VIRGINIA BOARD OF DENTISTRY

**AGENDAS**

March 7-8, 2013

Department of Health Professions

Perimeter Center - 9960 Mayland Drive, 2nd Floor Conference Center - Henrico, Virginia 23233

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## March 7, 2013

**9:00 a.m.** **Conflict Training – Mr. Casway**

**10:30 a.m.** **Review of ADA Guidelines for Conscious/Moderate Sedation Continuing Education Training – Ms. Yeatts** P1-P55

**Review of Regulatory Requirements for Conscious/Moderate Sedation Training – Ms. Reen** P56-P114

**12:00** **Lunch**

**12:30 p.m. to 4:00 p.m.** **Probable Cause Case Reviews**

**12:30 p.m.** **Executive Committee (Boyd, Levin, Cutright)**

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**1:00 p.m.** **Examination Committee (Cutright, Watkins, Swecker)**

- Approval of February 1, 2013 Minutes P120-P124
- Discuss the Clinical Exam Advisory Panel's Advice
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# Review of ADA Guidelines for Conscious/Moderate Sedation Continuing Education Programs

# GUIDELINES FOR TEACHING THE COMPREHENSIVE CONTROL OF ANXIETY AND PAIN IN DENTISTRY

As adopted by the American Dental Association's House of Delegates
October 2005

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## INTRODUCTION

Anxiety and pain control can be defined as the application of various physical, chemical and psychological modalities to the prevention and treatment of preoperative, operative and postoperative patient anxiety and pain. It involves all phases of dentistry and, as such, is one of the most important aspects of dental education. These *Guidelines* are intended to delineate the scope of anxiety and pain control and to set standards of acceptability for the teaching of this subject at the predoctoral, advanced (graduate and postgraduate) and continuing education levels. They present methods for achieving the objectives identified for each of these phases of instruction, with general descriptions of course content, sequence of instruction, faculty qualifications and suggestions regarding acceptable facilities and equipment. Prerequisites for admission to each level of training also are presented. Finally, these *Guidelines* identify the kinds of institutions and agencies which should properly provide educational programs of anxiety and pain control.

It is not the intent of the guidelines to fit every program into the same rigid educational mold. This is neither possible nor desirable. There must always be room for innovation and improvement. They do, however, provide a reasonable measure of program acceptability, applicable to all institutions and agencies engaged in predoctoral, advanced (graduate and postgraduate) and continuing education.

In proposing these *Guidelines*, it is recognized that many members of the profession have acquired a high degree of competency in the use of anxiety and pain control procedures through a combination of instructional courses and experience. It is assumed that this has enabled these teachers and practitioners to meet the educational criteria described in this document.

## DEFINITIONS

**Methods of Anxiety and Pain Control:** A variety of terms are used to describe the different methods of controlling anxiety and pain. The following are definitions of the terms as used in this document.

*Analgesia* – the diminution or elimination of pain.

*Anxiolysis* – the diminution or elimination of anxiety.

*local anesthesia* – the elimination of sensation, especially pain, in one part of the body by the topical application or regional injection of a drug.

*conscious sedation*[1] – a minimally depressed level of consciousness that retains the patient's ability to independently and continuously maintain an airway and respond appropriately to physical stimulation or verbal command and that is produced by a pharmacological or non-pharmacological method or a combination thereof.

In accord with this particular definition, the drugs and/or techniques used should carry a margin of safety wide enough to render unintended loss of consciousness unlikely. Further, patients

[1] Parenteral conscious sedation may be achieved with the administration of a single agent or by the administration of more than one agent.

whose only response is reflex withdrawal from repeated painful stimuli would not be considered to be in a state of conscious sedation.

*combination inhalation-enteral conscious sedation* (combined conscious sedation) – conscious sedation using inhalation and enteral agents.

**When the intent is anxiolysis only, and the appropriate dosage of agents is administered, then the definition of enteral and/or combination inhalation-enteral conscious sedation (combined conscious sedation) does not apply.**

Nitrous oxide/oxygen when used in combination with sedative agents may produce anxiolysis, conscious or deep sedation or general anesthesia.

*titration* – the administration of small incremental doses of a drug until a desired clinical effect is observed.

In accord with this particular definition, the clinical effects of titration of oral medication for the purposes of sedation are unpredictable. Repeated dosing of orally administered sedative agents may result in an alteration of the state of consciousness deeper than the intent of the practitioner. Except in unusual circumstances, the maximum recommended dose of an oral medication should not be exceeded.

*deep sedation* – an induced state of depressed consciousness accompanied by partial loss of protective reflexes, including the inability to continually maintain an airway independently and/or to respond purposefully to physical stimulation ***or*** verbal command, and is produced by a pharmacological or non-pharmacological method or a combination thereof.

*general anesthesia* – an induced state of unconsciousness accompanied by partial or complete loss of protective reflexes, including the inability to continually maintain an airway independently and respond purposefully to physical stimulation or verbal command, and is produced by a pharmacological or non-pharmacological method or a combination thereof.

The same level of advanced training identified in Part II of this document is necessary for the administration of both deep sedation and general anesthesia.

**Routes of Administration:** The following are definitions of terms used in this document to describe routes of administration.

*enteral* – any technique of administration in which the agent is absorbed through the gastrointestinal (GI) tract or oral mucosa [i.e., oral, rectal, sublingual].

*parenteral* – a technique of administration in which the drug bypasses the gastrointestinal (GI) tract [i.e., intramuscular (IM), intravenous (IV), intranasal (IN), submucosal (SM), subcutaneous (SC), intraocular (IO)].

*transdermal/transmucosal* – a technique of administration in which the drug is administered by patch or iontophoresis.

*inhalation* – a technique of administration in which a gaseous or volatile agent is introduced into the pulmonary tree and whose primary effect is due to absorption through the pulmonary bed.

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

*must/shall* – indicates an imperative need and/or duty; an essential or indispensable item; mandatory.

*should* – indicates the recommended manner to obtain the standard; highly desirable.

*may* – indicates freedom or liberty to follow a reasonable alternative.

*continual* – repeated regularly and frequently in a steady succession.

*continuous* – prolonged without any interruption at any time.

*time-oriented anesthesia record* – documentation at appropriate intervals of drugs, doses and physiologic data obtained during patient monitoring.

*immediately available* – on site in the facility and available for immediate use.

**Levels of Knowledge:** The following definitions of levels of knowledge are used in this document.

*familiarity* - a simplified knowledge for the purpose of orientation and recognition of general principles.

*understanding* – adequate knowledge with the ability to apply

*in-depth* - a thorough knowledge of concepts and theories for the purpose of critical analysis and the synthesis of more complete understanding (highest level of knowledge).

**Levels of Skill:** The following definitions of levels of skill are used in this document.

*exposed* - the level of skill attained by observation of or participation in a particular activity.

*competent* - displaying special skill or knowledge derived from training and experience.

*proficient* - the level of skill attained when a particular activity is accomplished with repeated quality and a more efficient utilization of time (highest level of skill).

**Patient Physical Status Classification:**

*ASA* I - A normal healthy patient. *(ASA = American Society of Anesthesiologists)*

*ASA* II - A patient with mild systemic disease.

*ASA* III - A patient with severe systemic disease.

*ASA* IV - A patient with severe systemic disease that is a constant threat to life.

*ASA* V - A moribund patient who is not expected to survive without the operation.

*ASA* VI - A declared brain-dead patient whose organs are being removed for donor purposes.

*E* - Emergency operation of any variety (used to modify one of the above classifications, i.e., ASA III-E).

## SCOPE OF ANXIETY AND PAIN CONTROL

A thorough understanding of anxiety and pain and their management requires knowledge in the following areas:

A. Human behavior and psychologic aspects of anxiety and pain

B. Anatomy and neuroanatomy relevant to anxiety and pain control

C. Physiologic aspects of anxiety and pain

D. Pharmacologic aspects of anxiety and pain control

E. Patient Evaluation

F. Prevention, recognition and management of complications and emergencies related to techniques of anxiety and pain control, including cardiovascular and pulmonary resuscitation

G. Organic pain problems

1. Trigeminal neuralgia
2. Atypical facial neuralgia and vascular pains
3. Oral and facial pain syndromes

H. Techniques of preoperative and operative anxiety and pain control

1. Analgesia
   a. Enteral
   b. Inhalation
   c. Parenteral
2. Local anesthesia
   a. Transdermal/Transmucosal
   b. Injection – Infiltration (supraperiosteal)
   c. Injection – Nerve block
   d. Alternative injections
3. Conscious Sedation
   a. Enteral
   b. Inhalation
   c. Combination inhalation-enteral conscious sedation (combined conscious sedation)
   d. Parenteral
   e. Combinations
4. Deep Sedation and General Anesthesia
   a. Enteral
   b. Inhalation

c Parenteral

d. Combinations

5. Nonpharmacologic methods

a. Psychological and behavioral methods

(1) Anxiety management

(2) Relaxation techniques

(3) Systematic desensitization

b. Interpersonal strategies of patient management

c. Hypnosis

d. Electronic dental anesthesia

e. Acupuncture/acupressure

f. Other

6. Interaction of psychological management and pharmacological anxiety and pain control

I. Techniques of postoperative anxiety and pain control

1. Enteral

2. Parenteral

3. Combinations

4. Nonpharmacological techniques

J. Techniques of Chronic Pain Control

1. Pharmacologic Methods

2. Transcutaneous electrical nerve stimulation (TENS)

3. Dorsal column stimulation

4. Acupuncture/acupressure

5. Neuro-ablative techniques

6. Nonpharmacological techniques

To acquire the depth of information and breadth of experience needed to become proficient in all these areas of anxiety and pain control obviously requires study beyond the predoctoral level.

## PART ONE

## TEACHING THE COMPREHENSIVE CONTROL OF ANXIETY AND PAIN TO THE DENTAL STUDENT

**Introduction:** These *Guidelines* are intended to provide direction for education programs in anxiety and pain control offered at the predoctoral level.* Faculty responsible for this curriculum must be familiar with the ADA Policy Statement: *The Use of Conscious Sedation, Deep Sedation and General Anesthesia in Dentistry* and the *Guidelines for the Use of Conscious Sedation, Deep Sedation and General Anesthesia for Dentists.*

The curriculum in anxiety and pain control is a continuum of educational experiences that will extend over several years of the predoctoral program. It should provide the dental student with the knowledge and skills necessary to render the conscious patient free from anxiety and pain without inducing detrimental physiological or psychological side effects.

Institutions whose goal is to have students achieve competency in techniques such as local anesthesia and nitrous oxide inhalation sedation must meet all of the goals, prerequisites, didactic content, clinical experiences, faculty and facilities, as described in Part One.

**A. Goals:** The wide spectrum of techniques available to the dental student for the control of anxiety and pain should include both psychological and pharmacological intervention strategies. Psychological strategies should include simple relaxation techniques for the anxious patient and more comprehensive behavioral techniques to control pain. Pharmacological strategies should include not only local anesthetics but also sedatives, analgesics and other useful agents. Students should learn indications and techniques for administering these drugs enterally, parenterally and by inhalation as supplements to local anesthesia. The predoctoral curriculum should provide students with instruction and experience in anxiety and pain control, including conscious sedation. The predoctoral program must also provide students with the knowledge and skill to recognize and manage any emergencies that might arise as a consequence of treatment. Training needed for competency in the administration of deep sedation and general anesthesia are beyond the scope of predoctoral education and can be acquired only at the advanced education level. (See Part Two)

**Students must:**

1. Have an in-depth knowledge of those aspects of anatomy, physiology, pharmacology and psychology involved in the use of various anxiety and pain control methods.
2. Be competent in evaluating the psychological and physical status of the patient, as well as the magnitude of the operative procedure, in order to select the proper regimen.
3. Be competent in monitoring vital functions.
4. Be competent in prevention, recognition and management of related complications.

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* Accreditation standards related to this area are contained in the Commission on Dental Accreditation's Accreditation Standards for Dental Education Programs – Standard 2-25e.

5. Be familiar with the appropriateness of and the indications for medical consultation or referral.

6. Be competent in each anxiety and pain control modality in which competency is certified. Determination of competency is the responsibility of qualified faculty.

7. Be competent in the maintenance of proper records with accurate chart entries recording medical history, physical examination, vital signs, drugs administered and patient response.

**B. Prerequisites:** Gross anatomy, neuroanatomy, physiology, pharmacology, immunology and behavioral sciences provide the necessary background for the predoctoral instruction in anxiety and pain control. In schools where pharmacology is taught late in the curriculum, those aspects related to the management of anxiety and pain should be presented during the anxiety and pain control instruction. When human behavior and the psychological aspects of patient management are not taught as a separate course, they too should be included in the program of anxiety and pain control instruction.

Knowledge at the understanding level of physical diagnosis and internal medicine are necessary to prepare the student for proper patient evaluation. Instruction in these areas should familiarize the student with the specific problems related to anxiety and pain control that each disease process or physical disability may present in persons seeking dental care.

In all of these prerequisites, the material must be presented in sufficient depth to give the student the didactic background necessary for the safe and effective administration of local anesthesia, nitrous oxide, and other methods of anxiety and pain control taught to competency in the dental program. In-depth knowledge of the recognition and management of medical emergencies and competency in the delivery of basic life support are required prerequisites for the student to assume primary clinical responsibilities in anxiety and pain control.

**C. Didactic Curricular Content:** Predoctoral instruction in anxiety and pain control should emphasize the following areas:

1. Philosophy of anxiety and pain control and patient management, including the nature and purpose of pain
2. Review of physiologic and psychologic aspects of anxiety and pain
3. Review of airway anatomy and physiology
4. Physiologic monitoring
   - a. Observation
     - (1) Central nervous system
     - (2) Respiratory system
       - a. oxygentation
       - b. ventilation
     - (3) Cardiovascular system
   - b. Monitoring equipment

5. Pharmacologic aspects of anxiety and pain control
    a. Local anesthetics
    b. Anxiolytics
    c. Sedatives
    d. Analgesics
    e. Agonists/antagonists
    f. Adverse side effects
    g. Drug interactions
6. Organic pain problems and their management
7. Control of preoperative and operative anxiety and pain
    a. Patient evaluation
        (1) Psychological status
        (2) ASA physical status
        (3) Type and extent of operative procedure
    b. Nonpharmacologic methods
        (1) Psychological and behavioral methods
            (a) Anxiety management
            (b) Relaxation techniques
            (c) Systematic desensitization
        (2) Interpersonal strategies of patient management
        (3) Hypnosis
        (4) Electronic dental anesthesia
        (5) Acupuncture/Acupressure
        (6) Other
    c. Pharmacologic Methods
        (1) Analgesia and anxiolysis
            (a) Review of physiologic considerations
            (b) Selection of agents
            (c) Techniques of administration
                (i) Enteral
                (ii) Parenteral
                (iii) Inhalation
            (d) Prevention, recognition and management of complications and emergencies

(e) Potential occupational hazards associated with conscious sedation

(i) Abuse potential by dental personnel

(ii) Chronic exposure to waste anesthetic gas

(iii) Infection risk

(2) Local anesthesia

(a) Review of related anatomy, pharmacology and physiology

(b) Selection of agents

(c) Techniques of administration

(i) Transdermal/transmucosal

(ii) Infiltration (supraperiosteal)

(iii) Nerve block – maxilla

(aa) Posterior superior alveolar

(bb) Infraorbital

(cc) Nasopalatine

(dd) Greater palatine

(ee) Maxillary (2nd division)

(iv) Nerve block – mandible

(aa) Inferior alveolar-lingual

(bb) Mental-incisive

(cc) Buccal

(dd) Gow-Gates

(ee) Closed mouth

(v) Alternative injections

(aa) Periodontal ligament

(bb) Intraosseous

(d) Prevention, recognition and management of complications and emergencies

(3) Conscious sedation

(a) Review of related anatomy, pharmacology and physiology

(b) Selection of agents

(c) Armamentarium for administration

(d) Techniques of administration

(i) Enteral

(ii) Parenteral

(iii) Inhalation

(iv) Combinations

(e) Potential occupational hazards associated with conscious sedation

(i) Abuse potential by dental personnel

(ii) Chronic exposure to waste anesthetic gas

(iii) Infection risk

(f) Prevention, recognition and management of complications and emergencies

(4) Overview of deep sedation and general anesthesia

(a) Review of related anatomy, pharmacology and physiology

(b) Selection of agents

(c) Indications and contraindications for use of deep sedation and general anesthesia in ambulatory patients

(d) Patient selection and preparation

(e) Complications associated with use of deep sedation and general anesthesia

(5) Interaction of pharmacological and psychological methods

(6) Control of postoperative anxiety and pain

(a) Use of appropriate instructions and interpersonal strategies

(b) Selection of appropriate pharmacological agents based on procedure and psychological background

(c) Nonpharmacological techniques

8. Techniques of Chronic Pain Control

a. Pharmacologic Methods

b. Transcutaneous electrical nerve stimulation (TENS)

c. Dorsal column

d. Acupuncture/Acupressure

e. Neuro-ablative techniques

9. Principles of advanced life support

a. Students should have access to an advanced cardiac life support course or an appropriate equivalent.

**D. Sequence of Didactic and Clinical Instruction:** The predoctoral program in anxiety and pain control should begin with a course in local anesthesia. Generally this instruction is offered after the student has satisfactorily completed anatomy, physiology and behavioral sciences, and prior to the time that the student undertakes clinical procedures that demand knowledge of the subject. Ideally, it would also be beneficial for the student to have completed pharmacology. However, when this is not possible, those aspects of the basic sciences related to local anesthetics should be

taught as part of the clinical course. Before beginning the clinical use of any drugs, the student must document current successful completion of a course in basic life support or an appropriate equivalent and receive instruction in the management of other emergencies.

Beyond the basic didactic instruction in local anesthesia, additional time should be provided for demonstrations and clinical practice of the injection techniques. This instruction preferably should be offered prior to the clinical courses requiring use of local anesthetic agents.

The teaching of other methods of anxiety and pain control, such as the use of analgesics and enteral, inhalation and parenteral conscious sedation, should start after the course in pharmacology. By this time the student also will have developed a better understanding of patient evaluation and the problems related to prior patient care. As part of this instruction, the student should be taught the techniques of venipuncture and physiologic monitoring. Time should be included for demonstration of conscious sedation techniques.

Following didactic instruction in conscious sedation, the student must receive sufficient clinical experience to demonstrate competency in those techniques in which the student is to be certified. It is understood that all institutions may not be able to provide instruction to the level of clinical competence in anxiety and pain control modality to all students. The amount of clinical experience required to achieve competency will vary according to student ability, teaching methods and the anxiety and pain control modality taught.

Clinical experience in conscious sedation techniques should be related to various disciplines of dentistry and not limited to surgical cases. Typically, such experience will be provided in managing healthy adult patients. Additional supervised clinical experience is necessary to prepare students to manage children and those patients with special care needs.

Throughout both didactic and clinical instruction in anxiety and pain control, psychological management of the patient should be stressed. The relation between the patient's anxiety level and the ease of obtaining analgesia or sedation should be emphasized.

E. **Student Evaluation and Documentation of Experience:** All students performing conscious sedation techniques must be under the supervision of qualified faculty. Students to be certified as competent in a conscious sedation technique must be provided sufficient clinical experience to achieve competence. The faculty must be prepared to certify student competency upon satisfactory completion of training in each anxiety and pain control modality. In addition, records of the number of patients managed by each student in each modality must be maintained and available for review by appropriate credentialing agencies.

F. **Faculty:** Instruction must be provided by qualified faculty for whom anxiety and pain control are areas of major proficiency, interest and concern.

One individual should be designated coordinator, and it should be that individual's responsibility to integrate the anxiety and pain control program within the various department of the school. This individual should be qualified in all aspects of the subject and should have qualified faculty and staff to assist in teaching the dental students, as well as to orient faculty members in other departments to become proficient in anxiety and pain control techniques. This will provide continuity of instruction in the use of the various aspects of anxiety and pain control and, hence, present a unified teaching effort to the students. Where feasible, the talents and resources of a related medical school, hospital dental department or hospital department of anesthesiology should be used in the teaching and research program in anesthesiology.

Members of the faculty must be available during all clinic hours for consultation, supervision and assistance.

G. **Facilities:** All areas in which local anesthesia and sedation are being used must be properly equipped with suction, physiologic monitoring equipment, positive pressure oxygen and emergency drugs. A protocol for the management of emergencies must be developed and training programs held at frequent intervals.

## PART TWO
## TEACHING THE COMPREHENSIVE CONTROL OF ANXIETY AND PAIN AT THE ADVANCED EDUCATION LEVEL

**Introduction:** These *Guidelines* are intended to provide direction for education programs in anxiety and pain control offered at the advanced level (graduate or postgraduate). Advanced education programs in endodontics, oral and maxillofacial surgery, pediatric dentistry, periodontics, general practice residency and advanced education in general dentistry have requirements specific to the training in anxiety and pain control. These requirements are described in the Commission on Dental Acccreditation requirements for each advanced program. Accordingly, these *Guidelines* are not meant to apply to the anesthesia component of advanced education programs in any of the above mentioned education programs.

**A. Goals:** The goal of an advanced education program (graduate or postgraduate) in anxiety and pain control should be to prepare the dentist, in the most comprehensive manner, to use pharmacologic and non-pharmacologic methods to manage anxiety and pain of adults, and children, and those patients with special care needs, as well as to be qualified in the diagnosis and treatment of acute and chronic orofacial pain.

**B. Objectives:** Upon completion of training, the dentist must be:

1. Proficient in the diagnosis and treatment of pain problems related to the head and neck region.
2. Able to demonstrate in-depth knowledge of the anatomy and physiology of the human body and its response to the various pharmacologic agents used in anxiety and pain control.
3. Proficient in evaluating patients as physiological and/or psychological risks for the use of various modalities of anxiety and pain control.
4. Proficient in evaluating patients' psychological and/or physiological need for various forms of anxiety and pain control and their potential response to anxiety and pain control procedures.
5. Proficient in selecting the proper modality to use in relation to specific pain problems and the physical and psychological condition of the patient.
6. Proficient in the various techniques of local anesthesia, sedation and general anesthesia, as well as in psychological management and behavior modification, as they relate to anxiety and pain control in dentistry.
7. Proficient in handling emergencies and complications related to anxiety and pain control procedures, including the immediate establishment of an airway and maintenance of respiration and circulation, and must document current successful completion of an advanced cardiac life support course or an appropriate equivalent.
8. Able to demonstrate in-depth knowledge of current research in the field.

**C. Prerequisites:** To be eligible for enrollment in an advanced education program (graduate or postgraduate) in anxiety and pain control, the dentist must have graduated from either a dental school accredited by the Commission on Dental Accreditation of the American Dental Association or from a foreign dental school that has equivalent predoctoral requirements as

determined by the institution and program. The applicant's scholastic record should indicate the ability to pursue advanced education in the area of anxiety and pain control. Prior hospital experience is desirable.

**D. Course Content:** The advanced education program in anxiety and pain control must consist of didactic as well as clinical training. The didactic component may precede the clinical component, or the components may be integrated. The trainee must receive the equivalent of two calendar years of training, on a consecutive or divided basis, as the minimum time required to provide an acceptable clinical and didactic program in comprehensive anxiety and pain control. Students should be encouraged to become involved in some form of basic or clinical research during the program.

Both lectures and seminars are appropriate for providing the didactic portion of the program. Students also must participate in appropriate journal clubs and have specific assignments requiring literature review and critique. The didactic subject matter must include:

1. Applied biomedical sciences (physiology, pharmacology, immunology, gross anatomy and neuroanatomy). The instruction in physiology and anatomy should be sufficiently broad to provide for a thorough understanding of the body processes related to anesthesia and anxiety and pain control. Instruction in pharmacology should provide an understanding of the mechanisms of drug action and interaction, as well as information about the properties of drugs used.
2. Patient evaluation.
3. Psychological aspects of human behavior as they relate to the management of anxiety and pain.
4. Diagnosis and treatment of pain problems of the head and neck.
5. Techniques of anxiety and pain control, including physical, pharmacological and nonpharmacological methods.
6. Management of related emergencies and complication.
7. Review of contemporary literature.

The time required to achieve clinical proficiency in anxiety and pain control will vary with facilities, teaching staff and patient load. At a minimum, a total of twelve months over the two-year period should be devoted exclusively to clinical training in general anesthesia and related subjects such as establishing and maintaining an emergency airway and use and interpretation of appropriate monitoring. If students are assigned to a hospital anesthesia service, their commitment assignment should be full time, and each student should participate in all of the usual duties of anesthesiology residents, including preanesthetic patient evaluation, administration of anesthesia in the operating room on a daily scheduled basis, postanesthetic patient management and emergency call. To establish and conduct a meaningful joint training program, the support and cooperation of the director of the Department of Anesthesiology is desirable.

Experience in the administration of general anesthesia and other forms of anxiety and pain control for ambulatory dental patients must be provided. Qualified dental members of the

medical-dental staff should supervise this aspect of the training. When all aspects of clinical training can be provided in the dental department, such arrangements are acceptable.

E. **Length of Program:** An advanced education program in anesthesia and anxiety and pain control must be a minimum of two calendar years in length.

F. **Faculty:** The individual responsible for the advanced education program should be a dentist or physician qualified by experience and training in comprehensive anxiety and pain control in dentistry. This individual should have had at least three years of experience, including the individual's formal training in general anesthesia. Research experience also is desirable. When specialists in more than one discipline of dentistry are being trained in the program, the teaching staff should include individuals qualified in these special areas, as well as in anesthesiology, in order to provide for proper clinical instruction.

G. **Facilities:** All areas in which this level of clinical training is being conducted must be appropriately equipped with suction, physiologic monitoring equipment, positive pressure oxygen and emergency drugs and equipment for the administration of deep sedation and general anesthesia.

## PART THREE
## TEACHING THE COMPREHENSIVE CONTROL OF ANXIETY AND PAIN IN A CONTINUING EDUCATION PROGRAM

The goal of continuing education programs in anxiety and pain control is to provide the educational opportunity for dentists to receive training in the various techniques and skills required to manage anxiety and pain in the conscious dental patient and to permit dentists who have previously received such training to maintain and/or upgrade their knowledge and skills. The faculty responsible for curriculum in conscious sedation techniques must be familiar with the ADA Policy Statement: *The Use of Conscious Sedation, Deep Sedation and General Anesthesia in Dentistry*, and the Commission on Dental Accreditation's *Accreditation Standards for Dental Education Programs*.

These *Guidelines* present a basic overview of the requirements for properly teaching continuing education courses in anxiety and pain control for the conscious patient. These include courses in local anesthesia, pharmacological and non-pharmacological methods of controlling anxiety and pain and the management of related complications. This section is divided into three sections: inhalation, enteral and/or combination inhalation-enteral (combined) and parenteral conscious sedation techniques.

The scope of training and time required to prepare the practitioner to manage patients with deep sedation or general anesthesia restrict this aspect of teaching to an advanced education program (graduate or postgraduate). (See Part Two)

### I. General Principles

**A. Course Level:** Continuing education may be offered at three different levels (intensive, supplemental and survey courses). A description of these different levels follows:

1. **Intensive Courses** are designed to meet the needs of dentists who wish to become knowledgeable and proficient in the safe and effective administration of inhalation, enteral and/or combination inhalation-enteral conscious sedation (combined conscious sedation) and parenteral conscious sedation techniques. They consist of lectures, demonstrations and sufficient clinical participation to assure the faculty that the dentist understands the procedures taught and can safely and effectively apply them. Faculty must be prepared to assess and document the individual's competency upon successful completion of such training. To maintain competency, periodic supplemental courses must be completed.

2. **Supplemental Courses** are designed for persons with previous training. They are intended to provide a review of the subject and an introduction to recent advances in the field. They should be designed didactically and clinically to meet the specific needs of the participants. Participants must be able to document previous training (equivalent, at a minimum, to the intensive continuing education course described in this document) and current experience to be eligible for enrollment in a supplemental course.

