New Brunswick Dental Society
Société Dentaire du Nouveau-Brunswick

New Brunswick Sedation Guidelines

Use of Sedation and General Anesthesia in the Dental Practice

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2018 (Adopted by NB Dental Society Board October 2017 and to be reviewed every three years hence)

This document was produced by the New Brunswick Dental Society's Peer Review Committee. The Committee wishes to thank the Royal College of Dental Surgeons of Ontario for the building blocks behind the guidelines. The New Brunswick Dental Society is also extremely grateful for the hard work of the members of the Peer Review Committee and for their dedication in ensuring patient safety in New Brunswick dental offices.

Preamble

This document provides guidance on the use of conscious, unconscious, deep sedation and general anesthesia by dental practices in New Brunswick. Since contravention of the guidelines may be considered professional misconduct, dentists employing any modality of drug-induced sedation or general anesthesia must be familiar with its content, be appropriately trained, and regulate their practices accordingly. It must be read in conjunction with the by-laws and rules of the New Brunswick Dental Society which form part of these guidelines.

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ACRONYMS

ACLS Advanced Cardiac Life Support
ASA American Society of Anaesthesiology
BLS Basic Life Support
CPR Cardiac Pulmonary Resuscitation
HCP Health Care Provider
MHAUS Malignant Hyperthermia Association of the United States
NBDS New Brunswick Dental Society
NP Nil Per Os (nothing by mouth)
PALS Pediatric Advanced Life Support

INTRODUCTION

The following are the **minimum** standards for the use of sedation and/or general anesthesia in dentistry. For the purposes of this document, these standards are divided into the following sections:

- General standards for all modalities of sedation or general anesthesia
- Specific standards for the following particular modalities:
  - Administration of nitrous oxide and oxygen;
  - Oral administration of a single sedative drug;
  - Oral administration of a single sedative drug with nitrous oxide and oxygen;
  - Oral administration of multiple sedative drugs, with or without nitrous oxide and oxygen ;
  - Parenteral administration of sedative drugs (intravenous, intramuscular, subcutaneous, submucosal or intranasal);
  - Deep sedation;
  - General anesthesia.

GENERAL STANDARDS FOR ALL MODALITIES OF SEDATION OR GENERAL ANESTHESIA

Sedation or general anesthesia may be indicated to:

- treat patient anxiety associated with dental treatment;
- enable treatment for patients who have cognitive impairment or motor dysfunction which prevents adequate dental treatment;
- treat patients below the age of reason; or
- for traumatic or extensive dental procedures.

These techniques are to be used only when indicated, as an adjunct to appropriate non-pharmacological means of patient management.

PROFESSIONAL RESPONSIBILITIES

The following professional responsibilities apply to all modalities of sedation or general anesthesia.

1. Successful completion of a training program designed to produce competency in the specific modality of sedation or general anesthesia utilized is **mandatory**.

2. The dental facility must comply with all applicable building codes, including fire safety, electrical and access requirements. The size and layout of the facility must be adequate for all procedures to be performed safely and provide for the safe evacuation of patients and staff in case of an emergency.

3. The dental facility must be suitably staffed and equipped for the specific modality (ies) practiced as prescribed in this document.

4. An adequate, clearly-recorded current medical history, including present and past illnesses, hospital admissions, current medications and/or non-prescription drugs and/or herbal supplements, as well as dose, allergies (in particular to drugs), and a functional inquiry, along with an appropriate physical examination must be completed for each patient prior to the administration of any form of sedation or general anesthesia. For medically-compromised patients, consultation with their physician may be indicated. This must form a permanent part of each patient's record, consistent in content with **Appendix I**. Additionally, the medical history must be reviewed for any changes at each sedation appointment. Such a review must be documented in the permanent record.

5. A determination of the patient's American Society of Anesthesiologists (ASA) Physical Status Classification (see **Appendix II**), as well as careful evaluation of any other factors which may affect his / her suitability for sedation or general anesthesia must be made prior to its administration. These findings will be used as a guide in determining the appropriate facility and technique used.

6. Patients who are ASA IV and above are generally not acceptable for the administration of deep sedation or general anesthesia in out-of-hospital dental facilities. The administration of nitrous oxide and oxygen may be considered for these patients.

   Other modalities for minimal and moderate sedation may be considered **only** by those practitioners who are qualified to administer deep sedation or general anesthesia.

7. Only the following persons may administer any sedative or general anesthetic agent in the dental setting:

   - A dentist currently registered with the New Brunswick Dental Society (NBDS);
   - A physician currently registered with the College of Physicians and Surgeons of New Brunswick;
   - A Registered Nurse currently licensed with the Nurses Association of New Brunswick acting under the required order and the direct control and supervision of a dentist or a physician, currently registered in New Brunswick;
   - A respiratory therapist currently registered with the New Brunswick Association of Respiratory Therapists acting under the required order and the direct control and supervision of a dentist or a physician, currently registered in New Brunswick.

8. All dentists and dental office staff must be prepared to recognize and treat adverse responses using appropriate emergency equipment and appropriate and current drugs when necessary. All dentists and clinical staff must have the training and ability to perform basic life support (BLS) techniques. It is strongly recommended that all dentists maintain CPR Level C with AED for Healthcare Providers.

   All dentists providing sedation and/or general anesthesia must maintain CPR Level C with AED for Healthcare Providers as a minimum. Dentists should establish written protocols for emergency procedures and review them regularly with their staff.

   The following table outlines the six basic drugs that should be included in the emergency kit of every dental office. All dental offices providing sedation and/or general anesthesia are required to have additional emergency drugs and armamentaria, as described in the sections dealing with specific modalities.

DRUG	INDICATION	INITIAL ADULT DOSE	RECOMMENDED CHILD DOSE
Oxygen	Most medical emergencies	100% inhalation	
Epinephrine	Anaphylaxis Asthmatic bronchospasm which is unresponsive to salbutamol Cardiac arrest	0.3 – 0.5 mg i.m., * or 0.01– 0.1 mg i.v. 1 mg i.v	0.01 mg/kg
Nitroglycerin	Angina pectoris	0.3 or 0.4 mg Sublingual	No pediatric dose
Diphenhydramine or Chlorpheniramine	Allergic reactions	50 mg i.m. * or i.v. 10 mg i.m. * or i.v.	1 mg/kg
Salbutamol or inhalation aerosol	Asthmatic Bronchospasm	2 puffs (100 micrograms/ puff)	1 puff
Glucose	Hypoglycemia	15 – 20 g (oral)	15 g
ASA	Acute Myocardial Infarction	160 or 325 mg	Not indicated

*The dose suggested for the i.m. route is also appropriate for sublingual injections.
Total pediatric dose should not exceed the adult dose.

9. Dentists must take into account the maximum dose of local anesthetic that may be safely administered, especially for children, the elderly and the medically compromised. Whenever sedation or general anesthesia is used, the calculated maximum dose of local anesthetic may need to be further adjusted to provide a greater margin of safety.

10. Dentists using any of the sedation and/or general anesthesia techniques described in this document for their patients, including oral sedation and/or nitrous oxide and oxygen conscious sedation, are expected to include courses and/or other educational programs related to these modalities in their personal continuing dental education planning.

11. In order to avoid allegations of sexual impropriety, additional appropriate staff should be present in the treatment room at all times whenever sedation or general anesthesia is used. Dentists using sedative and/or general anesthetic agents should take reasonable precautions to prevent the unauthorized use of these substances for recreational purposes by office staff and other individuals with access to the office and equipment. Preventive strategies include the following:

    - Institute an inventory of all narcotic and controlled Drugs and substances.
    - Keep Drugs in a locked storage cupboard, along with a Drug log that accounts for the Dispensing of all narcotic and controlled Drugs and substances.
    - Keep careful control of blank prescription pads and **NEVER** pre-sign prescription sheets.
    - Use staff training sessions and meetings to discuss the dangers of Drug and substance abuse, to remind staff of the safeguards and protocols in the office to prevent misuse of supplies, and to provide information about resources that are available to dental professionals to assist with wellness issues.

SPECIFIC STANDARDS FOR PARTICULAR MODALITIES PART I – CONSCIOUS SEDATION

DEFINITION

Conscious sedation is a minimally- to moderately-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 command.

It is produced by a pharmacological or non-pharmacological method or a combination thereof. In dentistry, it is used to reinforce positive suggestion and reassurance in a way which allows dental treatment to be performed with minimal physiological and psychological stress, and enhanced physical comfort.

It must be emphasized that sedation and general anesthesia are produced along a continuum, ranging from the relief of anxiety with little or no associated drowsiness (i.e. anxiolysis), up to and including a state of unconsciousness (i.e. general anesthesia). 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 conscious sedation and the starting points of deep sedation and general anesthesia. Therefore, the drugs and techniques used for conscious sedation must carry a margin of safety wide enough to render loss of consciousness highly unlikely.

Conscious sedation may be further divided into **Minimal sedation** and **Moderate sedation**, as defined by the American Dental Association (see **Appendix III** - Characteristics of the Levels of Sedation and General Anesthesia).

With **minimal sedation**, the patient responds normally to tactile stimulation and verbal commands. Although cognitive function and coordination may be modestly impaired, ventilator and cardiovascular functions are unaffected. Minimal sedation is usually accomplished by the following modalities:

1. administration of nitrous oxide and oxygen;
2. oral administration of a single sedative drug;
3. oral administration of a single sedative drug with nitrous oxide and oxygen.

