R156. Commerce, Occupational and Professional Licensing.
R156-69-101. Title.

This rule is known as the "Dentist and Dental Hygienist Practice Act Rule."


In addition to the definitions in Title 58, Chapters 1 and 69, as used in Title 58, Chapters 1 and 69 or this rule:

1) "ACLS" means Advanced Cardiac Life Support.
2) "ADA" means the American Dental Association.
3) "ADA CERP" means American Dental Association Continuing Education Recognition Program.
4) "ADA Teaching Guidelines" means the Guidelines for Teaching Pain Control and Sedation to Dentists and Dental Students published by the American Dental Association, as adopted by the ADA House of Delegates October 2016, which is incorporated by reference.
5) "ADA Use Guidelines" means the Guidelines for the Use of Sedation and General Anesthesia by Dentists published by the American Dental Association, as adopted by the ADA House of Delegates October 2016, which is incorporated by reference.
6) "ADEX" means American Board of Dental Examiners.
7) "Advertising or otherwise holding oneself out to the public as a dentist" means representing or promoting oneself as a dentist through any of the following or similar methods:
   a) business names;
   b) business signs;
   c) door or window lettering;
   d) business cards;
   e) letterhead;
   f) business announcements;
   g) flyers;
   h) mailers;
   i) promotions;
   j) advertisements;
   k) radio or television commercials;
   l) listings in printed or online telephone directories; or
   m) any other type of advertisement or promotional communication.
8) "Analgesia" means the same as defined in the ADA Use Guidelines.
9) "Anesthesiology" means the science of administration of anesthetics and the condition of the patient while under...
anesthesia.

(5) "BCLS" means Basic Cardiac Life Support.
(6) "BLS" means Basic Life Support.
(10) "ADHA" means the American Dental Hygienists' Association.
(12) “BCLS” means Basic Cardiac Life Support.
(13) “CDCA” means Commission on Dental Competency Assessments
(14) “CITA” means Council of Interstate Testing Agencies, Inc.
(15) “CDEL” means the Council on Dental Education and Licensure
(16) "CPR" means cardiopulmonary resuscitation.
(17) "CRDTS" means the Central Regional Dental Testing Service, Inc.
(18) “CODA” Means the Commission on Dental Accreditation.
(19) "Competency" means displaying special skill or knowledge derived from training and experience.
(21) “Deep sedation” means the same as defined in the ADA Use Guidelines
(22) “Discharge Criteria” means the minimum requirements for a patient to be safely discharged from the care of a dentist.
(23) "General anesthesia" means the same as defined in the ADA Use Guidelines
(24) “Local anesthesia” means the same as defined in the ADA
Use Guidelines.

(25) Maximum recommended dose (MRD) is the maximum FDA recommended dose of a drug, as printed in FDA approved labeling for unmonitored home use.

(26) “Minimal Sedation” means the same as defined in the ADA Use Guidelines.

(27) “Moderate Sedation” means the same as defined in the ADA Use Guidelines.

(28) "PALS" means Pediatric Advanced Life Support.

(29) "Practice of dentistry" in regard to administering sedation or anesthesia is further defined as follows:

(a) a Class I permit allows administration of, or supervision of the administration of, local anesthesia in compliance with the ADA Use Guidelines. (which is the elimination of sensation, especially pain, in one part of the body by the topical application or regional injection of a drug);

(b) a Class II permit allows administration of, or supervision of the administration of, minimal sedation (which is a minimally depressed level of consciousness) induced by nitrous oxide in compliance with the ADA Use Guidelines. (or by a pharmacological method, or by both, that retains the patient's ability to independently and consciously maintain an airway and respond normally to tactile stimulation and verbal command. Although cognitive function and coordination may be modestly impaired, ventilatory and cardiovascular functions are unaffected);

(c) a Class C permit allows administration of minimal sedation via nitrous oxide/oxygen with or without the administration of a single enteral drug, in compliance with the ADA Use Guidelines.

(d) a Class III permit allows administration of, or supervision of the administration of, moderate sedation via any route of administration, in compliance with the ADA Use Guidelines. (which occurs during which a patient responds purposefully to verbal commands, either alone or accompanied by light tactile stimulation. No interventions are required to maintain a patient's airway, and spontaneous ventilation is adequate. Cardiovascular function is usually maintained; and)

(e) a Class IV permit allows administration of, or supervision of the administration of, deep sedation and general anesthesia in compliance with the ADA Use Guidelines (in which a drug induced depression of consciousness occurs from which a
patient cannot be easily aroused but respond purposefully following repeated or painful stimulation. The ability to independently maintain ventilatory function may be impaired. A patient may require assistance in maintaining an airway and spontaneous ventilation may be inadequate. Cardiovascular function is usually maintained.