3. **Survey Courses** are designed to provide general information about subjects related to anxiety and pain control. Such courses should be didactic and not clinical in nature, since they are not intended to develop clinical competency. Practitioners seeking to develop

clinical competency in any technique described in Part Three must successfully complete an intensive continuing education course teaching that technique.

**B. General Objectives:** Upon completion of an intensive continuing education course in inhalation, enteral and/or combination inhalation-enteral (combined) or parenteral conscious sedation techniques, the dentist should be able to:

1. Describe the adult and pediatric anatomy and physiology of the respiratory, cardiovascular and central nervous systems, as they relate to the above techniques.
2. Describe the pharmacological effects of drugs.
3. Describe the methods of obtaining a medical history and conduct an appropriate physical examination.
4. Apply these methods clinically in order to obtain an accurate evaluation.
5. Use this information clinically for ASA classification and risk assessment.
6. Choose the most appropriate technique for the individual patient.
7. Use appropriate physiologic monitoring equipment.

## II. Inhalation Sedation (Nitrous Oxide/Oxygen)

**A. Course Objectives:** Upon completion of a course in inhalation sedation techniques, the dentist should be able to:

1. Describe the basic components of inhalation sedation equipment.
2. Discuss the function of each of these components.
3. List and discuss the advantages and disadvantages of inhalation sedation.
4. List and discuss the indications and contraindications of inhalation sedation.
5. List the complications associated with inhalation sedation.
6. Discuss the prevention, recognition and management of these complications.
7. Administer inhalation sedation to patients in a clinical setting in a safe and effective manner.
8. Discuss the abuse potential, occupational hazards and other untoward effects of inhalation agents.

**B. Inhalation Course Content**

1. Historical, philosophical and psychological aspects of anxiety and pain control.
2. Patient evaluation and selection through review of medical history taking, physical diagnosis and psychological profiling.
3. Definitions and descriptions of physiological and psychological aspects of anxiety and pain.
4. Description of the stages of drug-induced central nervous system depression through all levels of consciousness and unconsciousness, with special emphasis on the distinction between the conscious and the unconscious state.
5. Review of pediatric and adult respiratory and circulatory physiology and related anatomy.
6. Pharmacology of agents used in inhalation sedation, including drug interactions and incompatibilities.
7. Indications and contraindications for use of inhalation sedation.
8. Review of dental procedures possible under inhalation sedation.

9. Patient monitoring using observation and monitoring equipment, with particular attention to vital signs and reflexes related to consciousness.
10. Importance of maintaining proper records with accurate chart entries recording medical history, physical examination, vital signs, drugs administered and patient response.
11. Prevention, recognition and management of complications and life-threatening situations.
12. Administration of local anesthesia in conjunction with inhalation sedation techniques.
13. Description and use of inhalation sedation equipment.
14. Introduction to potential health hazards of trace anesthetics and proposed techniques for limiting occupational exposure.
15. Discussion of abuse potential.
16. Discussion of hallucinatory effects.

**C. Inhalation Sedation Course Duration:** While length of a course is only one of the many factors to be considered in determining the quality of an educational program, the course should include a minimum of *14 hours*, including a clinical component during which competency in inhalation sedation technique is demonstrated.

**D. Participant Evaluation and Documentation of Inhalation Sedation Instruction:** Intensive courses in inhalation sedation techniques must afford participants with sufficient clinical experience to enable them to achieve competency. This experience must be provided under the supervision of qualified faculty and must be evaluated. The course director must certify the competency of participants upon satisfactory completion of training in each conscious sedation technique, including instruction, clinical experience and airway management.

Records of the didactic instruction and clinical experience (including the number of patients managed by each participant in each anxiety and pain control modality) must be maintained and available for review by appropriate credentialing agencies. Such documentation must not be, or resemble, a certificate or diploma.

**E. Faculty:** For all facets of training, the course should be directed by a dentist or physician qualified by experience and training. This individual should have had at least three years of experience, including the individual's formal postdoctoral training in anxiety and pain control. Dental faculty with broad clinical experience in the particular aspect of the subject under consideration should participate. In addition, the participation of highly qualified individuals in related fields, such as anesthesiologists, pharmacologists, internists, and cardiologists and psychologists, should be encouraged.

A participant-teacher ratio of not more than ten-to-one when inhalation sedation is being used allows for adequate supervision during the clinical phase of instruction; a one-to-one ratio is recommended during the early state of participation.

The faculty should provide a mechanism whereby the participant can evaluate the performance of those individuals who will be presenting the course material.

**F. Facilities:** Intensive courses should be presented where adequate facilities are available for proper patient care, including drugs and equipment for the management of emergencies.

## III. Enteral and/or Combination Inhalation-Enteral Conscious Sedation (Combined Conscious Sedation)

**A. Course Objectives:** Upon completion of a course in enteral and/or combination inhalation-enteral conscious sedation (combined conscious sedation) techniques, the dentist should be able to:

1. Describe the basic components of inhalation sedation equipment.
2. Discuss the function of each of these components.
3. List and discuss the advantages and disadvantages of enteral and/or combination inhalation-enteral conscious sedation (combined conscious sedation).
4. List and discuss the indications and contraindications for the use of enteral and/or combination inhalation-enteral conscious sedation (combined conscious sedation).
5. List the complications associated with enteral and/or combination inhalation-enteral conscious sedation (combined conscious sedation).
6. Discuss the prevention, recognition and management of these complications.
7. Administer enteral and/or combination inhalation-enteral conscious sedation (combined conscious sedation) to patients in a clinical setting in a safe and effective manner.
8. Discuss the abuse potential, occupational hazards and other effects of enteral and inhalation agents.
9. Discuss the pharmacology of the enteral and inhalation drugs selected for administration.
10. Discuss the precautions, contraindications and adverse reactions associated with the enteral and inhalation drugs selected.
11. Describe a protocol for management of emergencies in the dental office and list and discuss the emergency drugs and equipment required for management of life-threatening situations.
12. Demonstrate the ability to manage life-threatening emergency situations, including current successful completion of a basic life support course.
13. Discuss the pharmacological effects of combined drug therapy, their implications and their management.

**B. Course Content**

1. Historical, philosophical and psychological aspects of anxiety and pain control.
2. Patient evaluation and selection through review of medical history taking, physical diagnosis and psychological profiling.
3. Definitions and descriptions of physiological and psychological aspects of anxiety and pain.
4. Description of the stages of drug-induced central nervous system depression through all levels of consciousness and unconsciousness, with special emphasis on the distinction between the conscious and the unconscious state.
5. Review of pediatric and adult respiratory and circulatory physiology and related anatomy.
6. Pharmacology of agents used in enteral and/or combination inhalation-enteral conscious sedation (combined conscious sedation), including drug interactions and incompatibilities.
7. Indications and contraindications for use of enteral and/or combination inhalation-enteral conscious sedation (combined conscious sedation).
8. Review of dental procedures possible under enteral and/or combination inhalation-enteral conscious sedation (combined conscious sedation).

9. Patient monitoring using observation, monitoring equipment, with particular attention to vital signs and reflexes related to consciousness.
10. Importance of maintaining proper records with accurate chart entries, recording medical history, physical examination, vital signs, drugs administered and patient response.
11. Prevention, recognition and management of complications and life-threatening situations.
12. Administration of local anesthesia in conjunction with enteral and/or combination inhalation-enteral conscious sedation (combined conscious sedation) techniques.
13. Description and use of inhalation sedation equipment.
14. Introduction to potential health hazards of trace anesthetics and proposed techniques for limiting occupational exposure.
15. Discussion of abuse potential.
16. Discussion of hallucinatory effects.

**C. Enteral and/or Combination Inhalation-Enteral Conscious Sedation (Combined Conscious Sedation) Course Duration:** Participants must be able to document relevant training (e.g., basic life support, nitrous oxide instruction, emergency management) to be eligible for enrollment in this intensive course. A minimum of *18 hours* of instruction, plus *20 clinically-oriented experiences* are required to achieve competency in enteral and/or combination inhalation-enteral conscious sedation (combined conscious sedation) techniques. Clinically-oriented experiences may include group observations on patients undergoing enteral and/or combination inhalation-enteral conscious sedation (combined conscious sedation). Clinical experience in managing a compromised airway is critical to the prevention of life-threatening emergencies. Participants should be provided supervised opportunities for clinical experience to demonstrate competence in management of the airway. Typically, clinical experience will be provided in managing healthy adult patients. Additional supervised clinical experience is necessary to prepare participants to manage children and medically compromised adults. The faculty should schedule participants to return for additional clinical experience if competency has not been achieved in the time allotted.

**D. Participant Evaluation and Documentation of Instruction:** Intensive courses in enteral and/or combination inhalation-enteral conscious sedation (combined conscious sedation) techniques must afford participants with sufficient clinical experience to enable them to achieve competency. This experience must be provided under the supervision of qualified faculty and must be evaluated. The course director must certify the competency of participants upon satisfactory completion of training in each conscious sedation technique, including instruction, clinical experience and airway management.

Records of the didactic instruction and clinical experience must be maintained and available for review by appropriate credentialing agencies. Such documentation must not be, or resemble, a certificate or diploma.

**E. Faculty:** For all facets of training, the course should be directed by a dentist or physician qualified by experience and training. This individual should have had at least three years of experience, including the individual's formal postdoctoral training in anxiety and pain control. Dental faculty with broad clinical experience in the particular aspect of the subject under consideration should participate. In addition, the participation of highly qualified individuals in

related fields, such as anesthesiologists, pharmacologists, internists, and cardiologists and psychologists, should be encouraged.

A participant-teacher ratio of not more than five-to-one allows for adequate supervision during the clinical phase of instruction.

The faculty should provide a mechanism whereby the participant can evaluate the performance of those individuals who will be presenting the course material.

**F. Facilities:** Intensive courses should be presented where adequate facilities are available for proper patient care, including drugs and equipment for the management of emergencies.

## IV. Parenteral Sedation

**A. Course Objectives:** Upon completion of a course in parenteral technique of conscious sedation, the dentist should be able to:

1 List and discuss the advantages and disadvantages of parenteral sedation.
2 Discuss the prevention, recognition and management of complications associated with parenteral sedation.
3 Administer parenteral sedation to patients in a clinical setting in a safe and effective manner.
4 Discuss the abuse potential, occupational hazards and other untoward effects of parenteral sedation.
5 Describe and demonstrate the technique of venipuncture and other parenteral techniques.
6. Discuss the pharmacology of the drug(s) selected for administration.
7. Discuss the precautions, indications, contraindications and adverse reactions associated with the parenteral drug(s) selected.
8. Administer the selected drug(s) parenterally to dental patients in a clinical setting in a safe and effective manner.
9. List the complications associated with parenteral techniques of sedation.
10 Describe a protocol for management of emergencies in the dental office and list and discuss the emergency drugs and equipment required for management of life-threatening situations.
11 Discuss principles of advanced cardiac life support or an appropriate equivalent.
12 Demonstrate the ability to manage life-threatening emergency situations, including current successful completion of a basic life support course.

**B. Parenteral Sedation Course Content**

1. Historical, philosophical and psychological aspects of anxiety and pain control.
2. Patient evaluation and selection through review of medical history taking, physical diagnosis and psychological profiling.
3. Definitions and descriptions of physiological and psychological aspects of anxiety and pain.
4. Description of the stages of drug-induced central nervous system depression through all levels of consciousness and unconsciousness, with special emphasis on the distinction between the conscious and the unconscious state.
5. Review of pediatric and adult respiratory and circulatory physiology and related anatomy.

6. Pharmacology of agents used in parenteral sedation, including drug interactions and incompatibilities.
7. Indications and contraindications for use of parenteral sedation.
8. Review of dental procedures possible under parenteral conscious sedation.
9. Patient monitoring using observation and monitoring equipment, with particular attention to vital signs and reflexes related to consciousness.
10. Importance of maintaining proper records with accurate chart entries recording medical history, physical examination, vital signs, drugs administered and patient response.
11. Prevention, recognition and management of complications and life-threatening situations.
12. Administration of local anesthesia in conjunction with parenteral conscious sedation techniques.
13. Description and use of parenteral sedation equipment.
14. Introduction to potential health hazards of trace anesthetics and proposed techniques for limiting occupational exposure.
15. Discussion of abuse potential.
16. Discussion of hallucinatory effects.
17. Venipuncture: anatomy, armamentarium and technique.
18. Sterile techniques in intravenous therapy and other parenteral techniques.
19. Prevention, recognition and management of local complications of venipuncture and other parenteral techniques.
20. Description and rationale for the technique to be employed.
21. Prevention, recognition and management of systemic complications of parenteral sedation, with particular attention to airway maintenance and support of the respiratory and cardiovascular systems.

C. **Parenteral Conscious Sedation Course Duration:** A minimum of *60 hours* of instruction, plus management of *at least 20 patients* per participant, is required to achieve competency in parenteral conscious sedation techniques. Clinical experience in managing a compromised airway is critical to the prevention of life-threatening emergencies. Participants should be provided supervised opportunities for clinical experience to demonstrate competence in management of the airway. Typically, clinical experience will be provided in managing healthy adult patients. Additional supervised clinical experience is necessary to prepare participants to manage children and medically compromised adults. The faculty should schedule participants to return for additional clinical experience if competency has not been achieved in the time allotted.

D. **Participant Evaluation and Documentation of Instruction:** Intensive courses in parenteral conscious sedation techniques must afford participants with sufficient clinical experience to enable them to achieve competency. This experience must be provided under the supervision of qualified faculty and must be evaluated. The course director must certify the competency of participants upon satisfactory completion of training in each parenteral conscious sedation technique, including instruction, clinical experience and airway management.

Records of the didactic instruction and clinical experience (including the number of patients managed by each participant in each anxiety and pain control modality) must be maintained and available for review by appropriate credentialing agencies. Such documentation must not be, or resemble, a certificate or diploma.

**E. Faculty:** For all facets of training, the course should be directed by a dentist or physician qualified by experience and training. This individual should have had at least three years of experience, including the individual's formal postdoctoral training in anxiety and pain control. Dental faculty with broad clinical experience in the particular aspect of the subject under consideration should participate. In addition, the participation of highly qualified individuals in related fields, such as anesthesiologists, pharmacologists, internists, cardiologists and psychologists, should be encouraged.

A participant-teacher ratio of not more than five-to-one when parenteral sedation is being used allows for adequate supervision during the clinical phase of instruction; a one-to-one ratio is recommended during the early stage of participation.

The faculty should provide a mechanism whereby the participant can evaluate the performance of those individuals who will be presenting the course material.

**F. Facilities:** Intensive courses should be presented only in a dental or medical school, hospital, dental society-sponsored educational institution or other institution where adequate facilities are available for proper patient care, including drugs and equipment for the management of emergencies.

## AMERICAN DENTAL ASSOCIATION

# GUIDELINES FOR TEACHING PAIN CONTROL AND SEDATION TO DENTISTS AND DENTAL STUDENTS

As adopted by the October 2007 ADA House of Delegates

### I. Introduction

The administration of local anesthesia, sedation and general anesthesia is an integral part of the practice of dentistry. The American Dental Association is committed to the safe and effective use of these modalities by appropriately educated and trained dentists.

Anxiety and pain control can be defined as the application of various physical, chemical and psychological modalities to the prevention and treatment of preoperative, operative and postoperative patient anxiety and pain to allow dental treatment to occur in a safe and effective manner. It involves all disciplines of dentistry and, as such, is one of the most important aspects of dental education. The intent of these *Guidelines* is to provide direction for the teaching of pain control and sedation to dentists and can be applied at all levels of dental education from predoctoral through continuing education. They are designed to teach initial competency in pain control and minimal and moderate sedation techniques.

These *Guidelines* recognize that many dentists have acquired a high degree of competency in the use of anxiety and pain control techniques through a combination of instruction and experience. It is assumed that this has enabled these teachers and practitioners to meet the educational criteria described in this document.

It is not the intent of the *Guidelines* to fit every program into the same rigid educational mold. This is neither possible nor desirable. There must always be room for innovation and improvement. They do, however, provide a reasonable measure of program acceptability, applicable to all institutions and agencies engaged in predoctoral and continuing education.

The curriculum in anxiety and pain control is a continuum of educational experiences that will extend over several years of the predoctoral program. It should provide the dental student with the knowledge and skills necessary to provide minimal sedation to alleviate anxiety and control pain without inducing detrimental physiological or psychological side effects. Dental schools whose goal is to have predoctoral students achieve competency in techniques such as local anesthesia and nitrous oxide inhalation and minimal sedation must meet all of the goals, prerequisites, didactic content, clinical experiences, faculty and facilities, as described in these *Guidelines.*

Techniques for the control of anxiety and pain in dentistry should include both psychological and pharmacological modalities. Psychological strategies should include simple relaxation techniques for the anxious patient and more comprehensive behavioral techniques to control pain. Pharmacological strategies should include not only local anesthetics but also sedatives, analgesics and other useful agents. Dentists should learn indications and techniques for administering these drugs enterally, parenterally and by inhalation as supplements to local anesthesia.

The predoctoral curriculum should provide instruction, exposure and/or experience in anxiety and pain control, including minimal and moderate sedation. The predoctoral program must also provide the knowledge and skill to enable students to recognize and manage any emergencies that might arise as a consequence of treatment. Predoctoral dental students must complete a course in Basic Life Support for the Healthcare Provider. Though Basic Life Support courses are available online, any course taken online

should be followed up with a hands-on component and be approved by the American Heart Association or the American Red Cross.

Local anesthesia is the foundation of pain control in dentistry. Although the use of local anesthetics in dentistry has a long record of safety, dentists must be aware of the maximum safe dosage limit for each patient, since large doses of local anesthetics may increase the level of central nervous system depression with sedation. The use of minimal and moderate sedation requires an understanding of local anesthesia and the physiologic and pharmacologic implications of the local anesthetic agents when combined with the sedative agents

The knowledge, skill and clinical experience required for the safe administration of deep sedation and/or general anesthesia are beyond the scope of predoctoral and continuing education programs. Advanced education programs that teach deep sedation and/or general anesthesia to competency have specific teaching requirements described in the Commission on Dental Accreditation requirements for those advanced programs and represent the educational and clinical requirements for teaching deep sedation and/or general anesthesia in dentistry.

The objective of educating dentists to utilize pain control, sedation and general anesthesia is to enhance their ability to provide oral health care. The American Dental Association urges dentists to participate regularly in continuing education update courses in these modalities in order to remain current.

All areas in which local anesthesia and sedation are being used must be properly equipped with suction, physiologic monitoring equipment, a positive pressure oxygen delivery system suitable for the patient being treated and emergency drugs. Protocols for the management of emergencies must be developed and training programs held at frequent intervals.

## II. Definitions

### Methods of Anxiety and Pain Control

**analgesia** - the diminution or elimination of pain.

**local anesthesia** - the elimination of sensation, especially pain, in one part of the body by the topical application or regional injection of a drug.

*Note*: Although the use of local anesthetics is the foundation of pain control in dentistry and has a long record of safety, dentists must always be aware of the maximum, safe dosage limits for each patient. Large doses of local anesthetics in themselves may result in central nervous system depression especially in combination with sedative agents.

**minimal sedation** - a minimally depressed level of consciousness, produced by a pharmacological method, that retains the patient's ability to independently and continuously 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.[1]

[1] Portions excerpted from *Continuum of Depth of Sedation: Definition of General Anesthesia and Levels of Sedation/Analgesia*, 2004, of the American Society of Anesthesiologists (ASA). A copy of the full text can be obtained from ASA, 520 N. Northwest Highway, Park Ridge, IL 60068-2573.

*Note:* In accord with this particular definition, the drug(s) and/or techniques used should carry a margin of safety wide enough never to render unintended loss of consciousness. Further, patients whose only response is reflex withdrawal from repeated painful stimuli would not be considered to be in a state of minimal sedation.

**When the intent is minimal sedation for adults, the appropriate initial dosing of a single enteral drug is no more than the maximum recommended dose (MRD) of a drug that can be prescribed for unmonitored home use.**

Nitrous oxide/oxygen may be used in combination with a single enteral drug in minimal sedation.

**Nitrous oxide/oxygen when used in combination with sedative agent(s) may produce minimal, moderate, deep sedation or general anesthesia.**

The following definitions apply to administration of minimal sedation:

*maximum recommended dose (MRD)* - maximum FDA-recommended dose of a drug as printed in FDA-approved labeling for unmonitored home use.

*incremental dosing* - administration of multiple doses of a drug until a desired effect is reached, but not to exceed the maximum recommended dose (MRD).

*supplemental dosing* - during minimal sedation, supplemental dosing is a single additional dose of the initial dose of the initial drug that may be necessary for prolonged procedures. The supplemental dose should not exceed one-half of the initial total dose and should not be administered until the dentist has determined the clinical half-life of the initial dosing has passed. The total aggregate dose must not exceed 1.5x the MRD on the day of treatment.

**moderate sedation** - a drug-induced depression of consciousness during which patients respond *purposefully* to verbal commands, either alone or accompanied by light tactile stimulation. No interventions are required to maintain a patent airway, and spontaneous ventilation is adequate. Cardiovascular function is usually maintained.[2]

*Note*: In accord with this particular definition, the drugs and/or techniques used should carry a margin of safety wide enough to render unintended loss of consciousness unlikely. Repeated dosing of an agent before the effects of previous dosing can be fully appreciated may result in a greater alteration of the state of consciousness than is the intent of the dentist. Further, a patient whose only response is reflex withdrawal from a painful stimulus is not considered to be in a state of moderate sedation.

The following definition applies to administration of moderate and deeper levels of sedation:

*titration* - administration of incremental doses of a drug until a desired effect is reached. Knowledge of each drug's time of onset, peak response and duration of action is essential to avoid over sedation. Although the concept of titration of a drug to effect is critical for patient safety, when the intent is moderate sedation one must know whether the previous dose has taken full effect before administering an additional drug increment.

[2] Excerpted from *Continuum of Depth of Sedation: Definition of General Anesthesia and Levels of Sedation/Analgesia,* 2004, of the American Society of Anesthesiologists (ASA). A copy of the full text can be obtained from ASA, 520 N. Northwest Highway, Park Ridge, IL 60068-2573.

**deep sedation** - a drug-induced depression of consciousness during which patients cannot be easily aroused but respond purposefully following repeated or painful stimulation. The ability to independently maintain ventilatory function may be impaired. Patients may require assistance in maintaining a patent airway, and spontaneous ventilation may be inadequate. Cardiovascular function is usually maintained.[2]

**general anesthesia** – a drug-induced loss of consciousness during which patients are not arousable, even by painful stimulation. The ability to independently maintain ventilatory function is often impaired. Patients often require assistance in maintaining a patent airway, and positive pressure ventilation may be required because of depressed spontaneous ventilation or drug-induced depression of neuromuscular function. Cardiovascular function may be impaired.

**Because sedation and general anesthesia are a continuum, it is not always possible to predict how an individual patient will respond. Hence, practitioners intending to produce a given level of sedation should be able to diagnose and manage the physiologic consequences (rescue) for patients whose level of sedation becomes deeper than initially intended.[2]**

**For all levels of sedation, the practitioner must have the training, skills, drugs and equipment to identify and manage such an occurrence until either assistance arrives (emergency medical service) or the patient returns to the intended level of sedation without airway or cardiovascular complications.**

**Routes of Administration**

**enteral** - any technique of administration in which the agent is absorbed through the gastrointestinal (GI) tract or oral mucosa [i.e., oral, rectal, sublingual].

**parenteral** - a technique of administration in which the drug bypasses the gastrointestinal (GI) tract [i.e., intramuscular (IM), intravenous (IV), intranasal (IN), submucosal (SM), subcutaneous (SC), intraosseous (IO)].

**transdermal** - a technique of administration in which the drug is administered by patch or iontophoresis through skin.

**transmucosal** – a technique of administration in which the drug is administered across mucosa such as intranasal, sublingual, or rectal.

**inhalation** - a technique of administration in which a gaseous or volatile agent is introduced into the lungs and whose primary effect is due to absorption through the gas/blood interface.

**Terms**

**qualified dentist** – meets the educational requirements for the appropriate level of sedation in accordance with Section III of these *Guidelines,* or a dentist providing sedation and anesthesia in compliance with their state rules and/or regulations prior to adoption of this document.

**must/shall** - indicates an imperative need and/or duty; an essential or indispensable item; mandatory.

**should** -indicates the recommended manner to obtain the standard; highly desirable.

**may** - indicates freedom or liberty to follow a reasonable alternative.

**continual** - repeated regularly and frequently in a steady succession.

**continuous** - prolonged without any interruption at any time.

**time-oriented anesthesia record** - documentation at appropriate time intervals of drugs, doses and physiologic data obtained during patient monitoring.

**immediately available** – on site in the facility and available for immediate use.

**Levels of Knowledge**

**familiarity** - a simplified knowledge for the purpose of orientation and recognition of general principles.

**in-depth** - a thorough knowledge of concepts and theories for the purpose of critical analysis and the synthesis of more complete understanding (highest level of knowledge).

**Levels of Skill**

**exposed** - the level of skill attained by observation of or participation in a particular activity.

**competent** - displaying special skill or knowledge derived from training and experience.

**proficient** - the level of skill attained when a particular activity is accomplished with repeated quality and a more efficient utilization of time (highest level of skill).

**American Society of Anesthesiologists (ASA) Patient Physical Status Classification** [3]

**ASA I** - A normal healthy patient.

**ASA II** - A patient with mild systemic disease.

**ASA III** - A patient with severe systemic disease.

**ASA IV** - A patient with severe systemic disease that is a constant threat to life.

**ASA V** - A moribund patient who is not expected to survive without the operation.

**ASA VI** - A declared brain-dead patient whose organs are being removed for donor purposes.

**E** - Emergency operation of any variety (used to modify one of the above classifications, i.e., ASA III-E).

[3] ASA Physical Status Classification System is reprinted with permission of the American Society of Anesthesiologists, 520 N. Northwest Highway, Park Ridge, IL 60068-2573.

**Education Courses**

Education may be offered at different levels (competency, update, survey courses and advanced education programs). A description of these different levels follows:

1. **Competency Courses** are designed to meet the needs of dentists who wish to become knowledgeable and proficient in the safe and effective administration of local anesthesia, minimal and moderate sedation. They consist of lectures, demonstrations and sufficient clinical participation to assure the faculty that the dentist understands the procedures taught and can safely and effectively apply them so that mastery of the subject is achieved. Faculty must assess and document the dentist's competency upon successful completion of such training. To maintain competency, periodic update courses must be completed.

2. **Update Courses** are designed for persons with previous training. They are intended to provide a review of the subject and an introduction to recent advances in the field. They should be designed didactically and clinically to meet the specific needs of the participants. Participants must have completed previous competency training (equivalent, at a minimum, to the competency course described in this document) and have current experience to be eligible for enrollment in an update course.

3. **Survey Courses** are designed to provide general information about subjects related to pain control and sedation. Such courses should be didactic and not clinical in nature, since they are not intended to develop clinical competency.

4. **Advanced Education Courses** are a component of an advanced dental education program, accredited by the ADA Commission on Dental Accreditation in accord with the *Accreditation Standards* for advanced dental education programs. These courses are designed to prepare the graduate dentist or postdoctoral student in the most comprehensive manner to be knowledgeable and proficient in the safe and effective administration of minimal, moderate and deep sedation and general anesthesia.

## III. Teaching Pain Control

These *Guidelines* present a basic overview of the recommendations for teaching pain control.

**A. General Objectives:** Upon completion of a predoctoral curriculum in pain control the dentist must:

1. have an in-depth knowledge of those aspects of anatomy, physiology, pharmacology and psychology involved in the use of various anxiety and pain control methods;
2. be competent in evaluating the psychological and physical status of the patient, as well as the magnitude of the operative procedure, in order to select the proper regimen;
3. be competent in monitoring vital functions;
4. be competent in prevention, recognition and management of related complications;
5. be familiar with the appropriateness of and the indications for medical consultation or referral;
6. be competent in the maintenance of proper records with accurate chart entries recording medical history, physical examination, vital signs, drugs administered and patient response.