With **moderate sedation**, the patient responds 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. Moderate sedation is usually accomplished by the following modalities:

1. oral administration of multiple sedative drugs, with or without nitrous oxide and oxygen;
2. parenteral administration of a sedative drug(s) (intravenous, intramuscular, subcutaneous, submucosal or intranasal).

Practitioners intending to produce a given level of sedation should be able to diagnose and manage the physiological consequences (rescue) for patients whose level of sedation becomes deeper than initially intended. 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 (e.g. emergency medical service) or the patient returns to the intended level of sedation without airway or cardiovascular complications.

PROFESSIONAL RESPONSIBILITIES FOR ALL MODALITIES OF CONSCIOUS SEDATION

In addition to the guidelines listed previously, the following professional responsibilities apply to all modalities of conscious sedation:

1. Successful completion of a training program designed to produce competency in the use of the specific modality of conscious sedation, including indications, contraindications, patient evaluation, patient selection, pharmacology of relevant drugs, and management of potential adverse reactions, is mandatory. The training program must be obtained from one or more of the following sources:

    - Canadian Faculties of Dentistry undergraduate and postgraduate programs;
    - Other accredited continuing education courses which follow the general principle that they shall be:

        - Organized and taught by dentists certified to administer anesthesia; and sedation as they apply to dentistry, supplemented as necessary by persons experienced in the technique being taught;
        - Held in a properly-equipped dental environment which will permit the candidates to utilize the techniques being taught on patients during dental treatment;
        - Followed by a recorded assessment of the competence of the candidates.

2. Dentists whose training does not exceed that described as necessary for the administration of conscious sedation are cautioned not to exceed that level of depression defined above. Single drug choice in a carefully-considered dose is a prudent approach to conscious sedation. Additional training, as outlined elsewhere in this document, is required if more than one drug is to be used.

3. Should the administration of any drug produce depression beyond that of conscious sedation, the dental procedures should be halted. Appropriate support procedures must be administered until the level of depression is no longer beyond that of conscious sedation, or until additional emergency assistance is provided. A reportable incident form is to be filed with the Registrar of the NBDS.

4. Conscious sedation techniques require the patient to be discharged to the care of a responsible adult. The only situation in which a dentist may exercise discretion as to whether a patient may be discharged unaccompanied is that in which nitrous oxide and oxygen sedation alone is the technique used. All patients must be specifically assessed for fitness for discharge as described elsewhere in this document.

MINIMAL SEDATION

Minimal sedation is produced through the following:

- administration of nitrous oxide and oxygen
- oral administration of a single sedative drug
- oral administration of a single sedative drug with nitrous oxide and oxygen

In all cases where the intention is to achieve moderate sedation using any modality of conscious sedation, including the oral administration of a single sedative drug, with or without nitrous oxide and oxygen, the dentist must adhere to the standards for moderate sedation. This includes the professional responsibilities of registering with NBDS and obtaining a facility permit.

A. ADMINISTRATION OF NITROUS OXIDE AND OXYGEN

In addition to the Guidelines and professional responsibilities listed at the beginning of this document, the following professional responsibilities apply when nitrous oxide and oxygen sedation is being administered:

1. Gas delivery systems used for the administration of nitrous oxide and oxygen:

    I. Must have a fail-safe mechanism such that it will not deliver an oxygen concentration of less than 30% in the delivered gas mixture.
    II. Must have pipeline inlet fittings, or pin-indexing, that do not permit interchange of connections with oxygen and nitrous oxide.
    III. Must be checked regularly for functional integrity by appropriately trained personnel; must function reliably and accurately; and receive appropriate care and maintenance according to manufacturer's instructions or annually, whichever is more frequent. A written record of this annual maintenance/ servicing must be kept on file for review by NBDS as required.
    IV. Must be equipped with a common gas outlet compatible with 15mm male and 22mm female conical connectors.
    V. Must have readily available a reserve supply of oxygen ready for immediate use. This should be a portable "E" size cylinder attached with appropriate regulatory and flowmeter, as well as connectors, tubing and reservoir bag which allow use of a full face mask for resuscitative ventilation with 100% oxygen.
    VI. Must be equipped with a scavenging system installed per manufacturer's specifications.
    VII. Nitrous oxide and oxygen sedation must be administered by:

        a) an appropriately trained dentist OR
        b) an appropriately trained registered nurse or registered respiratory therapist, under the order of an appropriately trained dentist, provided that: an appropriately-trained dentist is present at all times in the office suite and immediately available in the event of an emergency; nitrous oxide and oxygen sedation has been previously administered for the patient by the dentist; appropriate dosage levels have been previously determined and recorded by the dentist in the patient record.

VIII. Patients receiving nitrous oxide and oxygen sedation must be supervised by an appropriately trained dentist, or an appropriately trained registered nurse or registered respiratory therapist, and must never be left unattended during administration.

IX. Patients should be monitored by an appropriately trained dentist, or an appropriately trained registered nurse or registered respiratory therapist under the order of a dentist, by direct and continuous clinical observation for level of consciousness and assessment of vital signs which may include heart rate, blood pressure, and respiration preoperatively, intraoperatively and post-operatively, as necessary.

X. Recovery status post-operatively must be specifically assessed and recorded by the dentist, who must remain in the facility until that patient is fit for discharge. Only fully recovered patients can be considered for discharge unaccompanied. If discharge occurs with any residual symptoms, the patient must be accompanied by a responsible adult.

B. ORAL ADMINISTRATION OF A SINGLE SEDATIVE DRUG

The guidelines and professional responsibilities listed previously apply to this route of administration, when used to induce minimal sedation. For the purposes of this document, these also apply to the sublingual route of administration.

ADDITIONAL PROFESSIONAL RESPONSIBILITIES

1. A dose of an oral sedative used to induce minimal or moderate sedation should be administered to the patient in the dental office, taking into account the time required for drug absorption.

2. Patients must be monitored by clinical observation of the level of consciousness and assessment of vital signs which may include heart rate, blood pressure, and respiration.

3. Patients may be discharged to the care of a responsible adult when they are oriented (i.e. to time, place and person relative to the pre-anesthetic condition), ambulatory, with stable vital signs, and showing signs of increasing alertness.

4. The patient must be instructed to not drive a vehicle, operate hazardous machinery or consume alcohol for a minimum of 18 hours, or longer if drowsiness, or dizziness persists.

➔ 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. Continuous monitoring with pulse oximetry is strongly recommended for these patients.

NOTE: There are two possible exceptions to the recommendation that the oral sedative be administered in the dental office. One indication is if the practitioner has determined that the patient requires an oral sedative to facilitate sleep the night prior to the dental procedure. The second indication is when the patient's anxiety is such that sedation is required to permit arrival to the dental office. In addition to the requirements in paragraph 1 above, the following additional requirements apply in these two situations:

- Each patient must be screened by the dentist at a prior appointment, with an appropriate medical history, as described in this document.
- Only one sedative drug should be prescribed at any one time, preferably a benzodiazepine or an antihistamine.
- The patient must be instructed not to drive a vehicle and must be accompanied to and from the dental office.

In each case, clear written instructions must be given to the patient or guardian explaining how to take the medication, the need for accompaniment and listing the expected effects from this drug.

C. ORAL ADMINISTRATION OF A SINGLE SEDATIVE DRUG WITH NITROUS OXIDE AND OXYGEN

ADDITIONAL PROFESSIONAL RESPONSIBILITIES

Oral administration of a single sedative drug with nitrous oxide and oxygen should not be used unless the dentist has had the following additional training:

- dentists who qualify for the administration of deep sedation and general anesthesia, as outlined in Part II of this document;
- dentists who qualify for the administration of moderate sedation, as outlined later in this document;
- dentists with training that has specifically incorporated the teaching of this technique, and has evaluated and attested to the competency of the candidate.

If an oral sedative has been administered, nitrous oxide and oxygen must be slowly titrated to achieve the signs and symptoms of minimal sedation, with vigilant assessment of the level of consciousness.

SEDATION PROTOCOL

1. Clinical observation must be supplemented by the following means of monitoring throughout the sedation administration:

   - continuous pulse oximeter monitoring of oxyhemoglobin saturation;
   - blood pressure and pulse must be taken and recorded preoperatively, and monitored throughout the sedation period as indicated; respiration.

2. Alarm settings and their audio component on monitoring equipment must be used at all times.

3. The patient may be discharged once he/she shows signs of progressively increasing alertness and has met the following criteria:

   - conscious and oriented;
   - vital signs are stable;
   - ambulatory.

4. The patient must be discharged to the care of a responsible adult.

5. Written post-sedation instructions must be given. The patient must be instructed to not drive a vehicle, operate hazardous machinery or consume alcohol for a minimum of 18 hours, or longer if drowsiness, or dizziness persists.

In cases where the Dentist has determined that the use of a blood pressure cuff and/or pulse oximeter would be an impediment to the management of an individual patient, and the patient is clearly conscious throughout the procedure, a decision may be made not to use these monitors. In these isolated cases, a notation explaining the reason for not using these monitors must be recorded in the chart. Furthermore, these monitors (pulse oximeter, stethoscope and sphygmomanometer) must be present in the office and readily available for use.

