



STANDARDS & GUIDELINES

June 2016

Minimal and Moderate Sedation Services in Dentistry

(Non-Hospital Facilities)

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Standards and guidelines inform practitioners and the public of CDSBC's expectations for registrants. This document primarily contains standards, which are, by definition, mandatory and must be applied. Standards are clearly identified by mandatory language such as "must" and "required". This document also contains guidelines that are highly recommended but – while being evidence of a standard – are not, strictly speaking, mandatory. Guidelines contain permissive language such as "should" and "may".



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1. Introduction

The administration of sedation is an integral part of dental practice. The College of Dental Surgeons of BC (CDSBC) is committed to the safe and effective use of sedation techniques by appropriately educated and trained dentists. The purpose of these Standards is to assist dentists in the delivery of safe and effective minimal and moderate sedation, and to set out CDSBC's requirements for dental offices in which minimal and moderate sedation are administered.

Sedation techniques may be indicated to treat patient anxiety associated with dental treatment, to enable treatment for patients who have cognitive impairment or motor dysfunction which prevents adequate dental treatment, to treat patients below the age of reason, or for invasive or extensive dental procedures. These techniques are to be used only when indicated, as an adjunct to appropriate non-pharmacological means of patient management.

The following are the minimum requirements to administer minimal and moderate sedation in dentistry in British Columbia.

For patients 12 years of age and under, practitioners should also refer to the American Academy of Pediatric Dentistry's *Guidelines for Monitoring and Management of Pediatric Patients During and After Sedation for Diagnostic and Therapeutic Procedures* (Appendix A).

2. Definitions

ACLS – Advanced Cardiac Life Support

AED – Automated External Defibrillator

Analgesia – the diminution or elimination of pain.

Bag valve mask – a hand-held device used to provide positive-pressure ventilation to a patient who is not breathing or who is breathing inadequately (e.g., Ambu bag).

BLS – Basic Life Support for Health Care Providers (also referred to as CPR-HCP)

BMI – Body Mass Index

Continual – repeated regularly and frequently in a steady succession.

Continuous – prolonged without any interruption at any time.

CDA – Certified Dental Assistant

CPSBC – College of Physicians and Surgeons of British Columbia

CRNBC – College of Registered Nurses of British Columbia

DAANCE – Dental Anesthesia Assistant National Certification Examination

Deep sedation – a drug-induced depression of consciousness during which patients cannot be easily aroused, but respond purposefully following repeated or painful stimulation. Spontaneous ventilation may be inadequate and patients may require intervention to maintain a patent airway. Cardiovascular function is usually maintained.



Enteral – a technique of drug administration in which the agent is absorbed through the gastrointestinal (GI) tract or mucosa; (see also “Parenteral”). Examples of enteral administration include:

- oral
- sublingual (transmucosal)

General anaesthesia – a drug-induced loss of consciousness during which patients are not arousable, even by painful stimulation. Ventilatory function is commonly impaired and patients commonly require assistance to maintain a patent airway. Cardiovascular function may be impaired.

Immediately available – on-site in the facility and available for immediate use.

Incremental dosing – the administration of multiple doses of a drug until a desired effect is reached. Incremental dosing is discouraged, and if used, must be carried out with great caution. Knowledge of the oral sedative’s time of onset, peak response and duration is essential to avoid over sedation. Before administering an additional dose of an oral sedative, the dentist **must** ensure that the previous dose has taken full effect. The Maximum Recommended Dose of an oral sedative **must** not be exceeded at any one appointment.

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.

Intravenous (IV) – a technique of administration in which a sedative agent is administered into the veins.

Local anaesthesia – the elimination of sensation, especially pain, in one part of the body by the topical application or regional injection of an analgesic drug.

Maximum Recommended Dose (MRD) – maximum FDA-recommended dose of a drug, as printed on FDA-approved labelling for unmonitored home use.

Minimal sedation – a minimally depressed level of consciousness produced by a pharmacological method, in which the patient retains the ability to independently and continuously maintain an airway and respond normally to tactile stimulation and verbal command. Although cognitive function and co-ordination may be modestly impaired, ventilatory and cardiovascular functions are unaffected.

Mock drill – a dedicated clinical session, which takes place within the facility, in which sedation team members practice the management of medical and/or anesthetic emergencies, as if an actual emergency occurred.

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 rarely compromised.

NOTE: In accordance with this particular definition, the drugs and/or techniques used in moderate sedation 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 but, rather, deep sedation.



OMAAP – Oral and Maxillofacial Surgery Anesthesia Assistants Program

PALS – Pediatric Advanced Life Support

Parenteral – a technique of drug administration whereby the administration route is not through the digestive tract. Examples of parenteral administration include:

- intramuscular (IM)
- intravenous (IV)
- intranasal (IN)
- submucosal (SM)
- subcutaneous (SC)
- intraosseous (IO)

Reversal agents – agents that act by interfering with a sedative medication’s action(s). Reversal agents include flumazenil for benzodiazepines and naloxone for opioids.

Supplemental dosing – administration of an additional dose of the initial sedative drug. The supplemental dose should not exceed one-half of the initial dose, and should not be administered until the dentist has determined that the peak effect of the initial dosing has passed. The total aggregate dose must not exceed 1.5 times the MRD on the day of treatment. Supplemental dosing is discouraged, and if used, must be carried out with great caution.

Time-oriented anaesthesia record – documentation at appropriate time intervals of drugs, doses and physiological data obtained during patient monitoring.

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. The concept of titration of a drug to effect is critical for patient safety. When the intent is moderate sedation, the dentist or physician must know whether the previous dose has taken full effect before administering an additional drug increment.

3. Sedation Overview

If a patient enters a deeper level of sedation than the dentist is approved to provide, the dentist MUST stop the dental procedure until the patient returns to the intended level of sedation.

In dentistry, sedation is used to reinforce positive suggestion and reassurance in a way that allows dental treatment to be performed with minimal psychological stress and enhanced patient comfort. Safe administration of minimal sedation (anxiolysis) and moderate sedation (formerly, “conscious sedation”) involves appropriate education and training of the dentist and clinical staff.

It must be emphasized that sedation is produced along a continuum, ranging from the relief of anxiety with little or no associated drowsiness (e.g., minimal sedation), up to, and including, a state of unconsciousness (deep sedation/general anaesthesia). It is not always possible to predict how an individual patient will respond, and, at times, it can be difficult to precisely define the end point of moderate sedation and the starting points of deep sedation and general anaesthesia (Appendix B). Therefore, the drugs and techniques used for minimal and moderate



sedation **must** carry a margin of safety wide enough to render loss of consciousness highly unlikely.

3.1 Usual Modalities for Minimal Sedation

Minimal sedation is usually accomplished by one of the following modalities:

1. Inhalational administration of nitrous oxide and oxygen; or
2. Oral/sublingual administration of a single sedative drug, within MRD, with or without nitrous oxide and oxygen.

3.2 Usual Modalities for Moderate Sedation

Moderate sedation is usually accomplished by one of the following modalities:

1. Oral (enteral) administration of multiple sedative drugs, with or without nitrous oxide and oxygen;
2. Parenteral administration of benzodiazepine drugs (intravenous, intramuscular, subcutaneous, submucosal or intranasal); or
3. Parenteral administration of benzodiazepine and narcotic drugs (intravenous, intramuscular, subcutaneous, submucosal or intranasal).

Only those with Level 2 authorization may perform parenteral administration of benzodiazepines and narcotic drugs.

4. Professional Responsibilities and Qualifications

4.1 Facility and Armamentarium

The dentist is responsible for providing and maintaining the armamentarium necessary for the provision of sedation, including equipment for emergency resuscitation and life support.

4.2 Registration

CDSBC maintains a register of dentists entitled to provide moderate sedation and a register of facilities in which moderate sedation may be administered.

Dentists who utilize moderate sedation (whether enteral or parenteral) **must**:

1. be in good standing with CDSBC;
2. obtain the appropriate qualifications to utilize moderate sedation; and
3. register their sedation qualifications with, and have their qualifications to administer moderate sedation approved by, CDSBC.

All dentists who have facilities where parenteral moderate sedation is administered are responsible for ensuring that their facility is registered and approved by CDSBC.



Dentists administering minimal sedation do not need to register their qualifications with CDSBC but **must** meet the educational requirements as set out in these Standards (see Dentist Educational Requirements section below).

4.3 Dentist Qualifications and Sedation Team Requirements

All dentists who utilize sedation **must** successfully complete a sedation course/program acceptable to CDSBC (obtained in dental school or through post-graduate training or continuing education) that is designed to produce competency in the specific modality of sedation utilized.

All dentists who administer sedation **must** ensure that the program/course taken meets the educational requirements for the appropriate level of sedation in accordance with the Dental Educational Requirements section below.

All members of the sedation team must maintain current certification in basic life support for health care provider (CPR- HCP).