**B. Pain Control Curriculum Content:**

1. Philosophy of anxiety and pain control and patient management, including the nature and purpose of pain
2. Review of physiologic and psychologic aspects of anxiety and pain
3. Review of airway anatomy and physiology
4. Physiologic monitoring
   - a. Observation
     - (1) Central nervous system
     - (2) Respiratory system
       - a. Oxygenation
       - b. Ventilation
     - (3) Cardiovascular system
   - b. Monitoring equipment
5. Pharmacologic aspects of anxiety and pain control
   - a. Routes of drug administration
   - b. Sedatives and anxiolytics
   - c. Local anesthetics
   - d. Analgesics and antagonists
   - e. Adverse side effects
   - f Drug interactions
   - g. Drug abuse
6. Control of preoperative and operative anxiety and pain
   - a. Patient evaluation
     - (1) Psychological status
     - (2) ASA physical status
     - (3) Type and extent of operative procedure
   - b. Nonpharmacologic methods
     - (1) Psychological and behavioral methods
       - (a) Anxiety management
       - (b) Relaxation techniques
       - (c) Systematic desensitization
     - (2) Interpersonal strategies of patient management
     - (3) Hypnosis
     - (4) Electronic dental anesthesia
     - (5) Acupuncture/Acupressure
     - (6) Other
   - c. Local anesthesia
     - (1) Review of related anatomy, and physiology
     - (2) Pharmacology
       - (i) Dosing
       - (ii) Toxicity
       - (iii) Selection of agents
     - (3) Techniques of administration
       - (i) Topical
       - (ii) Infiltration (supraperiosteal)
       - (iii) Nerve block – maxilla-to include:
         - (aa) Posterior superior alveolar

(bb) Infraorbital
(cc) Nasopalatine
(dd) Greater palatine
(ee) Maxillary (2nd division)
(ff) Other blocks

(iv) Nerve block – mandible-to include:
(aa) Inferior alveolar-lingual
(bb) Mental-incisive
(cc) Buccal
(dd) Gow-Gates
(ee) Closed mouth

(v) Alternative injections-to include:
(aa) Periodontal ligament
(bb) Intraosseous

d. Prevention, recognition and management of complications and emergencies

C. **Sequence of Pain Control Didactic and Clinical Instruction:** Beyond the basic didactic instruction in local anesthesia, additional time should be provided for demonstrations and clinical practice of the injection techniques. The teaching of other methods of anxiety and pain control, such as the use of analgesics and enteral, inhalation and parenteral sedation, should be coordinated with a course in pharmacology. By this time the student also will have developed a better understanding of patient evaluation and the problems related to prior patient care. As part of this instruction, the student should be taught the techniques of venipuncture and physiologic monitoring. Time should be included for demonstration of minimal and moderate sedation techniques.

Following didactic instruction in minimal and moderate sedation, the student must receive sufficient clinical experience to demonstrate competency in those techniques in which the student is to be certified. It is understood that not all institutions may be able to provide instruction to the level of clinical competence in pharmacologic sedation modalities to all students. The amount of clinical experience required to achieve competency will vary according to student ability, teaching methods and the anxiety and pain control modality taught.

Clinical experience in minimal and moderate sedation techniques should be related to various disciplines of dentistry and not solely limited to surgical cases. Typically, such experience will be provided in managing healthy adult patients. The sedative care of pediatric and special needs patients requires advanced didactic and clinical training.

Throughout both didactic and clinical instruction in anxiety and pain control, psychological management of the patient should also be stressed. Instruction should emphasize that the need for sedative techniques is directly related to the patient's level of anxiety, cooperation, medical condition and the planned procedures.

D. **Faculty:** Instruction must be provided by qualified faculty for whom anxiety and pain control are areas of major proficiency, interest and concern.

E. **Facilities:** Competency courses must be presented where adequate facilities are available for proper patient care, including drugs and equipment for the management of emergencies.

## IV. Teaching Administration of Minimal Sedation

The faculty responsible for curriculum in minimal sedation techniques must be familiar with the ADA Policy Statement: *Guidelines for the Use of Sedation and General Anesthesia by Dentists*, and the Commission on Dental Accreditation's *Accreditation Standards* for dental education programs.

These *Guidelines* present a basic overview of the recommendations for teaching minimal sedation. These include courses in nitrous oxide/oxygen sedation, enteral sedation, and combined inhalation/enteral techniques.

**General Objectives:** Upon completion of a competency course in minimal sedation, the dentist must be able to:

1. Describe the adult and pediatric anatomy and physiology of the respiratory, cardiovascular and central nervous systems, as they relate to the above techniques.
2. Describe the pharmacological effects of drugs.
3. Describe the methods of obtaining a medical history and conduct an appropriate physical examination.
4. Apply these methods clinically in order to obtain an accurate evaluation.
5. Use this information clinically for ASA classification and risk assessment.
6. Choose the most appropriate technique for the individual patient.
7. Use appropriate physiologic monitoring equipment.
8. Describe the physiologic responses that are consistent with minimal sedation.
9. Understand the sedation/general anesthesia continuum.

**Inhalation Sedation (Nitrous Oxide/Oxygen)**

**A. Inhalation Sedation Course Objectives:** Upon completion of a competency course in inhalation sedation techniques, the dentist must be able to:

1. Describe the basic components of inhalation sedation equipment.
2. Discuss the function of each of these components.
3. List and discuss the advantages and disadvantages of inhalation sedation.
4. List and discuss the indications and contraindications of inhalation sedation.
5. List the complications associated with inhalation sedation.
6. Discuss the prevention, recognition and management of these complications.
7. Administer inhalation sedation to patients in a clinical setting in a safe and effective manner.
8. Discuss the abuse potential, occupational hazards and other untoward effects of inhalation agents.

**B. Inhalation Sedation Course Content:**

1. Historical, philosophical and psychological aspects of anxiety and pain control.
2. Patient evaluation and selection through review of medical history taking, physical diagnosis and psychological considerations.
3. Definitions and descriptions of physiological and psychological aspects of anxiety and pain.
4. Description of the stages of drug-induced central nervous system depression through all levels of consciousness and unconsciousness, with special emphasis on the distinction between the conscious and the unconscious state.
5. Review of pediatric and adult respiratory and circulatory physiology and related anatomy.

6. Pharmacology of agents used in inhalation sedation, including drug interactions and incompatibilities.
7. Indications and contraindications for use of inhalation sedation.
8. Review of dental procedures possible under inhalation sedation.
9. Patient monitoring using observation and monitoring equipment, with particular attention to vital signs and reflexes related to pharmacology of nitrous oxide.
10. Importance of maintaining proper records with accurate chart entries recording medical history, physical examination, vital signs, drugs and doses administered and patient response.
11. Prevention, recognition and management of complications and life-threatening situations.
12. Administration of local anesthesia in conjunction with inhalation sedation techniques.
13. Description and use of inhalation sedation equipment.
14. Introduction to potential health hazards of trace anesthetics and proposed techniques for limiting occupational exposure.
15. Discussion of abuse potential.

C. **Inhalation Sedation Course Duration:** While length of a course is only one of the many factors to be considered in determining the quality of an educational program, the course should be a minimum of *14 hours*, including a clinical component during which competency in inhalation sedation technique is achieved. The inhalation sedation course most often is completed as a part of the predoctoral dental education program. However, the course may be completed in a postdoctoral continuing education competency course.

D. **Participant Evaluation and Documentation of Inhalation Sedation Instruction:** Competency courses in inhalation sedation techniques must afford participants with sufficient clinical experience to enable them to achieve competency. This experience must be provided under the supervision of qualified faculty and must be evaluated. The course director must certify the competency of participants upon satisfactory completion of training. Records of the didactic instruction and clinical experience, including the number of patients treated by each participant must be maintained and available.

E. **Faculty:** The course should be directed by a dentist or physician qualified by experience and training. This individual should have had at least three years of experience, including the individual's formal postdoctoral training in anxiety and pain control. In addition, the participation of highly qualified individuals in related fields, such as anesthesiologists, pharmacologists, internists, and cardiologists and psychologists, should be encouraged.

A participant-faculty ratio of not more than ten-to-one when inhalation sedation is being used allows for adequate supervision during the clinical phase of instruction; a one-to-one ratio is recommended during the early state of participation.

The faculty should provide a mechanism whereby the participant can evaluate the performance of those individuals who present the course material.

F. **Facilities:** Competency courses must be presented where adequate facilities are available for proper patient care, including drugs and equipment for the management of emergencies.

**Enteral and/or Combination Inhalation-Enteral Minimal Sedation**

A. **Enteral and/or Combination Inhalation-Enteral Minimal Sedation Course Objectives:** Upon completion of a competency course in enteral and/or combination inhalation-enteral minimal sedation techniques, the dentist must be able to:

1. Describe the basic components of inhalation sedation equipment.
2. Discuss the function of each of these components.
3. List and discuss the advantages and disadvantages of enteral and/or combination inhalation-enteral minimal sedation (combined minimal sedation).
4. List and discuss the indications and contraindications for the use of enteral and/or combination inhalation-enteral minimal sedation (combined minimal sedation).
5. List the complications associated with enteral and/or combination inhalation-enteral minimal sedation (combined minimal sedation).
6. Discuss the prevention, recognition and management of these complications.
7. Administer enteral and/or combination inhalation-enteral minimal sedation (combined minimal sedation) to patients in a clinical setting in a safe and effective manner.
8. Discuss the abuse potential, occupational hazards and other effects of enteral and inhalation agents.
9. Discuss the pharmacology of the enteral and inhalation drugs selected for administration.
10. Discuss the precautions, contraindications and adverse reactions associated with the enteral and inhalation drugs selected.
11. Describe a protocol for management of emergencies in the dental office and list and discuss the emergency drugs and equipment required for management of life-threatening situations.
12. Demonstrate the ability to manage life-threatening emergency situations, including current certification in Basic Life Support for Healthcare Providers.
13. Discuss the pharmacological effects of combined drug therapy, their implications and their management. Nitrous oxide/oxygen when used in combination with sedative agent(s) may produce minimal, moderate, deep sedation or general anesthesia.

**B. Enteral and/or Combination Inhalation-Enteral Minimal Sedation Course Content:**

1. Historical, philosophical and psychological aspects of anxiety and pain control.
2. Patient evaluation and selection through review of medical history taking, physical diagnosis and psychological profiling.
3. Definitions and descriptions of physiological and psychological aspects of anxiety and pain.
4. Description of the stages of drug-induced central nervous system depression through all levels of consciousness and unconsciousness, with special emphasis on the distinction between the conscious and the unconscious state.
5. Review of pediatric and adult respiratory and circulatory physiology and related anatomy.
6. Pharmacology of agents used in enteral and/or combination inhalation-enteral minimal sedation, including drug interactions and incompatibilities.
7. Indications and contraindications for use of enteral and/or combination inhalation-enteral minimal sedation (combined minimal sedation).
8. Review of dental procedures possible under enteral and/or combination inhalation-enteral minimal sedation).
9. Patient monitoring using observation, monitoring equipment, with particular attention to vital signs and reflexes related to consciousness.
10. Maintaining proper records with accurate chart entries recording medical history, physical examination, informed consent, time-oriented anesthesia record, including the names of all drugs administered including local anesthetics, doses, and monitored physiological parameters.
11. Prevention, recognition and management of complications and life-threatening situations.
12. Administration of local anesthesia in conjunction with enteral and/or combination inhalation-enteral minimal sedation techniques.
13. Description and use of inhalation sedation equipment.

14. Introduction to potential health hazards of trace anesthetics and proposed techniques for limiting occupational exposure.
15. Discussion of abuse potential.

C. **Enteral and/or Combination Inhalation-Enteral Minimal Sedation Course Duration:** Participants must be able to document current certification in Basic Life Support for Healthcare Providers and have completed a nitrous oxide competency course to be eligible for enrollment in this course. While length of a course is only one of the many factors to be considered in determining the quality of an educational program, the course should include a minimum of *16 hours*, plus clinically-oriented experiences during which competency in enteral and/or combined inhalation-enteral minimal sedation techniques is demonstrated. Clinically-oriented experiences may include group observations on patients undergoing enteral and/or combination inhalation-enteral minimal sedation. Clinical experience in managing a compromised airway is critical to the prevention of life-threatening emergencies. The faculty should schedule participants to return for additional clinical experience if competency has not been achieved in the time allotted. The educational course may be completed in a predoctoral dental education curriculum or a postdoctoral continuing education competency course.

These *Guidelines* are not intended for the management of enteral and/or combination inhalation-enteral minimal sedation in children, which requires additional course content and clinical learning experience.

D. **Participant Evaluation and Documentation of Instruction:** Competency courses in combination inhalation-enteral minimal sedation techniques must afford participants with sufficient clinical understanding to enable them to achieve competency. The course director must certify the competency of participants upon satisfactory completion of the course. Records of the course instruction must be maintained and available.

E. **Faculty:** The course should be directed by a dentist or physician qualified by experience and training. This individual should have had at least three years of experience, including the individual's formal postdoctoral training in anxiety and pain control. Dental faculty with broad clinical experience in the particular aspect of the subject under consideration should participate. In addition, the participation of highly qualified individuals in related fields, such as anesthesiologists, pharmacologists, internists, and cardiologists and psychologists, should be encouraged. The faculty should provide a mechanism whereby the participant can evaluate the performance of those individuals who present the course material.

F. **Facilities:** Competency courses must be presented where adequate facilities are available for proper patient care, including drugs and equipment for the management of emergencies.

## V. Teaching Administration of Moderate Sedation

These *Guidelines* present a basic overview of the requirements for a competency course in moderate sedation. These include courses in enteral moderate sedation and parenteral moderate sedation. The teaching guidelines contained in this section on moderate sedation differ slightly from documents in medicine to reflect the differences in delivery methodologies and practice environment in dentistry. For this reason, separate teaching guidelines have been developed for moderate enteral and moderate parenteral sedation.

A. **Course Objectives:** Upon completion of a course in moderate sedation, the dentist must be able to:

1. List and discuss the advantages and disadvantages of moderate sedation.
2. Discuss the prevention, recognition and management of complications associated with moderate sedation.
3. Administer moderate sedation to patients in a clinical setting in a safe and effective manner.
4. Discuss the abuse potential, occupational hazards and other untoward effects of the agents utilized to achieve moderate sedation.
5. Describe and demonstrate the technique of intravenous access, intramuscular injection and other parenteral techniques.
6. Discuss the pharmacology of the drug(s) selected for administration.
7. Discuss the precautions, indications, contraindications and adverse reactions associated with the drug(s) selected.
8. Administer the selected drug(s) to dental patients in a clinical setting in a safe and effective manner.
9. List the complications associated with techniques of moderate sedation.
10. Describe a protocol for management of emergencies in the dental office and list and discuss the emergency drugs and equipment required for the prevention and management of emergency situations.
11. Discuss principles of advanced cardiac life support or an appropriate dental sedation/anesthesia emergency course equivalent.
12. Demonstrate the ability to manage emergency situations.

**B. Moderate Sedation Course Content:**

1. Historical, philosophical and psychological aspects of anxiety and pain control.
2. Patient evaluation and selection through review of medical history taking, physical diagnosis and psychological considerations.
3. Definitions and descriptions of physiological and psychological aspects of anxiety and pain.
4. Description of the sedation anesthesia continuum, with special emphasis on the distinction between the conscious and the unconscious state.
5. Review of pediatric and adult respiratory and circulatory physiology and related anatomy.
6. Pharmacology of local anesthetics and agents used in moderate sedation, including drug interactions and contraindications.
7. Indications and contraindications for use of moderate sedation.
8. Review of dental procedures possible under moderate sedation.
9. Patient monitoring using observation and monitoring equipment, with particular attention to vital signs and reflexes related to consciousness.
10. Maintaining proper records with accurate chart entries recording medical history, physical examination, informed consent, time-oriented anesthesia record, including the names of all drugs administered including local anesthetics, doses, and monitored physiological parameters.
11. Prevention, recognition and management of complications and emergencies.
12. Description and use of moderate sedation monitors and equipment.
13. Discussion of abuse potential.
14. Intravenous access: anatomy, equipment and technique.
15. Prevention, recognition and management of complications of venipuncture and other parenteral techniques.
16. Description and rationale for the technique to be employed.
17. Prevention, recognition and management of systemic complications of moderate sedation, with particular attention to airway maintenance and support of the respiratory and cardiovascular systems.

C. **Moderate Enteral Sedation Course Duration:** A minimum of *24 hours* of instruction, plus management of *at least 10 adult case experiences* by the enteral and/or enteral-nitrous oxide/oxygen route are required to achieve competency. These ten cases must include at least three live clinical dental experiences managed by participants in groups no larger than five. The remaining cases may include simulations and/or video presentations, but must include one experience in returning (rescuing) a patient from deep to moderate sedation.

Participants should be provided supervised opportunities for clinical experience to demonstrate competence in airway management. Clinical experience will be provided in managing healthy adult patients; this course in moderate enteral sedation is not designed for the management of children (aged 12 and under). Additional supervised clinical experience is necessary to prepare participants to manage medically compromised adults and special needs patients. This course in moderate enteral sedation does not result in competency in moderate parenteral sedation. The faculty should schedule participants to return for additional didactic or clinical exposure if competency has not been achieved in the time allotted.

**Moderate Parenteral Sedation Course Duration:** A minimum of *60 hours* of instruction, plus management of *at least 20 patients* by the intravenous route per participant, is required to achieve competency in moderate sedation techniques. Clinical experience in managing a compromised airway is critical to the prevention of emergencies. Participants should be provided supervised opportunities for clinical experience to demonstrate competence in management of the airway. Typically, clinical experience will be provided in managing healthy adult patients. Additional supervised clinical experience is necessary to prepare participants to manage children (aged 12 and under) and medically compromised adults. Successful completion of this course does result in clinical competency in moderate parenteral sedation. The faculty should schedule participants to return for additional clinical experience if competency has not been achieved in the time allotted.

D. **Participant Evaluation and Documentation of Instruction:** Competency courses in moderate sedation techniques must afford participants with sufficient clinical experience to enable them to achieve competency. This experience must be provided under the supervision of qualified faculty and must be evaluated. The course director must certify the competency of participants upon satisfactory completion of training in each moderate sedation technique, including instruction, clinical experience and airway management. Records of the didactic instruction and clinical experience, including the number of patients managed by each participant in each anxiety and pain control modality must be maintained and available for review.

E. **Faculty:** The course should be directed by a dentist or physician qualified by experience and training. This individual should have had at least three years of experience, including formal postdoctoral training in anxiety and pain control. Dental faculty with broad clinical experience in the particular aspect of the subject under consideration should participate. In addition, the participation of highly qualified individuals in related fields, such as anesthesiologists, pharmacologists, internists, cardiologists and psychologists, should be encouraged.

A participant-faculty ratio of not more than five-to-one when moderate enteral sedation is being taught allows for adequate supervision during the clinical phase of instruction. A participant-faculty ratio of not more than three-to-one when moderate parenteral sedation is being taught allows for adequate supervision during the clinical phase of instruction; a one-to-one ratio is recommended during the early stage of participation.

The faculty should provide a mechanism whereby the participant can evaluate the performance of those individuals who present the course material.

F. **Facilities:** Competency courses in moderate sedation must be presented where adequate facilities are available for proper patient care, including drugs and equipment for the management of emergencies. These facilities may include dental and medical schools/offices, hospitals and surgical centers.

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**Additional Sources of Information**


American Academy of Pediatric Dentists (AAPD). *Guidelines for Monitoring and Management of Pediatric Patients During and After Sedation for Diagnostic and Therapeutic Procedures: An Update.* Developed through a collaborative effort between the American Academy of Pediatrics and the AAPD. Available at http://www.aapd.org/media/policies.asp

American Academy of Periodontology (AAP). *Guidelines: In-Office Use of Conscious Sedation in Periodontics.* Available at http://www.perio.org/resources-products/posppr3-1.html

American Dental Association Council on Scientific Affairs. Acceptance Program Guidelines: *Nitrous Oxide-Oxygen Conscious Sedation Systems, 2000.* Available at http://www.ada.org/prof/resources/positions/standards/denmat.asp#ada

American Association of Oral and Maxillofacial Surgeons (AAOMS). *Parameters and Pathways: Clinical Practice Guidelines for Oral and Maxillofacial Surgery (AAOMS ParPath o1) Anesthesia in Outpatient Facilities.* Contact AAOMS at 1-847-678-6200 or visit http://www.aaoms.org/index.php

American Association of Oral and Maxillofacial Surgeons (AAOMS). *Office Anesthesia Evaluation Manual 7th Edition.* Contact AAOMS at 1-847-678-6200 or visit http://www.aaoms.org/index.php

American Society of Anesthesiologist (ASA). *Practice Guidelines for Preoperative Fasting and the Use of Pharmacological Agents to Reduce the Risk of Pulmonary Aspiration: Application to Healthy Patients Undergoing Elective Procedures.* Available at http://www2.asahq.org/publications/p-178-practice-guidelines-for-preoperative-fasting.aspx

American Society of Anesthesiologists (ASA). *Practice Guidelines for Sedation and Analgesia by Non-Anesthesiologists.* Available at http://www.asahq.org/publicationsAndServices/practiceparam.htm#sedation. The ASA has other anesthesia resources that might be of interest to dentists. For more information, go to http://www.asahq.org/publicationsAndServices/sgstoc.htm

Commission on Dental Accreditation (CODA). *Accreditation Standards* for Predoctoral and Advanced Dental Education Programs. Available at http://www.ada.org/prof/ed/accred/standards/index.asp

National Institute for Occupational Safety and Health (NIOSH). *Controlling Exposures to Nitrous Oxide During Anesthetic Administration* (NIOSH Alert: 1994 Publication No. 94-100). Available at http://www.cdc.gov/niosh/noxidalr.html

Dionne, Raymond A.; Yagiela, John A., et al. Balancing efficacy and safety in the use of oral sedation in dental outpatients. JADA 2006;137(4):502-13. ADA members can access this article online at http://jada.ada.org/cgi/content/full/137/4/502

# ADA American Dental Association®

## Guidelines for Teaching Pain Control and Sedation to Dentists and Dental Students

*As adopted by the October 2012 ADA House of Delegates*

### I. Introduction

The administration of local anesthesia, sedation and general anesthesia is an integral part of the practice of dentistry. The American Dental Association is committed to the safe and effective use of these modalities by appropriately educated and trained dentists.

Anxiety and pain control can be defined as the application of various physical, chemical and psychological modalities to the prevention and treatment of preoperative, operative and postoperative patient anxiety and pain to allow dental treatment to occur in a safe and effective manner. It involves all disciplines of dentistry and, as such, is one of the most important aspects of dental education. The intent of these *Guidelines* is to provide direction for the teaching of pain control and sedation to dentists and can be applied at all levels of dental education from predoctoral through continuing education. They are designed to teach initial competency in pain control and minimal and moderate sedation techniques.

These *Guidelines* recognize that many dentists have acquired a high degree of competency in the use of anxiety and pain control techniques through a combination of instruction and experience. It is assumed that this has enabled these teachers and practitioners to meet the educational criteria described in this document.

It is not the intent of the *Guidelines* to fit every program into the same rigid educational mold. This is neither possible nor desirable. There must always be room for innovation and improvement. They do, however, provide a reasonable measure of program acceptability, applicable to all institutions and agencies engaged in predoctoral and continuing education.

The curriculum in anxiety and pain control is a continuum of educational experiences that will extend over several years of the predoctoral program. It should provide the dental student with the knowledge and skills necessary to provide minimal sedation to alleviate anxiety and control pain without inducing detrimental physiological or psychological side effects. Dental schools whose goal is to have predoctoral students achieve competency in techniques such as local anesthesia and nitrous oxide inhalation and minimal sedation must meet all of the goals, prerequisites, didactic content, clinical experiences, faculty and facilities, as described in these *Guidelines.*

Techniques for the control of anxiety and pain in dentistry should include both psychological and pharmacological modalities. Psychological strategies should include simple relaxation techniques for the anxious patient and more comprehensive behavioral techniques to control pain. Pharmacological strategies should include not only local anesthetics but also sedatives, analgesics and other useful agents. Dentists should learn indications and techniques for administering these drugs enterally, parenterally and by inhalation as supplements to local anesthesia.

The predoctoral curriculum should provide instruction, exposure and/or experience in anxiety and pain control, including minimal and moderate sedation. The predoctoral program must also provide the knowledge and skill to enable students to recognize and manage any emergencies that might arise as a consequence of treatment. Predoctoral dental students must complete a course in Basic Life Support for the Healthcare Provider. Though Basic Life Support courses are available online, any course taken online should be followed up with a hands-on component and be approved by the American Heart Association or the American Red Cross.

Local anesthesia is the foundation of pain control in dentistry. Although the use of local anesthetics in dentistry has a long record of safety, dentists must be aware of the maximum safe dosage limit for each

patient, since large doses of local anesthetics may increase the level of central nervous system depression with sedation. The use of minimal and moderate sedation requires an understanding of local anesthesia and the physiologic and pharmacologic implications of the local anesthetic agents when combined with the sedative agents

The knowledge, skill and clinical experience required for the safe administration of deep sedation and/or general anesthesia are beyond the scope of predoctoral and continuing education programs. Advanced education programs that teach deep sedation and/or general anesthesia to competency have specific teaching requirements described in the Commission on Dental Accreditation requirements for those advanced programs and represent the educational and clinical requirements for teaching deep sedation and/or general anesthesia in dentistry.

The objective of educating dentists to utilize pain control, sedation and general anesthesia is to enhance their ability to provide oral health care. The American Dental Association urges dentists to participate regularly in continuing education update courses in these modalities in order to remain current.

All areas in which local anesthesia and sedation are being used must be properly equipped with suction, physiologic monitoring equipment, a positive pressure oxygen delivery system suitable for the patient being treated and emergency drugs. Protocols for the management of emergencies must be developed and training programs held at frequent intervals.

## II. Definitions

### Methods of Anxiety and Pain Control

**analgesia** - the diminution or elimination of pain.

**conscious sedation**[1] - a minimally depressed level of consciousness that retains the patient's ability to independently and continuously maintain an airway and respond appropriately to physical stimulation or verbal command and that is produced by a pharmacological or non-pharmacological method or a combination thereof.

In accord with this particular definition, the drugs and/or techniques used should carry a margin of safety wide enough to render unintended loss of consciousness unlikely. Further, patients whose only response is reflex withdrawal from repeated painful stimuli would not be considered to be in a state of conscious sedation.

**combination inhalation–enteral conscious sedation** (combined conscious sedation) - conscious sedation using inhalation and enteral agents.

When the intent is anxiolysis only, and the appropriate dosage of agents is administered, then the definition of enteral and/or combination inhalation-enteral conscious sedation (combined conscious sedation) does not apply.

**local anesthesia** - the elimination of sensation, especially pain, in one part of the body by the topical application or regional injection of a drug.

*Note*: Although the use of local anesthetics is the foundation of pain control in dentistry and has a long record of safety, dentists must always be aware of the maximum, safe dosage limits for each patient. Large doses of local anesthetics in themselves may result in central nervous system depression especially in combination with sedative agents.

[1] *Parenteral conscious sedation may be achieved with the administration of a single agent or by the administration of more than one agent.*

**minimal sedation** - a minimally depressed level of consciousness, produced by a pharmacological method, that retains the patient's ability to independently and continuously 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.[2]

*Note:* In accord with this particular definition, the drug(s) and/or techniques used should carry a margin of safety wide enough never to render unintended loss of consciousness. Further, patients whose only response is reflex withdrawal from repeated painful stimuli would not be considered to be in a state of minimal sedation.

**When the intent is minimal sedation for adults, the appropriate initial dosing of a single enteral drug is no more than the maximum recommended dose (MRD) of a drug that can be prescribed for unmonitored home use.**

**The use of preoperative sedatives for children (aged 12 and under) prior to arrival in the dental office, except in extraordinary situations, must be avoided due to the risk of unobserved respiratory obstruction during transport by untrained individuals.**

**Children (aged 12 and under) can become moderately sedated despite the intended level of minimal sedation; should this occur, the guidelines for moderate sedation apply.**

**For children 12 years of age and under, the American Dental Association supports the use of the American Academy of Pediatrics/American Academy of Pediatric Dentistry *Guidelines for Monitoring and Management of Pediatric Patients During and After Sedation for Diagnostic and Therapeutic Procedures*.**

Nitrous oxide/oxygen may be used in combination with a single enteral drug in minimal sedation.