SEDATION EQUIPMENT

Emergency equipment and drugs must be available at all times. Drugs must be current and stored in readily identifiable and organized fashion (i.e. labelled trays or bags). All automated monitors must receive regular service and maintenance by qualified personnel according to the manufacturer's specifications, or annually, whichever is more frequent. A written record of this annual maintenance/ servicing must be kept on file for review by NBDS as required.

It is the dentist's responsibility to ensure that the dental office in which sedation is being performed is equipped with the following:

- full face masks of appropriate sizes and connectors;
- pulse oximeter;
- stethoscope and sphygmomanometers of appropriate sizes.

Current drugs and equipment for management of emergencies, including:

- AAED (automatic external defibrillator);
- Oxygen tank with mask (an E-size cylinder is required);
- Blood pressure cuff with gauge;
- Benadryl tablets (pediatric, adult and 50 mg pills/injectable);
- Soluble baby aspirin (4 x 81 milligrams);
- Glucose tablets or gels (or orange juice);
- Epinephrine in 1 mg ampules and syringes or prepared injectable product (i.e., Epipen) for adults and children;
- Nitroglycerine spray;
- Salbutamol spray (Ventolin);
- Parenteral diphenhydramine;
- Flumazenil (if a benzodiazepine is administered);
- Naloxone (if an opioid is administered).

Emergency Training for these modalities will require dentist and staff to be trained in CPR Level HCP.

There is a professional responsibility to register with NBDS.

There is a professional responsibility to report all incidents to the Registrar.

MODERATE SEDATION

It is assumed that this will be accomplished by either: oral administration of multiple sedative drugs, with or without nitrous oxide and oxygen; which requires CPR HCP emergency training. Parenteral administration of a sedative drug(s) (intravenous, intramuscular, subcutaneous, submucosal or intranasal); which requires ACLS emergency training. When an IV is used then the training required is ACLS.

However, in all cases where the intention is to achieve moderate sedation using any modality of conscious sedation, including the oral administration of a single sedative drug, with or without nitrous oxide and oxygen, the dentist must adhere to the standards for moderate sedation. This includes the professional responsibilities of registering with NBDS and obtaining a facility permit.

A. ORAL ADMINISTRATION OF MULTIPLE SEDATIVE DRUGS, WITH OR WITHOUT NITROUS OXIDE AND OXYGEN

In addition to the General Standards, this section outlines standards specific to any conscious sedation technique utilizing the oral administration of multiple sedative drugs, with or without nitrous oxide and oxygen.

ADDITIONAL PROFESSIONAL RESPONSIBILITIES

1. All dentists utilizing the oral administration of multiple sedative drugs, with or without nitrous oxide and oxygen, must be registered with NBDS to do so.

2. All facilities utilizing the oral administration of multiple sedative drugs, with or without nitrous oxide and oxygen, must have a permit from NBDS. Such permit will be granted subject to training and conformance with all aspects of the Standard, as confirmed by Statutory Declaration, and when appropriate, subject to ongoing satisfactory on-site inspections and evaluation by NBDS.

3. The following training is required:

    - dentists who qualify for the administration of deep sedation and general anesthesia, as outlined in Part II of this document;
    - dentists who qualify for the administration of parenteral conscious sedation, as outlined later in this document;
    - dentists with formal training in a post-doctoral specialty program that has specifically incorporated the techniques utilizing more than one sedative agent, as well as appropriate airway management, and has evaluated and attested to the competency of the candidate;
    - dentists with continuing education training that has specifically incorporated the teaching of techniques utilizing any modality to produce moderate sedation, as well as appropriate airway management, and has evaluated and attested to the competency of the candidate).

If one or more oral sedatives have been administered and nitrous oxide/oxygen is used, it must be slowly titrated to achieve the signs and symptoms of conscious sedation, with vigilant assessment of the level of consciousness.

The administration of a single dose of an oral sedative is a prudent approach to either minimal or moderate conscious sedation..

The administration of multiple doses of an oral sedative until a desired effect is reached (i.e. "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 of action 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.

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

Dentists who use the services of a visiting Dentist, share the responsibility of complying with the standard. However, the ultimate responsibility rests with the permit holder to ensure that:

- the visiting Dentist is registered with NBDS to administer oral moderate sedation;
- the visiting Dentist has no term, condition or limitation on his or her certificate of registration relevant to the administration of sedation or general anesthesia; and
- all required emergency and other equipment is available and emergency Drugs are on-site and current with the exception of oxygen, either the permit holder or the visiting Dentist must provide all required emergency equipment and Drugs. The shared provision of emergency equipment and Drugs is not allowed.

OFFICE PROTOCOL AND FACILITIES

The facility must permit adequate access for emergency stretchers and have auxiliary-powered backup for suction, lighting and monitors for use in the event of a power or system failure.

1. Patient Selection: An adequate, clearly recorded current medical history, including present and past illnesses, hospital admissions, current medications and dose, allergies (in particular to drugs), and a functional inquiry, along with an appropriate physical examination must be completed for each patient and must form a permanent part of each patient's record. For medically compromised patients, consultation with their physician may be indicated. This assessment should be consistent in content with **Appendix I**.

The patient's ASA Classification (see **Appendix II**) and risk assessment must then be determined. These findings will be used to determine the appropriate facility and technique used.

SEDATION PROTOCOL

1. The medical history must be reviewed for any changes at each sedation appointment. Such a review must be documented in the permanent record.

2. The patient must have complied with the minimum duration of fasting prior to appointments that is consistent with the following minimum requirements:

    - 8 hours after a meal that includes meat, fried or fatty foods;
    - 6 hours after a light meal (such as toast and a clear fluid), or after ingestion of infant formula or nonhuman milk
    - 4 hours after ingestion of breast milk; and
    - 2 hours after clear fluids (such as water, fruit juices without pulp, carbonated beverages, clear tea, and black coffee, but NOT alcohol).

Possible exceptions to this are usual medications or preoperative medications which may be taken as deemed necessary by the dentist.

To avoid confusion, some Dentists may wish to simplify their preoperative instructions to patients regarding fasting requirements. For example, patients might be instructed not to have any solid food for a minimum of eight hours, and not to have any fluids for a minimum of two hours, prior to the appointment. Such instructions would be consistent with the minimum fasting requirements.

3. Clinical observation must be supplemented by the following means of monitoring throughout the sedation administration:

    - continuous pulse oximeter monitoring of oxyhemoglobin saturation, recorded at a minimum of 15-minute intervals;
    - blood pressure and pulse must be taken and recorded preoperatively and throughout the sedation period at appropriate intervals, not greater than every 15 minutes;
    - respiration.

4. A sedation record must be kept which includes the recording of vital signs as listed above.

5. Alarm settings and their audio component on monitoring equipment must be used at all times.

6. The patient may be discharged once he/she shows signs of progressively increasing alertness and has met the following criteria:

    - conscious and oriented;
    - vital signs are stable;
    - ambulatory.

7. The patient must be discharged to the care of a responsible adult.

8. Written post-sedation instructions must be given and explained to both the patient and accompanying adult. The patient must be instructed to not drive a vehicle, operate hazardous machinery or consume alcohol for a minimum of 18 hours, or longer if drowsiness or dizziness persists.

9. If a reversal agent is administered before discharge criteria have been met, the patient must be monitored beyond the expected duration of action of the reversal agent to guard against re-sedation.

In cases where the Dentist has determined that the use of a blood pressure cuff and/or pulse oximeter would be an impediment to the management of an individual patient, and the patient is clearly conscious throughout the procedure, a decision may be made not to use these monitors. In these isolated cases, a notation explaining the reason for not using these monitors must be recorded in the chart. Furthermore, these monitors (pulse oximeter, stethoscope and sphygmomanometer) must be present in the office and readily available for use.

SEDATION EQUIPMENT

Emergency equipment and drugs must be available at all times. Drugs must be current and stored in readily identifiable and organized fashion (i.e. labelled trays or bags). All automated monitors must receive regular service and maintenance by qualified personnel according to the manufacturer's specifications, or annually, whichever is more frequent. A written record of this annual maintenance/servicing must be kept on file for review by NBDS as required.

It is the dentist's responsibility to ensure that the dental office in which sedation is being performed is equipped with the following:

- full face masks of appropriate sizes and connectors;
- pulse oximeter;
- stethoscope and sphygmomanometers of appropriate sizes;
- portable auxiliary systems for light suction and oxygen;
- portable apparatus for intermittent positive pressure resuscitation.

Current drugs and equipment for management of emergencies, including:

- AED (automatic external defibrillator);
- Oxygen tank with mask (an E-size cylinder is required);
- Blood pressure cuff with gauge;
- Benadryl tablets (pediatric, adult and 50 mg pills/injectable);
- Soluble baby aspirin (4 x 81 milligrams);
- Glucose tablets or gels (or orange juice);
- Epinephrine in 1 mg ampules and syringes or prepared injectable product (i.e., Epipen) for adults and children;
- Nitroglycerine spray;
- Salbutamol spray (Ventolin);
- Parenteral diphenhydramine;
- Flumazenil (if a benzodiazepine is administered);
- Naloxone (if an opioid is administered).

PARENTERAL CONSCIOUS SEDATION

Parenteral conscious sedation may be accomplished using any one of the following routes of administration: intravenous, intramuscular, subcutaneous, submucosal or intra-nasal. For the purposes of this document, these standards also apply when the rectal route of administration is utilized.

In addition to the General Standards, this section outlines standards specific to any conscious sedation technique utilizing parenteral conscious sedation.