The dental facility **must** be staffed by a team of individuals (dentist and clinical staff) as prescribed in these Standards for the specific modality(ies) of sedation utilized.

To administer moderate sedation, the dentist **must** maintain current certification in ACLS or an appropriate equivalent as determined by the Sedation and General Anaesthetic Services Committee.

To maintain authorization to administer moderate sedation, the dentist **must** complete no fewer than six hours of continuing education in the area of sedation and/or anaesthesia during their three-year continuing education cycle. Courses in BLS do not qualify, but ACLS or PALS would fulfill the requirement.

Sedation of children requires additional clinical experience. For children 12 years of age and under, refer to **Appendix A**.

DENTIST EDUCATIONAL REQUIREMENTS

Please refer to the American Dental Association document “Guidelines for teaching pain control and sedation to dentists and dental students” for course faculty requirements.

Any dentist administering sedation must have completed a training course/program designed to produce competency in the modality of sedation utilized. The training program must be obtained from one of the following sources:

1. An accredited Canadian or American Faculty of Dentistry undergraduate or postgraduate program, approved by CDSBC.
2. Other continuing education courses approved by CDSBC, which follow the general principle that they shall be:
 - Taught in an accredited Canadian or American Faculty of Dentistry undergraduate or postgraduate program
 - Organized and taught by dentists certified to administer anaesthesia and sedation as they apply to dentistry, supplemented as necessary by persons qualified in the technique being taught
 - Held in a properly equipped dental environment that permits dentists to utilize the techniques being taught on patients during dental treatment



- Followed by a recorded assessment of the competence of the dentists

While length of a training course is only one of the many factors to be considered in determining the quality of an educational program, the following minimal requirements **must** be met in order to qualify for administration of the sedative agent(s):

Single Oral Sedative Drug

The dentist must have obtained training from either their undergraduate dental program or an appropriate postgraduate course. Dentists currently registered with CDSBC may administer a single oral sedative drug for the purpose of minimal sedation.

Nitrous Oxide/Oxygen

The dentist must have obtained training from either their undergraduate dental program or an appropriate postgraduate course. At a minimum, this must include 14 hours of combined didactic/clinical training.

Nitrous Oxide/Oxygen With a Single Oral Sedative Drug

The dentist will typically obtain training in a continuing education course. At a minimum, the course must include 16 hours of combined didactic/clinical training.

Multiple Oral Sedative Drugs (With or Without Nitrous Oxide/Oxygen)

The dentist will typically obtain training in a continuing education course. At a minimum, the course must include 40 hours of didactic instruction, plus supervised application of sedation, concurrent with dental treatment, on 20 adult patients. The applicant may be required to submit clinical anaesthetic records.

For moderate sedation utilizing multiple oral sedatives, the dentist may receive 20 clinical adult patient experiences via mentorship by a qualified mentor. The mentor and the mentee must have an arms-length relationship (no business/personal relationship or interest).

- A qualified mentor must:
- Have registration with CDSBC to provide enteral moderate sedation or deeper
- Demonstrate experience of over 150 cases of successful enteral moderate sedation in the past three years

During these clinical patient experiences, the mentor-to-mentee ratio cannot exceed 1:1 for the first five patients, but may increase to 2:1 for the remaining 15 patients. A staff member certified by CDSBC who has DAANCE, OMAAP, or such other training approved by CDSBC must be present at all times. The mentor cannot perform dentistry at any time.

Pediatric Dentists and the oral use of Ketamine

- Pediatric specialist must hold current level 2 authorization for parenteral moderate sedation.
- Participation in a course for demonstration of emergency skills must be done on a yearly basis utilizing pediatric human simulation and must include airway management.

Although PALS is mandatory, it does not fulfill this requirement. Course completion documentation must be submitted to the College yearly for evaluation.



- The sedation team must consist of the dentist, sedation assistant, operative assistant and recovery supervisor per the guidelines.
- Capnography or a pretracheal stethoscope must be used as part of patient monitoring.

Note: Qualified individuals may apply and will be reviewed on an individual basis by the Sedation & GA Services Committee

Parenteral Moderate Sedation

CDSBC offers two levels of authorization for parenteral moderate sedation.

Level 1 Parenteral Moderate Sedation Authorization

Allows a qualified registrant to provide parenteral moderate sedation utilizing benzodiazepine drugs only.

Level 2 Parenteral Moderate Sedation Authorization

Allows a qualified registrant to provide parenteral moderate sedation utilizing benzodiazepine drugs with or without narcotics.

Educational Requirements

CDSBC does not pre-approve intravenous (IV) sedation courses. It is the dentist's responsibility to ensure that the proposed sedation course meets CDSBC's requirements set out below.

Minimum Requirements for Course/Program to Obtain Level 1 Authorization

- A minimum of 60 hours of didactic instruction.
- Supervised application of sedation utilizing benzodiazepine drugs.
- The dentist must place the IV, administer the sedation and provide dental treatment concurrently on 20 patients.
- These supervised cases cannot be shared experiences.
- Clinical experience must be with 20 unique patients. Sedating a patient more than once unnecessarily to gain clinical experience numbers is not appropriate.

In order to obtain Level 1 authorization you must submit:

1. Either a certificate or other evidence of successful completion of the course.
2. The course director must confirm the competence of the dentist.
3. Copies of the anaesthetic records must be made available to CDSBC on request.
4. A description of the course must be signed by the course director and submitted to CDSBC for consideration.

Minimum Requirements for Course/Program to Obtain Level 2 Authorization

In order to be eligible to apply for Level 2 authorization, the dentist must first:

- Hold Level 1 authorization
- Have completed 150 moderate IV sedation cases utilizing only benzodiazepine



drugs within three years prior to application for authorization. A case log must be submitted which must include:

1. Name and age of patient
2. Drug names and amounts used
3. Length of case
4. Date of sedation

The above requirements must be submitted to CDSBC for consideration. Once this condition is met to the satisfaction of CDSBC, the dentist must then complete either one of the following:

1. Clinical training through the same course/program that was taken to qualify for Level 1 authorization:
 - Supervised application of sedation utilizing a benzodiazepine and a narcotic drug for all cases.
 - The dentist must place the IV, administer the sedation and provide dental treatment concurrently on all 20 patients.
 - These supervised cases cannot be shared experiences.
 - Clinical experience must be with 20 unique patients. Sedating a patient more than once unnecessarily to gain clinical experience numbers is not appropriate.
2. If the course/program that was originally taken no longer exists, or does not teach the use of benzodiazepines and narcotics, the dentist has the option to take a different course/program. In this case, the dentist must complete the entire course (didactic and clinical training), which must satisfy the following requirements:
 - A minimum of 60 hours of didactic instruction.
 - Supervised application of sedation utilizing a benzodiazepine and a narcotic drug for all cases.
 - The dentist must place the IV, administer the sedation and provide dental treatment concurrently on all 20 patients.
 - These supervised cases cannot be shared experiences.
 - Clinical experience must be with 20 unique patients. Sedating a patient more than once unnecessarily to gain clinical experience numbers is not appropriate.

In order to obtain Level 2 authorization* you must submit:

1. Either a certificate or other evidence of successful completion of the course.
2. The course director must confirm the competence of the dentist.
3. Copies of anaesthetic records must be made available to the CDSBC on request.
4. A description of the course must be signed by the course director and submitted to CDSBC for consideration.

*Dentists who have graduated from an accredited Canadian, two-year (or more) residency program and can provide evidence of administering parenteral sedation (using a benzodiazepine and a narcotic) concurrent with dental treatment, on a minimum of 30 patients, may submit such evidence for consideration for Level 2 authorization.



5. Equipment Requirements

5.1 Inventory of Mandatory Equipment

The following equipment **must** be immediately available during sedation:

1. A ventilation apparatus or bag valve mask (e.g., Ambu bag) suitable for the patient being treated (both in treatment **and** in recovery areas);
2. An emergency medication kit or cart (Minimal – Appendix C; Moderate – Appendix D);
3. Oxygen and suction equipment; and
4. A manual defibrillator and/or AED is highly recommended for minimal sedation and is **required** for both oral (enteral) moderate sedation and parenteral moderate sedation.

Supplemental equipment lists are included for the different modalities described within their respective sections.

5.2 Minimum Requirements for Inhalation Equipment Used during Sedation

1. Inhalation equipment **must** have the capacity to deliver 100% oxygen and never more than 70% nitrous oxide concentration at a flow rate appropriate for the patient's size;
2. Nitrous oxide/oxygen equipment **must** have a fail-safe system; and
3. Nitrous oxide/oxygen equipment **must** have an appropriate scavenging system.

Any nitrous oxide machine capable of delivering a nitrous level greater than 70% MUST be retired.

5.3 Equipment Maintenance Requirements

1. Nitrous oxide machines **must** be inspected annually or more frequently as recommended by the manufacturer, whichever is more frequent;
2. Physiological monitoring devices **must** be inspected and maintained on an annual basis or in accordance with the manufacturer's guidelines, whichever is more frequent; and
3. A logbook of all equipment inspections and maintenance **must** be kept on the premises.