**Nitrous oxide/oxygen when used in combination with sedative agent(s) may produce minimal, moderate, deep sedation or general anesthesia.**

The following definitions apply to administration of minimal sedation:

*maximum recommended dose (MRD)* - maximum FDA-recommended dose of a drug as printed in FDA-approved labeling for unmonitored home use.

*incremental dosing* - administration of multiple doses of a drug until a desired effect is reached, but not to exceed the maximum recommended dose (MRD).

*supplemental dosing* - during minimal sedation, supplemental dosing is a single additional dose of the initial dose of the initial drug that may be necessary for prolonged procedures. The supplemental dose should not exceed one-half of the initial total dose and should not be administered until the dentist has determined the clinical half-life of the initial dosing has passed. The total aggregate dose must not exceed 1.5x the MRD on the day of treatment.

**moderate sedation** - a drug-induced depression of consciousness during which patients respond *purposefully* to verbal commands, either alone or accompanied by light tactile stimulation. No interventions are required to maintain a patent airway, and spontaneous ventilation is adequate. Cardiovascular function is usually maintained.[3]

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[2] *Portions excerpted from Continuum of Depth of Sedation: Definition of General Anesthesia and Levels of Sedation/Analgesia, 2004, of the American Society of Anesthesiologists (ASA). A copy of the full text can be obtained from ASA, 520 N. Northwest Highway, Park Ridge, IL 60068-2573.*

[3] *Excerpted from Continuum of Depth of Sedation: Definition of General Anesthesia and Levels of Sedation/Analgesia, 2004, of the American Society of Anesthesiologists (ASA). A copy of the full text can be obtained from ASA, 520 N. Northwest Highway, Park Ridge, IL 60068-2573.*

*Note:* In accord with this particular definition, the drugs and/or techniques used should carry a margin of safety wide enough to render unintended loss of consciousness unlikely. Repeated dosing of an agent before the effects of previous dosing can be fully appreciated may result in a greater alteration of the state of consciousness than is the intent of the dentist. Further, a patient whose only response is reflex withdrawal from a painful stimulus is not considered to be in a state of moderate sedation.

The following definition applies to administration of moderate and deeper levels of sedation:

*titration* - administration of incremental doses of a drug until a desired effect is reached. Knowledge of each drug's time of onset, peak response and duration of action is essential to avoid over sedation. Although the concept of titration of a drug to effect is critical for patient safety, when the intent is moderate sedation one must know whether the previous dose has taken full effect before administering an additional drug increment.

**deep sedation** - a drug-induced depression of consciousness during which patients cannot be easily aroused but respond purposefully following repeated or painful stimulation. The ability to independently maintain ventilatory function may be impaired. Patients may require assistance in maintaining a patent airway, and spontaneous ventilation may be inadequate. Cardiovascular function is usually maintained.

**general anesthesia** – a drug-induced loss of consciousness during which patients are not arousable, even by painful stimulation. The ability to independently maintain ventilatory function is often impaired. Patients often require assistance in maintaining a patent airway, and positive pressure ventilation may be required because of depressed spontaneous ventilation or drug-induced depression of neuromuscular function. Cardiovascular function may be impaired.[3]

**Because sedation and general anesthesia are a continuum, it is not always possible to predict how an individual patient will respond. Hence, practitioners intending to produce a given level of sedation should be able to diagnose and manage the physiologic consequences (rescue) for patients whose level of sedation becomes deeper than initially intended.**[2]

**For all levels of sedation, the practitioner must have the training, skills, drugs and equipment to identify and manage such an occurrence until either assistance arrives (emergency medical service) or the patient returns to the intended level of sedation without airway or cardiovascular complications.**

**Routes of Administration**

*enteral* - any technique of administration in which the agent is absorbed through the gastrointestinal (GI) tract or oral mucosa [i.e., oral, rectal, sublingual].

*parenteral* - a technique of administration in which the drug bypasses the gastrointestinal (GI) tract [i.e., intramuscular (IM), intravenous (IV), intranasal (IN), submucosal (SM), subcutaneous (SC), intraosseous (IO)].

*transdermal* - a technique of administration in which the drug is administered by patch or iontophoresis through skin.

*transmucosal* – a technique of administration in which the drug is administered across mucosa such as intranasal, sublingual, or rectal.

*inhalation* - a technique of administration in which a gaseous or volatile agent is introduced into the lungs and whose primary effect is due to absorption through the gas/blood interface.

**Terms**

*qualified dentist* – meets the educational requirements for the appropriate level of sedation in accordance with Section III of these *Guidelines,* or a dentist providing sedation and anesthesia in compliance with their state rules and/or regulations prior to adoption of this document.

*must/shall* - indicates an imperative need and/or duty; an essential or indispensable item; mandatory.

*should* -indicates the recommended manner to obtain the standard; highly desirable.

*may* - indicates freedom or liberty to follow a reasonable alternative.
continual - repeated regularly and frequently in a steady succession.

*continuous* - prolonged without any interruption at any time.

*time-oriented anesthesia record* - documentation at appropriate time intervals of drugs, doses and physiologic data obtained during patient monitoring.

*immediately available* – on site in the facility and available for immediate use.

**Levels of Knowledge**

*familiarity* - a simplified knowledge for the purpose of orientation and recognition of general principles.

*in-depth* - a thorough knowledge of concepts and theories for the purpose of critical analysis and the synthesis of more complete understanding (highest level of knowledge).

**Levels of Skill**

*exposed* - the level of skill attained by observation of or participation in a particular activity.

*competent* - displaying special skill or knowledge derived from training and experience.

*proficient* - the level of skill attained when a particular activity is accomplished with repeated quality and a more efficient utilization of time (highest level of skill).

**American Society of Anesthesiologists (ASA) Patient Physical Status Classification**[4]

**ASA I** - A normal healthy patient.

**ASA II** - A patient with mild systemic disease.

**ASA III** - A patient with severe systemic disease.

**ASA IV** - A patient with severe systemic disease that is a constant threat to life.

**ASA V** - A moribund patient who is not expected to survive without the operation.

**ASA VI** - A declared brain-dead patient whose organs are being removed for donor purposes.

**E -** Emergency operation of any variety (used to modify one of the above classifications, i.e., ASA III-E).

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[4] *ASA Physical Status Classification System is reprinted with permission of the American Society of Anesthesiologists, 520 N. Northwest Highway, Park Ridge, IL 60068-2573.*

**Education Courses**

Education may be offered at different levels (competency, update, survey courses and advanced education programs). A description of these different levels follows:

**1. Competency Courses** are designed to meet the needs of dentists who wish to become knowledgeable and proficient in the safe and effective administration of local anesthesia, minimal and moderate sedation. They consist of lectures, demonstrations and sufficient clinical participation to assure the faculty that the dentist understands the procedures taught and can safely and effectively apply them so that mastery of the subject is achieved. Faculty must assess and document the dentist's competency upon successful completion of such training. To maintain competency, periodic update courses must be completed.

**2. Update Courses** are designed for persons with previous training. They are intended to provide a review of the subject and an introduction to recent advances in the field. They should be designed didactically and clinically to meet the specific needs of the participants. Participants must have completed previous competency training (equivalent, at a minimum, to the competency course described in this document) and have current experience to be eligible for enrollment in an update course.

**3. Survey Courses** are designed to provide general information about subjects related to pain control and sedation. Such courses should be didactic and not clinical in nature, since they are not intended to develop clinical competency.

**4. Advanced Education Courses** are a component of an advanced dental education program, accredited by the ADA Commission on Dental Accreditation in accord with the *Accreditation Standards* for advanced dental education programs. These courses are designed to prepare the graduate dentist or postdoctoral student in the most comprehensive manner to be knowledgeable and proficient in the safe and effective administration of minimal, moderate and deep sedation and general anesthesia.

## III. Teaching Pain Control

These *Guidelines* present a basic overview of the recommendations for teaching pain control.

**A. General Objectives:** Upon completion of a predoctoral curriculum in pain control the dentist must:

1. have an in-depth knowledge of those aspects of anatomy, physiology, pharmacology and psychology involved in the use of various anxiety and pain control methods;
2. be competent in evaluating the psychological and physical status of the patient, as well as the magnitude of the operative procedure, in order to select the proper regimen;
3. be competent in monitoring vital functions;
4. be competent in prevention, recognition and management of related complications;
5. be familiar with the appropriateness of and the indications for medical consultation or referral;
6. be competent in the maintenance of proper records with accurate chart entries recording medical history, physical examination, vital signs, drugs administered and patient response.

**B. Pain Control Curriculum Content:**

1. Philosophy of anxiety and pain control and patient management, including the nature and purpose of pain
2. Review of physiologic and psychologic aspects of anxiety and pain
3. Review of airway anatomy and physiology

4. Physiologic monitoring
a. Observation
    (1) Central nervous system
    (2) Respiratory system
        a. Oxygenation
        b. Ventilation
    (3) Cardiovascular system
b. Monitoring equipment

5. Pharmacologic aspects of anxiety and pain control
a. Routes of drug administration
b. Sedatives and anxiolytics
c. Local anesthetics
d. Analgesics and antagonists
e. Adverse side effects
f Drug interactions
g. Drug abuse

6. Control of preoperative and operative anxiety and pain
a. Patient evaluation
    (1) Psychological status
    (2) ASA physical status
    (3) Type and extent of operative procedure
b. Nonpharmacologic methods
    (1) Psychological and behavioral methods
        (a) Anxiety management
        (b) Relaxation techniques
        (c) Systematic desensitization
    (2) Interpersonal strategies of patient management
    (3) Hypnosis
    (4) Electronic dental anesthesia
    (5) Acupuncture/Acupressure
    (6) Other
c. Local anesthesia
    (1) Review of related anatomy, and physiology
    (2) Pharmacology
        (i) Dosing
        (ii) Toxicity
        (iii) Selection of agents
    (3) Techniques of administration
        (i) Topical
        (ii) Infiltration (supraperiosteal)
        (iii) Nerve block – maxilla-to include:
            (aa) Posterior superior alveolar
            (bb) Infraorbital
            (cc) Nasopalatine
            (dd) Greater palatine
            (ee) Maxillary (2nd division)
            (ff) Other blocks
        (iv) Nerve block – mandible-to include:
            (aa) Inferior alveolar-lingual
            (bb) Mental-incisive
            (cc) Buccal
            (dd) Gow-Gates
            (ee) Closed mouth
        (v) Alternative injections-to include:

(aa) Periodontal ligament
(bb) Intraosseous

d. Prevention, recognition and management of complications and emergencies

**C. Sequence of Pain Control Didactic and Clinical Instruction:** Beyond the basic didactic instruction in local anesthesia, additional time should be provided for demonstrations and clinical practice of the injection techniques. The teaching of other methods of anxiety and pain control, such as the use of analgesics and enteral, inhalation and parenteral sedation, should be coordinated with a course in pharmacology. By this time the student also will have developed a better understanding of patient evaluation and the problems related to prior patient care. As part of this instruction, the student should be taught the techniques of venipuncture and physiologic monitoring. Time should be included for demonstration of minimal and moderate sedation techniques.

Following didactic instruction in minimal and moderate sedation, the student must receive sufficient clinical experience to demonstrate competency in those techniques in which the student is to be certified. It is understood that not all institutions may be able to provide instruction to the level of clinical competence in pharmacologic sedation modalities to all students. The amount of clinical experience required to achieve competency will vary according to student ability, teaching methods and the anxiety and pain control modality taught.

Clinical experience in minimal and moderate sedation techniques should be related to various disciplines of dentistry and not solely limited to surgical cases. Typically, such experience will be provided in managing healthy adult patients. The sedative care of pediatric patients and those with special needs requires advanced didactic and clinical training.

Throughout both didactic and clinical instruction in anxiety and pain control, psychological management of the patient should also be stressed. Instruction should emphasize that the need for sedative techniques is directly related to the patient's level of anxiety, cooperation, medical condition and the planned procedures.

**D. Faculty:** Instruction must be provided by qualified faculty for whom anxiety and pain control are areas of major proficiency, interest and concern.

**E. Facilities:** Competency courses must be presented where adequate facilities are available for proper patient care, including drugs and equipment for the management of emergencies.

## IV. Teaching Administration of Minimal Sedation

The faculty responsible for curriculum in minimal sedation techniques must be familiar with the ADA Policy Statement: *Guidelines for the Use of Sedation and General Anesthesia by Dentists*, and the Commission on Dental Accreditation's *Accreditation Standards* for dental education programs.

These *Guidelines* present a basic overview of the recommendations for teaching minimal sedation. These include courses in nitrous oxide/oxygen sedation, enteral sedation, and combined inhalation/enteral techniques.

**General Objectives:** Upon completion of a competency course in minimal sedation, the dentist must be able to:

1. Describe the adult and pediatric anatomy and physiology of the respiratory, cardiovascular and central nervous systems, as they relate to the above techniques.
2. Describe the pharmacological effects of drugs.
3. Describe the methods of obtaining a medical history and conduct an appropriate physical examination.
4. Apply these methods clinically in order to obtain an accurate evaluation.
5. Use this information clinically for ASA classification and risk assessment.
6. Choose the most appropriate technique for the individual patient.
7. Use appropriate physiologic monitoring equipment.

8. Describe the physiologic responses that are consistent with minimal sedation.
9. Understand the sedation/general anesthesia continuum.

**Inhalation Sedation (Nitrous Oxide/Oxygen)**

**A. Inhalation Sedation Course Objectives:** Upon completion of a competency course in inhalation sedation techniques, the dentist must be able to:

1. Describe the basic components of inhalation sedation equipment.
2. Discuss the function of each of these components.
3. List and discuss the advantages and disadvantages of inhalation sedation.
4. List and discuss the indications and contraindications of inhalation sedation.
5. List the complications associated with inhalation sedation.
6. Discuss the prevention, recognition and management of these complications.
7. Administer inhalation sedation to patients in a clinical setting in a safe and effective manner.
8. Discuss the abuse potential, occupational hazards and other untoward effects of inhalation agents.

**B. Inhalation Sedation Course Content:**

1. Historical, philosophical and psychological aspects of anxiety and pain control.
2. Patient evaluation and selection through review of medical history taking, physical diagnosis and psychological considerations.
3. Definitions and descriptions of physiological and psychological aspects of anxiety and pain.
4. Description of the stages of drug-induced central nervous system depression through all levels of consciousness and unconsciousness, with special emphasis on the distinction between the conscious and the unconscious state.
5. Review of pediatric and adult respiratory and circulatory physiology and related anatomy.
6. Pharmacology of agents used in inhalation sedation, including drug interactions and incompatibilities.
7. Indications and contraindications for use of inhalation sedation.
8. Review of dental procedures possible under inhalation sedation.
9. Patient monitoring using observation and monitoring equipment, with particular attention to vital signs and reflexes related to pharmacology of nitrous oxide.
10. Importance of maintaining proper records with accurate chart entries recording medical history, physical examination, vital signs, drugs and doses administered and patient response.
11. Prevention, recognition and management of complications and life-threatening situations.
12. Administration of local anesthesia in conjunction with inhalation sedation techniques.
13. Description and use of inhalation sedation equipment.
14. Introduction to potential health hazards of trace anesthetics and proposed techniques for limiting occupational exposure.
15. Discussion of abuse potential.

**C. Inhalation Sedation Course Duration:** While length of a course is only one of the many factors to be considered in determining the quality of an educational program, the course should be a minimum of *14 hours*, including a clinical component during which competency in inhalation sedation technique is achieved. The inhalation sedation course most often is completed as a part of the predoctoral dental education program. However, the course may be completed in a postdoctoral continuing education competency course.

**D. Participant Evaluation and Documentation of Inhalation Sedation Instruction:** Competency courses in inhalation sedation techniques must afford participants with sufficient clinical experience to enable them to achieve competency. This experience must be provided under the supervision of qualified faculty and must be evaluated. The course director must certify the competency of participants upon satisfactory completion of training. Records of the didactic instruction and clinical experience, including the number of patients treated by each participant must be maintained and available.

**E. Faculty:** The course should be directed by a dentist or physician qualified by experience and training. This individual should have had at least three years of experience, including the individual's formal postdoctoral

training in anxiety and pain control. In addition, the participation of highly qualified individuals in related fields, such as anesthesiologists, pharmacologists, internists, and cardiologists and psychologists, should be encouraged.

A participant-faculty ratio of not more than ten-to-one when inhalation sedation is being used allows for adequate supervision during the clinical phase of instruction; a one-to-one ratio is recommended during the early state of participation.

The faculty should provide a mechanism whereby the participant can evaluate the performance of those individuals who present the course material.

**F. Facilities:** Competency courses must be presented where adequate facilities are available for proper patient care, including drugs and equipment for the management of emergencies.

**Enteral and/or Combination Inhalation-Enteral Minimal Sedation**

**A. Enteral and/or Combination Inhalation-Enteral Minimal Sedation Course Objectives: Upon** completion of a competency course in enteral and/or combination inhalation-enteral minimal sedation techniques, the dentist must be able to:

1. Describe the basic components of inhalation sedation equipment.
2. Discuss the function of each of these components.
3. List and discuss the advantages and disadvantages of enteral and/or combination inhalation-enteral minimal sedation (combined minimal sedation).
4. List and discuss the indications and contraindications for the use of enteral and/or combination inhalation-enteral minimal sedation (combined minimal sedation).
5. List the complications associated with enteral and/or combination inhalation-enteral minimal sedation (combined minimal sedation).
6. Discuss the prevention, recognition and management of these complications.
7. Administer enteral and/or combination inhalation-enteral minimal sedation (combined minimal sedation) to patients in a clinical setting in a safe and effective manner.
8. Discuss the abuse potential, occupational hazards and other effects of enteral and inhalation agents.
9. Discuss the pharmacology of the enteral and inhalation drugs selected for administration.
10. Discuss the precautions, contraindications and adverse reactions associated with the enteral and inhalation drugs selected.
11. Describe a protocol for management of emergencies in the dental office and list and discuss the emergency drugs and equipment required for management of life-threatening situations.
12. Demonstrate the ability to manage life-threatening emergency situations, including current certification in Basic Life Support for Healthcare Providers.
13. Discuss the pharmacological effects of combined drug therapy, their implications and their management. Nitrous oxide/oxygen when used in combination with sedative agent(s) may produce minimal, moderate, deep sedation or general anesthesia.

**B. Enteral and/or Combination Inhalation-Enteral Minimal Sedation Course Content:**

1. Historical, philosophical and psychological aspects of anxiety and pain control.
2. Patient evaluation and selection through review of medical history taking, physical diagnosis and psychological profiling.
3. Definitions and descriptions of physiological and psychological aspects of anxiety and pain.
4. Description of the stages of drug-induced central nervous system depression through all levels of consciousness and unconsciousness, with special emphasis on the distinction between the conscious and the unconscious state.
5. Review of pediatric and adult respiratory and circulatory physiology and related anatomy.
6. Pharmacology of agents used in enteral and/or combination inhalation-enteral minimal sedation, including drug interactions and incompatibilities.
7. Indications and contraindications for use of enteral and/or combination inhalation-enteral minimal sedation (combined minimal sedation).

8. Review of dental procedures possible under enteral and/or combination inhalation-enteral minimal sedation).
9. Patient monitoring using observation, monitoring equipment, with particular attention to vital signs and reflexes related to consciousness.
10. Maintaining proper records with accurate chart entries recording medical history, physical examination, informed consent, time-oriented anesthesia record, including the names of all drugs administered including local anesthetics, doses, and monitored physiological parameters.
11. Prevention, recognition and management of complications and life-threatening situations.
12. Administration of local anesthesia in conjunction with enteral and/or combination inhalation-enteral minimal sedation techniques.
13. Description and use of inhalation sedation equipment.
14. Introduction to potential health hazards of trace anesthetics and proposed techniques for limiting occupational exposure.
15. Discussion of abuse potential.

**C. Enteral and/or Combination Inhalation-Enteral Minimal Sedation Course Duration:** Participants must be able to document current certification in Basic Life Support for Healthcare Providers and have completed a nitrous oxide competency course to be eligible for enrollment in this course. While length of a course is only one of the many factors to be considered in determining the quality of an educational program, the course should include a minimum of *16 hours*, plus clinically-oriented experiences during which competency in enteral and/or combined inhalation-enteral minimal sedation techniques is demonstrated. Clinically-oriented experiences may include group observations on patients undergoing enteral and/or combination inhalation-enteral minimal sedation. Clinical experience in managing a compromised airway is critical to the prevention of life-threatening emergencies. The faculty should schedule participants to return for additional clinical experience if competency has not been achieved in the time allotted. The educational course may be completed in a predoctoral dental education curriculum or a postdoctoral continuing education competency course.

**These *Guidelines* are not intended for the management of enteral and/or combination inhalation-enteral minimal sedation in children, which requires additional course content and clinical learning experience.**

**D. Participant Evaluation and Documentation of Instruction:** Competency courses in combination inhalation-enteral minimal sedation techniques must afford participants with sufficient clinical understanding to enable them to achieve competency. The course director must certify the competency of participants upon satisfactory completion of the course. Records of the course instruction must be maintained and available.

**E. Faculty:** The course should be directed by a dentist or physician qualified by experience and training. This individual should have had at least three years of experience, including the individual's formal postdoctoral training in anxiety and pain control. Dental faculty with broad clinical experience in the particular aspect of the subject under consideration should participate. In addition, the participation of highly qualified individuals in related fields, such as anesthesiologists, pharmacologists, internists, and cardiologists and psychologists, should be encouraged. The faculty should provide a mechanism whereby the participant can evaluate the performance of those individuals who present the course material.

**F. Facilities:** Competency courses must be presented where adequate facilities are available for proper patient care, including drugs and equipment for the management of emergencies.

## V. Teaching Administration of Moderate Sedation

These *Guidelines* present a basic overview of the requirements for a competency course in moderate sedation. These include courses in enteral moderate sedation and parenteral moderate sedation. The teaching guidelines contained in this section on moderate sedation differ slightly from documents in medicine to reflect the differences in delivery methodologies and practice environment in dentistry. For this reason, separate teaching guidelines have been developed for moderate enteral and moderate parenteral sedation.

**A. Course Objectives:** Upon completion of a course in moderate sedation, the dentist must be able to:

1. List and discuss the advantages and disadvantages of moderate sedation.
2. Discuss the prevention, recognition and management of complications associated with moderate sedation.
3. Administer moderate sedation to patients in a clinical setting in a safe and effective manner.
4. Discuss the abuse potential, occupational hazards and other untoward effects of the agents utilized to achieve moderate sedation.
5. Describe and demonstrate the technique of intravenous access, intramuscular injection and other parenteral techniques.
6. Discuss the pharmacology of the drug(s) selected for administration.
7. Discuss the precautions, indications, contraindications and adverse reactions associated with the drug(s) selected.
8. Administer the selected drug(s) to dental patients in a clinical setting in a safe and effective manner.
9. List the complications associated with techniques of moderate sedation.
10. Describe a protocol for management of emergencies in the dental office and list and discuss the emergency drugs and equipment required for the prevention and management of emergency situations.
11. Discuss principles of advanced cardiac life support or an appropriate dental sedation/anesthesia emergency course equivalent.
12. Demonstrate the ability to manage emergency situations.

**B. Moderate Sedation Course Content:**

1. Historical, philosophical and psychological aspects of anxiety and pain control.
2. Patient evaluation and selection through review of medical history taking, physical diagnosis and psychological considerations.
3. Definitions and descriptions of physiological and psychological aspects of anxiety and pain.
4. Description of the sedation anesthesia continuum, with special emphasis on the distinction between the conscious and the unconscious state.
5. Review of pediatric and adult respiratory and circulatory physiology and related anatomy.
6. Pharmacology of local anesthetics and agents used in moderate sedation, including drug interactions and contraindications.
7. Indications and contraindications for use of moderate sedation.
8. Review of dental procedures possible under moderate sedation.
9. Patient monitoring using observation and monitoring equipment, with particular attention to vital signs and reflexes related to consciousness.
10. Maintaining proper records with accurate chart entries recording medical history, physical examination, informed consent, time-oriented anesthesia record, including the names of all drugs administered including local anesthetics, doses, and monitored physiological parameters.
11. Prevention, recognition and management of complications and emergencies.
12. Description and use of moderate sedation monitors and equipment.
13. Discussion of abuse potential.
14. Intravenous access: anatomy, equipment and technique.
15. Prevention, recognition and management of complications of venipuncture and other parenteral techniques.
16. Description and rationale for the technique to be employed.
17. Prevention, recognition and management of systemic complications of moderate sedation, with particular attention to airway maintenance and support of the respiratory and cardiovascular systems.

**C. <u>Moderate Enteral Sedation Course Duration</u>:** A minimum of *24 hours* of instruction, plus management of *at least 10 adult case experiences* by the enteral and/or enteral-nitrous oxide/oxygen route are required to achieve competency. These ten cases must include at least three live clinical dental experiences managed by

participants in groups no larger than five. The remaining cases may include simulations and/or video presentations, but must include one experience in returning (rescuing) a patient from deep to moderate sedation. Participants combining enteral moderate sedation with nitrous oxide-oxygen must have first completed a nitrous oxide competency course.

Participants should be provided supervised opportunities for clinical experience to demonstrate competence in airway management. Clinical experience will be provided in managing healthy adult patients; **this course in moderate enteral sedation is not designed for the management of children (aged 12 and under).** Additional supervised clinical experience is necessary to prepare participants to manage medically compromised adults and special needs patients. This course in moderate enteral sedation does not result in competency in moderate parenteral sedation. The faculty should schedule participants to return for additional didactic or clinical exposure if competency has not been achieved in the time allotted.

**Moderate Parenteral Sedation Course Duration:** A minimum of *60 hours* of instruction, plus management of *at least 20 patients* by the intravenous route per participant, is required to achieve competency in moderate sedation techniques. Participants combining parenteral moderate sedation with nitrous oxide-oxygen must have first completed a nitrous oxide competency course.

Clinical experience in managing a compromised airway is critical to the prevention of emergencies. Participants should be provided supervised opportunities for clinical experience to demonstrate competence in management of the airway. Typically, clinical experience will be provided in managing healthy adult patients. **Additional supervised clinical experience is necessary to prepare participants to manage children (aged 12 and under) and medically compromised adults.** Successful completion of this course does result in clinical competency in moderate parenteral sedation. The faculty should schedule participants to return for additional clinical experience if competency has not been achieved in the time allotted.

**D. Participant Evaluation and Documentation of Instruction: Competency courses in moderate** sedation techniques must afford participants with sufficient clinical experience to enable them to achieve competency. This experience must be provided under the supervision of qualified faculty and must be evaluated. The course director must certify the competency of participants upon satisfactory completion of training in each moderate sedation technique, including instruction, clinical experience and airway management. Records of the didactic instruction and clinical experience, including the number of patients managed by each participant in each anxiety and pain control modality must be maintained and available for review.

**E. Faculty:** The course should be directed by a dentist or physician qualified by experience and training. This individual should have had at least three years of experience, including formal postdoctoral training in anxiety and pain control. Dental faculty with broad clinical experience in the particular aspect of the subject under consideration should participate. In addition, the participation of highly qualified individuals in related fields, such as anesthesiologists, pharmacologists, internists, cardiologists and psychologists, should be encouraged.

A participant-faculty ratio of not more than five-to-one when moderate enteral sedation is being taught allows for adequate supervision during the clinical phase of instruction. A participant-faculty ratio of not more than three-to-one when moderate parenteral sedation is being taught allows for adequate supervision during the clinical phase of instruction; a one-to-one ratio is recommended during the early stage of participation.

The faculty should provide a mechanism whereby the participant can evaluate the performance of those individuals who present the course material.

**F. Facilities:** Competency courses in moderate sedation must be presented where adequate facilities are available for proper patient care, including drugs and equipment for the management of emergencies. These facilities may include dental and medical schools/offices, hospitals and surgical centers.

