieve competency in:

- a. Examination, treatment and management of infants, children, adolescents and individuals with special health care needs; and
- b. Participation in interprofessional experiences and collaborative care, including craniofacial teams.

***Intent:** Pediatric dentists often remain providers of oral health care for individuals with special health care needs into adulthood and should be able to render basic dental services to adults with special health care needs. These individuals include (but are not limited to) individuals with developmental disabilities, craniofacial anomalies, complex medical problems and significant physical limitations. Management should be understood to include consideration of social, educational, vocational and other aspects of special health care needs.*

HOSPITAL DENTISTRY

4-24 Didactic Instruction: Didactic instruction **must** be at the understanding level and include:

- a. Hospital experiences intended to expose students/residents to hospital function which may include attendance at conferences, seminars, clinic participation, and, if applicable, clinical inpatient rounds;
- b. Hospital policies and procedures, including organization of the medical/dental staff and medical staff/dental staff member responsibilities; and
- c. The scope of practice of other healthcare professionals in relationship to the overall health and wellbeing of infants, children, adolescents and individuals with special health care needs.

4-25 Clinical Experiences: Clinical experiences **must** enable students/residents to acquire knowledge and skills to function as health care providers within the hospital setting.

- a. Dental treatment in the Operating Room Setting:
 1. Each student/resident **must** participate in the treatment of pediatric patients under general anesthesia in the operating room.
 2. Each student/resident **must** participate in a minimum of twenty (20) operating room cases; and these are documented in the RCL (Resident Clinical Log). In ten (10) of the operating room cases above, each student/resident provides the pre-operative workup and assessment, conducting medical risk assessment, admitting procedures, informed consent, and intra-operative management including completion of the dental procedures, post-operative care, discharge and follow up and completion of the medical records.

Intent: (a.1) Each student/resident participates in and directly provides dental treatment to pediatric patients under general anesthesia in the operating room. Experiences may occur in an out-patient ambulatory care facility.

- b. Inpatient Care:
 - 1. Each student/resident **must** collaborate in the evaluation and medical management of pediatric patients admitted to the hospital; and
 - 2. Each student/resident **must** collaborate in admitting procedures, completion of consultations, obtaining and evaluating patient/family history, orofacial examination and diagnosis, ordering radiological and laboratory tests, writing patient management orders, pediatric patient monitoring, discharging and chart completion.

- c. Anesthesiology Rotation:
 - 1. Students/residents **must** complete a rotation under the supervision of an anesthesiologist in a facility approved to provide general anesthesia;
 - 2. This rotation **must** be at least four (4) weeks in length, which does not have to be consecutive, and is the principal activity of the student/resident during this scheduled time;
 - 3. The anesthesiology rotation **must** provide the student/resident with knowledge and experience in the management of infants, children and adolescents undergoing general anesthesia; and
 - 4. The rotation **must** provide and document experiences in: (1) pre-operative evaluation, (2) risk assessment, (3) assessing the effects of pharmacologic agents, (4) venipuncture techniques, (5) airway assessment and management, (6) general anesthetic induction and intubation, (7) administration of anesthetic agents, (8) patient monitoring, (9) prevention and management of anesthetic emergencies and adverse events, (10) post anesthesia recovery management, and (11) postoperative appraisal and follow up.

- d. Additional Hospital Experiences:
 - 1. Each student/resident **must** participate in continually accessible call through the hospital emergency department and provide treatment in collaboration with other disciplines.
 - 2. Each student/resident **must** participate on interdisciplinary/multidisciplinary teams, including participation on a Craniofacial Team.
 - 3. Each student/resident **must** participate in interprofessional education to other health care professionals within the hospital setting.

PEDIATRIC MEDICINE

4-26 Didactic Instruction: Didactic instruction **must** be at the understanding level and include:

- a. Fundamentals of pediatric medicine, including those related to healthy pediatric patients and those with special health care needs such as:
 - 1. Well child care and anticipatory guidance

2. Developmental milestones; and
 3. Acute and chronic disease/disorders.
- b. Normal speech and language development and the recognition of speech and language delays/disorders.
 - c. The anatomy and physiology of articulation and normal articulation development; causes of defective articulation with emphasis on oral anomalies, craniofacial anomalies, dental or occlusal abnormalities, velopharyngeal insufficiency (VPI), history of cleft lip/palate and normal velopharyngeal function and the effect of VPI on resonance.