6. Responsibilities of the Facility Owner

The facility owner is responsible for ensuring that any visiting dentist or physician who provides sedation has the appropriate qualifications and credentials, as outlined in these Standards.

Any visiting dentist/physician may only administer moderate sedation in a facility that has been inspected and approved by CDSBC. In the event that a visiting dentist/physician brings their own monitoring equipment, the facility owner **must** ensure that the equipment has been inspected at least annually and serviced and/or maintained as required. All devices **must** comply with original performance specifications and meet appropriate CSA standards.

The facility owner is responsible for ensuring all emergency equipment and emergency drugs are on site prior to providing moderate sedation.

All emergency equipment and drugs **must** be provided by either the facility owner or the



visiting dentist/anaesthetist. **The shared provision of emergency equipment and drugs is prohibited.**

Note: The BC safety authority recognizes certification bodies other than CSA. The bodies acceptable to the BCSA must be accredited by the Standards Council of Canada and have medical and/or hospital equipment within their scope of practice. See: <https://www.scc.ca/en/accreditation/product-process-and-service-certification/directory-of-accredited-clients>.

7. Controlled Drugs/Targeted Substances

Health Canada categorizes benzodiazepines, opioids and ketamine as “targeted substances” and, as such, they **must** be managed in a way that both keeps them secure from loss/theft and permits auditing.

Targeted substances **must** be housed in a securely mounted and locked cabinet. Keys to the cabinet **must** be kept in a secure, separate location, with limited, authorized access.

At the end of any day on which the locked cabinet is opened, a count and reconciliation of each targeted substance **must** be completed (the quantity on hand **must** equal the quantity in stock minus that dispensed as recorded in the day log). The count **must** be completed by two individuals concurrently, with one counting and the other acting as witness. A logbook of the count reconciliation **must** be kept in the office at all times, in a secure location, separate from the drug cabinet.

Any identified loss or theft of a targeted substance **must** be reported to Health Canada within 10 days of its discovery. Go to http://www.hc-sc.gc.ca/hc-ps/substancontrol/substan/compli-conform/loss-perte/loss_rep-rap_perte-eng.php or search “Health Canada loss and theft report form.”

8. Clinical Standards for Minimal and Moderate Sedation

8.1 Medical History

An adequate, clearly recorded current medical history **must** be completed for each patient prior to the administration of any form of sedation. The form on which the history is recorded should include:

1. Present and past illnesses;
2. Hospital admissions;
3. Current medications and/or non-prescription drugs and/or herbal supplements, as well as dose
4. Allergies (in particular to drugs);
5. A functional inquiry; and



6. An appropriate physical evaluation completed for each patient prior to the administration of any form of sedation.

The medical history **must** form a permanent part of each patient's record. The medical history **must** be reviewed for any changes at each sedation appointment. Such a review **must** be documented in the permanent record. A sample medical history form is attached (Appendix E).

8.2 Physical Status

A determination of the patient's American Society of Anesthesiologists Physical Status Classification (Appendix F), as well as careful evaluation of any other factors that may affect his/her suitability for sedation, **must** be made prior to the administration of any sedation. These findings will be used as a guide in determining the appropriate technique to be used.

ASA IV patients or above are not considered eligible candidates for elective outpatient sedation procedures.

Patients undergoing moderate sedation procedures **must** also be assessed for BMI and obstructive sleep apnea (Stop Bang Questionnaire, Appendix G).

8.3 The Safe Sedation of Children

For patients 12 years of age and under, practitioners should also refer to the American Academy of Pediatric Dentistry's *Guidelines for Monitoring and Management of Pediatric Patients During and After Sedation for Diagnostic and Therapeutic Procedures* (Appendix A). If there are any discrepancies between the AAPD's Guidelines and CDSBC's Minimal and Moderate Sedation Services in Dentistry (Non-Hospital Facilities) Standards, CDSBC's Standards take precedence.

The safe sedation of children for dental procedures requires a systematic approach that includes, but is not limited to, the following:

1. Appropriate training and skills in pediatric airway management to allow rescue of patient;
2. A clear understanding of the pharmacokinetic and pharmacodynamic effects of the medications used for sedation in the pediatric population, as well as an appreciation for drug interactions;
3. Age- and size-appropriate equipment for airway management;
4. Appropriate medication and reversal agents;
5. Careful pre-sedation evaluation for underlying medical or surgical conditions that would place the child at increased risk from sedating medications;
6. A focused airway examination for large tonsils or anatomic airway abnormalities that might increase the potential for airway obstruction;
7. Appropriate fasting for elective procedures;
8. Mandatory supervision of all sedation by an appropriately qualified dentist;
9. Appropriate physiological monitoring during and after all sedation procedures, including mandatory continuous pulseoximetry;
10. Appropriately trained and sufficient number of staff members to both carry out procedure and monitor the patient;



11. Recovery to pre-sedation level of consciousness and stable physiological vital signs before discharge from supervision; and
12. Appropriate discharge instructions.

8.4 Emergency Management

The dentist and clinical staff **must** be prepared to recognize and treat adverse responses utilizing appropriate emergency equipment and drugs when necessary. Dentists and all clinical staff **must** have the training and ability to perform cardiac life support techniques to the level required by these Standards. Dentists **must** establish written protocols for emergency procedures and review them with their staff regularly.

If a patient enters a deeper level of sedation than the dentist is approved to provide, the dentist MUST stop the dental procedure until the patient returns to the intended level of sedation.

9. Minimal Sedation

Minimal sedation is usually accomplished by one of two modalities: inhalational administration of nitrous oxide and oxygen; **or** oral administration of a single sedative drug, within MRD, with or without nitrous oxide and oxygen.

9.1 Personnel Requirements for Minimal Sedation

9.1.1 The only persons who may administer oral sedative agents to patients are:

1. A dentist with the appropriate qualifications who is currently registered with CDSBC; or
2. A registered nurse (RN), who is licensed and in good standing with CRNBC, acting under orders and direct supervision of the dentist or physician who possesses the appropriate qualifications to provide sedation; and
3. The dentist or RN listed above, exercising clinical judgment, may be assisted by the parent/guardian of a pediatric patient. In this case, the oral sedative agents must be administered in the presence of a dentist/RN.

CDA's MUST NEVER give medications directly to patients.

9.1.2 The minimal sedation team **MUST** be comprised of at least two individuals:

1. A dentist who has completed a training program designed to produce competency in the specific modality of sedation and who has current certification in BLS for health care providers (CPR-HCP), or an appropriate equivalent; and
2. An appropriately trained staff member, who has current certification in BLS for health care providers (CPR-HCP) or an appropriate equivalent.



9.2 Responsibilities of Team Members during Minimal Sedation Procedures

9.2.1 Professional responsibilities of the dentist include:

1. The dentist **must** ensure that the assistant is adequately trained to perform their duties;
2. The dentist administers the sedation;
3. The dentist is responsible to ensure the patient is monitored and supported; and
4. The dentist is responsible for recognizing and treating adverse patient responses and utilizing the appropriate emergency equipment, medications and protocols.

9.2.2 Professional responsibilities of the sedation/operative assistants include:

1. Assisting in determining the patient's level of consciousness;
2. Assisting in monitoring physiologic parameters;
3. Assisting in protecting the airway by keeping it free of secretions, blood and debris;
4. Recording appropriate findings/parameters;
5. Assisting the dentist in supporting the patient if the level of sedation becomes deeper than intended;
6. Assisting in emergency procedures; and
7. Supervising and monitoring the patient as directed by the dentist.

9.2.3 Integrated responsibilities of the sedation team

An appropriately trained staff person **must** be with the patient at all times during treatment.

9.3 Pre-operative Patient Evaluation

Patients considered for minimal sedation **must** be suitably evaluated prior to the start of any sedative procedure. In healthy or medically stable individuals (e.g., ASA I, II) this should, at a minimum, consist of a review of the individual's current medical history, systems, and medication use. For patients with significant medical considerations (e.g., ASA III), the dentist should consult with the patient's primary care physician or consulting medical specialist as appropriate.

ASA IV patients or above are not considered eligible candidates for elective outpatient sedation procedures.

It is highly recommended that patients be assessed for BMI and obstructive sleep apnea (Stop Bang Questionnaire, Appendix G).

9.4 Pre- and Intra-operative Requirements for Minimal Sedation

9.4.1 Pre-operative preparation checklist

1. The patient, parent, escort, guardian or caregiver **must** be advised regarding the procedure associated with the delivery of any sedative agents, and informed consent for the proposed sedation **must** be obtained (Appendix H).



2. Pre-operative dietary restrictions **must** be considered based on the sedative technique prescribed (Appendix I).
3. Pre-operative verbal and written instructions **must** be given to the patient, parent, escort, guardian or caregiver (Appendix I).
4. Baseline vital signs **must** be obtained unless the patient's behaviour prohibits such determination.
5. A focused physical evaluation **must** be performed.