ADDITIONAL PROFESSIONAL RESPONSIBILITIES

1. All dentists administering parenteral conscious sedation must be registered with NBDS to do so.

2. All facilities where parenteral conscious sedation is administered must have a permit from NBDS.

   Such permit will be granted subject to training and conformance with all aspects of the Standard, as confirmed by Statutory Declaration, and when appropriate, subject to ongoing satisfactory on-site inspections and evaluation by NBDS.

3. The following training is required:

   - Dentists who qualify for the administration of deep sedation and general anesthesia, as outlined in Part II of this document.
   - If not qualified for the administration of deep sedation or general anesthesia, then the following training is required:
   - Successful completion of a course of instruction in parenteral conscious sedation that is held where adequate facilities are available for proper patient care, including drugs and equipment for the handling of emergencies and for which a Facility Permit has been issued by NBDS and meeting the didactic and clinical requirements outlined below.
   - A certificate or other evidence of satisfactory completion of the course and a description of the program signed by the course director must be submitted to NBDS for consideration. Completion of such a course will be entered onto the dentist's record.

Didactic requirement: The training shall include a minimum of 40 hours of lecture and seminar time presented by dental anesthesiologists, dentists/dental specialists formally trained at the post-doctoral level in anesthesia and sedation as they apply to dentistry or physicians formally trained in anesthesia. Dentists in a hospital internship or general practice residency program, recognized by NBDS, may be given credit for one-half of this didactic requirement, provided that documentation of formal training is obtained from the program director.

Clinical Requirement: The training shall include supervised application of parenteral conscious sedation concurrent with dental treatment, performed on a minimum of 20 patients. Active participation in the above is required. Observation alone is not sufficient.

Documented experience of :

- The equivalent of a 4-week rotation in the anesthesia department of a teaching hospital, with active participation in the administration of general anesthesia, including venipuncture, airway

maintenance and endotracheal intubation, must also be included in the training; OR
- Evidence of successful completion of a provider course in Advanced Cardiac Life Support (ACLS) or, for those providing care for patients under the age of 12 years, training in Pediatric Advanced Life Support (PALS); OR
- Evidence of successful completion of an appropriate course in airway management.

4. Parenteral administration of a single sedative drug is a prudent approach to moderate conscious sedation. Intravenous titration of a benzodiazepine alone may be used by those with the training specified immediately above. Only those dentists with additional formal training as outlined below may use more than a single agent. Otherwise no additional drugs with sedative properties (e.g. opioids, antihistamines) should be administered by any route. Non-sedative agents may be administered as deemed appropriate. Other than the single parenteral sedative, additional sedative agents should not be used by any route of administration unless the dentist qualifies for the administration of deep sedation or general anesthesia, as outlined in Part II of this document.

5. Dentists administering parenteral general anesthetic drugs, such as short-acting barbiturates, ketamine or propofol, must qualify for and comply within the standards listed in Part II, Deep Sedation and General Anesthesia.

6. Preoperative instructions must be given in writing to the patient or responsible adult. Patients should be given instructions regarding the minimum duration of fasting prior to appointments that is consistent with the following minimum requirements:

    - 8 hours after a meal that includes meat, fried or fatty foods;
    - 6 hours after a light meal (such as toast and a clear fluid), or after ingestion of infant formula or nonhuman milk;
    - 4 hours after ingestion of breast milk; and
    - 2 hours after clear fluids (such as water, fruit juices without pulp, carbonated beverages, clear tea, and black coffee, but NOT alcohol).

Possible exceptions to this are usual medications or preoperative medications which may be taken as deemed necessary by the dentist.

To avoid confusion, some Dentists may wish to simplify their preoperative instructions to patients regarding fasting requirements. For example, patients might be instructed not to have any solid food for a minimum of eight hours, and not to have any fluids for a minimum of two hours, prior to the appointment. Such instructions would be consistent with the minimum fasting requirements.

7. Consent must be obtained prior to the administration of any parenteral sedative.

8. The patient must never be left unattended following administration of the sedative until fit for discharge.

9. Anesthetic and monitoring equipment must conform to current appropriate standards for functional safety.

10. A dentist qualified for this sedative technique and responsible for the patient must not leave the facility until that patient is fit for discharge.

THE SEDATION TEAM

Parenteral conscious sedation for ambulatory dental patients must be administered through the combined efforts of the sedation team. The use of a sedation team allows the qualified dentist to provide parenteral conscious sedation services simultaneously with dental procedures. The sedation team shall consist of the following individuals:

The **dentist**, who is directly responsible for the sedation, the sedation team, and the dental procedures. The Dentist must maintain current ACLS certification or PALS certification for a pediatric practice.

The **sedation assistant***, who must be a nurse currently registered with the Nurses Association of New Brunswick, a respiratory therapist currently registered with the New Brunswick Association of Respiratory Therapists, or a dentist or physician currently registered in New Brunswick. In addition, the sedation assistant must maintain have CPR Level HCP.

It is the responsibility of the dentist that the sedation assistant is adequately trained to perform their duties. The dentist must ensure this assistant has or develops the skills necessary for his/her responsibilities as described elsewhere in this document. His/her primary function is to provide assistance under the direction of the dentist by:

- assessing and maintaining a patent airway;
- monitoring vital signs;
- recording appropriate records;
- venipuncture;
- administering medications as required;
- assisting in emergency procedures.

The **operative assistant**, whose primary function is to keep the operative field free of blood, mucous and debris.

The **recovery supervisor*** who, under the dentist's supervision, has the primary function of supervising and monitoring patients in the recovery area, as well as determining, under the direction and responsibility of the dentist, if the patient meets the criteria for discharge, as outlined elsewhere in this document.

This person must have the same qualifications as described under sedation assistant. The sedation assistant may act as recovery supervisor if not required concurrently for the other duties. One cannot perform both duties simultaneously.

*** Where there is a separate dentist or physician solely providing the sedation, then a sedation assistant or recovery supervisor is not required, provided that this individual fulfills these duties.**

The **office assistant** whose function is to attend to office duties so the sedation team is not disturbed.

NOTE: The sedation team is composed of a minimum of three (3) individuals, who must be in the operatory at all times during the administration of parenteral conscious sedation.

Dentists, who use the services of a visiting Dentist or physician anesthetist, share the responsibility of complying with the standard. However, the ultimate responsibility rests with the permit holder to ensure that:

- The visiting Dentist or physician anesthetist is registered in New Brunswick and licensed to administer parenteral conscious sedation;
- The visiting Dentist or physician anesthetist has no term, condition or limitation on his or her certificate of registration with his or her respective regulatory college, relevant to the administration of sedation or general anesthesia; and
- All required emergency and other equipment is available and emergency Drugs are on-site and current.

With the exception of oxygen, either the permit holder or the visiting Dentist / physician anesthetist must provide all required emergency equipment and Drugs. **The shared provision of emergency equipment and Drugs is not allowed**.

OFFICE PROTOCOL AND FACILITIES

The facility must permit adequate access for emergency stretchers and have auxiliary powered backup for suction, lighting and monitors for use in the event of a power or system failure.

1. Patient Selection

An adequate, clearly recorded current medical history, including present and past illnesses, hospital admissions, current medications and dose, allergies (in particular to drugs), and a functional inquiry, along with an appropriate physical examination must be completed for each patient and must form a permanent part of each patient's record. For medically compromised patients, consultation with their physician may be indicated. This assessment should be consistent in content with **Appendix I**.

The patient's ASA Classification (see **Appendix II**) and risk assessment must then be determined. These findings will be used to determine the appropriate facility and technique used.

SEDATION PROTOCOL

1. The medical history must be reviewed for any changes, at each sedation appointment. Such review must be documented in the permanent record.

2. The patient must have complied with the minimum duration of fasting prior to appointments that is consistent with the following minimum requirements:

- 8 hours after a meal that includes meat, fried or fatty foods;
- 6 hours after a light meal (such as toast and a clear fluid), or after ingestion of infant formula or nonhuman milk;
- 4 hours after ingestion of breast milk; and
- 2 hours after clear fluids (such as water, fruit juices without pulp, carbonated beverages, clear tea, and black coffee, but NOT alcohol).

Possible exceptions to this are usual medications or preoperative medications which may be taken as deemed necessary by the dentist.

To avoid confusion, some Dentists may wish to simplify their preoperative instructions to patients regarding fasting requirements. For example, patients might be instructed not to have any solid food for a minimum of eight hours, and not to have any fluids for a minimum of two hours, prior to the appointment. Such instructions would be consistent with the minimum fasting requirements.

3. Laboratory investigations may be used at the discretion of the dentist.

4. Clinical observation must be supplemented by the following means of monitoring throughout the sedation administration:

    - continuous pulse oximeter monitoring of oxyhemoglobin saturation, recorded at a minimum of five-minute intervals;
    - blood pressure and pulse must be taken and
    - recorded preoperatively and throughout the sedation period at appropriate intervals, not greater than every five minutes;
    - respiration.

5. A sedation record must be kept consistent with **Appendix IV**.

6. When intravenous sedation is used, an intravenous needle or indwelling catheter must be in situ and patent at all times during the procedure. An intermittent or continuous fluid administration must be used to ensure patency.

7. Alarm settings and their audio component on monitoring equipment must be used at all times.

RECOVERY PROTOCOL

1. As described below, recovery accommodation and supervision is mandatory when parenteral sedation is administered.

2. The recovery area or room shall be used to accommodate the post-sedation patient from the completion of the procedure until the patient meets the criteria for discharge. Oxygen and appropriate suction and lighting must be readily available. The operatory can act as a recovery room.