4-27 Clinical Experiences: Clinical experiences **must** expose students/residents to pediatric medicine:

- a. Students/Residents **must** participate in a pediatric medicine rotation of at least two (2) weeks in length, which does not have to be consecutive and is the principal activity during this scheduled period.
- b. The rotation **must** include exposure to obtaining and evaluating medical histories, parental interviews, system-oriented physical examinations, clinical assessments of patients, selection of laboratory tests and evaluation of data, evaluation of physical, motor and sensory development, genetic implications of childhood diseases, the use of drug therapy in the management of diseases, and parental management through discussions and explanation.

***Intent:** This rotation may occur in a variety of settings i.e., Emergency Department, subspecialty clinics, multi-disciplinary team clinics, and general pediatrics. When appropriate, and to a limited extent, pediatric medicine clinical experiences may be supplemented by clinical simulation.*

Examples of evidence to demonstrate compliance may include:

- Observe management of acute asthma attack;
- Identify child abuse/neglect and referral to social services;
- Observe management of seizure;
- Observe management of acute abdominal pain;
- Observe management of shock;
- Listen to heart and lung sounds;
- Observe rapid sequence intubation for pediatric emergency airway management;
- Recognize possible causes and treatment for unconsciousness;
- Understand triage procedures for medical emergencies;
- Observe a cranial-nerve exam; and
- Discuss the selection of laboratory tests.

ADVOCACY AND EDUCATION

- 4-28 Didactic Instruction: Didactic instruction **must** be at the understanding level and include:
- a. The fundamental domains of child advocacy including knowledge about the disparities in the delivery of dental care, issues pertaining to access to dental care and possible solutions;
 - b. The social determinants of health and the impact on general and oral health;
 - c. Services available through healthcare and oral healthcare programs for at-risk populations, such as U.S. governmental programs (e.g., Medicaid and SCHIP); and
 - d. Principles of learning and teaching to diverse audiences.

***Intent:** Pediatric dentists serve as the primary advocates for the oral health of children. The intent of the competency standards is to ensure that the resident is adequately trained to assume this role. Such training includes enhancing knowledge about oral health disparities and available services within the state and federal programs directed at meeting those needs. It also includes knowledge about their role as advisors to policy makers and organized dentistry.*

- 4-29 Experiences: Experiences **must** provide exposure of the student/resident to:
- a. Communicating, teaching, and collaborating with groups and individuals on children's oral health issues; and/or
 - b. Advocating and advising public health policy legislation and regulations to protect and promote the oral health of children; and/or
 - c. Participating at the local, state and/or national level in organized dentistry and child advocacy groups/organizations to represent the oral health needs of children, particularly the underserved.
- 4-30 Students/Residents **must** engage in teaching activities which may include peers, predoctoral students, community based programs and activities, and other health professionals, including interprofessional education programs.

STANDARD 5 - ADVANCED EDUCATION STUDENTS/RESIDENTS

ELIGIBILITY AND SELECTION

Eligible applicants to advanced dental education programs accredited by the Commission on Dental Accreditation **must** be graduates from:

- a. Predoctoral dental programs in the U.S. accredited by the Commission on Dental Accreditation; or
- b. Predoctoral dental programs in Canada accredited by the Commission on Dental Accreditation of Canada; or
- c. International dental schools that provide equivalent educational background and standing as determined by the program.

Specific written criteria, policies and procedures **must** be followed when admitting students/residents.

***Intent:** Written non-discriminatory policies are to be followed in selecting students/residents. These policies should make clear the methods and criteria used in recruiting and selecting students/residents and how applicants are informed of their status throughout the selection process.*

Admission of students/residents with advanced standing **must** be based on the same standards of achievement required by students/residents regularly enrolled in the program. Students/Residents with advanced standing **must** receive an appropriate curriculum that results in the same standards of competence required by students/residents regularly enrolled in the program.