9.4.2 Documentation requirements

The patient's blood pressure and heart rate should be evaluated and monitored as clinically indicated.

An appropriate anaesthetic record **must** be maintained and **must** identify all drugs administered (including local anaesthetics), dosages used and the patient's monitored physiological parameters.

9.4.3 Oral administration of a single sedative drug with or without nitrous oxide and oxygen

Children, the elderly and the medically compromised (including patients who are taking prescribed medication with sedative properties) require appropriate adjustment of the dose of the oral sedative agent to ensure that the intended level of minimal sedation is not exceeded.

In the majority of cases, oral sedative drugs **must** be administered in the dental office.

In cases where the dentist believes the patient's anxiety is such that sedation is necessary to allow transport to the dental office, an oral sedative drug may be prescribed to be taken outside the office. In these cases, the following requirements apply:

1. A limit of one type of sedative drug **must** be prescribed at any one time.
2. The dose of the sedative drug **must** not exceed MRD.
3. Clear written instructions **must** be given to the patient or guardian explaining how to take the sedative drug and listing the expected effects from the drug.
4. The patient **must** be instructed not to drive a vehicle and **must** be accompanied to and from the office by a responsible adult.

Children MUST NEVER be sedated outside the dental office.

9.4.4 Supplemental dosing during minimal enteral sedation with or without nitrous oxide and oxygen

This practice is discouraged and **must** be carried out cautiously. In this circumstance, the total aggregate dose, both initial and supplemental, **must not** exceed 1.5 times MRD on the day of treatment.

If supplemental dosing is administered, the patient's oxygenation, ventilation, and circulation **must** be monitored continually.



9.4.5 Inhalational administration of nitrous oxide and oxygen

Nitrous oxide/oxygen minimal sedation **must** be administered by an appropriately trained dentist.

If inhaled nitrous oxide and oxygen is administered, the patient's oxygenation, ventilation, and circulation **must** be monitored as clinically indicated.

An appropriately trained staff member, under the order and supervision of an appropriately trained dentist, may monitor a patient receiving nitrous oxide provided that:

1. Appropriate dosage levels have been previously determined and recorded by the dentist in the patient record;
2. Nitrous oxide/oxygen minimal sedation has been initiated for the patient by the dentist; and
3. The dentist is present at all times in the office and immediately available in the event of an emergency.

9.5 Post-operative Requirements for Minimal Sedation

9.5.1 Equipment

Oxygen and suction equipment **must** be immediately available during recovery.

9.5.2 Monitoring

A dentist or, at the dentist's direction, an appropriately trained staff member, **must** remain in the operatory to monitor the patient continuously until the patient meets the criteria for discharge. The appropriately trained staff member **must** be familiar with monitoring techniques and equipment.

Monitoring observations **must** include:

1. Oxygenation
 - Colour of mucosa and/or skin **must** be continually evaluated.
 - Measurement of oxygen saturation by pulse oximetry is **required** for patients 12 years of age and under.
 - Measurement of oxygen saturation by pulse oximetry is highly recommended for all other patients.
2. Ventilation
 - The dentist and/or appropriately trained staff member **must** continually confirm chest excursions.
 - The dentist and/or appropriately trained staff member **must** continually monitor respirations.
3. Circulation
 - Blood pressure and heart rate should be evaluated as clinically indicated.

9.5.3 Recovery and discharge

The dentist **must** determine and document that the level of consciousness, oxygenation, ventilation and circulation are satisfactory prior to discharge.



Post-operative verbal and written instructions **must** be given to the patient, parent, escort, guardian or caregiver (Appendix J).

While a reversal agent should not be used routinely, if a reversal agent is administered before discharge criteria have been met, the patient MUST be monitored until recovery is assured. The duration of action of the reversal agent MUST be taken into account.

10. Oral (Enteral) Moderate Sedation

Enteral moderate sedation is usually accomplished by oral administration of multiple sedative drugs, with or without nitrous oxide and oxygen. While considered parenteral administration, the administration of a sedative agent intranasally is permitted as part of a multi-drug oral regime for

- certified specialists in pediatrics with training in intranasal administration, or
- general dentists with training in parenteral sedation,

where, in their professional judgment, this modality would be clinically indicated.

10.1 Personnel Requirements for Oral (Enteral) Moderate Sedation

10.1.1 The only persons who may administer oral sedative agents to patients are

1. A dentist with the appropriate qualifications who is currently registered with CDSBC; or
2. An RN who is licensed and in good standing with CRNBC, acting under orders and direct supervision of the dentist or physician who possesses the appropriate qualifications to provide sedation; and
3. The dentist or RN listed above, exercising clinical judgment, may be assisted by the parent/guardian of a pediatric patient. In this case, the oral sedative agents must be administered in the presence of a dentist/RN.

10.1.2 Personnel requirements and qualifications for oral (enteral) moderate sedation

The enteral moderate sedation team **must** be comprised of at least three individuals:

1. A dentist who has current certification in ACLS and is registered in accordance with these Standards to administer enteral moderate sedation (see Dentist Educational Requirements section starting on page 8).
2. An additional staff member who **must** have current CPR-HCP and be either:
 - an RN;
 - a hygienist with DAANCE, OMAAP, or such other training approved by CDSBC; or
 - a CDA with DAANCE, OMAAP or such other training approved by CDSBC.
3. Another staff member who **must** have current certification in BLS for health care providers (CPR-HCP) or an appropriate equivalent.



4. All members of the sedation team **must** have documented, up to date participation in the in-office mock drills.

CDA's MUST NEVER give medications directly to patients.

For patients 12 years of age and under, the dentist MUST have a current PALS certificate.

10.2 Responsibilities of Team Members during Procedures Utilizing Oral (Enteral) Moderate Sedation

10.2.1 Professional responsibilities of the dentist

1. The dentist **must** ensure that the assistants are adequately trained to perform their duties;
2. The dentist administers the sedation;
3. The dentist is responsible for monitoring and supporting the patient; and
4. The dentist is responsible for recognizing and treating adverse patient responses and utilizing the appropriate emergency equipment, medications and protocols.

10.2.2 Professional responsibilities of the sedation/operative assistants

1. Assisting in determining the patient's level of consciousness;
2. Assisting in monitoring ventilation and maintaining a patent airway;
3. Assisting in protecting the airway by keeping it free of secretions, blood and debris;
4. Recording appropriate findings/parameters;
5. Assisting the dentist in supporting the patient if the level of sedation becomes deeper than intended;
6. Assisting in emergency procedures; and
7. Otherwise supervising and monitoring the patient as directed by the dentist.

10.2.3 Integrated responsibilities of the sedation team

1. While treatment is ongoing, a minimum of the dentist and (1) an RN or (2) a hygienist/CDA with DAANCE, OMAAP, or such other training approved by CDSBC **must** be continuously present, and the third member **must** be immediately available; and
2. When active treatment concludes, the dentist may transfer monitoring care to (1) an RN or (2) a hygienist/CDA with DAANCE/OMAAP or such other training approved by CDSBC until the patient has reached a level of minimal sedation, at which time an appropriately trained staff member may take over.

10.3 Equipment Requirements for Oral (Enteral) Moderate Sedation

In addition to the equipment requirements set out in **5. Equipment Requirements**, the following equipment **must** be immediately available during oral (enteral) moderate sedation:



1. Equipment necessary to provide advanced airway management (Appendix K);
2. At least one battery-powered physiologic monitor; and
3. At least one battery-powered emergency suction machine.

10.4 Pre-operative Patient Evaluation for Oral (Enteral) Moderate Sedation

Patients considered for moderate sedation **must** be suitably evaluated prior to the start of any sedative procedure. In healthy or medically stable individuals (e.g., ASA I, II) this should, at a minimum, consist of a review of the individual's current medical history, systems and medication use. For patients with significant medical considerations (e.g., ASA III), the dentist should consult with the patient's primary care physician or consulting medical specialist as appropriate.

ASA IV patients or above are not considered eligible candidates for elective outpatient sedation procedures.

Each patient **must** have an appropriate physical evaluation, including:

1. Assessment of the airway for anatomic characteristics suggestive of potentially difficult airway management.
2. Obtaining baseline vital signs unless the patient's behaviour prohibits such determination.
3. Assessment of BMI:
 - For patients 13 years and older, BMI is calculated as $BMI = \text{weight (kg)} / [\text{height (m)}]^2$.
 - For patients 12 years and under, different BMI criteria apply (Appendix L).
 - For patients with BMI greater than 40, particular caution **must** be applied.
4. Assessment for obstructive sleep apnea:
 - Patients who are at high risk for sleep apnea (Stop Bang greater than 3 – see Appendix G) **must** be approached with caution.
 - For pediatric patients, a history of sleep apnea is a contraindication for sedation.