3. A sufficient number of such recovery areas must be available to provide adequate recovery time for each case. Caseload must be governed accordingly.

4. Continuous supervision and appropriately recorded monitoring by the recovery supervisor must occur throughout the recovery period, until the patient meets the criteria for discharge.

5. The patient may be discharged once he/she shows signs of progressively increasing alertness and has met the following criteria:

   - conscious and oriented
   - vital signs are stable
   - ambulatory

6. The patient must be discharged to the care of a responsible adult.

7. Written post-sedation instructions must be given and explained to both the patient and accompanying adult. The patient must be instructed to not drive a vehicle, operate hazardous machinery or consume alcohol for a minimum of 18 hours, or longer if drowsiness or dizziness persists.

8. If a reversal agent is administered before discharge criteria have been met, the patient must be monitored beyond the expected duration of action of the reversal agent to guard against re-sedation.

SEDATION EQUIPMENT

Emergency equipment and drugs must be available at all times. Drugs must be current and stored in readily identifiable and organized fashion (i.e. labelled trays or bags). All automated monitors must receive regular service and maintenance by qualified personnel according to the manufacturer's specifications, or annually, whichever is more frequent.

A written record of this annual maintenance/servicing must be kept on file for review by NBDS as required.

It is the dentist's responsibility to ensure that the dental office in which sedation is being performed is equipped with the following:

- full face masks of appropriate sizes and connectors;
- pulse oximeter;
- stethoscope and sphygmomanometers of appropriate sizes;
- portable auxiliary systems for light suction and oxygen;
- portable apparatus for intermittent positive pressure resuscitation pulse oximeter;
- tonsil suction (Yankauer) adaptable to the suction outlet;
- adequate selection of endotracheal tubes and appropriate connectors;
- adequate selection of laryngeal mask airways and appropriate connectors;
- laryngoscope with an adequate selection of blades, spare batteries and bulbs;
- Magill forceps;
- adequate selection of oral airways;
- apparatus for emergency tracheotomy or cricothyroid membrane puncture;
- needles – IV.

Current drugs and equipment for management of emergencies, including:

- AED (automatic external defibrillator);
- Oxygen tank with mask (an E-size cylinder is required);
- Blood pressure cuff with gauge;
- Benadryl tablets (pediatric, adult and 50 mg pills/injectable);
- Soluble baby aspirin (4 x 81 milligrams);
- Glucose tablets or gels (or orange juice);
- Epinephrine in 1 mg ampules and syringes or prepared injectable product (i.e., Epipen) for adults and children;
- Nitroglycerine spray;
- Salbutamol spray (Ventolin);
- Parenteral diphenhydramine;
- Flumazenil (if a benzodiazepine is administered);
- Naloxone (if an opioid is administered);
- Parenteral vasopressor (e.g. Ephedrine);
- Parenteral atropine;
- Parenteral corticosteroid;
- Appropriate intravenous fluids.

PART II -DEEP SEDATION AND GENERAL ANESTHESIA

DEFINITION

Deep sedation is a controlled state of depressed consciousness, accompanied by partial loss of protective reflexes, including inability to respond purposefully to verbal command.

General anesthesia is a controlled state of unconsciousness accompanied by partial or complete loss of protective reflexes including inability to maintain an airway independently and respond purposefully to physical stimulation or verbal command.

These states therefore apply to any technique that has depressed the patient beyond conscious sedation, as defined in Part I. Any technique leading to these conditions in a patient, including neurolept analgesia/anesthesia or dissociative anesthesia, regardless of route of administration, would fall within the following standards.

ADDITIONAL PROFESSIONAL RESPONSIBILITIES

In addition to the General Standards listed in Part I, the following responsibilities apply:

1. All dentists and physicians administering deep sedation or general anesthesia must be registered with NBDS to do so.

2. All facilities where deep sedation or general anesthesia is administered must have a permit from NBDS. Such permit will be granted subject to training and conformance with all aspects of the Standard and subject to satisfactory onsite inspections and evaluation by NBDS.

3. Deep sedation or general anesthesia must only be performed in the dental office by a professional qualified according to the following standards.

    - Dentists who hold a specialty certificate in Dental Anesthesiology.
    - Dentists who have successfully completed a post-graduate anesthesia program in a university and/or teaching hospital over a minimum of 24 consecutive months. The program must have specifically evaluated and attested to the competency of the individual.
    - Dentists who had successfully completed a post-graduate anesthesia program in a university and/or teaching hospital over a minimum of 12 consecutive months prior to 1993 and have continued to practise these modalities since that time. The program must have specifically evaluated and attested to the competency of the individual.
    - Dentists who have successfully completed a formal post-graduate program in oral and maxillofacial surgery, incorporating adequate training in anesthesia, such that the individual's competence has been specifically evaluated and attested to.
    - Physicians currently registered with the College of Physicians and Surgeons of New Brunswick (CPSNB) who can provide evidence satisfactory to NBDS that they hold a designation as a specialist in anesthesia with the Royal College of Physicians and Surgeons of Canada OR one of the following:
        - Completion of a 12-month rotation in a program accredited by the College of

Family Physicians of Canada (CFPC) under the category of "Family Medicine Anesthesia".
- Recognition by the CPSNB as a specialist in anesthesia.
- Satisfactory completion of all CPSNB requirements for a physician requesting a change in their scope of practice AND active privileges to support similar procedures at a hospital.

Adherence to the Standard is a joint responsibility of such physicians and the treating dentist when anesthesia is provided in a dental office.

4. All dentists and physicians administering deep sedation or general anesthesia must have a current certificate of a provider course in ACLS. If providing care for patients under the age of 12 years, training in PALS is recommended.

5. When the operating dentist is not administering the anesthetic, he/she shares the responsibility to ensure that these standards are followed.

6. All facilities where deep sedation or general anesthesia is administered should have written policies and procedures, which should be reviewed with staff regularly.

7. Preoperative instructions must be given in writing to the patient or responsible adult. Patients should be given instructions regarding the minimum duration of fasting prior to appointments that is consistent with the following minimum requirements:

    - 8 hours after a meal that includes meat, fried or fatty foods;
    - 6 hours after a light meal (such as toast and a clear fluid), or after ingestion of infant formula or nonhuman milk;
    - 4 hours after ingestion of breast milk; and
    - 2 hours after clear fluids (such as water, fruit juice without pulp, carbonated beverages, clear tea, and black coffee, but NOT alcohol).

Possible exceptions to this are usual medications or preoperative medications which may be taken as deemed necessary by the dentist.

To avoid confusion, some dentists may wish to simplify their preoperative instructions to patients regarding fasting requirements. For example, patients might be instructed not to have any solid food for a minimum of eight hours, and not to have any fluids for a minimum of Two hours, prior to the appointment. Such instructions would be consistent with the minimum fasting requirements.

8. Consent must be obtained prior to the administration of any parenteral sedative or general anesthetic.

9. Anesthetic and monitoring equipment must conform to current appropriate standards for functional safety.

10. The patient must never be left unattended by a dentist qualified for this sedative/anesthetic technique during the administration of the sedative or general anesthetic.

11. A dentist or physician qualified for this sedative/anesthetic technique and responsible for the patient must not leave the facility until that patient is fit for discharge.

12. Report any critical incident using the Reportable Incident Form found in **Appendix VI**.

THE ANESTHETIC TEAM

General anesthesia or deep sedation for ambulatory dental patients must be administered through the combined efforts of the anesthetic team. The use of an anesthetic team allows the qualified dentist to provide anesthesia services simultaneously with dental procedures. The anesthetic team shall consist of the following individuals:

The **dentist-anesthetist**, who is directly responsible for the anesthesia, the anesthetic team, and the dental procedures. The dentist-anesthetist has emergency training in ACLS or PALS depending on the type of practice.

The **anesthetic assistant*** must be a nurse currently registered with the Nurses Association of New Brunswick, a respiratory therapist currently registered with the New Brunswick Association Respiratory Therapists, or a dentist or physician currently registered in New Brunswick. In addition, the anesthetic assistant must maintain current CPR Level HCP as a minimum.

It is the responsibility of the dentist to ensure that the anesthetic assistant is adequately trained to perform his/her duties. The dentist must ensure this assistant has/or develops the skills necessary for his/her responsibilities, as described below. His/her primary function is to provide assistance, under the direction of the dentist, by:

- assessing and maintaining a patent airway;
- monitoring vital signs;
- recording appropriate records;
- venipuncture;
- administering medications as required;
- assisting in emergency procedures.

The **operative assistant**, whose primary function is to keep the operative field free of blood, mucous and debris.

The **recovery supervisor*** who, under the dentist's supervision, has the primary function of supervising and monitoring patients in the recovery area, as well as determining, under the direction and responsibility of the dentist, if the patient meets the criteria for discharge, as outlined below.

This person must have the same qualifications as described under Anesthesia Assistant. The anesthesia assistant may act as recovery supervisor if not required concurrently for the other duties. One cannot perform both duties simultaneously.

* Where there is a separate dentist-anesthetist or physician-anesthetist solely providing the deep sedation or general anesthetic, then an anesthetic assistant or a recovery supervisor is not required, provided that this individual fulfills these duties.

The **office assistant** whose function is to attend to office duties so the sedation team is not disturbed.