Examples of evidence to demonstrate compliance may include:

- Policies and procedures on advanced standing,
- Results of appropriate qualifying examinations,
- Course equivalency or other measures to demonstrate equal scope and level of knowledge.

***Intent:** Advanced standing refers to applicants that may be considered for admission to a training program whose curriculum has been modified after taking into account the applicant's past experience. Examples include transfer from a similar program at another institution, completion of training at a non-CODA accredited program, or documented practice experience in the given discipline. Acceptance of advanced standing students/residents will not result in an increase of the program's approved number of enrollees. Applicants for advanced standing are expected to fulfill all of the admission requirements mandated for students/residents in the conventional program and be held to the same academic standards. Advanced standing students/residents, to be certified for completion, are expected to demonstrate the same standards of competence as those in the conventional program.*

EVALUATION

A system of ongoing evaluation and advancement **must** ensure that, through the director and faculty, each program:

- a. Periodically, but at least semiannually, assesses the progress toward (formative assessment) and achievement of (summative assessment) the competencies for the discipline using formal evaluation methods;
- b. Provides to students/residents an assessment of their performance, at least semiannually;
- c. Advances students/residents to positions of higher responsibility only on the basis of an evaluation of their readiness for advancement; and
- d. Maintains a personal record of evaluation for each student/resident which is accessible to the student/resident and available for review during site visits.

Intent: (a) *The evaluation of competence is an ongoing process that requires a variety of assessments that can measure the acquisition of knowledge, skills and values necessary for discipline-specific level practice. It is expected that programs develop and periodically review evaluation methods that include both formative and summative assessments.* (b) *Student/Resident evaluations should be recorded and available in written form.* (c) *Deficiencies should be identified in order to institute corrective measures.* (d) *Student/Resident evaluation is documented in writing and is shared with the student/resident.*

DUE PROCESS

There **must** be specific written due process policies and procedures for adjudication of academic and disciplinary complaints, which parallel those established by the sponsoring institution.

RIGHTS AND RESPONSIBILITIES

At the time of enrollment, the advanced dental education students/residents **must** be apprised in writing of the educational experience to be provided, including the nature of assignments to other departments or institutions and teaching commitments. Additionally, all advanced dental education students/residents **must** be provided with written information which affirms their obligations and responsibilities to the institution, the program and program faculty.

Intent: *Adjudication procedures should include institutional policy which provides due process for all individuals who may potentially be involved when actions are contemplated or initiated which could result in disciplinary actions, including dismissal of a student/resident (for academic or disciplinary reasons). In addition to information on the program, students/residents should also be provided with written information which affirms their obligations and responsibilities to the institution, the program, and the faculty. The program information provided to the student/residents should include, but not necessarily be limited to, information about tuition, stipend or other compensation; vacation and sick leave; practice privileges and other activity outside the educational program; professional liability coverage; and due process policy and current accreditation status of the program.*

5-1 Programs **must** define the scope of supervision and responsibility for students/residents in the various components of their program for various stages of their education.

***Intent:** As students/residents advance in the program, they may and should assume differing levels of responsibility defined by their educational progress and skill acquisition. Programs, by their individual institutional rules and policies may grant independence to students/residents for specific procedures and situations. Programs should be able to demonstrate changes in roles of advanced students/residents.*

STANDARD 6 - RESEARCH

Advanced dental education students/residents **must** engage in scholarly activity.

6-1 Students/Residents **must**:

- a. Participate in and complete a research project;
- b. Use data collection and analysis;
- c. Use elements of scientific method; and
- d. Report results in a scientific forum.

***Intent:** Students/Residents gain an understanding of the scientific method such that they will be able to critically analyze the scientific literature and, independently, conduct a fundamental research project. An understanding of the scientific method requires knowledge and experiences in literature review, experimental design, statistical analysis, and accurate reporting of findings. Due to the complexity of some projects and need for prolonged follow-up periods, a team approach may be utilized with each student/resident defining his or her own research hypothesis, methods, data analysis, reporting of results and discussion in accordance with Standard 6-1 a through d.*

Examples of evidence to demonstrate compliance may include:

- Systematic review
- Quality improvement research
- Survey research
- Basic and translational research
- Educational methodology and assessment research
- Clinical research