10.5 Pre-operative Requirements for Oral (Enteral) Moderate Sedation

10.5.1 Pre-operative preparation checklist

1. The patient, parent, escort, guardian or caregiver **must** be advised regarding the procedure associated with the delivery of any sedative agents, and informed consent for the proposed sedation **must** be obtained (Appendix H).
2. Pre-operative dietary restrictions **must** be considered based on the sedative technique prescribed (Appendix M).
3. Pre-operative verbal and written instructions **must** be given to the patient, parent, escort, guardian or caregiver (Appendix M).

10.5.2 Documentation requirements for enteral moderate sedation



An appropriate time-oriented anaesthesia record **must** be maintained and **must** identify all drugs administered (including local anaesthetics), dosages used and the patient's monitored physiological parameters. Oxygen saturation, heart rate, respiratory rate and blood pressure **must** be recorded at least every 15 minutes or more often as clinically indicated.

10.5.3 Oral administration of multiple sedative drugs

The dose of any oral sedatives used to induce moderate sedation **must** not exceed MRD. Oral sedatives **must** only be administered to the patient in the dental office, unless the patient's anxiety is such that a sedative is required to permit transport to the dental office.

In cases where the dentist believes the patient's anxiety is such that sedation is necessary to allow **transport** to the dental office, an oral sedative drug may be prescribed to be taken outside the office. In these cases, the following requirements apply:

1. A limit of one type of sedative drug **must** be prescribed at any one time;
2. The total dose of the sedative drug **must not** exceed MRD;
3. Clear written instructions **must** be given to the patient or guardian explaining how to take the sedative drug and listing the expected effects from the drug; and
4. The patient **must** be instructed not to drive a vehicle and **must** be accompanied to and from the office by a responsible adult.

Children MUST NEVER be sedated outside the dental office.

10.6 Intra- and Post-operative Requirements for Oral (Enteral) Moderate Sedation

10.6.1 Patient monitoring

The dentist **must** ensure that all sedated patients are continuously supervised and monitored by either the dentist or appropriately trained staff. Clinical observation **must** be supplemented by physiological monitoring performed at clinically appropriate intervals. Throughout sedation administration and during the recovery period, such intervals **must not** exceed 15 minutes. Equipment alarm settings, and their audio component, **must** be utilized at all times.

Monitoring observations **must** include:

1. Oxygenation
 - Colour of mucosa and/or skin **must** be continually evaluated; and
 - Oxygen saturation **must** be monitored by pulse oximetry.
2. Ventilation
 - The dentist and/or appropriately trained staff member **must** continually confirm chest excursions.
 - The dentist and/or appropriately trained staff member **must** continually monitor respiration and confirm an open airway. This can be accomplished by auscultation of breath sounds, monitoring end-tidal CO₂ or verbal communication with the patient.
3. Circulation



- Heart rate **must** be continuously monitored via pulse oximetry;
 - Blood pressure **must** be continually monitored (at a minimum of 15-minute intervals or more often as clinically indicated). In certain pediatric sedation cases, a dentist experienced in pediatric sedation may apply clinical judgment to vary the frequency of intra-operative blood pressure monitoring where there is a risk that blood pressure monitoring will disrupt the level of sedation. In such cases, blood pressure monitoring must be done at minimum pre- and post-operatively.
 - Patients with significant cardiovascular disease **must** be continuously monitored with ECG.
4. Consciousness
- Level of consciousness (e.g., responsiveness to verbal commands, either alone or accompanied by light tactile stimulation) **must** be continually assessed.

10.6.2 Recovery and discharge

The dentist administering moderate sedation **must** remain in the operatory with the patient until either:

1. The patient recovers to a minimally sedated level and care is transferred to an operative assistant; or
2. The dentist has transferred the monitoring care to (1) an RN or (2) a hygienist/CDA with DAANCE, OMAAP, or such other training approved by CDSBC.

The dentist or appropriately trained clinical staff **must** continually monitor the patient's blood pressure, heart rate, oxygenation, ventilation and level of consciousness until the patient meets recommended discharge criteria (Appendix N).

The dentist **must** remain in the office and be immediately available until the patient is discharged. Prior to discharge, the dentist **must** determine and document that the level of consciousness, oxygenation, ventilation and circulation meet discharge criteria.

Post-operative verbal and written instructions **must** be given to the patient, parent, escort, guardian or caregiver (Appendix J).

While a reversal agent should not be used routinely, if a reversal agent is administered before discharge criteria have been met, the patient MUST be monitored until recovery is assured. The duration of action of the reversal agent MUST be taken into account.



11. Parenteral Moderate Sedation

The administration of parenteral sedative drugs MUST only take place in a facility that has been inspected and approved by CDSBC.

The appropriate choice of agents and techniques for parenteral moderate sedation is dependent on the experience of the practitioner, requirements or conditions imposed by the patient or procedure, and the possibility of producing a deeper level of sedation than anticipated. As it is not always possible to predict how an individual patient will respond to sedative and analgesic medications, practitioners intending to produce a given level of sedation **must** be able to rescue patients whose level of sedation becomes deeper than initially intended.

Drugs and techniques used for parenteral moderate sedation **must** carry a margin of safety wide enough to render loss of consciousness highly unlikely.

At times, parenteral moderate sedation practices may result in cardiac or respiratory depression, which **must** be rapidly recognized and appropriately managed to prevent adverse patient complications.

Parenteral moderate sedation may only be administered in facilities inspected and approved by CDSBC.

Unless otherwise authorized, a dentist MUST limit his/her parenteral sedation technique to the titration of benzodiazepine drugs only (see Dentist Educational Requirements section starting on page 8).

Drugs that do not have a wide margin of safety are restricted for use by all routes of administration and may only be used by dentists who are registered with CDSBC for the administration of deep sedation or general anaesthesia. These drugs include but are not limited to barbiturates, etomidate, ketamine, propofol, remifentanyl, and sufentanyl.

11.1 Personnel Requirements and Qualifications for Parenteral Moderate Sedation

11.1.1 The only persons who may administer a parenteral sedative agent are

1. A dentist with the appropriate qualifications in good standing with CDSBC and whose qualifications to provide parenteral moderate sedation are registered with and approved by CDSBC;
2. A physician who is in good standing with CPSBC and who is qualified by CPSBC to provide anaesthetic services in a non-hospital facility; and
3. An RN, licensed and in good standing with the CRNBC, acting under orders and direct supervision of the dentist or physician with the appropriate qualifications to provide moderate sedation.



Registrants with Level 1 authorization may use only benzodiazepine drugs as their sedative agents (see Dentist Educational Requirements section starting on page 8).

Registrants with Level 2 authorization may use benzodiazepines and narcotic drugs as their sedative agents.

For patients 12 years of age and under, the dentist MUST have a current PALS certificate.

CDA's MUST NEVER give medications directly to patients.

11.1.2 The parenteral moderate sedation team MUST be comprised of at least three individuals:

1. A dentist who has current certification in ACLS, and is registered in accordance with these Standards to administer parenteral moderate sedation (see Dentist Educational Requirements section starting on page 8).
2. An additional staff member who **must** have current CPR-HCP and be either:
 - an RN;
 - A hygienist with DAANCE, OMAAP, or such other training approved by CDSBC; or
 - a CDA with DAANCE, OMAAP or such other training approved by CDSBC.
3. Another staff member who **must** have current certification in BLS for healthcare providers (CPR-HCP).
4. All members of the sedation team **must** have documented, up-to-date participation in the in-office mock drills.

11.2. Responsibilities of Team Members during Procedures Utilizing Parenteral Moderate Sedation

11.2.1 Professional responsibilities of the dentist or other practitioner administering moderate sedation

1. The dentist or practitioner **must** ensure that continuous intravenous access is maintained throughout the sedation and recovery period whenever drugs or agents are administered intravenously;
2. The dentist and/or practitioner are responsible for monitoring and supporting the patient; and
3. The dentist and/or practitioner are responsible for recognizing and treating adverse patient responses and utilizing the appropriate emergency equipment, medications, and protocols.

11.2.2 Professional responsibilities of the dentist

The dentist **must** ensure that the assistants are adequately trained to perform their duties.



11.2.3 Professional responsibilities of the sedation/operative assistants

1. Assisting in determining the patient's level of consciousness;
2. Assisting in monitoring ventilation and maintaining a patent airway;
3. Protecting the airway by keeping it free of secretions, blood and debris;
4. Recording appropriate findings/parameters;
5. Assisting the dentist in supporting the patient if the level of sedation becomes deeper than intended;
6. Assisting in emergency procedures; and
7. Otherwise supervising and monitoring the patient as directed by the dentist.

11.2.4 Integrated responsibilities of the sedation team:

1. While treatment is ongoing, a minimum of the dentist and (1) an RN or (2) a hygienist/CDA with DAANCE, OMAAP, or such other training approved by CDSBC **must** be continuously present, and the third member **must** be immediately available; and
2. When active treatment concludes, the dentist may transfer monitoring care to (1) an RN or (2) a hygienist/CDA with DAANCE/OMAAP or such other training approved by CDSBC until the patient has reached a level of minimal sedation, at which time an appropriately trained staff member may take over.