([17]30) "Prominent disclaimer" means a disclaimer as described in and as required by Subsection R156-69-502(2)(b) that:

(a) if in writing, is in the same size of lettering as the largest lettering otherwise contained in an advertisement, publication, or other communication in which the disclaimer appears; or

(b) if not in writing, is in the same volume and speed as the slowest speed and highest volume otherwise included in a radio or television commercial or other oral advertisement or promotion in which the disclaimer appears.

(31) “Route of administration” means the technique of administering agents, and includes the following, as defined in the ADA Use Guidelines:

(a) enteral;

(b) parenteral;

(c) transdermal;

(d) transmucosal; and

(c) inhalation.

([18]32) "Specialty area" means an area of dentistry [proposed in a formal application by a sponsoring organization to the Council on Dental Education and Licensure and formally approved by the ADA as meeting the "Requirements for Recognition of Dental Specialists"] in which the dentist has completed a post-doctoral program in a specialty area of dentistry consisting of at least two full time years and which is accredited by an accreditation agency that is recognized by the U.S. Department of Education. Specialty areas may include the following:

(a) orthodontics;

(b) oral and maxillofacial surgery;

(c) oral and maxillofacial pathology;

(d) pediatric dentistry;

(e) periodontics;

(f) endodontics;
(g) prosthodontics;
(h) dental public health; and
(i) oral and maxillofacial radiology.

"SRTA" means Southern Regional Testing Agency, Inc.
"Unprofessional conduct," as defined in Title 58 Chapters 1 and 69, is further defined, in accordance with Subsection 58-1-203(1)(e), in Section R156-69-502.
"UDA" means Utah Dental Association.
"UDHA" means Utah Dental Hygienists' Association.
"WREB" means the Western Regional Examining Board.

In accordance with Subsection 58-69-301(4)(a), a dentist may be issued an anesthesia and analgesia permit in the following classifications:
(1) class I\textsuperscript{A} permit;
(2) class I\textsuperscript{B} permit;
(3) class C permit;
(4) class I\textsuperscript{D} permit; or
(5) class I\textsuperscript{E} permit.

In accordance with Subsection 58-69-301(4)(b), the qualifications for dentist anesthesia and analgesia permits are:
(1) for a class I\textsuperscript{A} permit:
   (a) current licensure as a dentist in Utah; and
   (b) documentation of current CPR or BCLS/BLS certification;
(2) for a class I\textsuperscript{B} permit:
   (a) current licensure as a dentist in Utah;
   (b) documentation of current BCLS/BLS certification; and
   (c) evidence of successful completion of training in the administration of nitrous oxide and pharmacological methods of conscious sedation that:
      (i) conforms to the ADA Teaching Guidelines for Teaching Pain Control and Sedation to Dentists and Dental Students, published by the American Dental Association, October 2007, which is incorporated by reference; or
      (ii) is the substantial equivalent of the ADA Teaching Guidelines provided in a continuing education format offered by an ADA accredited school;
(3) for a class C permit:
(a) compliance with Subsections (2)(a) and (b) above;
(b) completion of training in pharmacological methods of minimal sedation that conforms to ADA Teaching Guidelines;
(c) a current Utah controlled substance license in good standing; and
(d) a current Drug Enforcement Administration (DEA) Registration in good standing; and

(4) for a class D permit:
(a) compliance with Subsections (1)(a) and (2)(a) through (d) above;
(b) evidence of current [Advanced Cardiac Life Support (ACLS)] certification; and
(c) evidence of holding a current Utah controlled substance license in good standing and a current Drug Enforcement Administration (DEA) Registration in good standing;
(d) evidence of successful completion of:
   (i) (A) a comprehensive predoctoral or postdoctoral training in the administration of [conscious] moderate sedation that conforms to the ADA Teaching Guidelines, [for Teaching Pain Control and Sedation to Dentists and Dental Students, published by the American Dental Association, October 2007,] including a letter from the course director documenting competency in performing conscious sedation; and
   (B) 60 hours of didactic education in sedation and successful completion of 20 cases; or
   (ii) the substantial equivalent of Subsection (3)(d)(4)(c)(i) provided in a continuing education format offered by an [American Dental Association] ADA accredited school; and
   (e) certification that the applicant will comply with the scope of practice as set forth in Subsection R156-69-601(3)(4); and