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## VI. Additional Sources of Information

American Dental Association. Example of a time oriented anesthesia record at www.ada.org.

American Academy of Pediatric Dentistry (AAPD). *Guidelines for Monitoring and Management of Pediatric Patients During and After Sedation for Diagnostic and Therapeutic Procedures: An Update.* Developed through a collaborative effort between the American Academy of Pediatrics and the AAPD. Available at http://www.aapd.org/policies

~~American Academy of Periodontology (AAP). *Guidelines: In-Office Use of Conscious Sedation in Periodontics.* Available at http://www.perio.org/resources-products/posppr3-1.html~~ *The AAP rescinded this policy in 2008.*

American Association of Oral and Maxillofacial Surgeons (AAOMS). *Parameters and Pathways: Clinical Practice Guidelines for Oral and Maxillofacial Surgery (AAOMS ParPath o1) Anesthesia in Outpatient Facilities*. Contact AAOMS at 1-847-678-6200 or visit http://www.aaoms.org/index.php

American Association of Oral and Maxillofacial Surgeons (AAOMS). *Office Anesthesia Evaluation Manual 7th Edition.* Contact AAOMS at 1-847-678-6200 or visit http://www.aaoms.org/index.php

American Society of Anesthesiologists (ASA). *Practice Guidelines for Preoperative Fasting and the Use of Pharmacological Agents to Reduce the Risk of Pulmonary Aspiration: Application to Healthy Patients Undergoing Elective Procedures.* Available at https://ecommerce.asahq.org/p-178-practice-guidelines-for-preoperative-fasting.aspx

American Society of Anesthesiologists (ASA). *Practice Guidelines for Sedation and Analgesia by Non-Anesthesiologists.* Available at http://www.asahq.org/Home/For-Members/Practice-Management/Practice-Parameters#sedation
The ASA has other anesthesia resources that might be of interest to dentists. For more information, go to http://www.asahq.org/publicationsAndServices/sgstoc.htm

Commission on Dental Accreditation (CODA). *Accreditation Standards* for Predoctoral and Advanced Dental Education Programs. Available at http://www.ada.org/115.aspx .

National Institute for Occupational Safety and Health (NIOSH). *Controlling Exposures to Nitrous Oxide During Anesthetic Administration* (NIOSH Alert: 1994 Publication No. 94-100). Available at http://www.cdc.gov/niosh/docs/94-100/

Dionne, Raymond A.; Yagiela, John A., et al. Balancing efficacy and safety in the use of oral sedation in dental outpatients. JADA 2006;137(4):502-13. ADA members can access this article online at http://jada.ada.org/cgi/content/full/137/4/502

## Review of Sedation and Anesthesia Regulations

| | |
|---|---|
| 1984 | No provisions |
| 1987 | Definitions, adverse occurrences and delegable duties addressed |
| 1989 | Definitions expanded, Part III on General Anesthesia and Conscious Sedation added, included self certification, Guidelines as currently published |
| 1991 | Self-certification not addressed |
| 1994 | Amendment of residency provision |
| 1995 | No changes |
| 1996 | No changes |
| 1998 | '93 Guidelines |
| 2000 | '99 Guidelines |
| 2003 | '99 Guidelines |
| 2005 | Definitions revised and expanded, Part IV Anesthesia, Sedation and Analgesia Expanded and revised, Guidelines in effect at the time the training occurred, Ancillary personnel addressed, June 28, 2006 deadline for meeting educational requirements |
| 2006 | Monitoring requirements changed, ACLS requirement added |
| 2012 | Emergency Regulations for Sedation/Anesthesia Permits |

1987



"Competent instructor" means any person appointed to the faculty of a dental school, college or department or a university or a college who holds a license or teacher's license to practice dentistry or dental hygiene in this State.

"Dental assistant" means any unlicensed person under the supervision of a dentist who renders assistance for services provided to the patient as authorized under these regulations but shall not include an individual serving in purely a secretarial or clerical capacity.

"Dental hygiene student" means any person currently enrolled and attending an approved school/program of dental hygiene. No person shall be deemed to be a dental hygiene student who has not begun the first year of enrollment in the school; nor a person who is not attending the regularly scheduled sessions of the school in which he is enrolled.

"Dental student" means any person currently enrolled and attending an approved school of dentistry but shall not include persons enrolled in schools/-programs of dental hygiene. No person shall be deemed to be a dental student who has not begun the first year of enrollment in school; nor a person who is not attending the regularly scheduled sessions of the school in which he is enrolled.

"Diagnosis" means an opinion of findings in an examination.

"Direction" means the presence of the dentist for the evaluation, observation, advice, and control over the performance of dental services.

"Examination of patient" means a study of all the structures of the oral cavity, including the recording of the conditions of all such structures and an appropriate history thereof. As a minimum, such study shall include charting of caries, identification of periodontal disease, occlusal discrepancies, and the detection of oral lesions.

"Local anesthesia" means the loss of sensation or pain in the oral cavity or its contiguous structures generally produced by a topically applied agent or injected agent without causing the loss of consciousness.

"Monitoring of general anesthesia and conscious sedation" includes the following: recording and reporting of blood pressure, pulse, respiration and other vital signs to the attending dentist during the conduct of these procedures and after the dentist has induced a patient and established a maintenance level.

"Monitoring of nitrous oxide oxygen inhalation analgesia" means making the proper adjustments of nitrous oxide machines at the request of the dentist during the administration of the sedation and observing the patient's vital signs.

"Nitrous oxide oxygen inhalation analgesia" means the utilization of nitrous oxide and oxygen to produce a state of reduced sensibility to pain designating particularly the relief of pain without the loss of consciousness.

"Radiographs" means intraoral and extraoral x-rays of the hard and soft oral structures to be used for purposes of diagnosis.

"Recognized governmental clinic" means any clinic operated or funded by any agency of state or local government which provides dental services to the public, the dental services of which shall be provided by a licensed dentist or by persons who may be authorized herein to provide dental services under the direction of a dentist.

§ 1.2. Public participation guidelines.

A. Mailing list.

The Virginia State Board of Dentistry will maintain a list of persons and organizations who will be mailed the following documents as they become available:

1. "Notice of intent" to promulgate regulations.
2. "Notice of public hearing" or "informational proceeding," the subject of which is a proposed or existing regulation.
3. Final regulation adopted.

B. Being placed on list and deletion.

Any person wishing to be placed on the mailing list may have his or her name added by writing the Board. In addition, the Agency or Board may, in its discretion, add to the list any person, organization, or publication whose inclusion it believes will further the purpose of responsible participation in the formation or promulgation of regulations. Persons on the list will be provided all information stated in subsection A. of this section. Individuals and organizations will be periodically requested to indicate their desire to continue to receive documents or be deleted from the list. Where mail is returned as undeliverable, individuals, and organizations will be deleted from the list.

C. Notice of intent.

At least 30 days prior to publication of the notice to conduct an informational proceeding as required by Section 9-6.14:1 of the Administrative Process Act, the Board will publish a "notice of intent." This notice will contain a brief and concise statement of the possible regulation or the problem the regulation would address and invite any person to provide written comment on the subject matter. Such notice shall be transmitted to the Registrar for inclusion in the Virginia Register of Regulations.

PART III

§ 3.1. Report of adverse occurrences

A written report shall be submitted to the Board by the treating dentist within 30 days following any mortality or serious unusual incident that occurs in the licensee's dental facility or during the first 24 hours immediately following the patient's departure from the facility following and directly resulting from the administration of general anesthesia, conscious sedation, or nitrous oxide oxygen inhalation analgesia.

PART IV
RECORD KEEPING AND REPORTING

§ 4.1. Records.

A. Laboratory Work Orders. Written Work Order Forms and Subwork Order Forms to employ or engage the services of any person, firm or corporation to construct or reproduce or repair, extraorally, prosthetic dentures, bridges or other replacements for a part of a tooth or teeth as required by Section § 54-147.2 of the Code shall include as a minimum the following information:

1. Patient or case number, and date.

2. The signature, license number and address of the dentist.

B. Patient records. A dentist shall maintain patient records for not less than five years from the most recent date of service for purposes of review by the Board to include the following:

1. Patient's name and date of treatment;
2. Updated health history;
3. Diagnosis and treatment rendered;
4. List of drugs prescribed, administered, dispensed and the quantity;
5. Radiographs;
6. Fees and charges; and
7. Name of dentist and dental hygienist providing service.

§ 4.2. Reporting.

A. Dental students as hygienists: Prior to utilizing the services of a senior dental student as a dental hygienist as provided in § 54-147(3) a dentist shall supply the Board with the name and address of the student, the school in which the senior student is enrolled, the hours during which the student is expected to be employed as a hygienist, the expected period of employment (June and July, only) and verification that the employing dentist holds faculty appointment.

6. "Prophylaxis" -- the removal of calculus, accretions and stains from exposed surfaces of the teeth and from the gingival sulcus.

7. "Simple extractions" -- a service for the removal of non-impacted teeth, including a full disclosure of all related fees and procedures.

8. Other procedures which are determined by the Board to be routine dental services are those services set forth in the American Dental Association's "Code on Dental Procedures and Nomenclature," as published in the Journal of the American Dental Association (JADA), as amended, which is hereby adopted and incorporated by reference.

F. The following practices shall constitute false, deceptive or misleading advertising within the meaning of Section 54-187(7) of the Code.

1. Publishing an advertisement which contains a material misrepresentation or omission of facts.

2. Publishing an advertisement which contains a representation or implication that is likely to cause an ordinarily prudent person to misunderstand or be deceived, or that fails to contain reasonable warnings or disclaimers necessary to make a representation or implication not deceptive.

3. Publishing an advertisement which fails to include the information and disclaimers required by § 4.4 of these regulations.

G. Signage: Advertisements, including but not limited to signage, containing descriptions of the type of dentistry practiced and/or a specific geographic locator are permissible so long as the requirements of Virginia Code §§ 54-186 and 54-184 are complied with.

§ 4.5. Non-Delegable duties.

A. Non-Dentists: The following duties shall not be delegated to a non-dentist:

1. Diagnosis and treatment planning.
2. Performing surgical or cutting procedures on hard or soft tissue.
3. Prescribing drugs, medicaments and work authorizations.
4. Adjusting fixed or removable appliances or restorations in the oral cavity.
5. Making occlusal adjustments in the oral cavity.
6. Performing pulp capping and pulpotomy procedures.
7. Administering and monitoring local or general anesthetics, conscious sedation and administering nitrous oxide oxygen inhalation analgesia, except as provided for in § 54-149 and Regulation 5.4.A.17.

22. Removal of supragingival cement on crowns, bands, and restorations.

Any procedure not listed above is prohibited.

§ 5.5. What does not constitute practice.

A. Oral health education and preliminary dental screenings in any setting are not considered the practice of dental hygiene and dentistry.

B. Recording a patient's pulse, blood pressure, temperature, and medical history.

## PREAMBLE

These regulations state the requirements for licensure of dentists and dental hygienists in the Commonwealth of Virginia. The regulations are adopted by the Virginia Board of Dentistry under the authority of Title 54, Chapter 8 Dentists and Dental Hygienists, §§ 54-146 through 54-200.02 of the Code of Virginia.

The Board believes that each practitioner in the field of dentistry is accountable to the State and to the public to maintain high professional standards of practice in keeping with the ethics of the profession of dentistry.

The licensed dentist and dental hygienist shall be responsible and accountable for making decisions that are based upon educational preparation and experience in dentistry and dental hygiene respectively. The practitioner shall be held accountable for the quality and quantity of dental care given to patients by himself or others who are under his direction as set forth in these regulations.

The practitioner shall be held accountable for the quality and quantity of dental care given to patients by himself based upon educational preparation and experience.

## PART I
## GENERAL PROVISIONS

Authority: § 54.1-2700, 54.1.2706, 54.1-2709, 54.1-2711, 54.1-2713, 54.1-2714, 54.1-2715, 54.1-2716, 54.1-2722, 54.1-2724, and 54.1-2728

§ 1.1. Definitions.

The following words and terms, when used in these regulations, shall have the following meanings, unless the content clearly indicates otherwise:

"Advertising" means a representation or other notice given to the public or members thereof, directly or indirectly, by a dentist on behalf of himself, his facility, his partner or associate, or any dentist affiliated with the dentist or his facility by any means or method for the purpose of inducing purchase, sale or use of dental methods, services, treatments, operations, procedures or products or to promote continued or increased use of such dental methods, treatments, operations, procedures or products.

"Analgesia" means the diminution or elimination of pain in the conscious patient.

"Approved schools" means those dental schools, colleges, departments of universities or colleges or schools of dental hygiene currently accredited by the Commission on Dental Accreditation of the American Dental Association, which is hereby incorporated by reference.

"Competent instructor" means any person appointed to the faculty of a dental school, college or department or a university or a college who holds a license or teacher's license to practice dentistry or dental hygiene in this State.

"Conscious sedation" means a minimally depressed level of consciousness that retains the patient's ability to independently and continuously maintain an airway and respond appropriately to physical stimulation and verbal commands, produced by a pharmacologic or nonpharmacologic method, or a combination thereof.

"Dental assistant" means any unlicensed person under the supervision of a dentist who renders assistance for services provided to the patient as authorized under these regulations but shall not include an individual serving in purely a secretarial or clerical capacity.

"Dental hygiene student" means any person currently enrolled and attending an approved school/program of dental hygiene. No person shall be deemed to be a dental hygiene student who has not begun the first year of enrollment in the school; nor a person who is not attending the regularly scheduled sessions of the school in which he is enrolled.

"Dental student" means any person currently enrolled and attending an approved school of dentistry but shall not include persons enrolled in schools/programs of dental hygiene. No person shall be deemed to be a dental student who has not begun the first year of enrollment in school; nor a person who is not attending the regularly scheduled sessions of the school in which he is enrolled.

"Diagnosis" means an opinion of findings in an examination.

"Direction" means the presence of the dentist for the evaluation, observation, advice, and control over the performance of dental services.

"Examination of patient" means a study of all the structures of the oral cavity, including the recording of the conditions of all such structures and an appropriate history thereof. As a minimum, such study shall include charting of caries, identification of periodontal disease, occlusal discrepancies, and the detection of oral lesions.

"General anesthesia" means a controlled state of unconsciousness accompanied by partial or complete loss of protective reflexes, including inability to independently maintain an airway and respond purposefully to physical stimulation or verbal command, produced by a pharmacologic or nonpharmacologic method, or combination thereof.

"Local anesthesia" means the loss of sensation or pain in the oral cavity or its contiguous structures generally produced by a topically applied agent or injected agent without causing the loss of consciousness.

"Monitoring general anesthesia and conscious sedation" includes the following: recording and reporting of blood pressure, pulse, respiration and other vital signs to the attending dentist during the conduct of these procedures and after the dentist has induced a patient and established a maintenance level.

"Monitoring nitrous oxide oxygen inhalation analgesia" means making the proper adjustments of nitrous oxide machines at the request of the dentist during the administration of the sedation and observing the patient's vital signs.

"Nitrous oxide oxygen inhalation analgesia" means the utilization of nitrous oxide and oxygen to produce a state of reduced sensibility to pain designating particularly the relief of pain without the loss of consciousness.

"Radiographs" means intraoral and extraoral x-rays of the hard and soft oral structures to be used for purposes of diagnosis.

"Recognized governmental clinic" means any clinic operated or funded by any agency of state or local government which provides dental services to the public, the dental services of which shall be provided by a licensed dentist or by persons who may be authorized herein to provide dental services under the direction of a dentist.

§ 1.2. Public participation guidelines.

A. Mailing list.

The Virginia State Board of Dentistry will maintain a list of persons and organizations who will be mailed the following documents as they become available:

1. "Notice of intent" to promulgate regulations.
2. "Notice of public hearing" or "informational proceeding," the subject of which is a proposed or existing regulation.
3. Final regulation adopted.

B. Being placed on list and deletion.

Any person wishing to be placed on the mailing list may have his or her name added by writing the Board. In addition, the Agency or Board may, in its discretion, add to the list any person, organization, or publication whose inclusion it believes will further the purpose of responsible participation in the formation or promulgation of regulations. Persons on the list will be provided all information stated in subsection A. of this section. Individuals and organizations will be periodically requested to indicate their

termination of full-time employment. The Dean of the Dental School shall notify the Board within five working days of such termination of full-time employment.

D. Temporary permit issued pursuant to § 54.1-2715 and teacher's license issued pursuant to §§ 54.1-2713, 54.1-2714 and 54.1-2725 and full-time faculty license issued pursuant to § 54.1-2714.1, Code of Virginia, may be revoked for any grounds for which the license of a regularly licensed dentist or dental hygienist may be revoked and for any act, acts or actions indicating the inability of the permittee or licensee to practice dentistry that is consistent with the protection of the public health and safety as determined by the generally accepted standards of dental practice in Virginia.

## PART III
## GENERAL ANESTHESIA AND CONSCIOUS SEDATION

§ 3.1. Requirements to administer general anesthesia.

A. Educational requirements.

A dentist may employ or use general anesthesia on an outpatient basis by meeting one of the following educational criteria and by posting the educational certificate, in plain view of the patient, which verifies completion of the advanced training as required in § 3.1.A.1 or 2:

1. Has completed a minimum of one calendar year of advanced training in anesthesiology and related academic subjects beyond the undergraduate dental school level in a training program in conformity with Part II of the "Guidelines for Teaching the Comprehensive Control of Pain and Anxiety in Dentistry" as currently published by the American Dental Association; or

2. Is Board certified or Board eligible in any dental specialty which incorporates into its curriculum the standards of teaching comparable to those set forth in Part II of the "Guidelines for Teaching the Comprehensive Control of Pain and Anxiety in Dentistry".

B. Self-certification requirements.

Any licensed dentist who does not meet the requirements of Regulation 3.1.A.1 or 2 and who has utilized general anesthesia on a regular and routine basis prior to January 1, 1989, may continue to do so by:

1. Completing the Self-Certification Form provided by and subject to approval by the Board. Such form shall be filed with the Board on or before July 1, 1989; and

2. Posting the nonrenewable certificate issued to the dentist upon approval by the Board, which shall verify the Board's authorization that the dentist may continue to administer general anesthesia. No Self-Certification Forms shall be accepted by the Board after July 1, 1989.

C. Exemptions.

A dentist who has not met the requirements specified in § 3.1.A. or B of this section. may treat patients under general anesthesia in his or her practice if a qualified anesthesiologist, or a dentist who fulfills the requirements specified in subsection A or B of this section is present and is responsible for the administration of the anesthetic. If a dentist fulfills requirements himself to use general anesthesia and conscious sedation, he may employ the services of a certified nurse anesthetist.

§ 3.2. Conscious Sedation

A. Automatic qualification.

Dentists qualified to administer general anesthesia may administer conscious sedation.

B. Educational requirements.

A dentist may administer conscious sedation upon completion of training in conformity with requirements for this treatment modality as published by the American Dental Association in the "Guidelines for Teaching the Comprehensive Control of Pain and Anxiety in Dentistry," while enrolled at an approved dental school or in a post-doctoral university or teaching hospital program.

C. Self-certification requirements.

Any licensed dentist who does not meet the requirements of subsection A or B of this section and who has utilized conscious sedation on a regular and routine basis prior to January 1, 1989, may continue to do so by:

1. Completing the Self-Certification Form provided and subject to approval by the Board. Such form shall be filed with the Board on or before July 1, 1989; and

2. Posting the nonrenewable certificate issued to the dentist upon approval by the Board, which shall verify the Board's authorization that the dentist may continue to administer conscious sedation. No Self-Certification Forms shall be accepted by the Board after July 1, 1989.

§ 3.3. General information.

A. Emergency equipment and techniques.

A dentist who administers general anesthesia and conscious sedation shall be proficient in handling emergencies and complications related to pain control procedures, including the maintenance of respiration and circulation, immediate establishment of an airway and cardiopulmonary resuscitation, and shall maintain the following emergency airway equipment in the dental facility:

1. Full face mask for children or adults, or both;

2. Oral and nasopharyngeal airways;

3. Endotracheal tubes for children or adults, or both, with appropriate connectors;

4. A laryngoscope with reserve batteries and bulbs and appropriately sized laryngoscope blades for children or adults, or both;

5. Source of delivery of oxygen under controlled pressure; and

6. Mechanical (hand) respiratory bag.

B. Posting requirements.

Any dentist who utilizes general anesthesia or conscious sedation shall post in each facility the certificate of education required under Regulations 3.1.A and 3.2.B or the self-certification certificate issued by the Board.

C. Other.

1. The team for general anesthesia shall consist of the operating dentist, a second person to monitor and observe the patient, and a third person to assist the operating dentist.

2. Person in charge of the anesthesia must remain on the premises of the dental facility until the patient has regained consciousness and is discharged.

§ 3.4. Report of adverse reactions.

A written report shall be submitted to the Board by the treating dentist within 30 days following any mortality or morbidity that occurs in the facility or during the first 24 hours immediately following the patient's

departure from the facility following and directly resulting from the administration of general anesthesia, conscious sedation, or nitrous oxide oxygen inhalation analgesia.

## PART IV
## RECORD KEEPING AND REPORTING

§ 4.1. Records.

A. Laboratory Work Orders.

Written Work Order Forms and Subwork Order Forms to employ or engage the services of any person, firm or corporation to construct or reproduce or repair, extraorally, prosthetic dentures, bridges or other replacements for a part of a tooth or teeth as required by § 54.1-2719 of the Code shall include as a minimum the following information:

1. Patient or case number, and date.

2. The signature, license number and address of the dentist.

B. Patient records.

A dentist shall maintain patient records for not less than five years from the most recent date of service for purposes of review by the Board to include the following:

1. Patient's name and date of treatment;
2. Updated health history;
3. Diagnosis and treatment rendered;
4. List of drugs prescribed, administered, dispensed and the quantity;
5. Radiographs;
6. Fees and charges;
7. Name of dentist and dental hygienist providing service.

§ 4.2. Reporting.

A. Dental students as hygienists.

Prior to utilizing the services of a senior dental student as a dental hygienist as provided in § 54.1-2712 a dentist shall supply the Board with the name and address of the student, the school in which the senior student is enrolled, the hours during which the student is expected to be employed as a hygienist, the expected period of employment (June and July, only) and verification that the employing dentist holds faculty appointment.

PREAMBLE

These regulations state the requirements for licensure of dentists and dental hygienists in the Commonwealth of Virginia. The regulations are adopted by the Virginia Board of Dentistry under the authority of Title 54.1 Chapters 1, 24, 25 and 27, Dentistry, §§54.1-2700 through 54.1-2728 of the Code of Virginia.

The Board believes that each practitioner in the field of dentistry is accountable to the State and to the public to maintain high professional standards of practice in keeping with the ethics of the profession of dentistry.

The licensed dentist and dental hygienist shall be responsible and accountable for making decisions that are based upon educational preparation and experience in dentistry and dental hygiene respectively. The practitioner shall be held accountable for the quality and quantity of dental care given to patients by himself or others who are under his direction as set forth in these regulations.

The practitioner shall be held accountable for the quality and quantity of dental care given to patients by himself based upon educational preparation and experience.

PART I
GENERAL PROVISIONS

Authority: §§ 54.1-103, 54.1-2700, 54.1.2706, 54.1-2709, 54.1-2711, 54.1-2713, 54.1-2714, 54.1-2715, 54.1-2716, 54.1-2722, 54.1-2724, and 54.1-2728

§ 1.1. Definitions.

The following words and terms, when used in these regulations, shall have the following meanings, unless the content clearly indicates otherwise:

*"Advertising"* means a representation or other notice given to the public or members thereof, directly or indirectly, by a dentist on behalf of himself, his facility, his partner or associate, or any dentist affiliated with the dentist or his facility by any means or method for the purpose of inducing purchase, sale or use of dental methods, services, treatments, operations, procedures or products or to promote continued or increased use of such dental methods, treatments, operations, procedures or products.

*"Analgesia"* means the diminution or elimination of pain in the conscious patient.

*"Approved schools"* means those dental schools, colleges, departments of universities or colleges or schools of dental hygiene currently accredited by the Commission on Dental Accreditation of the American Dental Association, which is hereby incorporated by reference.

*"Competent instructor"* means any person appointed to the faculty of a dental school, college or department or a university or a college who holds a license or teacher's license to practice dentistry or dental hygiene in this State.

*"Conscious sedation"* means a minimally depressed level of consciousness that retains the patient's ability to independently and continuously maintain an airway and respond appropriately to physical stimulation and verbal commands, produced by a pharmacologic or nonpharmacologic method, or a combination thereof.

*"Dental assistant"* means any unlicensed person under the supervision of a dentist who renders assistance for services provided to the patient as authorized under these regulations but shall not include an individual serving in purely a secretarial or clerical capacity.

*"Dental hygiene student"* means any person currently enrolled and attending an approved school/program of dental hygiene. No person shall be deemed to be a dental hygiene student who has not begun the first year of enrollment in the school; nor a person who is not attending the regularly scheduled sessions of the school in which he is enrolled.

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*"Diagnosis"* means an opinion of findings in an examination.

*"Direction"* means the presence of the dentist for the evaluation, observation, advice, and control over the performance of dental services.

*"Examination of patient"* means a study of all the structures of the oral cavity, including the recording of the conditions of all such structures and an appropriate history thereof. As a minimum, such study shall include charting of caries, identification of periodontal disease, occlusal discrepancies, and the detection of oral lesions.

*"General anesthesia"* means a controlled state of unconsciousness accompanied by partial or complete loss of protective reflexes, including inability to independently maintain an airway and respond purposefully to physical stimulation or verbal command, produced by a pharmacologic or nonpharmacologic method, or combination thereof.

*"Local anesthesia"* means the loss of sensation or pain in the oral cavity or its contiguous structures generally produced by a topically applied agent or injected agent without causing the loss of consciousness.

*"Monitoring general anesthesia and conscious sedation"* includes the following: recording and reporting of blood pressure, pulse, respiration and

other vital signs to the attending dentist during the conduct of these procedures and after the dentist has induced a patient and established a maintenance level.

*"Monitoring nitrous oxide oxygen inhalation analgesia"* means making the proper adjustments of nitrous oxide machines at the request of the dentist during the administration of the sedation and observing the patient's vital signs.

*"Nitrous oxide oxygen inhalation analgesia"* means the utilization of nitrous oxide and oxygen to produce a state of reduced sensibility to pain designating particularly the relief of pain without the loss of consciousness.

*"Radiographs"* means intraoral and extraoral x-rays of the hard and soft oral structures to be used for purposes of diagnosis.

*"Recognized governmental clinic"* means any clinic operated or funded by any agency of state or local government which provides dental services to the public, the dental services of which shall be provided by a licensed dentist or by persons who may be authorized herein to provide dental services under the direction of a dentist.

§ 1.2. Public participation guidelines.

A. Mailing list.

The Virginia State Board of Dentistry will maintain a list of persons and organizations who will be mailed the following documents as they become available:

1. "Notice of intent" to promulgate regulations.

2. "Notice of public hearing" or "informational proceeding," the subject of which is a proposed or existing regulation.

3. Final regulation adopted.

B. Being placed on list and deletion.

Any person wishing to be placed on the mailing list may have his or her name added by writing the Board. In addition, the Agency or Board may, in its discretion, add to the list any person, organization, or publication whose inclusion it believes will further the purpose of responsible participation in the formation or promulgation of regulations. Persons on the list will be provided all information stated in subsection A. of this section. Individuals and organizations will be periodically requested to indicate their desire to continue to receive documents or be deleted from the list. Where mail is returned as undeliverable, individuals, and organizations will be deleted from the list.

Virginia, may be revoked for any grounds for which the license of a regularly licensed dentist or dental hygienist may be revoked and for any act, acts or actions indicating the inability of the permittee or licensee to practice dentistry that is consistent with the protection of the public health and safety as determined by the generally accepted standards of dental practice in Virginia.

E. Applicants for a full-time faculty license or temporary permit shall be required to pass an examination on the Laws and the Regulations governing the practice of dentistry in Virginia.