CDA's MUST not initiate intravenous access or draw up, dilute or inject intravenous sedatives.

11.3 Equipment Requirements for Parenteral Moderate Sedation

In addition to the equipment requirements set out in **5. Equipment Requirements**, the following equipment must be immediately available during parenteral moderate sedation procedures:

1. An adequate supply of intravenous equipment and supplies, including needles, intravenous catheters, syringes, tape, intravenous fluid and intravenous administration sets (Appendix O);
2. Equipment necessary to provide advanced airway management (Appendix K);
3. At least one battery-powered physiologic monitor; and
4. At least one battery-powered emergency suction machine.

Appendix P provides standards for multi-dose vials.

11.4 Pre-operative Patient Evaluation for Parenteral Moderate Sedation

Patients considered for moderate sedation **must** be suitably evaluated prior to the start of any sedative procedure. In healthy or medically stable individuals (e.g., ASA I, II) this should, at a minimum, consist of a review of the individual's current medical history, systems, and medication use. For patients with significant medical considerations (e.g., ASA III), the dentist should consult with the patient's primary care physician or consulting medical specialist as appropriate.



ASA IV patients or above are not considered eligible candidates for elective outpatient sedation procedures.

Each patient **must** have an appropriate physical evaluation, including:

1. Assessment of the airway for anatomic characteristics suggestive of potentially difficult airway management.
2. Obtaining baseline vital signs unless the patient's behaviour prohibits such determination.
3. Assessment of BMI:
 - For patients 13 years and older, BMI is calculated as $BMI = \text{weight (kg)} / [\text{height (m)}]^2$.
 - For patients 12 years of age and under, different BMI criteria apply (Appendix L).
 - For patients with BMI greater than 40, particular caution **must** be applied.
4. Assessment for obstructive sleep apnea:
 - Patients who are high risk for sleep apnea (Stop Bang greater than 3 – see Appendix G) **must** be approached with caution.
 - For pediatric patients, history of sleep apnea is a contraindication for sedation.

11.5 Pre-operative Requirements for Parenteral Moderate Sedation

11.5.1 Pre-operative preparation checklist

1. The patient, parent, escort, guardian or caregiver **must** be advised regarding the procedure associated with the delivery of any sedative agents, and informed consent for the proposed sedation **must** be obtained (Appendix H).
2. Pre-operative dietary restrictions **must** be considered based on the sedative technique prescribed (Appendix M).
3. Pre-operative verbal and written instructions **must** be given to the patient, parent, escort, guardian or caregiver (Appendix M).

Children MUST NEVER be sedated outside the dental office.

11.6 Intra- and Post-operative Requirements for Parenteral Moderate Sedation

11.6.1 Documentation requirements for parenteral moderate sedation

An appropriate time-oriented anaesthetic record (Appendix Q) **must** be maintained and **must** identify all drugs administered (including local anaesthetics), dosages used and the patient's monitored physiological parameters. Oxygen saturation, heart rate, respiratory rate and blood pressure **must** be recorded at least every 15 minutes or more often as clinically indicated.

11.6.2 Patient monitoring

The dentist **must** ensure that all sedated patients are continuously supervised and monitored by either the dentist or appropriately trained staff. Clinical observation **must** be supplemented



by physiological monitoring performed at clinically appropriate intervals. Throughout sedation administration and during the recovery period, such intervals **must not** exceed 15 minutes. Equipment alarm settings, and their audio component, **must** be utilized at all times.

Monitoring observations **must** include:

1. Oxygenation
 - Colour of mucosa and/or skin **must** be continually evaluated; and
 - Oxygen saturation **must** be monitored by pulse oximetry.
2. Ventilation
 - The dentist and/or appropriately trained staff member **must** continually confirm chest excursions; and
 - The dentist and/or appropriately trained staff member **must** continually monitor respirations and confirm an open airway. This can be accomplished by auscultation of breath sounds, monitoring end-tidal CO₂ or verbal communication with the patient.
3. Circulation
 - Heart rate **must** be continuously monitored via pulse oximetry;
 - Blood pressure **must** be continually monitored (at a minimum of 15-minute intervals or more often as clinically indicated); and
 - Patients with significant cardiovascular disease **must** be continuously monitored with ECG.
4. Consciousness
 - Level of consciousness (e.g., responsiveness to verbal commands, either alone or accompanied by light tactile stimulation) **must** be continually assessed.

11.6.3 Recovery and discharge

The dentist administering moderate sedation **must** remain in the operatory with the patient until either:

1. The patient recovers to a minimally sedated level and care is transferred to an operative assistant; or
2. The dentist has transferred the monitoring care to (1) an RN or (2) a hygienist/CDA with DAANCE, OMAAP or such other training approved by CDSBC.

Once a patient recovers to a minimally sedated level, a staff member may be directed by the dentist to remain with the patient and continuously monitor them.

The dentist **must** determine and document that the level of consciousness, oxygenation, ventilation and circulation are satisfactory prior to discharge.

Post-operative verbal and written instructions **must** be given to the patient, parent, escort, guardian or caregiver (Appendix J).

While a reversal agent should not be used routinely, if a reversal agent is administered before discharge criteria have been met, the patient MUST be monitored until recovery is assured. The duration of action of the reversal agent MUST be taken into account.



12. Emergency Management

If a patient enters a deeper level of sedation than the dentist is approved to provide, the dentist **MUST stop the dental procedure until the patient returns to the intended level of sedation.**

12.1 Professional Responsibilities

1. The dentist is responsible for the sedative management, adequacy of the facility and staff, and diagnosis and treatment of emergencies related to the administration of sedation.
2. The dentist is responsible for providing the equipment and protocols for patient rescue, including the assignment of specific responsibilities to sedation team members.
3. In the event of an emergency, there are specific role assignments and each person must be familiar with each role.
4. Each team member must have current knowledge of the emergency kit/cart inventory.
5. The dentist is responsible for ensuring the facility has, at a minimum, written plans for the following medical emergencies: syncope, asthma/bronchospasm, anaphylaxis, hypoglycemia, seizure, stroke, and cardiac arrest.

12.2 Recommendations and Requirements for Emergency Drills

1. Dentists and sedation team members who administer minimal sedation only, should participate in mock emergency drills at least every six months.
2. Dentists and sedation team members who administer moderate enteral or parenteral sedation **must** participate in mock emergency drills at least every three months.
3. Mock drills **must** include, but are not limited to, difficult airway management, anaphylaxis, laryngospasm, unresponsiveness, seizure and cardiac arrest.
4. An up-to-date record of emergency drills, including names of participants and scenarios covered, must be kept on the premises at all times and be available for inspection.
5. If the facility utilizes the services of a visiting dentist or physician to administer sedation, they must have documented, up-to-date participation in mock drills.

12.3 When a Resuscitation Record Is Required

A resuscitation record ("Appendix R") **must** be completed in any circumstance in which a patient requires resuscitation. This form should be kept with the manual defibrillator and/or AED so that it is immediately available if an emergency arises.

12.4 When a Critical Incident Report Must Be Filed

Cases resulting in the need for resuscitation, the need for transfer of a patient to a hospital, or death **must** be reported to CDSBC's Registrar within one business day of the event. This initial contact **must** be followed by the prompt submission of a critical incident report (Appendix S) to the Registrar's office. This report is essential, as it provides immediate, appropriate and accurate information for all concerned parties.



Appendices

- A. *Guidelines for Monitoring and Management of Pediatric Patients During and After Sedation for Diagnostic and Therapeutic Procedures*, American Academy of Pediatric Dentistry
- B. *Characteristics of the Levels of Sedation and General Anaesthesia*, CDSBC
- C. *Emergency Medications Required for Minimal Sedation*, CDSBC
- D. *Emergency Medications Required for Moderate Sedation*, CDSBC
- E. *Medical History Form*, CDSBC
- F. *Physical Status Classification System*, American Society of Anesthesiologists
- G. *Stop Bang Questionnaire*, American Sleep Apnea Organization
- H. *Consent for Dental Treatment with Minimal or Moderate Sedation*, CDSBC
- I. *Minimal Sedation Pre-Sedation Patient Instructions*, CDSBC
- J. *Post-Sedation Patient Instructions*, CDSBC
- K. *Minimal Requirements for Airway Management Equipment in Offices Providing Moderate Sedation (Enteral or Parenteral)*, CDSBC
- L. *BMI Criteria for Children, Pediatric Obesity Guideline*, College of Physicians and Surgeons of BC
- M. *Moderate Sedation Pre-Sedation Patient Instructions*, CDSBC
- N. *Recommended Discharge Criteria for Minimal and Moderate Sedation*, CDSBC
- O. *Intravenous Equipment and Supplies*, CDSBC
- P. *Single-use Devices and Multi-dose Vials Standards*, College of Physicians and Surgeons of BC
- Q. *Anaesthetic Record*, CDSBC
- R. *Resuscitation Record*, CDSBC
- S. *Critical Incident Report*, CDSBC