(5) for a class E permit:
(a) compliance with Subsections (1), (2), and (3) (4)(a) and (b) above;
(b) evidence of current ACLS certification; if treating pediatric patients, current PALS certification;
(c) evidence of having successfully completed
of advanced training in the administration of general anesthesia and deep sedation consisting of [not less than] at least one year in a program which conforms to the ADA Teaching Guidelines, including a letter from the course director documenting competency in performing general anesthesia and deep sedation, and including: (d) documentation of successful completion of advanced training in obtaining a health history, performing a physical examination and diagnosis of a patient consistent with the administration of general anesthesia or deep sedation; and (e) certification that the applicant will comply with the scope of practice as set forth in Subsection R156-69-601(4)].


In accordance with Subsection 58-69-301(4)(a), a dental hygienist may be issued an anesthesia and analgesia permit in the classification of dental hygienist with local anesthesia.

R156-69-204. Qualifications for Anesthesia and Analgesia Permits - Dental Hygienist.

In accordance with Subsection 58-69-301(4)(b), the qualifications for a dental hygienist local anesthesia permit are the following:

1. (a) current Utah licensure as a dental hygienist; or (b) documentation of meeting all Utah requirements for licensure as a dental hygienist;

2. [successful] completion of a program of training in the administration of local [anesthetics] anesthesia, including nitrous oxide, that:
   (a) is accredited by CODA [the Commission on Dental Accreditation of the ADA]; or
   (ii) is the substantial equivalent of Subsection (2)(a)(i) provided in a continuing education format [offered] by an American Dental Association ADA accredited school; and
   (b) documentation of successful completion of the program by a letter from the program director, or equivalent; and

3. (a) a passing score on the WREB, NERB, CDCA, or SRTA or CRDTS written anesthesia examination; or
   (b) [documentation of having] a current, active in good standing license to administer local anesthesia in another state in the United States; and

4. [documentation of] current CPR or BCLS/BLS
certification.


In accordance with Subsections 58-69-302(1)(f) and (g), the examination requirements for licensure as a dentist include the periodontics, endodontics, operative, class 2 restorations, class 3 restorations, and prosthodontics sections, and are established as the following:

(1) the WREB examination with a passing score as established by the WREB;
(2) the CDCA examination with a passing score as established by the CDCA;
(3) the SRTA examination with a passing score as established by the SRTA; or
(4) the CRDTS examination with a passing score as established by the CRDTS; or
(5) the CITA examination with a passing score as established by the CITA.


In accordance with Subsections 58-69-302(3)(f) and (g), the examination requirements for licensure as a dental hygienist are established as the following:

(1) the WREB examination with a passing score as established by the WREB;
(2) the CDCA examination with a passing score as established by the CDCA;
(3) the SRTA examination with a passing score as established by the SRTA; or
(4) the CRDTS examination with a passing score as established by the CRDTS; or
(5) the CITA examination with a passing score as established by the CITA.


In accordance with Section 58-69-304, qualified continuing professional education requirements are established as the following:

(1) All licensed dentists and dental hygienists shall complete at least 30 hours of qualified continuing professional
education during each two-year licensure period to include:

(a) for class C anesthesia permit holders, at least two hours of CPE specific to the administration of enteral anesthesia/pharmacology;

(b) for class D anesthesia permit holders:

(i) at least eight anesthesia-specific CPE didactic hours; and

(ii) attestation of successful completion of at least ten sedation cases; and

(c) for class E anesthesia permit holders:

(i) at least 16 anesthesia-specific CPE didactic hours; and

(ii) attestation of successful completion of at least 30 sedation cases.

(2) Qualified continuing professional education hours for licensees who have not been licensed for the entire two-year period shall be prorated from the date of licensure.

(3) Continuing education under this section shall:

(a) be relevant to the licensee's professional practice;

(b) be prepared and presented by individuals who are qualified by education, training and experience to provide dental and dental hygiene continuing education; and

(c) have a method of verification of attendance and completion.