§ 2.5. All applications for any license or permit issued by the Board shall include:

1. A final certified transcript of the grades from the college from which the applicant received the dental degree, dental hygiene degree or certificate, or post-doctoral degree or certificate; and

2. An original grade card issued by the Joint Commission on National Dental Examinations.

## PART III
## GENERAL ANESTHESIA AND CONSCIOUS SEDATION

§ 3.1. Requirements to administer general anesthesia.

A. Educational requirements.

A dentist may employ or use general anesthesia on an outpatient basis by meeting one of the following educational criteria and by posting the educational certificate, in plain view of the patient, which verifies completion of the advanced training as required in §3.1.A.1. or 2.: The foregoing shall not apply nor interfere with requirements for obtaining hospital staff privileges.

1. Has completed a minimum of one calendar year of advanced training in anesthesiology and related academic subjects beyond the undergraduate dental school level in a training program in conformity with Part II of the "Guidelines for Teaching the Comprehensive Control of Pain and Anxiety in Dentistry" as currently published by the American Dental Association; or

2. Is Board certified or Board eligible in any dental specialty which incorporates into its curriculum the standards of teaching comparable to those set forth in Part II of the "Guidelines for Teaching the Comprehensive Control of Pain and Anxiety in Dentistry."

B. Exemptions.

A dentist who has not met the requirements specified in §3.1.A. of this section may treat patients under general anesthesia in his or her practice if a qualified anesthesiologist, or a dentist who fulfills the requirements specified in subsection A of this section is present and is responsible for the administration of the anesthetic. If a dentist fulfills requirements himself to use general anesthesia and conscious sedation, he may employ the services of a certified nurse anesthetist.

§ 3.2. Conscious Sedation - Intravenous and Intramuscular.

A. Automatic qualification.

Dentists qualified to administer general anesthesia may administer conscious sedation.

B. Educational requirements.

A dentist may administer conscious sedation upon completion of training in conformity with requirements for this treatment modality as published by the American Dental Association in the "Guidelines for Teaching the Comprehensive Control of Pain and Anxiety in Dentistry," while enrolled at an approved dental school or in a post-doctoral university or teaching hospital program.

§ 3.3. General information.

A. Emergency equipment and techniques.

A dentist who administers general anesthesia and conscious sedation shall be proficient in handling emergencies and complications related to pain control procedures, including the maintenance of respiration and circulation, immediate establishment of an airway and cardiopulmonary resuscitation, and shall maintain the following emergency airway equipment in the dental facility:

1. Full face mask for children or adults, or both;

2. Oral and nasopharyngeal airways;

3. Endotracheal tubes for children or adults, or both, with appropriate connectors;

4. A laryngoscope with reserve batteries and bulbs and appropriately sized laryngoscope blades for children or adults, or both;

5. Source of delivery of oxygen under controlled pressure; and

6. Mechanical (hand) respiratory bag.

B. Posting requirements.

Any dentist who utilizes general anesthesia or conscious sedation shall post in each facility the certificate of education required under Regulations §§3.1.A. and 3.2.B. or the self-certification certificate issued by the Board.

C. Other.

1. The team for general anesthesia shall consist of the operating dentist, a second person to monitor and observe the patient, and a third person to assist the operating dentist.

2. Person in charge of the anesthesia must remain on the premises of the dental facility until the patient has regained consciousness and is discharged.

D. Scope of Regulation. Part III shall not apply to administration of General Anesthesia and Conscious Sedation in hospitals and surgi-centers.

§ 3.4. Report of adverse reactions.

A written report shall be submitted to the Board by the treating dentist within 30 days following any mortality or morbidity that occurs in the facility or during the first 24 hours immediately following the patient's departure from the facility following and directly resulting from the administration of general anesthesia, conscious sedation, or nitrous oxide oxygen inhalation analgesia.

## PART IV
## RECORD KEEPING AND REPORTING

§ 4.1. Records.

A. Laboratory Work Orders.

Written Work Order Forms and Subwork Order Forms to employ or engage the services of any person, firm or corporation to construct or reproduce or repair, extraorally, prosthetic dentures, bridges or other replacements for a part of a tooth or teeth as required by §54.1-2719 of the Code shall include as a minimum the following information:

1. Patient name or case number, and date.

2. The signature, license number and address of the dentist.

PART I

GENERAL PROVISIONS

Authority: §§ 54.1-103, 54.1-2700, 54.1.2706, 54.1-2709, 54.1 -2711, 54.1-2713, 54.1-2714, 54.1-2715, 54.1-2716, 54.1-2722, 54.1-2724, and 54.1-2728

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"Analgesia" means the diminution or elimination of pain in the conscious patient.

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to physical stimulation and verbal commands, produced by a pharmacologic or nonpharmacologic method, or a combination thereof.

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"Diagnosis" means an opinion of findings in an examination.

"Direction" means the presence of the dentist for the evaluation, observation, advice, and control over the performance of dental services.

"Examination of patient" means a study of all the structures of the oral cavity, including the recording of the conditions of all such structures and an appropriate history thereof. As a minimum, such study shall include charting of caries, identification of periodontal disease, occlusal discrepancies, and the detection of oral lesions.

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"Nitrous oxide oxygen inhalation analgesia" means the utilization of nitrous oxide and oxygen to produce a state of reduced sensibility to pain designating particularly the relief of pain without the loss of consciousness.

"Radiographs" means intraoral and extraoral x-rays of the hard and soft oral structures to be used for purposes of diagnosis.

"Recognized governmental clinic" means any clinic operated or funded by any agency of state or local government which provides dental services to the public, the dental services of which shall be provided by a licensed dentist or by persons who may be authorized herein to

determined by the generally accepted standards of dental practice in Virginia.

E. Applicants for a full-time faculty license or temporary permit shall be required to pass an examination on the Laws and the Regulations governing the practice of dentistry in Virginia.

**§ 2.5. All applications for any license or permit issued by the Board shall include:**

1. A final certified transcript of the grades from the college from which the applicant received the dental degree, dental hygiene degree or certificate, or post-doctoral degree or certificate; and
2. An original grade card issued by the Joint Commission on National Dental Examinations.

## PART III

## GENERAL ANESTHESIA AND CONSCIOUS SEDATION

**§ 3.1. Requirements to administer general anesthesia.**

A. Educational requirements.

A dentist may employ or use general anesthesia on an outpatient basis by meeting one of the following educational criteria and by posting the educational certificate, in plain view of the patient, which verifies completion of the advanced training as required in §3.1.A.1. or 2.: The foregoing shall not apply nor interfere with requirements for obtaining hospital staff privileges.

1. Has completed a minimum of one calendar year of advanced training in anesthesiology and related academic subjects beyond the undergraduate dental school

level in a training program in conformity with Part II of the "Guidelines for Teaching the Comprehensive Control of Pain and Anxiety in Dentistry" as currently published by the American Dental Association; or

2.[ ~~Is Board certified,] or [Board eligible, or educationally qualified~~ Completion of an American Dental Association approved residency in] any dental specialty which incorporates into its curriculum the standards of teaching comparable to those set forth in Part II of the "Guidelines for Teaching the Comprehensive Control of Pain and Anxiety in Dentistry." as currently published by the American Dental Association.

B. Exemptions.

A dentist who has not met the requirements specified in §3.1.A. of this section may treat patients under general anesthesia in his or her practice if a qualified anesthesiologist, or a dentist who fulfills the requirements specified in subsection A of this section is present and is responsible for the administration of the anesthetic. If a dentist fulfills requirements himself to use general anesthesia and conscious sedation, he may employ the services of a certified nurse anesthetist.

**§ 3.2. Conscious Sedation - Intravenous and Intramuscular.**

A. Automatic qualification.

Dentists qualified to administer general anesthesia may administer conscious sedation.

B. Educational requirements.

A dentist may administer conscious sedation upon completion of training in conformity with requirements for this treatment modality as published by the American

Dental Association in the "Guidelines for Teaching the Comprehensive Control of Pain and Anxiety in Dentistry," while enrolled at an approved dental school or in a post-doctoral university or teaching hospital program.

**§ 3.3. General information.**

A. Emergency equipment and techniques.

A dentist who administers general anesthesia and conscious sedation (excluding nitrous oxide) shall be proficient in handling emergencies and complications related to pain control procedures, including the maintenance of respiration and circulation, immediate establishment of an airway and cardiopulmonary resuscitation, and shall maintain the following emergency airway equipment in the dental facility:

1. Full face mask for children or adults, or both;
2. Oral and nasopharyngeal airways;
3. Endotracheal tubes for children or adults, or both, with appropriate connectors;
4. A laryngoscope with reserve batteries and bulbs and appropriately sized laryngoscope blades for children or adults, or both;
5. Source of delivery of oxygen under controlled pressure; and
6. Mechanical (hand) respiratory bag.

B. Posting requirements.

Any dentist who utilizes general anesthesia or conscious sedation shall post in each facility the certificate of education required under Regulations §§3.1.A. and 3.2.B. or the self-certification certificate issued by the Board.

C. Other.

1. The team for general anesthesia shall consist of the operating dentist, a second person to monitor and observe the patient, and a third person to assist the operating dentist.

2. Person in charge of the anesthesia must remain on the premises of the dental facility until the patient has regained consciousness and is discharged.

D. Scope of Regulation. Part III shall not apply to administration of General Anesthesia and Conscious Sedation in hospitals and surgi-centers.

**§ 3.4. Report of adverse reactions.**

A written report shall be submitted to the Board by the treating dentist within 30 days following any mortality or morbidity that occurs in the facility or during the first 24 hours immediately following the patient's departure from the facility following and directly resulting from the administration of general anesthesia, conscious sedation, or nitrous oxide oxygen inhalation analgesia.

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## Part I. General Provisions.

**18VAC60-20-10. Definitions.**

The following words and terms when used in this chapter shall have the following meanings unless the context clearly indicates otherwise:

"ADA" means the American Dental Association.

"Advertising" means a representation or other notice given to the public or members thereof, directly or indirectly, by a dentist on behalf of himself, his facility, his partner or associate, or any dentist affiliated with the dentist or his facility by any means or method for the purpose of inducing purchase, sale or use of dental methods, services, treatments, operations, procedures or products, or to promote continued or increased use of such dental methods, treatments, operations, procedures or products.

"Analgesia" means the diminution or elimination of pain in the conscious patient.

"Anxiolysis" means the diminution or elimination of anxiety through the use of pharmacological agents in a dosage that does not cause depression of consciousness.

"Approved schools" means those dental or dental hygiene programs currently accredited by the Commission on Dental Accreditation of the American Dental Association.

"Conscious sedation" means a minimally depressed level of consciousness that retains the patient's ability to independently and continuously maintain an airway and respond appropriately to physical stimulation and verbal commands, produced by pharmacological or nonpharmacological methods, including inhalation, parenteral, transdermal or enteral, or a combination thereof.

"Deep sedation/general anesthesia" means an induced state of depressed consciousness or unconsciousness accompanied by a complete or partial loss of protective reflexes, including the inability to continually maintain an airway independently and/or respond purposefully to physical stimulation or verbal command and is produced by a pharmacological or nonpharmacological method or a combination thereof.

"Dental assistant" means any unlicensed person under the supervision of a dentist who renders assistance for services provided to the patient as authorized under this chapter but shall not include an individual serving in purely a secretarial or clerical capacity.

"Direction" means the dentist evaluates the patient and is present for observation, advice, and control over the performance of dental services.

"Enteral" is any technique of administration in which the agent is absorbed through the gastrointestinal tract or oral mucosa (i.e., oral, rectal, sublingual).

"General supervision" means that the dentist has evaluated the patient and issued a written order for the specific, authorized services to be provided by a dental hygienist when the dentist is not present in the facility while the services are being provided.

"Inhalation" is a technique of administration in which a gaseous or volatile agent, including nitrous oxide, is introduced into the pulmonary tree and whose primary effect is due to absorption through the pulmonary bed.

"Inhalation analgesia" means the inhalation of nitrous oxide and oxygen to produce a state of reduced sensibility to pain without the loss of consciousness.

"Local anesthesia" means the loss of sensation or pain in the oral cavity or the maxillofacial or adjacent and associated structures generally produced by a topically applied or injected agent without depressing the level of consciousness.

"Parenteral" means a technique of administration in which the drug bypasses the gastrointestinal tract (i.e., intramuscular, intravenous, intranasal, submucosal, subcutaneous, or intraocular).

"Radiographs" means intraoral and extraoral x-rays of hard and soft tissues to be used for purposes of diagnosis.

**18VAC60-20-15. Recordkeeping.**

A dentist shall maintain patient records for not less than three years from the most recent date of service for purposes of review by the board to include the following:

1. Patient's name and date of treatment;

2. Updated health history;

3. Diagnosis and treatment rendered;

4. List of drugs prescribed, administered, dispensed and the quantity;

5. Radiographs;

6. Patient financial records;

7. Name of dentist and dental hygienist providing service; and

8. Laboratory work orders which meet the requirements of §54.1-2719 of the Code of Virginia.

**18VAC60-20-16. Address of record.**

At all times, each licensed dentist shall provide the board with a current, primary business address, and each dental hygienist shall provide a current mailing address. All required notices mailed by the board to any such licensee shall be validly given when mailed to the latest address given by the licensee. All changes of address shall be furnished to the board in writing within 30 days of such changes.

1. A final certified transcript of the grades from the college from which the applicant received the dental degree, dental hygiene degree or certificate, or post-doctoral degree or certificate;

2. An original grade card issued by the Joint Commission on National Dental Examinations; and

3. A current report from the Healthcare Integrity and Protection Data Bank (HIPDB).

**18VAC60-20-105. Inactive license.**

A. Any dentist or dental hygienist who holds a current, unrestricted license in Virginia may, upon a request on the renewal application and submission of the required fee, be issued an inactive license. The holder of an inactive license shall not be entitled to perform any act requiring a license to practice dentistry or dental hygiene in Virginia.

B. An inactive license may be reactivated upon submission of the required application, payment of the current renewal fee, and documentation of having completed continuing education hours equal to the requirement for the number of years in which the license has been inactive, not to exceed a total of 45 hours. Of the required hours, at least 15 must be earned in the most recent 12 months and the remainder within the 36 months immediately preceding the application for activation. The board reserves the right to deny a request for reactivation to any licensee who has been determined to have committed an act in violation of § 54.1-2706 of the Code of Virginia.

**18VAC60-20-106. Registration for voluntary practice by out-of-state licensees.**

Any dentist or dental hygienist who does not hold a license to practice in Virginia and who seeks registration to practice on a voluntary basis under the auspices of a publicly supported, all volunteer, nonprofit organization that sponsors the provision of health care to populations of underserved people shall:

1. File a complete application for registration on a form provided by the board at least 15 days prior to engaging in such practice;

2. Provide a complete record of professional licensure in each state in which he has held a license and a copy of any current license;

3. Provide the name of the nonprofit organization, the dates and location of the voluntary provision of services;

4. Pay a registration fee of $10; and

5. Provide a notarized statement from a representative of the nonprofit organization attesting to its compliance with provisions of subdivision 5 of §54.1-2701 of the Code of Virginia.

## Part IV. Anesthesia, Sedation and Analgesia.

**18 VAC 60-20-107. General provisions.**

A. This part (18 VAC 60-20-107 et seq.) shall not apply to:

1. The administration of local anesthesia in dental offices; or

2. The administration of anesthesia in (i) a licensed hospital as defined in § 32.1-123 of the Code of Virginia or state-operated hospitals or (ii) a facility directly maintained or operated by the federal government.

B. Appropriateness of administration of general anesthesia or sedation in a dental office.

1. Anesthesia and sedation may be provided in a dental office for patients who are Class I and II as classified by the American Society of Anesthesiologists (ASA).

2. Conscious sedation, deep sedation or general anesthesia shall not be provided in a dental office for patients in ASA risk categories of Class IV and V.

3. Patients in ASA risk category Class III shall only be provided general anesthesia or sedation by:

a. A dentist after consultation with their primary care physician or other medical specialist regarding potential risk and special monitoring requirements that may be necessary; or

b. An oral and maxillofacial surgeon after performing an evaluation and documenting the ASA risk assessment category of the patient and any special monitoring requirements that may be necessary.

C. Prior to administration of sedation or general anesthesia, the dentist shall discuss the nature and objectives of the anesthesia or sedation planned along with the risks, benefits and alternatives and shall obtain informed, written consent from the patient or other responsible party.

D. The determinant for the application of these rules shall be the degree of sedation or consciousness level of a patient that should reasonably be expected to result from the type and dosage of medication, the method of administration and the individual characteristics of the patient as documented in the patient's record.

E. A dentist who is administering anesthesia or sedation to patients prior to June 29, 2005 shall have one year from that date to comply with the educational requirements set forth in this chapter for the administration of anesthesia or sedation.

**18 VAC60-20-108. Administration of anxiolysis or inhalation analgesia.**

A. Education and training requirements. A dentist who utilizes anxiolysis or inhalation analgesia shall have training in and knowledge of:

1. Medications used, the appropriate dosages and the potential complications of administration.

2. Physiological effects of nitrous oxide and potential complications of administration.

B. Equipment requirements. A dentist who utilizes anxiolysis or inhalation analgesia shall maintain the following equipment in his office and be trained in its use:

1. Blood pressure monitoring equipment.

2. Positive pressure oxygen.

3. Mechanical (hand) respiratory bag.

C. Monitoring requirements.

1. The treatment team for anxiolysis or inhalation analgesia shall consist of the dentist and a second person in the operatory with the patient to assist, monitor and observe the patient. One member of the team shall be in the operatory monitoring the patient at all times once the administration has begun.

2. A dentist who utilizes anxiolysis or inhalation analgesia shall ensure that there is continuous visual monitoring of the patient to determine the level of consciousness.

3. If inhalation analgesia is used, monitoring shall include making the proper adjustments of nitrous oxide machines at the request of the dentist during administration of the sedation and observing the patient's vital signs.

D. Discharge requirement. The dentist shall ensure that the patient is not discharged to his own care until he exhibits normal responses.

**18VAC60-20-110. Requirements to administer deep sedation/general anesthesia.**

A. Educational requirements. A dentist may employ or use deep sedation/general anesthesia on an outpatient basis by meeting one of the following educational criteria and by posting the educational certificate, in plain view of the patient, which verifies completion of the advanced training as required in subdivision 1 or 2 of this subsection. These requirements shall not apply nor interfere with requirements for obtaining hospital staff privileges.

1. Has completed a minimum of one calendar year of advanced training in anesthesiology and related academic subjects beyond the undergraduate dental school level in a training program in conformity with published guidelines by the American Dental Association (Guidelines for Teaching the Comprehensive Control of Anxiety and Pain in Dentistry) in effect at the time the training occurred; or

2. Completion of an American Dental Association approved residency in any dental specialty which incorporates into its curriculum a minimum of one calendar year of full-time training in clinical anesthesia and related clinical medical subjects (i.e. medical evaluation and management of patients), comparable to those set forth in published guidelines by the American Dental Association for Graduate and Postgraduate Training in Anesthesia in effect at the time the training occurred.

After June 29, 2006, dentists who administer deep sedation/general anesthesia shall hold current certification in advanced resuscitative techniques, such as courses in Advanced Cardiac Life Support or Pediatric Advanced Life Support and current Drug Enforcement Administration registration.

B. Exceptions.

1. A dentist who has not met the requirements specified in subsection A of this section may treat patients under deep sedation/general anesthesia in his practice if a qualified anesthesiologist or a dentist who fulfills the requirements specified in subsection A of this section, is present and is responsible for the administration of the anesthetic.

2. If a dentist fulfills the requirements specified in subsection A of this section, he may employ the services of a certified nurse anesthetist.

C. Posting. Any dentist who utilizes deep sedation/general anesthesia shall post with the dental license and current registration with the Drug Enforcement Administration, the certificate of education required under subsection A of this section.

D. Emergency equipment and techniques. A dentist who administers deep sedation/general anesthesia shall be proficient in handling emergencies and complications related to pain control procedures, including the maintenance of respiration and circulation, immediate establishment of an airway and cardiopulmonary resuscitation, and shall maintain the following emergency equipment in the dental facility:

1. Full face mask for children or adults, as appropriate for the patient being treated;

2. Oral and nasopharyngeal airways;

3. Endotracheal tubes for children or adults, or both, with appropriate connectors;

4. A laryngoscope with reserve batteries and bulbs and appropriately sized laryngoscope blades for children or adults, or both;

5. Source of delivery of oxygen under controlled positive pressure;

6. Mechanical (hand) respiratory bag;

7. Pulse oximetry and blood pressure monitoring equipment available and used in the treatment room;

8. Appropriate emergency drugs for patient resuscitation;

9. EKG monitoring equipment and temperature measuring devices;

10. Pharmacologic antagonist agents;

11. External defibrillator (manual or automatic); and

12. For intubated patients, an End-Tidal $CO^2$ monitor.

E. Monitoring requirements.

1. The treatment team for deep sedation/general anesthesia shall consist of the operating dentist, a second person to monitor and observe the patient and a third person to assist the operating dentist, all of whom shall be in the operatory with the patient during the dental procedure.

2. Monitoring of the patient under deep sedation/general anesthesia, including direct, visual observation of the patient by a member of the team, is to begin prior to induction of anesthesia and shall take place continuously during the dental procedure and recovery from anesthesia. The person who administered the anesthesia or another licensed practitioner qualified to administer the same level of anesthesia must remain on the premises of the dental facility until the patient has regained consciousness and is discharged.

3. Monitoring deep sedation/general anesthesia shall include the following: recording and reporting of blood pressure, pulse, respiration and other vital signs to the attending dentist.

**18VAC60-20-120. Requirements to administer conscious sedation.**

A. Automatic qualification. Dentists qualified to administer deep sedation/general anesthesia may administer conscious sedation.

B. Educational requirements for administration of conscious sedation by any method.

1. A dentist may employ or use any method of conscious sedation by meeting one of the following criteria:

a. Completion of training for this treatment modality according to guidelines published by the American Dental Association (Guidelines for Teaching the Comprehensive Control of Anxiety and Pain in Dentistry) in effect at the time the training occurred, while enrolled at an accredited dental program or while enrolled in a post-doctoral university or teaching hospital program; or

b. Completion of an approved continuing education course consisting of 60 hours of didactic instruction plus the management of at least 20 patients per participant, demonstrating competency and clinical experience in parenteral conscious sedation and management of a compromised airway. The course content shall be consistent with guidelines published by the American Dental Association (Guidelines for Teaching the Comprehensive Control of Anxiety and Pain in Dentistry) in effect at the time the training occurred.

2. A dentist who was self-certified in anesthesia and conscious sedation prior to January 1989 may continue to administer only conscious sedation.

C. Educational requirement for enteral administration of conscious sedation only. A dentist may administer conscious sedation by an enteral method if he has completed an approved continuing education program of not less than 18 hours of didactic instruction plus 20 clinically-oriented experiences in enteral and/or combination inhalation-enteral conscious sedation techniques. The course content shall be consistent with the guidelines published by the American Dental Association (Guidelines for Teaching the Comprehensive Control of Anxiety and Pain in Dentistry) in effect at the time the training occurred.

D. Additional training required. After June 29, 2006, dentists who administer conscious sedation shall hold current certification in advanced resuscitation techniques, such as Advanced Cardiac Life Support as evidenced by a certificate of completion posted with the dental license, and current registration with the Drug Enforcement Administration.

E. Emergency equipment and techniques. A dentist who administers conscious sedation shall be proficient in handling emergencies and complications related to pain control procedures, including the maintenance of respiration and circulation, immediate establishment of an airway and cardiopulmonary resuscitation, and shall maintain the following emergency airway equipment in the dental facility:

1. Full face mask for children or adults, as appropriate for the patient being treated;

2. Oral and nasopharyngeal airways;

3. Endotracheal tubes for children or adults, or both, with appropriate connectors and a laryngoscope with reserve batteries and bulbs and appropriately sized laryngoscope blades for children or adults, or both. In lieu of a laryngoscope and endotracheal tubes, a dentist may maintain airway adjuncts designed for the maintenance of a patent airway and the direct delivery of positive pressure oxygen;

4. Pulse oximetry;

5. Blood pressure monitoring equipment;

6. Pharmacologic antagonist agents;

7. Source of delivery of oxygen under controlled positive pressure;

8. Mechanical (hand) respiratory bag; and

9. Appropriate emergency drugs for patient resuscitation.

F. Monitoring requirements.

1. The administration team for conscious sedation shall consist of the operating dentist and a second person to assist, monitor and observe the patient.

2. Monitoring of the patient under conscious sedation, including direct, visual observation of the patient by a member of the team, is to begin prior to administration of sedation, or if medication is self-administered by the patient, when the patient arrives at the dental office and shall take place continuously during the dental procedure and recovery from sedation. The person who administers the sedation or another licensed practitioner qualified to administer the same level of sedation must remain on the premises of the dental facility until the patient is responsive and is discharged.

**18VAC60-20-130. (Repealed.).**

**18VAC60-20-135. Ancillary personnel.**

After June 29, 2006, dentists who employ ancillary personnel to assist in the administration and monitoring of any form of conscious sedation or deep sedation/general anesthesia shall maintain documentation that such personnel have:

1. Minimal training resulting in current certification in basic resuscitation techniques, such as Basic Cardiac Life Support or an approved, clinically oriented course devoted primarily to responding to clinical emergencies offered by an approved provider of continuing education as set forth in 18 VAC 60-20-50 C; or

2. Current certification as a certified anesthesia assistant (CAA) by the American Association of Oral and Maxillofacial Surgeons or the American Dental Society of Anesthesiology (ADSA).

**18VAC60-20-140. Report of adverse reactions.**

A written report shall be submitted to the board by the treating dentist within 30 days following any mortality or morbidity which directly results from the administration of local anesthesia, general anesthesia, conscious sedation, or nitrous oxide oxygen inhalation analgesia and which occurs in the facility or during the first 24 hours immediately following the patient's departure from the facility.

## Part V. Unprofessional Conduct.

**18VAC60-20-150 to 18VAC60-20-160. [Repealed]**

**18VAC60-20-170. Acts constituting unprofessional conduct.**

The following practices shall constitute unprofessional conduct within the meaning of §54.1-2706 of the Code of Virginia:

1. Fraudulently obtaining, attempting to obtain or cooperating with others in obtaining payment for services;

2. Performing services for a patient under terms or conditions which are unconscionable. The board shall not consider terms unconscionable where there has been a full and fair disclosure of all terms and where the patient entered the agreement without fraud or duress;

3. Misrepresenting to a patient and the public the materials or methods and techniques the licensee uses or intends to use;

4. Committing any act in violation of the Code of Virginia reasonably related to the practice of dentistry and dental hygiene;

5. Delegating any service or operation which requires the professional competence of a dentist or dental hygienist to any person who is not a dentist or dental hygienist as authorized by this chapter;

6. Certifying completion of a dental procedure that has not actually been completed;

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## Part I. General Provisions.

**18VAC60-20-10. Definitions.**

The following words and terms when used in this chapter shall have the following meanings unless the context clearly indicates otherwise:

"ADA" means the American Dental Association.

"Advertising" means a representation or other notice given to the public or members thereof, directly or indirectly, by a dentist on behalf of himself, his facility, his partner or associate, or any dentist affiliated with the dentist or his facility by any means or method for the purpose of inducing purchase, sale or use of dental methods, services, treatments, operations, procedures or products, or to promote continued or increased use of such dental methods, treatments, operations, procedures or products.

"Analgesia" means the diminution or elimination of pain in the conscious patient.

"Anxiolysis" means the diminution or elimination of anxiety through the use of pharmacological agents in a dosage that does not cause depression of consciousness.

"Conscious sedation" means a minimally depressed level of consciousness that retains the patient's ability to independently and continuously maintain an airway and respond appropriately to physical stimulation and verbal commands, produced by pharmacological or nonpharmacological methods, including inhalation, parenteral, transdermal or enteral, or a combination thereof.