NOTE: The anesthetic team is composed of a minimum of 3 individuals, who must be in the operatory at all times during the administration of general anesthesia or deep sedation.

Dentists, who use the services of a visiting Dentist or physician anesthetist, share the responsibility of complying with the standard. However, the ultimate responsibility rests with the permit holder to ensure that:

- the visiting Dentist or physician anesthetist is registered in New Brunswick to administer Deep sedation or general anesthesia;
- the visiting Dentist or physician anesthetist has no term, condition or limitation on his or her certificate of registration with his or her respective regulatory college, relevant to the administration of sedation or general anesthesia; and
- all required emergency and other equipment is available and emergency Drugs are on-site and current.

With the exception of oxygen, either the permit holder or the visiting Dentist / physician anesthetist must provide all required emergency equipment and Drugs. **The shared provision of emergency equipment and Drugs is not allowed**.

OFFICE PROTOCOL AND FACILITIES

The facility must permit adequate access for emergency stretchers and have auxiliary powered backup for suction, lighting and monitors for use in the event of a power or system failure.

1. PATIENT SELECTION

An adequate, clearly recorded current medical history, including present and past illnesses, hospital admissions, current medications and dose, allergies (in particular to drugs), and a functional inquiry, along with an appropriate physical examination must be completed for each patient and must form a permanent part of each patient's record, prior to the administration of deep sedation or general anesthesia. For medically compromised patients, consultation with their physician may be indicated.

This assessment should be consistent in content with **Appendix I**.

The patient's ASA Classification (see **Appendix II**) and risk assessment must be determined. These findings will be used to determine the appropriate facility and technique to be used.

2. ANESTHESIA PROTOCOL

1. The medical history must be reviewed for any changes at each deep sedation or general anesthetic appointment. Such review must be documented in the permanent record.

2. The patient must have complied with the minimum duration of fasting prior to appointments that is consistent with the following minimum requirements:

- 8 hours after a meal that includes meat, fried or fatty foods;
- 6 hours after a light meal (such as toast and a clear fluid), or after ingestion of infant formula or nonhuman milk;
- 4 hours after ingestion of breast milk; and
- 2 hours after clear fluids (such as water, fruit juices without pulp, carbonated beverages, clear tea, and black coffee, but NOT alcohol).

Possible exceptions to this are usual medications or preoperative medications which may be taken as deemed necessary by the professional responsible for the administration of the sedation or general anesthetic.

To avoid confusion, some Dentists may wish to simplify their preoperative instructions to patients regarding fasting requirements. For example, patients might be instructed not to have any solid food for a minimum of eight hours, and not to have any fluids for a minimum of two hours, prior to the appointment. Such instructions would be consistent with the minimum fasting requirements.

3. LABORATORY INVESTIGATIONS MAY BE USED AT THE DISCRETION OF THE DENTIST.

1. Clinical observation must be supplemented by the following means of monitoring performed at a minimum of five-minute intervals throughout the deep sedation or general anesthetic administration:

    - continuous pulse oximeter monitoring of oxyhemoglobin saturation;
    - blood pressure and pulse;
    - respiration;
    - continuous electrocardioscope monitoring;
    - if intubated or a laryngeal mask airway is used, monitoring by capnometry/capnography is required;
    - if intubated or a laryngeal mask airway is used, monitoring by oxygen analyzer is required;
    - if a volatile inhalational anesthetic agent is used to maintain anesthesia (e.g. isoflurane, sevoflurane, desflurane), an anesthetic agent analyzer is required.

2. If triggering agents for malignant hyperthermia are being used (volatile inhalational general anesthetics or succinylcholine), measurement of temperature and appropriate emergency drugs, as outlined below, must be readily available.

3. An anesthetic record must be kept consistent with **Appendix IV**.

4. An intravenous needle or indwelling catheter must be in situ and patent at all time during the procedure. An intermittent or continuous fluid administration must be used to ensure patency.

5. Alarm settings and their audio component on monitoring equipment must be used at all times.

4. RECOVERY PROTOCOL

1. As described below, recovery accommodation and supervision is mandatory where deep sedation or general anesthesia is administered.

2. The recovery area or room shall be used to accommodate the patient from the completion of the procedure until the patient meets the criteria for discharge. Oxygen and appropriate suction and lighting must be readily available. The operatory can act as a recovery room.

3. A sufficient number of such recovery areas must be available to provide adequate recovery time for each case. Caseload must be governed accordingly.

4. Continuous supervision and appropriately recorded monitoring by the recovery supervisor should occur throughout the recovery period, until the patient meets the criteria for discharge. In addition to continuous pulse oximetry, monitors must be immediately available for recovery use, including sphygmomanometer and electrocardioscope.

5. The patient may be discharged once he/she shows signs of progressively increasing alertness and has met the following criteria:

    - conscious and oriented;
    - vital signs are stable;
    - ambulatory.

6. The patient must be discharged to the care of a responsible adult.

7. Written post-sedation/anesthetic instructions must be given. The patient must be instructed to not drive a vehicle, operate hazardous machinery or consume alcohol for a minimum of 18 hours, or longer if drowsiness or dizziness persists.

8. If a reversal agent is administered before discharge criteria have been met, the patient must be monitored beyond the expected duration of action of the reversal agent to guard against re-sedation.

9. Report any critical incident to the Registrar using the Reportable Incident Form in **Appendix VI**

5. DEEP SEDATION/GENERAL ANESTHETIC EQUIPMENT

Emergency equipment and drugs must be available at all times. Drugs must be current and stored in readily identifiable and organized fashion (i.e. labelled trays or bags). All anesthetic and monitoring equipment must receive regular service and maintenance by qualified personnel according to the manufacturer's specifications, or annually, whichever is more frequent. A written record of this annual maintenance/servicing must be kept on file for review by NBDS as required.

1. Gas delivery systems used for the administration of nitrous oxide and oxygen must meet the following requirements:

    - a nitrous oxide and oxygen gas delivery system that meets the requirements for such equipment as described in the previous section of this document under Minimal Sedation; OR
    - a general anesthesia gas delivery system that conforms to CSA standards and:
    - must be equipped with connectors and tubing which allow use of a full face mask for resuscitative ventilation with 100% oxygen;
    - must have readily available a reserve supply of oxygen ready for immediate use. This should be portable, an "E" size cylinder as a minimum and attached with appropriate regulator, flowmeter and connectors as described previously;
    - must be equipped with a scavenging system installed per manufacturer's specifications.

2. If a vaporizer is fitted to the gas delivery system, then:

    - It shall have an agent-specific, keyed filling device.
    - The connection of the inlet and outlet ports of the vaporizer to the gas machine shall be such that an inadvertent incorrect attachment cannot be made.
    - All vaporizer control knobs must open counterclockwise and be marked to indicate vapour concentration in volume percent. It must mark and lock the control in the "off" position.
    - The vaporizer must be connected to the scavenging system. Where multiple vaporizers are used, an Interlock System must be installed.

3. If the patient is intubated or a laryngeal mask airway is used, then the anesthetic machine must be fitted with an oxygen analyzer.

4. It is the dentist's responsibility to ensure that the dental office in which deep sedation or general anesthesia is being performed is equipped with the following:

- full face masks of appropriate sizes and connectors;
- pulse oximeter;
- stethoscope and sphygmomanometers of appropriate sizes;
- portable auxiliary systems for light suction and oxygen;
- portable apparatus for intermittent positive pressure resuscitation;
- tonsil suction (Yankauer) adaptable to the suction outlet;
- adequate selection of endotracheal tubes and appropriate connectors;
- adequate selection of laryngeal mask airways and appropriate connectors;
- laryngoscope with an adequate selection of blades, spare batteries and bulbs;
- Magill forceps;
- adequate selection of oral airways;
- apparatus for emergency tracheotomy or cricothyroid membrane puncture;
- needles – IV;
- electrocardioscope;
- defibrillator (either an automated external defibrillator [AED] or one with synchronous cardioversion capabilities);
- capnometer/capnograph, if endotracheal intubation or a laryngeal mask airway is used to administer general anesthesia.

Current drugs and equipment for management of emergencies, including:

- AED (automatic external defibrillator);
- Oxygen tank with mask (an E-size cylinder is required);
- Blood pressure cuff with gauge;
- Benadryl tablets (pediatric, adult and 50 mg pills/injectable);
- Soluble baby aspirin (4 x 81 milligrams);
- Glucose tablets or gels (or orange juice);
- Epinephrine in 1 mg ampules and syringes or prepared injectable product (i.e., Epipen) for adults and children;
- Nitroglycerine spray;
- Salbutamol spray (Ventolin);
- Parenteral diphenhydramine
- Flumazenil (if a benzodiazepine is administered);
- Naloxone (if an opioid is administered);
- Parenteral vasopressor (e.g. Ephedrine);
- Parenteral atropine;
- Parenteral corticosteroid;
- Appropriate intravenous fluids;
- Succinylcholine;
- Parenteral amiodarone;
- Parenteral beta-blocker;
- Dantrolene, if triggering agents for malignant hyperthermia are being used (consistent with MHAUS guidelines).

APPENDIX I: PATIENT MEDICAL DENTAL HISTORY

MEDICAL HISTORY AND PATIENT EVALUATION

An adequate, current, clearly recorded and signed medical history must be made for each patient. The history is part of the patient's permanent record. It forms a database upon which appropriate sedation or anesthetic modality is determined. The medical history must be kept current. This information may be organized in any format that each dentist prefers, provided that the scope of the content contains the minimum information described in this section.