(4) Credit for continuing education shall be recognized in accordance with the following as follows:

(a) unlimited hours for continuing education completed in blocks of time of not less than 50 minutes in formally established classroom courses, seminars, lectures, conferences, or training sessions which meet the criteria listed in Subsection (3) above, and which are approved by, conducted by or under sponsorship of:

(i) a government agency, including the Division of Occupational and Professional Licensing;

(ii) recognized universities and colleges, or an accredited dental, dental hygiene, or dental postgraduate program;

(iii) professional associations, societies and organizations representing a licensed profession whose program objectives relate to the practice of dentistry and dental hygiene; or

(iv) the ADA or any subgroup thereof, the ADHA or any
subgroup thereof, [an accredited dental, dental hygiene, or dental postgraduate program, a government agency, or a recognized health care professional association, or a peer study club;]

(b) a maximum of ten hours per two-year period may be recognized for teaching continuing education relevant to dentistry and dental hygiene;

(c) a maximum of 15 hours per two-year period may be recognized for continuing education that is provided via Internet or through home study which provides an examination and a completion certificate; [d]

(d) a maximum of six hours per two-year period may be recognized for continuing education provided by the Division of Occupational and Professional Licensing; and] [e]

(e) a maximum of three hours per two-year period may be recognized for continuing education [qualified continuing professional education may include up to three hours] in practice and office management.

(5) A licensee may fulfill up to 15% of the licensee's continuing professional education requirement by providing direct patient care volunteer services at a qualified location, in accordance with Section 58-13-3. For every four documented hours of such volunteer services the licensee may earn one hour of continuing education.

(5) If properly documented that a licensee is engaged in full time activities or is subjected to circumstances which prevent that licensee from meeting the continuing education requirements established under this section, the licensee may be excused from the requirement for a period of up to three years. However, it is the responsibility of the licensee to document the reasons and justify why the requirement could not be met.]

(6) Hours for recertification in CPR, BCLS, ACLS, and PALS [de] may not count as continuing education.

(7) A licensee shall [be responsible for maintaining] maintain competent records of the licensee's completed qualified continuing professional education for a period of four years after close of the two-year licensure period [to which the records pertain]. It is the responsibility of the licensee [to maintain such information with respect to qualified continuing professional education] to demonstrate [it] that their continuing professional education meets the requirements of this section.

(8) The Division may defer or waive continuing professional education requirements for a licensee as provided in Section R156-1-308(d).

"Unprofessional Conduct" includes the following:

1. [failing to provide continuous in-operatory observation by a trained dental patient care staff member] for any patient under any level of sedation, including nitrous oxide:
   (a) [administration] failing to provide continuous in-operatory observation by a trained dental patient care staff member until the patient continuously and independently maintains their airway and may be safely discharged; or
   (b) failing to record the discharge time and the person discharging the patient in the patient's records;

2. advertising or otherwise holding oneself out to the public as a dentist or dental group that practices in a specialty area unless:
   (i) each dentist has successfully completed an advanced educational program accredited by the ADA's Commission on Dental Accreditation (or its equivalent if completed prior to 1967) of two or more years in length, as specified by the Council on Dental Education and Licensure;
   (ii) as specified in Subsection 58-69-502(2)(b), the advertisement or other method of holding oneself out to the public as a dentist or dental group includes a prominent disclaimer that the dentist or dentists performing services are licensed as general dentists or that the specialty services will be provided by a general dentist;
   (iii) the advertisement or other method of holding oneself out to the public as a dentist or dental group that practices in a specialty area includes a prominent disclaimer that the dentist or dentists performing services is a specialist, but not qualified as a specialist in the specialty area being advertised; or
   (iv) otherwise advertising in a specialty area by representing that a dentist has attained any education, training or certification in the specialty area when the dentist has not met the criteria;

3. advertising in any form that is misleading, deceptive, or false; including the display of any credential, education, or training that is inaccurate, or the making of any unsubstantiated claim of superiority in training, skill, experience, or any other quantifiable aspect;

4. prescribing treatments and medications outside the scope of dentistry;