"Deep sedation/general anesthesia" means an induced state of depressed consciousness or unconsciousness accompanied by a complete or partial loss of protective reflexes, including the inability to continually maintain an airway independently and/or respond purposefully to physical stimulation or verbal command and is produced by a pharmacological or nonpharmacological method or a combination thereof.

"Dental assistant" means any unlicensed person under the supervision of a dentist who renders assistance for services provided to the patient as authorized under this chapter but shall not include an individual serving in purely a secretarial or clerical capacity.

"Direction" means the dentist examines the patient and is present for observation, advice, and control over the performance of dental services.

"Enteral" is any technique of administration in which the agent is absorbed through the gastrointestinal tract or oral mucosa (i.e., oral, rectal, sublingual).

"General supervision" means that the dentist has examined the patient and issued a written order for the specific, authorized services to be provided by a dental hygienist when the dentist is not present in the facility while the services are being provided.

"Inhalation" is a technique of administration in which a gaseous or volatile agent, including nitrous oxide, is introduced into the pulmonary tree and whose primary effect is due to absorption through the pulmonary bed.

"Inhalation analgesia" means the inhalation of nitrous oxide and oxygen to produce a state of reduced sensibility to pain without the loss of consciousness.

"Local anesthesia" means the loss of sensation or pain in the oral cavity or the maxillofacial or adjacent and associated structures generally produced by a topically applied or injected agent without depressing the level of consciousness.

"Parenteral" means a technique of administration in which the drug bypasses the gastrointestinal tract (i.e., intramuscular, intravenous, intranasal, submucosal, subcutaneous, or intraocular).

"Radiographs" means intraoral and extraoral x-rays of hard and soft tissues to be used for purposes of diagnosis.

**18VAC60-20-15. Recordkeeping.**

A dentist shall maintain patient records for not less than three years from the most recent date of service for purposes of review by the board to include the following:

1. Patient's name and date of treatment;

2. Updated health history;

3. Diagnosis and treatment rendered;

4. List of drugs prescribed, administered, dispensed and the quantity;

5. Radiographs;

6. Patient financial records;

7. Name of dentist and dental hygienist providing service; and

8. Laboratory work orders which meet the requirements of §54.1-2719 of the Code of Virginia.

**18VAC60-20-16. Address of record.**

At all times, each licensed dentist shall provide the board with a current, primary business address, and each dental hygienist shall provide a current mailing address. All required notices mailed by the board to any such licensee shall be validly given when mailed to the latest address given by the licensee. All changes of address shall be furnished to the board in writing within 30 days of such changes.

**18VAC60-20-17. Criteria for delegation of informal fact-finding proceedings to an agency subordinate.**

dentist shall directly observe patient care being provided by the restricted volunteer dentist and review all patient charts at least quarterly. Such supervision shall be noted in patient charts and maintained in accordance with 18VAC60-20-15.

4. A dental hygienist with a restricted volunteer license shall be sponsored by and practice only under the direction of a dentist who holds an unrestricted license in Virginia.

5. A restricted voluntary license granted pursuant to this section shall expire on the June 30 of the second year after its issuance, or shall terminate when the supervising dentist withdraws his sponsorship.

6. A dentist or dental hygienist holding a restricted volunteer license issued pursuant to this section is subject to the provisions of this chapter and the disciplinary regulations which apply to all licensees practicing in Virginia.

B. Registration for voluntary practice by out-of-state licensees.

Any dentist or dental hygienist who does not hold a license to practice in Virginia and who seeks registration to practice on a voluntary basis under the auspices of a publicly supported, all volunteer, nonprofit organization that sponsors the provision of health care to populations of underserved people shall:

a. File a complete application for registration on a form provided by the board at least 15 days prior to engaging in such practice;

b. Provide a complete record of professional licensure in each state in which he has held a license and a copy of any current license;

c. Provide the name of the nonprofit organization, the dates and location of the voluntary provision of services;

d. Pay a registration fee of $10; and

e. Provide a notarized statement from a representative of the nonprofit organization attesting to its compliance with provisions of subdivision 5 of §54.1-2701 of the Code of Virginia.

## Part IV. Anesthesia, Sedation and Analgesia.

**18 VAC 60-20-107. General provisions.**

A. This part (18 VAC 60-20-107 et seq.) shall not apply to:

1. The administration of local anesthesia in dental offices; or

2. The administration of anesthesia in (i) a licensed hospital as defined in § 32.1-123 of the Code of Virginia or state-operated hospitals or (ii) a facility directly maintained or operated by the federal government.

B. Appropriateness of administration of general anesthesia or sedation in a dental office.

1. Anesthesia and sedation may be provided in a dental office for patients who are Class I and II as classified by the American Society of Anesthesiologists (ASA).

2. Conscious sedation, deep sedation or general anesthesia shall not be provided in a dental office for patients in ASA risk categories of Class IV and V.

3. Patients in ASA risk category Class III shall only be provided general anesthesia or sedation by:

a. A dentist after consultation with their primary care physician or other medical specialist regarding potential risk and special monitoring requirements that may be necessary; or

b. An oral and maxillofacial surgeon after performing an evaluation and documenting the ASA risk assessment category of the patient and any special monitoring requirements that may be necessary.

C. Prior to administration of sedation or general anesthesia, the dentist shall discuss the nature and objectives of the anesthesia or sedation planned along with the risks, benefits and alternatives and shall obtain informed, written consent from the patient or other responsible party.

D. The determinant for the application of these rules shall be the degree of sedation or consciousness level of a patient that should reasonably be expected to result from the type and dosage of medication, the method of administration and the individual characteristics of the patient as documented in the patient's record.

E. A dentist who is administering anesthesia or sedation to patients prior to June 29, 2005 shall have one year from that date to comply with the educational requirements set forth in this chapter for the administration of anesthesia or sedation.

**18 VAC60-20-108. Administration of anxiolysis or inhalation analgesia.**

A. Education and training requirements. A dentist who utilizes anxiolysis or inhalation analgesia shall have training in and knowledge of:

1. Medications used, the appropriate dosages and the potential complications of administration.

2. Physiological effects of nitrous oxide and potential complications of administration.

B. Equipment requirements. A dentist who utilizes anxiolysis or inhalation analgesia shall maintain the following equipment in his office and be trained in its use:

1. Blood pressure monitoring equipment.

2. Positive pressure oxygen.

3. Mechanical (hand) respiratory bag.

C. Monitoring requirements.

1. The treatment team for anxiolysis ~~or inhalation analgesia~~ shall consist of the dentist and a second person in the operatory with the patient to assist, monitor and observe the patient. One member of the team shall be in the operatory monitoring the patient at all times once the administration has begun. (*Change effective 11/19/06*)

2. A dentist who utilizes anxiolysis or inhalation analgesia shall ensure that there is continuous visual monitoring of the patient to determine the level of consciousness.

3. If inhalation analgesia is used, monitoring shall include making the proper adjustments of nitrous oxide machines at the request of or by the dentist during administration of the sedation and observing the patient's vital signs. (*Change effective 11/19/06*)

D. Discharge requirement. The dentist shall ensure that the patient is not discharged to his own care until he exhibits normal responses.

**18VAC60-20-110. Requirements to administer deep sedation/general anesthesia.**

A. Educational requirements. A dentist may employ or use deep sedation/general anesthesia on an outpatient basis by meeting one of the following educational criteria and by posting the educational certificate, in plain view of the patient, which verifies completion of the advanced training as required in subdivision 1 or 2 of this subsection. These requirements shall not apply nor interfere with requirements for obtaining hospital staff privileges.

1. Has completed a minimum of one calendar year of advanced training in anesthesiology and related academic subjects beyond the undergraduate dental school level in a training program in conformity with published guidelines by the American Dental Association (Guidelines for Teaching the Comprehensive Control of Anxiety and Pain in Dentistry) in effect at the time the training occurred; or

2. Completion of an American Dental Association approved residency in any dental specialty which incorporates into its curriculum a minimum of one calendar year of full-time training in clinical anesthesia and related clinical medical subjects (i.e. medical evaluation and management of patients), comparable to those set forth in published guidelines by the American Dental Association for Graduate and Postgraduate Training in Anesthesia in effect at the time the training occurred.

After June 29, 2006, dentists who administer deep sedation/general anesthesia shall hold current certification in advanced resuscitative techniques, such as courses in Advanced Cardiac Life Support or Pediatric Advanced Life Support and current Drug Enforcement Administration registration.

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B. Exceptions.

1. A dentist who has not met the requirements specified in subsection A of this section may treat patients under deep sedation/general anesthesia in his practice if a qualified anesthesiologist or a dentist who fulfills the requirements specified in subsection A of this section, is present and is responsible for the administration of the anesthetic.

2. If a dentist fulfills the requirements specified in subsection A of this section, he may employ the services of a certified nurse anesthetist.

C. Posting. Any dentist who utilizes deep sedation/general anesthesia shall post with the dental license and current registration with the Drug Enforcement Administration, the certificate of education required under subsection A of this section.

D. Emergency equipment and techniques. A dentist who administers deep sedation/general anesthesia shall be proficient in handling emergencies and complications related to pain control procedures, including the maintenance of respiration and circulation, immediate establishment of an airway and cardiopulmonary resuscitation, and shall maintain the following emergency equipment in the dental facility:

1. Full face mask for children or adults, as appropriate for the patient being treated;

2. Oral and nasopharyngeal airways;

3. Endotracheal tubes for children or adults, or both, with appropriate connectors;

4. A laryngoscope with reserve batteries and bulbs and appropriately sized laryngoscope blades for children or adults, or both;

5. Source of delivery of oxygen under controlled positive pressure;

6. Mechanical (hand) respiratory bag;

7. Pulse oximetry and blood pressure monitoring equipment available and used in the treatment room;

8. Appropriate emergency drugs for patient resuscitation;

9. EKG monitoring equipment and temperature measuring devices;

10. Pharmacologic antagonist agents;

11. External defibrillator (manual or automatic); and

12. For intubated patients, an End-Tidal $CO^2$ monitor.

E. Monitoring requirements.

1. The treatment team for deep sedation/general anesthesia shall consist of the operating dentist, a second person to monitor and observe the patient and a third person to assist the operating dentist, all of whom shall be in the operatory with the patient during the dental procedure.

2. Monitoring of the patient under deep sedation/general anesthesia, including direct, visual observation of the patient by a member of the team, is to begin prior to induction of anesthesia and shall take place continuously during the dental procedure and recovery from anesthesia. The person

who administered the anesthesia or another licensed practitioner qualified to administer the same level of anesthesia must remain on the premises of the dental facility until the patient has regained consciousness and is discharged.

3. Monitoring deep sedation/general anesthesia shall include the following: recording and reporting of blood pressure, pulse, respiration and other vital signs to the attending dentist.

**18VAC60-20-120. Requirements to administer conscious sedation.**

A. Automatic qualification. Dentists qualified to administer deep sedation/general anesthesia may administer conscious sedation.

B. Educational requirements for administration of conscious sedation by any method.

1. A dentist may employ or use any method of conscious sedation by meeting one of the following criteria:

a. Completion of training for this treatment modality according to guidelines published by the American Dental Association (Guidelines for Teaching the Comprehensive Control of Anxiety and Pain in Dentistry) in effect at the time the training occurred, while enrolled at an accredited dental program or while enrolled in a post-doctoral university or teaching hospital program; or

b. Completion of an approved continuing education course consisting of 60 hours of didactic instruction plus the management of at least 20 patients per participant, demonstrating competency and clinical experience in parenteral conscious sedation and management of a compromised airway. The course content shall be consistent with guidelines published by the American Dental Association (Guidelines for Teaching the Comprehensive Control of Anxiety and Pain in Dentistry) in effect at the time the training occurred.

2. A dentist who was self-certified in anesthesia and conscious sedation prior to January 1989 may continue to administer only conscious sedation.

C. Educational requirement for enteral administration of conscious sedation only. A dentist may administer conscious sedation by an enteral method if he has completed an approved continuing education program of not less than 18 hours of didactic instruction plus 20 clinically-oriented experiences in enteral and/or combination inhalation-enteral conscious sedation techniques. The course content shall be consistent with the guidelines published by the American Dental Association (Guidelines for Teaching the Comprehensive Control of Anxiety and Pain in Dentistry) in effect at the time the training occurred.

D. Additional training required. After June 29, 2006, dentists who administer conscious sedation shall hold current certification in advanced resuscitation techniques, such as Advanced Cardiac Life Support as evidenced by a certificate of completion posted with the dental license, and current registration with the Drug Enforcement Administration.

E. Emergency equipment and techniques. A dentist who administers conscious sedation shall be proficient in handling emergencies and complications related to pain control procedures, including the

maintenance of respiration and circulation, immediate establishment of an airway and cardiopulmonary resuscitation, and shall maintain the following emergency airway equipment in the dental facility:

1. Full face mask for children or adults, as appropriate for the patient being treated;

2. Oral and nasopharyngeal airways;

3. Endotracheal tubes for children or adults, or both, with appropriate connectors and a laryngoscope with reserve batteries and bulbs and appropriately sized laryngoscope blades for children or adults, or both. In lieu of a laryngoscope and endotracheal tubes, a dentist may maintain airway adjuncts designed for the maintenance of a patent airway and the direct delivery of positive pressure oxygen;

4. Pulse oximetry;

5. Blood pressure monitoring equipment;

6. Pharmacologic antagonist agents;

7. Source of delivery of oxygen under controlled positive pressure;

8. Mechanical (hand) respiratory bag; and

9. Appropriate emergency drugs for patient resuscitation.

F. Monitoring requirements.

1. The administration team for conscious sedation shall consist of the operating dentist and a second person to assist, monitor and observe the patient.

2. Monitoring of the patient under conscious sedation, including direct, visual observation of the patient by a member of the team, is to begin prior to administration of sedation, or if medication is self-administered by the patient, when the patient arrives at the dental office and shall take place continuously during the dental procedure and recovery from sedation. The person who administers the sedation or another licensed practitioner qualified to administer the same level of sedation must remain on the premises of the dental facility until the patient is responsive and is discharged.

**18VAC60-20-130. (Repealed.).**

**18VAC60-20-135. Ancillary personnel.**

After June 29, 2006, dentists who employ ancillary personnel to assist in the administration and monitoring of any form of conscious sedation or deep sedation/general anesthesia shall maintain documentation that such personnel have:

1. Minimal training resulting in current certification in basic resuscitation techniques, such as Basic Cardiac Life Support or an approved, clinically oriented course devoted primarily to responding to

clinical emergencies offered by an approved provider of continuing education as set forth in 18 VAC 60-20-50 C; or

2. Current certification as a certified anesthesia assistant (CAA) by the American Association of Oral and Maxillofacial Surgeons or the American Dental Society of Anesthesiology (ADSA).

**18VAC60-20-140. Report of adverse reactions.**

A written report shall be submitted to the board by the treating dentist within 30 days following any mortality or morbidity which directly results from the administration of local anesthesia, general anesthesia, conscious sedation, or nitrous oxide oxygen inhalation analgesia and which occurs in the facility or during the first 24 hours immediately following the patient's departure from the facility.

## Part V. Unprofessional Conduct.

**18VAC60-20-150 to 18VAC60-20-160. [Repealed]**

**18VAC60-20-170. Acts constituting unprofessional conduct.**

The following practices shall constitute unprofessional conduct within the meaning of §54.1-2706 of the Code of Virginia:

1. Fraudulently obtaining, attempting to obtain or cooperating with others in obtaining payment for services;

2. Performing services for a patient under terms or conditions which are unconscionable. The board shall not consider terms unconscionable where there has been a full and fair disclosure of all terms and where the patient entered the agreement without fraud or duress;

3. Misrepresenting to a patient and the public the materials or methods and techniques the licensee uses or intends to use;

4. Committing any act in violation of the Code of Virginia reasonably related to the practice of dentistry and dental hygiene;

5. Delegating any service or operation which requires the professional competence of a dentist or dental hygienist to any person who is not a dentist or dental hygienist as authorized by this chapter;

6. Certifying completion of a dental procedure that has not actually been completed;

7. Knowingly or negligently violating any applicable statute or regulation governing ionizing radiation in the Commonwealth of Virginia, including, but not limited to, current regulations promulgated by the Virginia Department of Health; and

8. Permitting or condoning the placement or exposure of dental x-ray film by an unlicensed person, except where the unlicensed person has complied with 18VAC60-20-195.

**18VAC60-20-180. Advertising.**

**Emergency regulations**
**(Effective 9/14/12 – 9/13/13)**

**BOARD OF DENTISTRY**
**Sedation/anesthesia permits**

Part I
General Provisions

**18VAC60-20-10. Definitions.**

The following words and terms when used in this chapter shall have the following meanings unless the context clearly indicates otherwise:

"ADA" means the American Dental Association.

"Advertising" means a representation or other notice given to the public or members thereof, directly or indirectly, by a dentist on behalf of himself, his facility, his partner or associate, or any dentist affiliated with the dentist or his facility by any means or method for the purpose of inducing purchase, sale or use of dental methods, services, treatments, operations, procedures or products, or to promote continued or increased use of such dental methods, treatments, operations, procedures or products.

"Analgesia" means the diminution or elimination of pain in the conscious patient.

"Anxiolysis" means the diminution or elimination of anxiety through the use of pharmacological agents in a dosage that does not cause depression of consciousness.

"CODA" means the Commission on Dental Accreditation of American Dental Association.

~~"Conscious sedation" means a minimally depressed level of consciousness that retains the patient's ability to independently and continuously maintain an airway and respond appropriately to physical stimulation and verbal commands, produced by pharmacological or nonpharmacological methods, including inhalation, parenteral, transdermal or enteral, or a combination thereof.~~

"Conscious/moderate sedation" means a drug-induced depression of consciousness, during which patients respond purposefully to verbal commands, either alone or accompanied by light tactile stimulation. No interventions are required to maintain a patent airway, and spontaneous ventilation is adequate. Cardiovascular function is usually maintained.

"Deep sedation~~/general anesthesia~~" means ~~an induced state of depressed consciousness or unconsciousness accompanied by a complete or partial loss of protective reflexes, including the inability to continually maintain an airway independently and/or respond purposefully to physical~~

~~stimulation or verbal command and is produced by a pharmacological or nonpharmacological method or a combination thereof~~ a drug-induced depression of consciousness during which patients cannot be easily aroused but respond purposefully following repeated or painful stimulation. The ability to independently maintain ventilatory function may be impaired. Patients may require assistance in maintaining a patent airway, and spontaneous ventilation may be inadequate. Cardiovascular function is usually maintained.

"Dental assistant I " means any unlicensed person under the direction of a dentist who renders assistance for services provided to the patient as authorized under this chapter but shall not include an individual serving in purely a secretarial or clerical capacity.

"Dental assistant II" means a person under the direction and direct supervision of a dentist who is registered to perform reversible, intraoral procedures as specified in this chapter.

"Direct supervision" means that the dentist examines the patient and records diagnostic findings prior to delegating restorative or prosthetic treatment and related services to a dental assistant II for completion the same day or at a later date. The dentist prepares the tooth or teeth to be restored and remains immediately available to the dental assistant II for guidance or assistance during the delivery of treatment and related services. The dentist examines the patient to evaluate the treatment and services before the patient is dismissed.

"Direction" means the level of supervision that a dentist is required to exercise with a dental hygienist, a dental assistant I or a dental assistant II or that a dental hygienist is required to exercise with a dental assistant to direct and oversee the delivery of treatment and related services.

"Enteral" is any technique of administration in which the agent is absorbed through the gastrointestinal tract or oral mucosa (i.e., oral, rectal, sublingual).

"General anesthesia" means a drug-induced loss of consciousness during which patients are not arousable, even by painful stimulation. The ability to independently maintain ventilatory function is often impaired. Patients often require assistance in maintaining a patent airway, and positive pressure ventilation may be required because of depressed spontaneous ventilation or drug-induced depression of neuromuscular function. Cardiovascular function may be impaired.

"General supervision" means that a dentist completes a periodic comprehensive examination of the patient and issues a written order for hygiene treatment that states the specific services to be provided by a dental hygienist during one or more subsequent appointments when the dentist may or may not be present. The order may authorize the dental hygienist to supervise a dental assistant performing duties delegable to dental assistants I.

"Immediate supervision" means the dentist is in the operatory to supervise the administration of sedation or provision of treatment.

"Indirect supervision" means the dentist examines the patient at some point during the appointment, and is continuously present in the office to advise and assist a dental hygienist or a dental assistant who is (i) delivering hygiene treatment, (ii) preparing the patient for examination or treatment by the dentist or dental hygienist, or (iii) preparing the patient for dismissal following treatment.

"Inhalation" means a technique of administration in which a gaseous or volatile agent, including nitrous oxide, is introduced into the pulmonary tree and whose primary effect is due to absorption through the pulmonary bed.

"Inhalation analgesia" means the inhalation of nitrous oxide and oxygen to produce a state of reduced sensibility to pain without the loss of consciousness.

"Local anesthesia" means the loss of sensation or pain in the oral cavity or the maxillofacial or adjacent and associated structures generally produced by a topically applied or injected agent without depressing the level of consciousness.

"Minimal sedation" means a minimally depressed level of consciousness, produced by a pharmacological method, which retains the patient's ability to independently and continuously 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.

"Mobile dental facility" means a self-contained unit in which dentistry is practiced that is not confined to a single building and can be transported from one location to another.

"Moderate sedation" (see meaning of conscious/moderate sedation)

"Monitoring" means to observe, interpret, assess and record appropriate physiologic functions of the body during sedative procedures and general anesthesia appropriate to the level of sedation as provided in Part IV.

"Parenteral" means a technique of administration in which the drug bypasses the gastrointestinal tract (i.e., intramuscular, intravenous, intranasal, submucosal, subcutaneous, or intraocular).

"Portable dental operation" means a nonfacility in which dental equipment used in the practice of dentistry is transported to and utilized on a temporary basis at an out-of-office location, including patients' homes, schools, nursing homes, or other institutions.

"Radiographs" means intraoral and extraoral x-rays of hard and soft tissues to be used for purposes of diagnosis.

**18VAC60-20-30. Other fees.**

A. Dental licensure application fees. The application fee for a dental license by examination, a license to teach dentistry, a full-time faculty license, or a temporary permit as a dentist shall be $400. The application fee for dental license by credentials shall be $500.

B. Dental hygiene licensure application fees. The application fee for a dental hygiene license by examination, a license to teach dental hygiene, or a temporary permit as a dental hygienist shall be $175. The application fee for dental hygienist license by endorsement shall be $275.

C. Dental assistant II registration application fee. The application fee for registration as a dental assistant II shall be $100.

D. Wall certificate. Licensees desiring a duplicate wall certificate or a dental assistant II desiring a wall certificate shall submit a request in writing stating the necessity for a wall certificate, accompanied by a fee of $60.

E. Duplicate license or registration. Licensees or registrants desiring a duplicate license or registration shall submit a request in writing stating the necessity for such duplicate, accompanied by a fee of $20. If a licensee or registrant maintains more than one office, a notarized photocopy of a license or registration may be used.

F. Licensure or registration certification. Licensees or registrants requesting endorsement or certification by this board shall pay a fee of $35 for each endorsement or certification.

G. Restricted license. Restricted license issued in accordance with § 54.1-2714 of the Code of Virginia shall be at a fee of $285.

H. Restricted volunteer license. The application fee for licensure as a restricted volunteer dentist or dental hygienist issued in accordance with § 54.1-2712.1 or § 54.1-2726.1 of the Code of Virginia shall be $25.

I. Returned check. The fee for a returned check shall be $35.

J. Inspection fee. The fee for an inspection of a dental office shall be $350 with the exception of a routine inspection of an office in which the dentist has a conscious/moderate sedation permit or a deep sedation/general anesthesia permit.

K. Conscious/moderate sedation permit. The application fee for a permit to administer conscious/moderate sedation shall be $100. The annual renewal fee shall be $100 and shall be due by March 31. A late fee of $35 shall be charged for renewal received after that date.

L. Deep sedation/general anesthesia permit. The application fee for a permit to administer deep sedation/general anesthesia shall be $100. The annual renewal fee shall be $100 and

shall be due by March 31. A late fee of $35 shall be charged for renewal received after that date.

Part IV

Anesthesia, Sedation and Analgesia

**18VAC60-20-107. General provisions.**

A. This part (18VAC60-20-107 et seq.) shall not apply to:

1. The administration of local anesthesia in dental offices; or

2. The administration of anesthesia in (i) a licensed hospital as defined in § 32.1-123 of the Code of Virginia or state-operated hospitals or (ii) a facility directly maintained or operated by the federal government.

B. Appropriateness of administration of general anesthesia or sedation in a dental office.

1. Anesthesia and sedation may be provided in a dental office for patients who are Class I and II as classified by the American Society of Anesthesiologists (ASA).

2. Conscious sedation, deep sedation or general anesthesia shall not be provided in a dental office for patients in ASA risk categories of Class IV and V.

3. Patients in ASA risk category Class III shall only be provided general anesthesia, deep sedation, conscious/moderate sedation or minimal sedation by:

a. A dentist after he has documented a consultation with their primary care physician or other medical specialist regarding potential risk and special monitoring requirements that may be necessary; or

b. An oral and maxillofacial surgeon after performing an evaluation and documenting the ASA risk assessment category of the patient and any special monitoring requirements that may be necessary.

C. Prior to administration of sedation or general anesthesia, the dentist shall discuss the nature and objectives of the anesthesia or sedation planned along with the risks, benefits and alternatives and shall obtain informed, written consent from the patient or other responsible party. The written consent shall be maintained in the patient record.

D. The determinant for the application of these rules shall be the degree of sedation or consciousness level of a patient that should reasonably be expected to result from the type and dosage of medication, the method of administration and the individual characteristics of the patient as documented in the patient's record. The drugs and techniques used must carry a margin of safety wide enough to render an unintended reduction of or loss of consciousness unlikely factoring in titration, and the patient's age, weight and ability to metabolize drugs.

E. ~~A dentist who is administering anesthesia or sedation to patients prior to June 29, 2005 shall have one year from that date to comply with the educational requirements set forth in this chapter for the administration of anesthesia or sedation.~~ When conscious/moderate sedation, deep sedation or general anesthesia is administered, the patient record shall also include:

1. Notation of the patient's American Society of Anesthesiologists classification;

2. Review of medical history and current conditions;

3. Written informed consent for administration of sedation and anesthesia and for the dental procedure to be performed;

4. Pre-operative vital signs;

5. A record of the name, dose, strength of drugs and route of administration including the administration of local anesthetics with notations of the time sedation and anesthesia were administered;

6. Monitoring records of all required vital signs and physiological measures recorded every five minutes; and

7. A list of staff participating in the administration, treatment and monitoring including name, position and assigned duties.

F. Pediatric patients.

No sedating medication shall be prescribed for or administered to a child aged 12 and under prior to his arrival at the dentist office or treatment facility.

G. Emergency management.

1. If a patient enters a deeper level of sedation than the dentist is qualified and prepared to provide, the dentist shall stop the dental procedure until the patient returns to and is stable at the intended level of sedation.

2. A dentist in whose office sedation or anesthesia is administered shall have written basic emergency procedures established and staff trained to carry out such procedures.

**18VAC60-20-110. Requirements for a permit to administer deep sedation/general anesthesia.**

A. ~~Educational requirements~~ After March 31, 2013, no dentist may employ or use deep sedation/general anesthesia in a dental office unless he has been issued a permit by the board. The requirement for a permit shall not apply to an oral and maxillofacial surgeon who maintains membership in the American Association of Oral and Maxillofacial Surgeons (AAOMS) and who provides the board with reports which result from the periodic office examinations required by AAOMS. Such an oral and maxillofacial surgeon shall be required to post a certificate issued by AAOMS.

B. To determine eligibility for a deep sedation/general anesthesia permit, a dentist shall submit the following:

1. A completed application form;

2. The application fee as specified in 18VAC60-20-30;

3. A copy of the certificate of completion of a CODA accredited program or other documentation of training content which meets the educational and training qualifications specified in subsection C; and

4. A copy of current certification in ACLS or PALS as required in subsection C.

C. Educational and training qualifications for a deep sedation/general anesthesia permit.

1. A dentist may ~~employ or~~ be issued a permit to use deep sedation/general anesthesia ~~on an outpatient basis~~ in a dental office by meeting one of the following educational criteria, ~~and by posting the educational certificate, in plain view of the patient, which verifies completion of the advanced training as required in subdivision 1 or 2 of this subsection~~. These requirements shall not apply nor interfere with requirements for obtaining hospital staff privileges.