VITAL STATISTICS

This includes the patient's full name, date of birth, sex, and the name of the person to be notified in the event of an emergency. In case of a minor or a mentally-disadvantaged patient, the name of the parent or guardian must be recorded.

CORE MEDICAL HISTORY

The core medical history must fulfill the following two basic requirements:

1. It must elicit the core medical information to enable the dentist to assign the correct ASA Classification (see **Appendix II**) in order to assess risk factors in relation to sedation or anesthetic choices.

2. It must provide written evidence of a logical process of patient evaluation.

This core information should be a system-based review of the patient's past and current health status. It can be developed from NBDS's sample medical history questionnaire (see next page), supplemented with questions relevant to the use of sedation or general anesthesia (e.g. family history of adverse anesthetic outcomes).

CORE PHYSICAL EXAMINATION

A current, basic physical examination, suitable for determining information that may be significant to sedation and anesthesia and appropriate to the modality being used, must be carried out for each patient. At a minimum, all modalities of sedation or general anesthesia require the evaluation and recording of significant positive findings related to:

- general appearance, noting obvious abnormalities;
- an appropriate airway assessment;
- the taking and recording of vital signs, i.e. heartrate and blood pressure.

This can be carried out by most general practitioners and specialists.

If a more in-depth physical examination is required involving:

- auscultation (cardiac or pulmonary);
- examination of other physiologic systems; or,
- other assessments.

This examination must be performed by a physician or by a dentist who has received formal training in a post-graduate anesthesiology program, or an oral and maxillofacial surgery program.
The core physical examination may include an order for, and assessment of, laboratory data if indicated.

DENTAL HISTORY

NOTES

1. Are you having any discomfort at this time? Y N
2. How frequently do you have to see your dentist? In the past. _____
3. Date of last dental visit? What was done? _____
4. How often do you brush your teeth? Floss? _____
5. Are you aware of any lump, swelling, ulcer, or sores in your mouth? Y N
6. Do you grind your teeth? Y N
7. Have you ever been given local anesthetic (freezing)? Y N
8. Any complications with #7? Y N
9. Have you had any serious trouble with any previous dental treatment? Y N

   Please specify _____
10. Are you satisfied with the appearance of your teeth? Y N
11. Would you like to keep your natural teeth? Y N
12. Are you tense during dental visits? Y N
13. Have your teeth shifted, have spaces opened between your teeth, or are your teeth flaring? Y N
14. Do you currently experience? *(Circle any that apply)*

Loose teeth	Headache/Earache/Neck pain	Food wedging between teeth
Unsatisfactory dentures	Bad breath	Problems flossing
Sore gums	Sensitive Teeth	Bleeding gums
Clicking in jaw joint (TMJ)		

15. Have you had *(Circle any that apply)*

Orthodontics/Braces	Periodontics/Gum Treatment	Endodontics/Root Canal
Bite Plan/Night Guard	TMJ or Bite Problems	Crowns or Bridges/Veneers
Restorations/Fillings	Partial Dentures	Implants
Bleaching		

   Comments _____
16. Describe what you would like done with your teeth: _____

PATIENT (PARENT) CONSENT

THIS IS TO CERTIFY THAT I, UNDERSIGNED, CONSENT TO THE PERFORMING OF DENTAL WORK AND ORAL SURGERY PROCEDURES AGREED TO BE NECESSARY OR ADVISABLE, INCLUDED IS THE USE OF LOCAL OR GENERAL ANAESTHETIC OR SEDATION INDICATED INCLUDING X-RAYS AND I WILL ASSUME THE RESPONSIBILITY FOR THE FEES ASSOCIATED WITH THOSE PROCEDURES.

I CONFIRM THAT I CAN READ AND UNDERSTAND ENGLISH OR FRENCH ON THE FORM ❑ YES ❑ NO
IF NO, NAME/SIGNATURE OF THE STAFF PERSON WHO COMMUNICATED OR TRANSLATED THE INFORMATION.

Patient/Parent: _____ Signature: _____
(if patient is under the age of 16) Consent for treatment

Dentist Signature _____ Date: _____

RENEWAL DATES

Date	Signature	Date	Signature
Date	Signature	Date	Signature

APPENDIX II: AMERICAN SOCIETY OF ANESTHESIOLOGY PHYSICAL STATUS CLASSIFICATION SYSTEM

ASA I: A normal healthy patient
ASA II: A patient with mild systemic disease
ASA III: A patient with severe systemic disease that limits activity but is not incapacitating
ASA IV: A patient with incapacitating systemic disease that is a constant threat to life
ASA V: A moribund patient not expected to survive 24 hours with or without operation
ASA VI: A declared brain-dead patient whose organs are being removed for donor purposes
ASA E: Emergency operation of any variety; "E" precedes the number, indicating the patient's physical status.

APPENDIX III: CHARACTERISTICS OF THE LEVELS OF SEDATION AND GENERAL ANESTHESIA

	MINIMAL SEDATION	MODERATE SEDATION	DEEP SEDATION	GENERAL ANESTHESIA
CONSCIOUSNESS	Maintained		Obtunded	Unconscious
RESPONSIVENESS	To either verbal command of tactical stimulation	May require either one of or BOTH verbal command and 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		Partial loss	Assume absent
SPONTANEOUS VENTILATION	Unaffected	Adequate	May be inadequate	Frequently inadequate
CARDIOVASCULAR FUNCTION	Unaffected	Usually maintained	Usually maintained	May be impaired
REQUIRED MONITORING	Basic	Increased	Advanced	

APPENDIX IV: ANESTHETIC RECORD FOR PARENTERAL CONSCIOUS SEDATION, DEEP SEDATION OR GENERAL ANESTHESIA

An anesthetic/sedation record should contain the following information:

- patient name;
- date of procedure;
- verification of NPO status;
- verification of accompaniment for discharge;
- preoperative blood pressure, heart rate, and oxygen saturation;
- ASA status;
- names of all drugs administered;
- doses of all drugs administered;
- time of administration of all drugs;
- if used: intravenous type, location of venipuncture, type and amount of fluids administered;
- list of monitors used;
- record of systolic and diastolic blood pressure, heart rate, oxygen saturation, at a minimum of five-minute intervals. If the monitors used provide an automated printout, this printout may be attached in lieu of handwritten recording of these signs;
- time of the start and completion of the administration of the general anesthetic/sedation;
- time of the start and completion of the administration of the dental procedure;
- recovery period;
- discharge criteria met: oriented, ambulatory, vital signs stable (record of blood pressure, heart rate, oxygen saturation);
- time of discharge;
- name of professional responsible for the case;
- a notation of any complication or adverse reaction.

A SAMPLE ANESTHETIC RECORD FORM IS SUPPLIED HERE AS AN EXAMPLE ONLY. THE USE OF THIS PARTICULAR FORM IS NOT MANDATORY. EACH PRACTITIONER MAY DETERMINE THE FORMAT OF HIS/HER OWN RECORD. THE PRACTITIONER SHOULD USE A FORM THAT, AS A MINIMUM, CONTAINS THE INFORMATION LISTED IN APPENDIX IV, IN A FORMAT THAT IS CLEAR AND READILY UNDERSTOOD.

Sample Anesthetic Record

PATIENT'S NAME AGE DATE

MEDICAL HISTORY REVIEWED

ALLERGIES MEDICATIONS

NPO ACCOMPANIED BY RESPONSABLE ADULT

Pre-OP BP Pre-OP HR Pre-OP Sp02 ASA CLASSIFICATION I II III IV V

PREMEDICATION TIME

IV ANGIO or BF GAUGE SITE R L DOH ACF FA OTHER

FLUIDS TYPE VOLUME

MONITORS PULSE OXIMETER BP ECG OTHER

DRUGS	TIME 0 15 30 45 0 15 30 45 0 15 30 45
O_2 (1/MIN)	
N_2O (1/MIN)	
LOCAL ANES.	ML OF
TIME	

TIME

START ANES.

START PROCEDURE

END PROCEDURE

END ANES.

TO RECOVERY ROOM

DISCHARGE CRITERIA

ORIENTED

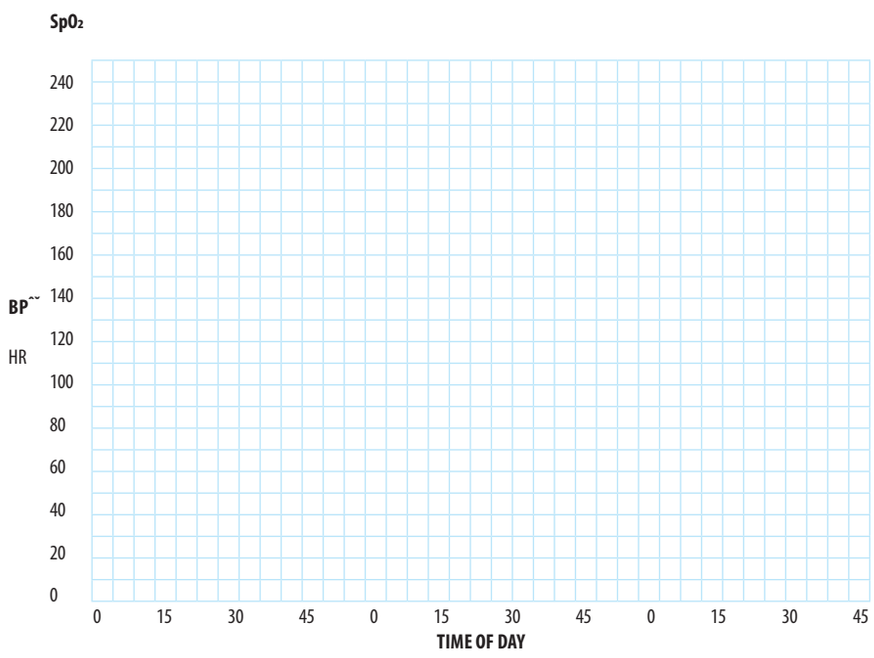
VITAL SIGNS STABLE

BP HR SpO_2

AMBULATORY

DISCHARGE TIME

IN THE COMPANY OF



NOTES

TIME OF DAY

APPENDIX V: RULE 10: CONTENTS OF AN EMERGENCY KIT IN A GENERAL DENTAL OFFICE

1. The Board of the New Brunswick Dental Society has adopted the following items as standard contents of an emergency kit in a general dental office.