Appendix A

Guidelines for Monitoring and Management of Pediatric Patients During and After Sedation for Diagnostic and Therapeutic Procedures

American Academy of Pediatric Dentistry

This document can be found online at:

<http://pediatrics.aappublications.org/content/early/2016/06/24/peds.2016-1212>



Appendix B

Characteristics of the Levels of Sedation and General Anaesthesia

	Minimal Sedation	Moderate Sedation	Deep Sedation	General Anaesthesia
Consciousness	Maintained	Maintained	Unconscious	Unconscious
Responsiveness	To either verbal command or light tactile stimulation	May require either one or both verbal command and light tactile stimulation	Response to repeated or painful stimuli	Unarousable even to pain
Airway	Maintained	No intervention required	Intervention may be required	Intervention usually required
Protective Reflexes	Intact	Intact	Partial loss	Assume absent
Spontaneous Ventilation	Unaffected	Rarely compromised	May be impaired	May be impaired
Cardiovascular Function	Unaffected	Rarely compromised	May be impaired	May be impaired
Required Monitoring	Basic	Increased	Advanced	Advanced



Appendix C

Emergency Medications Required for Minimal Sedation

Drug	Amount on Hand
Oxygen	One (1) Full "E" Cylinder
Epinephrine or EpiPens	Two (2) amps of 1:1000 or 1 EpiPen
Nitroglycerin	One (1) spraypump
Diphenhydramine or Chlorpheniramine	One (1) vial of 50mg
Salbutamol Inhalation Aerosol	One (1) inhaler
ASA	One (1) small bottle
Flumazenil*	One (1) vial
Naloxone**	Two (2) amps
Supplemental glucose for oral use	One (1) source

Notes:

1. These are the minimum requirements for emergency medications. Practitioners may wish to have additional medications available.
2. The portable oxygen cylinder must be a dedicated emergency supply and have a regulator/flowmeter/wrench and administration supplies continuously connected.
3. Salbutamol is best administered with an Aerochamber/spacer.
4. Appropriate syringes/needles to draw/dilute/administer medications should be stored with the emergency medications.

*Flumazenil is only required if benzodiazepines are used.

**Naloxone is only required if opioids are used.



Appendix D

Emergency Medications Required for Moderate Sedation

Drug	Amount on Hand
Oxygen	One (1) Full "E" Cylinder
Epinephrine	Six (6) amps of 1:1000
Nitroglycerin	One (1) spraypump
Diphenhydramine or Chlorpheniramine	Two (2) vials of 50mg
Salbutamol Inhalation Aerosol	One (1) inhaler
ASA	One (1) small bottle
Flumazenil*	One (1) vial
Naloxone**	Two (2) amps
Atropine	Two (2) amps of 0.6mg
Hydrocortisone Succinate	Two (2) vials of 100mg
Supplemental glucose for oral use	Two (2) sources

Notes:

1. These are the minimum requirements for emergency medications. Practitioners may wish to have additional medications available.
2. The practitioner may wish to have additional vials of atropine and epinephrine on hand.
3. The portable oxygen cylinder must be a dedicated emergency supply and have a regulator/flowmeter/wrench and administration supplies continuously connected.
4. Salbutamol is best administered with an Aerochamber/spacer.
5. Appropriate syringes/needles to draw/dilute/administer medications should be stored with the emergency medications.

*Flumazenil is only required if benzodiazepines are used.

**Naloxone is only required if opioids are used.



Appendix E

Medical History Form

The following information is required to enable us to provide you with the best possible dental care. All information is strictly private, and is protected by doctor-patient confidentiality. The dentist will review the questions and explain anything that you do not understand. Please fill in the entire form.

PATIENT INFORMATION

Date	
Name	
Sex	Male / Female
Date of Birth (y/m/d)	
Home address	
Home phone	
Work phone	
Person to notify in case of emergency	
Relationship to you	
Phone	
If applicable, name of parent or legally authorized representative	
Family Doctor Name	
Phone or Address	
Medical Specialist Name (if applicable)	
Phone or Address	



Appendix E (cont'd)

Medical History Questionnaire

1. Have you ever had minimal or moderate sedation? Yes / No

If yes, when?

2. Any complications? Yes / No

3. Any history of familial sedation/anaesthetic complications? Yes / No

4. Are you being treated for any medical condition at the present or have been treated within the past year? Yes / No

If yes, please explain:

5. When was your last medical check-up? _____

6. Has there been any change in your general health in the past year? Yes / No

If yes, please explain.

7. Are you taking any medications, non-prescription drugs or herbal supplements of any kind? Yes / No

If yes, please list: _____

8. Do you have any allergies? Yes / No

If yes, please list using the categories below:

- a. medications
 - b. latex/rubber products
 - c. other (e.g., hayfever, foods)
-
-
-

9. Have you ever had a peculiar or adverse reaction to any medicines or injections? Yes / No

If you answered yes, please explain:

10. Do you have or have you ever had asthma? Yes / No

11. Do you have or have you ever had any heart or blood pressure problems? Yes / No



Appendix E (cont'd)

12. Do you have or have you ever had a replacement or repair of a heart valve, an infection of the heart (e.g. infective endocarditis), a heart condition from birth (e.g. congenital heart disease) or a heart transplant? Yes / No

If yes, please explain below:

13. Do you have a prosthetic or artificial joint? Yes / No

14. Do you have any conditions or therapies that could affect your immune system (e.g., leukemia, AIDS, HIV infection, radiotherapy, chemotherapy) Yes / No

If yes, please explain: _____

15. Have you ever had hepatitis, jaundice or liver disease? Yes / No

If yes, please explain:

16. Do you have a bleeding problem or bleeding disorder? Yes / No

If yes, please explain:

17. Have you ever been hospitalized for any illnesses or operations? Yes / No

If yes, please explain:

18. Do you have or have you ever had any of the following? Please check all that apply.

- | | |
|--|--|
| <input type="checkbox"/> arthritis | <input type="checkbox"/> pacemaker |
| <input type="checkbox"/> cancer | <input type="checkbox"/> rheumatic fever |
| <input type="checkbox"/> chest pain, angina | <input type="checkbox"/> seizures (epilepsy) |
| <input type="checkbox"/> drug/alcohol dependency | <input type="checkbox"/> steroid therapy |
| <input type="checkbox"/> heart attack | <input type="checkbox"/> shortness of breath |
| <input type="checkbox"/> kidney disease | <input type="checkbox"/> stroke |
| <input type="checkbox"/> lung disease | <input type="checkbox"/> stomach ulcers |
| <input type="checkbox"/> mitral valve prolapse | <input type="checkbox"/> thyroid disease |
| <input type="checkbox"/> osteoporosis medications (e.g., Fosamax, Actonel) | <input type="checkbox"/> tuberculosis |

19. Are there any conditions/diseases not listed above that you have or ever had? Yes / No

If yes, please explain:



Appendix E (cont'd)

20. Are there any diseases or medical problems that run in your family? (e.g., diabetes, cancer, or heart disease) Yes / No

If yes, please explain: _____

21. Do you smoke or chew tobacco products? Yes / No

22. Are you nervous during dental treatment? Yes / No

23. Have you received treatment for alcohol or drug use? Yes / No

24. Is there any problem or medical condition that you wish to discuss in private only? Yes / No

WOMEN ONLY:

Are you pregnant or suspect you might be? Yes / No

If yes, anticipated delivery date? _____

Are you breast feeding? Yes / No

Are you taking any birth control pills? Yes / No

If yes, which brand? _____

NOTE: IT IS IMPORTANT THAT ANY CHANGES IN YOUR HEALTH STATUS BE REPORTED TO OUR OFFICE.

I, the undersigned, certify that all of the medical and dental information provided is true to the best of my knowledge, and I have not knowingly omitted any information. I also consent to my physician being contacted if necessary to obtain information that is required for my dental care.

Signature _____ Date _____

Patient

Parent or Legally Authorized Representative

Reviewed by dentist _____ Date _____

Dentist's Notes:



Appendix F

Physical Status Classification System

American Society of Anesthesiologists

This document can be found online at:

<http://www.asahq.org/resources/clinical-information/asa-physical-status-classification-system>



Appendix G

Stop Bang Questionnaire

American Sleep Apnea Association

This document can be found online at:

<http://www.sleepapnea.org/assets/files/pdf/STOP-BANG%20Questionnaire.pdf>



Appendix H

Consent for Dental Treatment with Minimal or Moderate Sedation

PROCEDURE(S): _____

OPERATING DENTIST: _____

I, the undersigned, hereby consent to the procedure(s) and anaesthesia noted above. I acknowledge that the procedure(s), its implications and possible complications have been explained to me, along with the alternatives including not having any treatment. I understand that the procedures will require minimal or moderate sedation, and I consent to the administration of this by the above-named practitioner. I also understand that during the course of any treatment, unforeseen circumstances may arise that make it advisable for an additional or alternate procedure to be performed, and I also consent to such reasonable additional or alternate procedures being performed on me.