~~1.~~a. ~~Has completed~~ Completion of a minimum of one calendar year of advanced training in anesthesiology and related academic subjects beyond the undergraduate dental school level in a training program in conformity with published guidelines by the American Dental Association (Guidelines for Teaching the Comprehensive Control of Anxiety and Pain in Dentistry) in effect at the time the training occurred; or

~~2.~~b. Completion of ~~an American Dental Association approved~~ a CODA accredited residency in any dental specialty which incorporates into its curriculum a minimum of one calendar year of full-time training in clinical anesthesia and related clinical medical subjects (i.e. medical evaluation and management of patients), comparable to those set forth in published guidelines by the American Dental Association for Graduate and Postgraduate Training in Anesthesia in effect at the time the training occurred.

~~After June 29, 2006, dentists~~ 2. Dentists who administer deep sedation/general anesthesia shall hold current certification in advanced resuscitative techniques with hands-on simulated airway and megacode training for healthcare providers, including basic electrocardiographic interpretation, such as courses in Advanced Cardiac Life Support (ACLS) for Health Professionals or Pediatric Advanced Life Support (PALS) for Health Professionals and current Drug Enforcement Administration registration.

~~B. Exceptions.~~

related to pain control procedures, including the maintenance of respiration and circulation, immediate establishment of an airway and cardiopulmonary resuscitation, and shall maintain the following emergency equipment in ~~the dental facility~~ working order and immediately available to the areas where patients will be sedated and treated and will recover:

1. Full face mask for children or adults, as appropriate for the patient being treated;
2. Oral and nasopharyngeal ~~airways~~ airway management adjuncts;
3. Endotracheal tubes for children or adults, or both, with appropriate connectors or other appropriate airway management adjunct such as a laryngeal mask airway;
4. A laryngoscope with reserve batteries and bulbs and appropriately sized laryngoscope blades for children or adults, or both;
5. Source of delivery of oxygen under controlled positive pressure;
6. Mechanical (hand) respiratory bag;
7. Pulse oximetry and blood pressure monitoring equipment available and used in the treatment room;
8. Appropriate emergency drugs for patient resuscitation;
9. EKG monitoring equipment and temperature measuring devices;
10. Pharmacologic antagonist agents;
11. External defibrillator (manual or automatic); ~~and~~
12. For intubated patients, an End-Tidal $CO^2$ monitor;
13. Suction apparatus;
14. Throat pack; and
15. Precordial or pretracheal stethoscope.

~~E.~~G. Monitoring requirements.

1. The treatment team for deep sedation/general anesthesia shall consist of the operating dentist, a second person to monitor and observe the patient and a third person to assist the operating dentist, all of whom shall be in the operatory with the patient during the dental procedure.

2. Monitoring of the patient under deep sedation/general anesthesia, including direct, visual observation of the patient by a member of the team, is to begin prior to induction of anesthesia and shall take place continuously during the dental procedure and recovery from anesthesia. The person who administered the anesthesia or another licensed practitioner qualified to administer the same level of anesthesia must remain on the premises of the dental facility until the patient has regained consciousness and is discharged.

3. Monitoring deep sedation/general anesthesia shall include the following: ~~recording and reporting of blood pressure, pulse, respiration and other vital signs to the attending dentist.~~

a. Baseline vital signs shall be taken and recorded prior to administration of any controlled drug at the facility to include: temperature, blood pressure, pulse, pulse oximeter, oxygen saturation, respiration and heart rate.

b. The patient's vital signs shall be monitored, recorded every five minutes and reported to the treating dentist throughout the administration of controlled drugs and recovery. When depolarizing medications are administered temperature shall be monitored constantly.

c. A secured intravenous line must be established and maintained throughout the procedure.

H. Discharge requirements.

1. The patient shall not be discharged until the responsible licensed practitioner determines that the patient's level of consciousness, oxygenation, ventilation and circulation are satisfactory for discharge and vital signs have been taken and recorded.

2. Postoperative instructions shall be given verbally and in writing. The written instructions shall include a 24-hour emergency telephone number for the dental practice.

3. Patients shall be discharged with a responsible individual who has been instructed with regard to the patient's care.

**18VAC60-20-120. Requirements for a permit to administer conscious sedation.**

A. After March 31, 2013, no dentist may employ or use conscious/moderate sedation in a dental office unless he has been issued a permit by the board. The requirement for a permit shall not apply to an oral and maxillofacial surgeon who maintains membership in the American Association of Oral and Maxillofacial Surgeons (AAOMS) and who provides the board with reports which result from the periodic office examinations required by AAOMS. Such an oral and maxillofacial surgeon shall be required to post a certificate issued by AAOMS.

B. Automatic qualification. Dentists ~~qualified~~ who hold a current permit to administer deep sedation/general anesthesia may administer conscious/moderate sedation.

C. To determine eligibility for a conscious/moderate sedation permit, a dentist shall submit the following:

1. A completed application form indicating one of the following permits for which the applicant is qualified:

a. Conscious/moderate sedation by any method;

b. Conscious/moderate sedation by enteral administration only; or

c. Temporary conscious/moderate sedation permit (may be renewed one time);

2. The application fee as specified in 18VAC60-20-30;

3. A copy of a transcript, certification or other documentation of training content which meets the educational and training qualifications as specified in D or E, as applicable; and

4. A copy of current certification in ACLS or PALS as required in subsection F.

~~B.~~D. Educational requirements for ~~administration of~~ a permit to administer conscious/moderate sedation by any method.

1. A dentist may be issued a conscious/moderate sedation permit to employ or use any method of conscious sedation by meeting one of the following criteria:

a. Completion of training for this treatment modality according to guidelines published by the American Dental Association (Guidelines for Teaching the Comprehensive Control of Anxiety and Pain in Dentistry) in effect at the time the training occurred, while enrolled at an accredited dental program or while enrolled in a post-doctoral university or teaching hospital program; or

b. Completion of ~~an approved~~ a continuing education course, offered by a provider approved in 18VAC60-20-50, and consisting of 60 hours of didactic instruction plus the management of at least 20 patients per participant, demonstrating competency and clinical experience in parenteral conscious sedation and management of a compromised airway. The course content shall be consistent with guidelines published by the American Dental Association (Guidelines for Teaching the Comprehensive Control of Anxiety and Pain in Dentistry) in effect at the time the training occurred.

2. A dentist who was self-certified in anesthesia and conscious sedation prior to January 1989 may be issued a temporary conscious/moderate sedation permit to continue to administer only conscious sedation until September 14, 2014. After September 14, 2014, a dentist shall meet the requirements for and obtain a conscious/moderate sedation permit by any method or by enteral administration only.

~~C.~~E. Educational requirement for enteral administration of conscious sedation only. A dentist may be issued a conscious/moderate sedation permit to only administer conscious sedation by an enteral method if he has completed ~~an approved~~ a continuing education program, offered by a provider approved in 18VAC60-20-50, of not less than 18 hours of didactic instruction plus 20 clinically-oriented experiences in enteral and/or combination inhalation-enteral conscious

sedation techniques. The course content shall be consistent with the guidelines published by the American Dental Association (Guidelines for Teaching the Comprehensive Control of Anxiety and Pain in Dentistry) in effect at the time the training occurred. The certificate of completion and a detailed description of the course content must be maintained.

~~D.~~F. Additional training required.

~~After June 29, 2006, dentists~~ Dentists who administer conscious sedation shall hold current certification in advanced resuscitation techniques with hands-on simulated airway and megacode training for health care providers, including basic electrocardiographic interpretation, such as Advanced Cardiac Life Support (ACLS) for Health Professionals or Pediatric Advanced Life Support (PALS) for Health Professionals ~~as evidenced by a certificate of completion posted with the dental license, and current registration with the Drug Enforcement Administration~~.

G. Posting. Any dentist who utilizes conscious/moderate sedation shall post with the dental license and current registration with the Drug Enforcement Administration, the conscious/moderate sedation permit required under subsection A and issued in accordance with subsection C of this section or the AAOMS certificate issued to an oral and maxillofacial surgeon.

H. Delegation of administration.

1. A dentist not qualified to administer conscious/moderate sedation shall only use the services of a permitted dentist or an anesthesiologist to administer such sedation in a dental office. In a licensed outpatient surgery center, a dentist not qualified to administer conscious/moderate sedation shall use either a permitted dentist, an anesthesiologist or a certified registered nurse anesthetist to administer such sedation.

2. A qualified dentist may administer or use the services of the following personnel to administer conscious/moderate sedation:

a. A dentist with the training required by subsection E to administer by an enteral method;

b. A dentist with the training required by subsection D to administer by any method;

c. An anesthesiologist;

d. A certified registered nurse anesthetist under the medical direction and indirect supervision of a dentist who meets the education and training requirements of subsection D or E; or

e. A registered nurse upon his direct instruction and under the immediate supervision of a dentist who meets the education and training requirements of subsection D.

3. If minimal sedation is self-administered by or to a patient age 13 or above before arrival at the dental office, the dentist may only use the personnel listed in subdivision 2 of this subsection to administer local anesthesia. No sedating medication shall be prescribed for or administered to a child aged 12 and under prior to his arrival at the dentist office or treatment facility.

4. Preceding the administration of conscious/moderate sedation, a qualified dentist may use the services of the following personnel under indirect supervision to administer local anesthesia to numb the injection or treatment site:

a. A dental hygienist with the training required by 18VAC60-20-81 to parenterally administer Schedule VI local anesthesia to persons age 18 or older; or

b. A dental hygienist, dental assistant, registered nurse or licensed practical nurse to administer Schedule VI topical oral anesthetics.

~~E.~~ I. Emergency equipment and techniques. A dentist who administers conscious sedation shall be proficient in handling emergencies and complications related to pain control procedures, including the maintenance of respiration and circulation, immediate establishment of an airway and cardiopulmonary resuscitation, and shall maintain the following emergency airway equipment in ~~the dental facility~~ working order and immediately available to the areas where patients will be sedated and treated and will recover:

1. Full face mask for children or adults, as appropriate for the patient being treated;

2. Oral and nasopharyngeal ~~airways~~ airway management adjuncts;

3. Endotracheal tubes for children or adults, or both, with appropriate connectors or other appropriate airway management adjunct such as a laryngeal mask airway and a laryngoscope with reserve batteries and bulbs and appropriately sized laryngoscope blades for children or adults, or both~~. In lieu of a laryngoscope and endotracheal tubes, a dentist may maintain airway adjuncts designed for the maintenance of a patent airway and the direct delivery of positive pressure oxygen~~;

4. Pulse oximetry;

5. Blood pressure monitoring equipment;

6. Pharmacologic antagonist agents;

7. Source of delivery of oxygen under controlled positive pressure;

8. Mechanical (hand) respiratory bag; ~~and~~

9. Appropriate emergency drugs for patient resuscitation;

10. Defibrillator;

11. Electrocardiographic monitor;

12. Suction apparatus;

13. Temperature measuring device;

14. Throat pack; and

15. Precordial and pretracheal stethoscope.

~~F.~~J. Monitoring requirements.

1. The administration team for conscious sedation shall consist of the operating dentist and a second person to assist, monitor and observe the patient. Both shall be in the operatory with the patient throughout the dental procedure.

2. Monitoring of the patient under conscious sedation, including direct, visual observation of the patient by a member of the team, is to begin prior to administration of sedation, or if medication is self-administered by the patient, when the patient arrives at the dental office and shall take place continuously during the dental procedure and recovery from sedation. The person who administers the sedation or another licensed practitioner qualified to administer the same level of sedation must remain on the premises of the dental facility until the patient is responsive and is discharged.

3. Monitoring conscious/moderate sedation shall include the following:

a. Baseline vital signs shall be taken and recorded prior to administration of any controlled drug at the facility and prior to discharge.

b. Blood pressure, oxygen saturation, pulse and heart rate shall be monitored continually during the administration and recorded every five minutes.

c. Monitoring of the patient under moderate sedation is to begin prior to administration of sedation, or, if pre-medication is self-administered by the patient, immediately upon the patient's arrival at the dental office and shall take place continuously during the dental procedure and recovery from sedation. The person who administers the sedation or another licensed practitioner qualified to administer the same level of sedation must remain on the premises of the dental facility until the patient is evaluated and is discharged.

K. Discharge requirements.

1. The patient shall not be discharged until the responsible licensed practitioner determines that the patient's level of consciousness, oxygenation, ventilation and circulation are satisfactory for discharge and vital signs have been taken and recorded.

2. Postoperative instructions shall be given verbally and in writing. The written instructions shall include a 24-hour emergency telephone number of the dental practice.

3. Patients shall be discharged with a responsible individual who has been instructed with regard to the patient's care.

**18VAC60-20-135. Ancillary personnel.**

~~After June 29, 2006, dentists~~ Dentists who employ ancillary personnel to assist in the administration and monitoring of any form of conscious/moderate sedation or deep sedation/general anesthesia shall maintain documentation that such personnel have:

1. Minimal training resulting in current certification in basic resuscitation techniques, with hands-on airway training for healthcare providers, such as Basic Cardiac Life Support for Health Professionals or ~~an approved,~~ a clinically oriented course devoted primarily to responding to clinical emergencies offered by an approved provider of continuing education as set forth in 18 VAC 60-20-50 C; or

2. Current certification as a certified anesthesia assistant (CAA) by the American Association of Oral and Maxillofacial Surgeons or the American Dental Society of Anesthesiology (ADSA).

**D R A F T WITH REVISIONS PROPOSED BY THE EXECUTIVE COMMITTEE**

# VIRGINIA BOARD OF DENTISTRY

# BYLAWS

## Article I. Officers
## Election, Terms of Office, Vacancies

**1. Officers**

The officers of the Virginia Board of Dentistry (Board) shall be a President, a Vice-President, and a Secretary-Treasurer.

**2. Election.**

~~The Board shall annually elect its slate of officers at its regularly scheduled Fall meeting.~~ Prior to the Fall meeting, the President shall appoint a Nominating Committee. The committee shall present the names of candidates for office to the Board for election at its Fall meeting.

**3. Terms of Office.**

The term of office of the President, Vice-President and Secretary-Treasurer shall be for twelve months or until their successors shall be elected. The term of each office shall begin at the conclusion of the Fall meeting and end at the conclusion of the subsequent Fall meeting. No officer shall be eligible to serve for more than two consecutive terms in the same office unless serving an unexpired term.

**4. Vacancies.**

~~A vacancy occurring in any office shall be filled by a special election at the next meeting of the Board.~~ In the event of a vacancy in the office of president, the vice president shall assume the office of president for the remainder of the term. In the event of a vacancy in the office of vice president, the secretary/treasurer shall assume the office of vice president for the remainder of the term. In the event of a vacancy in the office of secretary/treasurer, the president shall appoint a board member to fill the vacancy for the remainder of the term.

In the event that the offices are vacated and succession is not possible, the Board shall be convened to appoint the Nominating Committee which will develop a slate of candidates for the Board's consideration at its next meeting. Pending the election of officers, the member of the Board with the longest length of continuous service shall serve as acting president.

## Article II. Duties of Officers

**1. President.**

The *President* shall preside at all meetings and conduct all business according to the Administrative Process Act and ~~Robert's Rules~~ Standard Code of Parliamentary Procedure. The President shall appoint all committees and designate all representatives except where specifically provided by law. The President shall sign certificates and documents authorized to be signed by

the President and may serve as an ex-officio member of all committees. He might serve as a substitute for an absent committee member and, in this role, he shall participate in voting.

2. **Vice-President.**

The *Vice-President* shall perform all duties of the President in either the absence of or the inability of the President.

3. **Secretary-Treasurer.**

The *Secretary-Treasurer* shall authorize ~~posting on the Internet~~ issuance of the draft unapproved minutes of meetings of the Board and shall be knowledgeable about the budget of the Board.

## Article III. Duties of Members

1. **Qualifications.**

After appointment by the Governor, each member of the Board shall forthwith take the oath of office to qualify for service as provided by law.

2. **Attendance at meetings.**

Members of the Board shall attend all regular and special meetings of the full Board, meetings of committees to which they are assigned and all hearings conducted by the Board at which their attendance is requested by the President or Board Executive Director, unless prevented by illness or other unavoidable cause. In the case of unavoidable absence of any member from any meeting, the President shall reassign the duties of such absent member when necessary to achieve a quorum for the conduct of business.

3. **Examinations.**

Each member of the Board who is currently licensed as a dentist or as a dental hygienist may participate in conducting clinical examinations ~~.~~ for testing agencies in which the Board holds membership.

4. **Code of Conduct.**

Members of the Board shall abide by the adopted Code of Conduct (Guidance Document 60-9, adopted June 12, 2009).

## Article IV. Meeting

1. **Number.**

The Board shall hold at least three regular meetings in each year. The President shall call meetings at any time to conduct the business of the Board and shall convene conference calls when needed to act on summary suspensions and settlement offers. Additional meetings shall be called by the President at the written request of any two members of the Board.

2. **Quorum.**

A majority of the members of the Board shall constitute a quorum at any meeting.

3. **Voting.**

All matters shall be determined by a majority vote of the members present.

## Article V. Committees

As part of their responsibility to the Board, members appointed to a committee shall faithfully perform the duties assigned to the committee. The standing committees of the Board shall be the following:

Executive Committee
Regulatory-Legislative Committee
Credentials Committee
Examination Committee
Special Conference Committees

## Committee Duties.

**1. Executive Committee.**

The Executive Committee shall consist of the current officers of the Board and the Past President of the Board with the President serving as Chair. The Executive Committee shall:

a) order a biennial review of these Bylaws

b) review the proposed budget presented by the Executive Director, and submit it and recommendations relating to the proposed budget to the Board for approval

c) periodically review financial reports and may make recommendations to the Board regarding financial matters

d) select former board members and knowledgeable professionals to be invited to serve as agency subordinates

e) conduct all other matters delegated to it by the Board.

**2. Regulatory-Legislative Committee.**

The Regulatory-Legislative Committee shall consist of two or more members, appointed by the President. This Committee shall consider matters bearing upon state and federal regulations and legislation and make recommendations to the Board regarding policy matters. The Board may direct the Committee to review the law for possible changes. Proposed changes in State laws, or in the Rules and Regulations of the Board, shall be distributed to all Board members prior to scheduled meetings of the Board.

**3. Credentials Committee.**

The Credentials Committee shall review and provide guidance to staff on the action to be taken regarding:

a) applications for licensure when the application includes information about criminal activity, practice history, medical conditions or other content issues.

b) applicant or licensee requests for approval of credit for programs when the content or the sponsorship of the course is in question.

c) hold informal fact-finding conferences at the request of the applicant or licensee to determine if the requirements established by the Board have been met.

**4. Examination Committee.**

The Examination Committee shall develop and oversee the administration of all Board examinations. This shall include, but not be limited to ~~radiology,~~ jurisprudence and licensure examinations.

**5. Special Conference Committees.**

Special Conference Committees shall:

a) review investigation reports to determine if there is probable cause to conclude that a violation of law or regulation has occurred,

b) hold informal fact-finding conferences, and

c) direct the disposition of disciplinary cases at the probable cause review and informal fact-finding stages. The committee chair shall provide guidance to staff on implementation of the committee's decisions.

Each year, on a rotating basis, one of the Special Conference Committees shall be designated to receive all investigation reports alleging violations of the existing Board of Dentistry Rules and Regulations pertaining to advertising.

## Article VI. Executive Director

**1. Designation.**

The Administrative Officer of the Board shall be designated the Executive Director of the Board.

**2. Duties.**

The Executive Director shall:

a) Supervise the operation of the Board office and be responsible for the conduct of the staff and the assignment of cases to agency subordinates.

b) Carry out the policies and services established by the Board.

c) Provide and disburse all forms as required by law to include, but not be limited to, new and renewal application forms.

d) Keep accurate record of all applications for licensure, maintain a file of all applications and notify each applicant regarding the actions of the Board in response to their application. Prepare and deliver licenses to all successful applicants. Keep and maintain a current record of all dental and dental hygiene licenses issued by the Board.

e) Notify all members of the Board of regular and special meetings of the Board. Notify all Committee members of regular and special meetings of Committees. Keep true and accurate minutes of all meetings and distribute ~~such~~ approved draft minutes to the Board members within ten days following such meetings.

f) Issue all notices and orders, render all reports, keep all records and notify all individuals as required by these Bylaws or law. Affix and attach the seal of the Board to such documents, papers, records, certificates and other instruments as may be directed by law.

g) Keep accurate records of all disciplinary proceedings. Receive and certify all exhibits presented. Certify a complete record of all documents whenever and wherever required by law.

h) Present the biennial budget with any revisions to be reviewed by the Executive Committee prior to submission to the Board for approval.

**UNAPPROVED DRAFT**

**BOARD OF DENTISTRY**
**MINUTES OF EXAMINATION COMMITTEE and**
**CLINICAL EXAM ADVISORY PANEL**
**FEBRUARY 1, 2013**

| | |
|---|---|
| **TIME AND PLACE:** | The Examination Committee convened on February 1, 2013, at 9:40 a.m., at the Department of Health Professions, Perimeter Center, 2nd Floor Conference Center, 9960 Mayland Drive, Henrico, VA 23233. |
| **PRESIDING:** | Martha C. Cutright, D.D.S. |
| **MEMBERS PRESENT:** | James D. Watkins, D.D.S.<br>Tammy K. Swecker, R.D.H. |
| **MEMBERS ABSENT:** | None |
| **OTHER BOARD MEMBERS PRESENT:** | Hebert R. Boyd, D.D.S. |
| **CLINICAL EXAM ADVISORY PANEL:** | Mark Crabtree, D.D.S., Virginia Dental Association<br>Marge Green, R.D.H., Virginia Dental Hygienists Association<br>Charles Hackett, Jr., D.D.S., Old Dominion Dental Society<br>Paul Wiley, D.D.S., VCU School of Dentistry |
| **PANEL MEMBER ABSENT:** | Kathleen White, Southern Regional Testing Agency (SRTA) |
| **STAFF PRESENT:** | Sandra K. Reen, Executive Director, Board of Dentistry<br>Huong Vu, Operations Manager |
| **ESTABLISHMENT OF QUORUM:** | All members of the Committee were present. |
| **APPROVAL OF MINUTES:** | Dr. Cutright asked if the Committee members had reviewed the September 9, 2011 minutes. No changes or corrections were made. Dr. Watkins moved to accept the September 9, 2011 minutes. The motion was seconded and passed. |

**REVIEW OF MATERIALS FROM CALIFORNIA:**

Dr. Cutright asked all to introduce themselves and to state which organization they represent and their preliminary thoughts on the California portfolio exam. After introductions, Dr. Cutright stated that the goal of this meeting is to identify and discuss any issues related to developing a portfolio exam with the VCU School of Dentistry, modeled on the California exam.

Ms. Reen noted that the Code of Virginia would not need to be amended to undertake a portfolio exam, but regulatory action might be needed.

Ms. Green asked if the California Board plans to offer this exam to dental hygienists. Ms. Reen replied no. Ms. Green asked to incorporate a dental hygiene portfolio exam in the initiative and noted that there are six (6) accredited dental hygiene programs in Virginia.

Dr. Crabtree commented that the group needs to think about the value of having independent third party assessments and of assuring the anonymity of candidates in any exam format. He added that another dental school will be opening in Virginia at Bluefield College, which will have 10 chairs and will partner with dental practices to provide educational opportunities.

Ms. Reen noted that she was unsuccessful in getting a contact person at Bluefield College to invite participation on the advisory panel. She went on to state that the California Board has agreed to share their model because of their interest in having use of the model expand to allow for the mobility of candidates.

Dr. Crabtree asked if the Hammond and Buckendahl and the Ranney and Hambleton reports, referenced in the 2009 Comira report, could be obtained for the panel. He noted that the Hammond and Buckendahl report does not support the use of portfolio exams for dental licensure because the model does not provide an assessment of minimum skills that is administered independent of the training program. He added that the Ranney and Hambleton report identified several criteria for the success of a portfolio model, including administration by independent parties.

Dr. Watkins encouraged changing the standard for exams from establishing "minimal competency" to a more positive statement such as "proficiency."

Ms. Reen pointed out that the California model includes the

participation of examiners from outside schools to strengthen the credibility of the process and ensure objectivity of ratings.

Ms. Reen went on to say that unlike the Virginia Board, the California Board approves dental schools and already has oversight. Dr. Wiley replied that he thinks the reference to approved schools is specific to the portfolio exam because all of the schools are CODA accredited. Dr. Watkins asked if the Board sends representatives to participate in the CODA site visits in Virginia. Ms. Reen replied that the Board does not have a policy requiring representation, but the invitations to participate are sent to board members. She added that three or four members have elected to participate. She also added that she checked California's web page, and Dr. Wiley's understanding about the relationship of the Board and the schools is correct.

Dr. Crabtree stated that the financial impact needs to be addressed and that an audit program would be needed. Dr. Watkins questioned whether the demand for the exam would be worth the expense and resources required. Ms. Swecker stated her concern is that the number of students who may elect to take the exam would be very limited due to lack of mobility. Dr. Crabtree added the concern of who determines the qualification of the students to take the exam.

Ms. Reen noted that the cost to take the California exam is $350 versus the regional exams, which cost well over $1000 plus patient expenses. She commented that it appears, based on the discussion thus far, that Virginia may need a different model because of the difference in scale between one dental school in Virginia versus six schools in California.

Dr. Cutright asked the panel members to give their advice on how the Board should proceed.

Dr. Wiley said that the School wants to develop a portfolio exam because students are assessed as they work on patients of record over a course of treatment whereas regional exams are a snapshot. He added that a portfolio exam would:

- reduce the disruptions associated with regional exams,
- reduce the costs to students, and
- have students working with faculty, so the exemption from licensure would definitely apply.

He noted that failure of a section of a regional exam in the first attempt is rarely an indicator of a lack of competence because with very few exceptions the section is passed on the second attempt.

Dr. Crabtree commented that it is not clear how the California schools are going to be audited by the Board. He said this is a very important factor in deciding if a portfolio is workable in Virginia.

Ms. Reen noted that California has not implemented their exam at this time because its regulations are not in effect. She asked the panel members to state how they think the Board should proceed.

Dr. Crabtree stated that the VDA currently has no policy on portfolio exams. He said if the Board wants to go ahead with the portfolio exam, the Board needs to ensure candidate anonymity and a separation between the school and the Board in the administration of the exam. He said the Board needs a study specific to Virginia, so the place to start might be with a request for proposals.

Ms. Green stated that psychometric validity needs to be addressed, adherence to national standards is necessary, and she agrees a study specific to Virginia is needed. She suggested exploring a partnership between the school and the regional examining agencies.

Ms. Reen noted that Workforce data, which was collected with the 2012 renewals, shows that about 46% of dentists in Virginia completed dental school in Virginia. She said she will provide the survey results at the next meeting.

Dr. Watkins said the Board should consider the feasibility of a portfolio exam and suggested that a modified proposal be developed for discussion.

Dr. Wiley stated that portfolio exam is good for all, Board-school-public, with accepting risks. He added that VCU cannot replicate the clinical experiences required by California before the portfolio can be attempted. He recommended taking a more global look at the portfolio model.

Dr. Hackett stated that there is not enough data to support implementation of the California model, so more information is needed.

Ms. Reen stated that it appears the consensus of the panel is that the California model will not work in Virginia. She suggested that the Committee meet to discuss the advice received for conducting a study and the need for an alternate model before convening another meeting with the Advisory Panel.

Dr. Cutright said that a meeting of the Committee was in order and then thanked the Panel members for their participation. She asked that they stay tuned for more information from the Board.

**ADJOURMENT:** With all business concluded, the Committee adjourned at 12:00 p.m.

Martha C. Cutright, D.D.S, Chair

Date

Sandra K. Reen, Executive Director

Date