5. prescribing for oneself any Schedule II or III
controlled substance;
(6) engaging in practice as a dentist or dental hygienist without prominently displaying a copy of the current Utah license;
(7) (a) failing to personally maintain current CPR, BCLS/BLS, ACLS, or PALS certification as required by the licensee's anesthesia permit[\(\tau\)] or (b) employing patient care staff who fail to maintain current CPR or BCLS/BLS certification;
(8) providing consulting or other dental services under anonymity;
(9) engaging in unethical or illegal billing practices or fraud, including:
  (a) reporting an incorrect treatment date for the purpose of obtaining payment;
  (b) reporting charges for services not rendered;
  (c) incorrectly reporting services rendered for the purpose of obtaining payment;
  (d) generally representing a charge to a third party that is different from that charged to the patient;
(10) failing to establish and maintain appropriate dental records;
(11) failing to maintain patient records for a period of seven years;
(12) failing to provide copies of x-rays, reports or records to a patient or the patient's designee upon written request and payment of a nominal fee for copies regardless of the payment status of the services reflected in the record; and
(13) failing to submit a complete report to the Division within 30 calendar days concerning an incident, in which any anesthetic or sedative drug was administered to any patient, which resulted in, either directly or indirectly, the death or adverse event resulting in patient admission to a hospital.

In accordance with Subsection 58-69-301(4)(a), the scope of practice permitted under each classification of anesthesia and analgesia permit includes the following:
(1) A dentist with a class [I] permit\(\tau\) may administer\(\tau\) or supervise the administration of\(\tau\) minimal sedation using local anesthesia in compliance with the ADA Use Guidelines.
[(4) the administration of inhalation agents including nitrous
oxide; and

(ii) the administration of any drug for sedation by any
parenteral route; and]
[(b) shall maintain and ensure that all patient care staff
maintain current CPR certification.]
(2) A dentist with a class [II]B permit:
(a) may exercise all of the privileges of a Class A permit;
and
(b) administer, or supervise the administration of, nitrous
oxide induced minimal sedation in compliance with the ADA Use
Guidelines.
[administer or supervise the administration of nitrous oxide
induced conscious sedation in addition to the privileges granted
to one holding a Class I permit; and
(b) shall ensure that:
(i) every patient under nitrous oxide administration is under
continuous in-operatory observation by a member of the dental
patient care staff;
(ii) nitrous oxide and oxygen flow rates and sedation duration and
clearing times are appropriately documented in patient records;
(iii) reasonable and prudent controls are in place and followed in
regard to nitrous oxide to ensure the health and safety of
patients, dental office personnel, and the general public;
(iv) the dental facility is equipped with adequate and appropriate
equipment, in good working order, to assess vital signs; and
(v) equipment used in the administration of nitrous oxide has a
scavenging system and that all gas delivery units have an oxygen
fail-safe system.]
(3) A dentist with a Class [III]C permit:
(a) may exercise all of the privileges of a Class B permit;
and
(b) may administer, or supervise the administration of, minimal sedation via nitrous oxide/oxygen with or without the
administration of a single enteral drug in compliance with the ADA
Use Guidelines.
[may administer or supervise the administration of parenteral
conscious sedation in addition to the privileges granted one
holding a Class I and Class II permit; and
(b) shall ensure that:
(i) the dental facility has adequate and appropriate
monitoring equipment, including pulse oximetry, current emergency
drugs, and equipment capable of delivering oxygen under positive
pressure];
(ii) [the patient's heart rate, blood pressure, respirations]
and responsiveness are checked at specific intervals during the anesthesia and recovery period, and that these observations are appropriately recorded in the patient record;
   (iii) the dental facility is equipped to treat emergencies providing immediate access to advanced airway equipment, and resuscitation medications;
   (iv) that the above equipment is inspected annually by a certified technician and is calibrated and in good working order;
   (v) that inhalation agents' flow rates and sedation duration and clearing times are appropriately documented in patient records; and
   (vi) a minimum of two persons, with one person constantly monitoring the patient, are present during the administration of [parenteral conscious] sedation as follows:
      (A) an operating permittee dentist and a BCLS certified assistant trained and qualified to monitor appropriate and required physiologic parameters;
      (B) an operating dentist and a permittee dentist; or
      (C) an operating permittee dentist and another licensed professional qualified to administer this class of anesthesia].
(4) A dentist with a class D permit:
      (a) may exercise all of the privileges of a Class C permit;
      (b) may administer, or supervise the administration of, moderate sedation in compliance with the ADA Use Guidelines; and
      (c) shall comply with Section 58-69-502.5 if administering sedation or anesthesia intravenously in an outpatient setting that is not an emergency department.
(4)5) A dentist with a class IV permit:
      (a) may exercise all of the privileges of a Class D permit;
      (b) may administer, or supervise the administration of, general anesthesia or deep sedation in compliance with the ADA Use Guidelines; and
      (c) shall comply with Section 58-69-502.5 if administering sedation or anesthesia intravenously in an outpatient setting that is not an emergency department.
   (b) shall ensure that:
      (i) the dental facility is equipped with has precordial stethoscope for continuous monitoring of cardiac function and respiratory work, electrocardiographic monitoring and pulse oximetry, means of monitoring blood pressure, and temperature monitoring; the preceding or equivalent monitoring of the patient
will be used for all patients during all general anesthesia or deep sedation procedures; in addition, temperature monitoring will be used for children;