Signature _____ Date _____

- Patient
- Parent or Legally Authorized Representative

I acknowledge receiving a copy(ies) of the pre- and post-operative instructions which have been explained to me. I understand all the advice given to me by my dentist. After my discharge, I will notify my dentist if I experience any acute pain, heavy bleeding from the surgical site, respiratory problems, or any other post-operative problems.

Signature _____ Date _____

- Patient
- Parent or Legally Authorized Representative



Appendix I

Minimal Sedation Pre-Sedation Patient Instructions

For the safe treatment of the patient, the following pre-sedation instructions must be followed very carefully.

Food and Beverages

- You may have a light snack and drink fluids before your appointment
- Do not drink any alcohol prior to treatment

Medications

- Please take your usual medications

Clothing

- Wear loose casual clothing for your appointment (e.g., short sleeve t-shirt)

Smoking

- Refrain from smoking prior to treatment

Transportation

- A responsible adult with a vested interest in your safety must accompany you home in a car or taxi
- A taxi driver does not count as your escort

Change in health status

- If your general health deteriorates (e.g., cold, cough, fever) contact the dental office prior to the day of the appointment. If in doubt, please phone the office to report the change in your health status.

If you have any questions, please do not hesitate to ask them. It is important that you understand the circumstances surrounding this treatment.



Appendix J

Post-Sedation Patient Instructions

Following sedation, 24 hours may be required for the full effects of the drug to wear off. During this period, it is essential that you follow these instructions.

Discharge from office

- You must be discharged into the care of a responsible adult who can accompany you home
- Arrangements should be made to have a responsible adult remain with you for the remainder of the day

Transportation

- A responsible adult with a vested interest in your safety must accompany you home in a car or taxi
- A taxi driver does not count as your escort

Food and Beverages

- Clear liquids are advised initially and, after that, diet as tolerated
- Do not drink alcohol in any form for 24 hours

Medications

- Resume taking your normal medication after appointment

Activity Restrictions

- Do not operate motor vehicles, boats, power tools or machinery for 24 hours or longer if drowsiness or dizziness persists
- Do not operate an aircraft for at least 48 hours following minimal or moderate sedation
- Do not sign or enter into any legal contract for at least 24 hours

Problems

- If you experience any acute pain, heavy bleeding from the surgical site, respiratory problems, or another post-operative problem, please notify the dental office.



Appendix K

Minimal Requirements for Airway Management Equipment in Offices Providing Moderate Sedation (Enteral or Parenteral)

- Face masks (age-appropriate variety of sizes)
- Bag valve mask (e.g., Ambu bag) device (one for each sedation and recovery area)
- Oropharyngeal airways, nasopharyngeal airways or other supraglottic airways (variety of sizes)
- Yankauer-type suction tips (that can be connected to office suction system)
- Back-up battery powered suction device
- Stethoscope



Appendix L

BMI Criteria for Children, Pediatric Obesity Guideline

College of Physicians and Surgeons of BC

This document is available online at:

<https://www.cpsbc.ca/files/pdf/NHMSFP-Pediatric-Obesity-Guideline.pdf>



Appendix M

Moderate Sedation Pre-Sedation Patient Instructions

For the safe treatment of the patient, the following pre-sedation instructions must be followed very carefully.

Food and Beverages

- Nothing to eat or drink for 8 hours prior to dental procedure with the exception of water and clear fluids such as: fruit juices without pulp, clear tea, and black coffee, but NOT alcohol
- Stop drinking clear fluids two hours prior to dental procedure

Medications

- It is essential to discuss with your dentist whether or not you should take medication(s) you otherwise take on a regular basis

Clothing

- Wear loose casual clothing for your appointment (e.g., short sleeve t-shirt)

Smoking

- Refrain from smoking prior to treatment

Transportation

- A responsible adult with a vested interest in your safety must accompany you home in a car or taxi
- A taxi driver does not count as your escort

Change in health status

- If your general health deteriorates (e.g., cold, cough, fever, etc) contact the dental office prior to the day of the appointment. If in doubt, please phone the office to report the change in your health status.

If you have any questions, please do not hesitate to ask them. It is important that you understand the circumstances surrounding this treatment.



Appendix N

Recommended Discharge Criteria for Minimal and Moderate Sedation

1. Cardiovascular function and airway patency are satisfactory and stable
2. The patient is easy to arouse and protective reflexes are intact
3. The patient can talk (if age appropriate)
4. The patient can sit up unaided (if age appropriate)
5. The patient is ambulatory to base-line with assistance
6. For a very young or handicapped child incapable of the usually expected responses, the pre-sedation level of responsiveness or a level as close as possible to the normal level for that child should be achieved
7. The state of hydration is adequate
8. Nausea and vomiting are controlled



Appendix 0

Intravenous Equipment and Supplies

The office must maintain an adequate supply of intravenous equipment and supplies including:

- Assorted IV catheters to establish IV access (e.g., 24-, 22-, 20- gauge)
- Alcohol wipes
- Adhesive tape
- Assorted needles/syringes to draw up and/or dilute drugs (e.g., 1-, 3-, 5-, 10-ml)
- IV administration sets (minimum 2)
- IV fluid: Normal saline solution (2 x 500 cc bags) and Dextrose 5% (2 x 500 cc bags)
- Sterile gauze pads
- Tourniquets



Appendix P

Single-use Devices and Multi-use Vials Standards (Non-Hospital Medical and Surgical Facilities)

College of Physicians and Surgeons of BC

For multi-dose vials the CDC and drug monograph should be followed. Vials must be dated with first puncture and discarded after 28 days unless the manufacturer indicates a shorter time.

This document can be found online at:

<https://www.cpsbc.ca/files/pdf/NHMSFP-Single-Use-Devices.pdf>



Appendix R (cont'd)

Adult Resuscitation Record

Adult Resuscitation Record (page 2 of 2)

IV Solutions Site: _____ _____ _____ Solution: Amount: Total: _____ _____ _____	Time code terminate: _____ Hrs. Successful <input type="checkbox"/> Unsuccessful <input type="checkbox"/> Time pronounced: _____ Hrs.	Attending Dr. _____ Notified @ _____ Hrs. Next of Kin: _____ Notified @ _____ Hrs.
Code Team Signatures		
Dentist: _____		
Recorder: _____		
Nurse: _____		
Other: _____		



Appendix S

Critical Incident Report

CRITICAL INCIDENT REPORT FORM

The dentist shall notify the Registrar of the College of Dental Surgeons of BC within one working day after the discovery of any significant mishap, including:

- Deaths within 10 days of the procedure;
- Transfers from the facility to a hospital regardless of whether or not the patient was admitted; or
- Unexpected admission or presentation to hospital within 10 days of a procedure or anaesthetic performed in the facility.

Initial contact with the Registrar shall be made by phone within one working day and be followed up by a complete written report. The Registrar will review the circumstances and may consult with the dentist or other practitioners to determine the risk of harm to patients. If necessary, the Registrar, acting in consultation with the Sedation and General Anaesthetic Services Committee, may suspend the accreditation of any facility on a suspicion of continuing risk.

CDSBC Registrar Contact Information Phone: 604-736-3621 Fax: 604-734-9448

Registrar notified (M/D/Y) _____

Type of Incident

- Death within the facility or within 10 days of the procedure
- Transfers from the facility to a hospital* regardless of whether or not the patient was admitted
- Unexpected admission or presentation to hospital* within 10 days of a procedure or anaesthetic performed in the facility

*Hospital name _____

Person Completing this Report

_____ Role _____

Operating Dentist _____ Registration Number _____

Address _____

City/Province _____ Postal Code _____

Date of Surgery (M/D/Y) _____

Procedure performed _____

Practitioner Administering Sedation (if applicable)

_____ Phone _____

Address _____

City/Province _____ Postal Code _____



Appendix S (cont'd)

CRITICAL INCIDENT REPORT FORM

Name of Facility _____ Phone _____
Address _____
City/Province _____ Postal Code _____
Facility Owner(s) _____

Patient _____ Phone _____
Address _____
City/Province _____ Postal Code _____
Date of birth (M/D/Y) _____ Gender female male

Brief summary of incident

Present patient status

Additional details of note

Required documentation

Please confirm that the following required documentation is being provided to the College:

- A narrative summary by the dentist most involved with the case, describing the incident, risk factors, outcome, and how it might be prevented in the future
- A copy of the patient's full clinical record from this facility

If you have any questions about the collection and use of this information, please contact CDSBC at 500-1765 West 8th Ave, Vancouver, BC V6J 5C6 or by phone at 604-736-3621.

Completed forms may be emailed to registrarsoffice@cdsbc.org or mailed to the address above.

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Originating Committee

- Sedation and General Anaesthetic Services Committee

Revised

- June 2016



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