(ii) the dental facility is equipped to treat emergencies providing immediate access to advanced airway equipment, resuscitation medications, and defibrillator;

(iii) the above equipment is inspected annually by a certified technician and is calibrated and in good working order; and

(iv) three qualified and appropriately trained individuals are present during the administration of general anesthesia or deep sedation as follows:

(A) an operating dentist holding a permit under this classification, an anesthesia assistant trained to observe and monitor the patient using the equipment required above, and an individual to assist the operating dentist;

(B) an operating dentist, an assistant to the dentist and a dentist holding a permit under this classification; or

(C) another licensed professional qualified to administer this class of anesthesia and individual to assist the operating dentist.

(5) Any dentist administering any anesthesia to a patient which results in, either directly or indirectly, the death or adverse event resulting in hospitalization of a patient shall submit a complete report of the incident to the Board within 30 days.


In accordance with Subsection 58-69-102(7)6(a)(ix), other practices of dental hygiene include performing laser bleaching and laser periodontal debridement.

R156-69-603. Use of Unlicensed Individuals as Dental Assistants.

In accordance with Section 58-69-803, the standards regulating the use of unlicensed individuals as dental assistants are that an unlicensed individual shall not, under any circumstance:

(1) render definitive treatment diagnosis;
(2) place, condense, carve, finish or polish restorative materials, or perform final cementation;
(3) cut hard or soft tissue or extract teeth;
(4) remove stains, deposits, or accretions, except as is incidental to polishing teeth coronally with a rubber cup;
(5) initially introduce nitrous oxide and oxygen to a
patient for the purpose of establishing and recording a safe plane of analgesia for the patient, except under the direct supervision of a licensed dentist after a baseline percentage and flow rate suitable for the patient is established and documented by a licensed dentist holding the appropriate permit;

(6) remove bonded materials from the teeth with a rotary dental instrument or use any rotary dental instrument within the oral cavity except to polish teeth coronally with a rubber cup;

(7) take jaw registrations or oral impressions for supplying artificial teeth as substitutes for natural teeth, except for diagnostic or opposing models for the fabrication of temporary or provisional restorations or appliances;

(8) correct or attempt to correct the malposition or malocclusion of teeth, or make an adjustment that will result in the movement of teeth upon an appliance which is worn in the mouth;

(9) perform sub-gingival instrumentation;

(10) render decisions concerning the use of drugs, their dosage or prescription;

(11) expose radiographs without meeting the following criteria:

(a) completing a dental assisting course accredited by the ADA Commission on Dental Accreditation; or

(b) passing one of the following examinations:

(i) the DANB Radiation Health and Safety Examination (RHS);

or

(ii) a radiology exam approved by the Board that meets the criteria established in Section R156-69-604; or

(12) work without a current CPR or BCLS certification.

R156-69-604. Radiology Course for Unlicensed Individuals as Dental Assistants.

In accordance with Section 58-69-803 and Subsection 58-54-[4-3]306(2), the radiology course in Subsection R156-69-603(11) shall include radiology theory consisting of:

(1) orientation to radiation technology;

(2) terminology;

(3) radiographic dental anatomy and pathology (cursory);

(4) radiation physics (basic);

(5) radiation protection to patient and operator;

(6) radiation biology including interaction of ionizing radiation on cells, tissues and matter;

(7) factors influencing biological response to cells and tissues to ionizing radiation and cumulative effects of x-
radiation;
(8) intraoral and extraoral radiographic techniques;
(9) processing techniques including proper disposal of chemicals; and
(10) infection control in dental radiology.