2. If any form of sedation is used in the dental office, additional equipment and supplies are required. Refer to the New Brunswick Sedation Guidelines for more detailed information.

3. The Board, in directing the above, acknowledges that the protection of the public in the practice of dentistry necessitates that Member Dentists be responsible but that being successful with any emergency requires a team approach.

    a. One person in the office is to be designated for the emergency kit – keeping it stocked and up to date with expiry dates. In addition, they should monitor the oxygen cylinder monthly to make sure it has an adequate supply and has not expired. The mask should also be checked.
    b. One person in the office is to be designated to call "911" and direct responders to the proper location in the event of an emergency.
    c. The doctor stays with the patient in distress.

4. The emergency kit is to contain the following:

    - AED (automatic external defibrillator) (required by 2023)
    - Oxygen tank with mask (E size cylinder)
    - Blood pressure cuff with gauge
    - Benadryl tablets (pediatric, adult and 50 mg pills/injectable)
    - Chewable baby aspirin (4 x 81 milligrams)
    - Glucose tablets or gels (or orange juice)
    - Epinephrine in 1 mg ampules and syringes or prepared injectable product (i.e., EpiPen) for adults and children
    - • Nitroglycerine spray
    - • Salbutamol spray (Ventolin)
    - • AeroChamber (recommended for use with Ventolin)

5. Depending on the type of procedure and need, some other medication may be considered for kit:

    - Atropine
    - Ephedrine
    - Hydrocortisone
    - Morphine or nitrous oxide
    - Naloxone
    - Temazepam
    - Flumazenil

6. Additional medication is required if the dental practice offers any variety of sedation.

APPENDIX VI: REPORTABLE INCIDENTS

Reportable Incidents are incidents that occur related to sedation that create a substantial health risk to the patient and include:

- When a reversal agent has been used;
- When a patient's response to sedation results in depression beyond the level of sedation intended or entry of the patient into levels of deep sedation or depression beyond sedation or into general anesthesia;
- Incidents that required emergency interventions inside the office, such as, but not limited to cardiovascular collapse where resuscitation occurred on site and the patient was not subsequently transferred to hospital;
- Transfers of the patient or the care of the patient to another care provider, a Dental Surgical Facility, Non-Hospital Surgical Facility, medical facility or hospital within 10 days of the sedation, regardless of whether or not the patient was admitted;
- Unexpected treatment by another care provider, a Dental Surgical Facility, Non-Hospital Surgical Facility, medical facility or hospital within 10 days of the sedation procedure;
- Deaths in office or within 10 days of the sedation procedure; and
- Missing or non-locatable drugs are to be reported as a Reportable Incident.

In the event of a Reportable Incident, a telephone report to the NBDS must be made to the Registrar immediately or no later than 9:00 a.m. the following morning for incidents occurring after hours and no later than 9:00 a.m. Monday for incidents occurring on a weekend. A written report is required within two weeks of the telephone reporting. The report must contain the following:

- Name, age, and sex of the person affected;
- Medical history of the person affected including ASA status;
- Name of witness(es) to the incident;
- Date and name of procedure (if applicable);
- Nature of the incident and treatment rendered;
- Analysis of reasons for the incident;
- Outcome; and
- A copy of the full chart as requested by the NBDS.

A copy of the **Reportable Incident** form must be completed and forwarded to the NBDS. The NBDS Registrar will review the circumstances with the dentist. If necessary, the NBDS Registrar may immediately suspend the sedation practice on suspicion of continued risk.

REPORTABLE INCIDENTS FORM
ALL DOCUMENTATION REQUIRED

Within two weeks of the Reportable Incident, please submit the following to the NBDS Registrar via courier or fax (506) 452-1872 or secure electronic transmission.

This form, signed by the dentist who performed or was scheduled to perform the sedation and treatment.

- A copy of the patient's clinical record;
- A summary by the dentist describing the incident, action taken, possible risk factors and outcome.

The NBDS Registrar will review the circumstances with the dentist and may consult with other practitioners to determine the risk of harm to patients.

REPORTABLE INCIDENTS FORM

Identify the Type of Event (check the appropriate box)

- ❑ When a reversal agent has been used.
- ❑ When a patient's response to sedation results in depression beyond the level of sedation intended or entry of the patient into levels of deep sedation or depression beyond sedation or into general anesthesia.
- ❑ Incidents that required emergency interventions inside the office, such as, but not limited to cardiovascular collapse where resuscitation occurred on site and the patient was not transferred to hospital.
- ❑ Transfer of the patient or the care of the patient to another care provider, a Dental Surgical Facility, Non-Hospital Surgical Facility, medical facility or hospital within 10 days of the sedation, regardless of whether or not the patient was admitted.
- ❑ Unexpected treatment by another care giver, a Dental Surgical Facility, Non-Hospital Surgical Facility, medical facility or hospital within 10 days of the sedation procedure.
- ❑ Death in office or within 10 days of the sedation procedure.
- ❑ Missing or non-locatable drugs.

Completion of Report

Name of Person Completing this Report: .....

Title: .....

Telephone: .....

Date report completed: .....

GENERAL INFORMATION

Name:

Office:

Dentist:

Date of the Incident: Day: Month: Year:

Sedation performed by: Dentist: Dr.

Modality:

PATIENT INFORMATION

Patient Name: HT: WT:

Gender: Male ❑ Female ❑ Age:

Date of Birth (MM/DD/YYYY):

ASA Classification:

Treatment Proposed:

Treatment Performed:

DESCRIPTION OF THE EVENT

Describe what happened; brief details of events.

Describe where it happened. Describe the exact location in the office, if possible.

What was the outcome of the transfer including diagnosis, length of stay, sequelae, etc.?

HISTORY OF THE EVENT

Describe contributing factors to the incident: Patient (co-existing disease conditions, language barriers etc.)

Personnel (e.g., number, training, experience, performance):

Equipment (list any equipment that may have played a role in the incident):

Environment (e.g., noisy, crowded):

OFFICE RESPONSE TO THE EVENT

If this incident had progressed without corrective action, what might the outcome have been for the patient?

What prevented this incident from becoming more serious?

What steps have been taken to prevent future occurrences such as change to policy or procedures? Give details.

Dentist Who Provided Treatment and Administered Sedation – I have reviewed the contents of this report:

Signature

Printed Name Date

APPENDIX VII: GUIDELINES, STANDARDS AND OTHER OFFICIAL STATEMENTS AVAILABLE ON THE INTERNET

Anesthesia Organizations

American Society of Anesthesiologists
asahq.org/publicationsAndServices/sgstoc.htm

Association of Anaesthetists of Great Britain & Ireland - *aagbi.org/publications*

Australian & New Zealand College of Anaesthetists - *anzca.edu.au/resources*

Australian Society of Anaesthetists - *asa.org.au*

Canadian Anesthesiologists' Society - *cas.ca*

European Society of Anaesthesiology
euroanesthesia.org

European Society for Paediatric Anaesthesiology
euroespa.org/home.html

Royal College of Anaesthetists - *rcoa.ac.uk*

Société Française d'Anesthésie et de Réanimation
sfar.org

Society for Pediatric Anesthesia
pedsanesthesia.org

World Federation of Societies of Anaesthesiologists - *anaesthesiologists.org*

Other Official Organizations

American Dental Association - *ada.org*

American Academy of Pediatric Dentistry
aapd.org/media/Policies_Guidelines/G_Sedation.pdf

Canadian Institute for Health Information - *cihi.ca*

Canadian Standards Association - *csa.ca*

College of Physicians & Surgeons of New Brunswick - *cpsnb.org*

Health Canada - *hc-sc.gc.ca*

International Electrotechnical Commission
iec.ch

International Organization for Standardization
iso.org

Malignant Hyperthermia Association of the United States
mhaus.org/mhaus-faqs-healthcare-professionals/stocking-mh-cart/

Public Health Agency of Canada
phac-aspc.gc.ca

Royal College of Physicians & Surgeons of Canada
rcpsc.medical.org

Patient Safety Organizations

Anesthesia Patient Safety Foundation - *apsf.org*

Australian Patient Safety Foundation - *apsf.net.au*

Canadian Patient Safety Institute
patientsafetyinstitute.ca

National Patient Safety Foundation (USA)
npsf.org

APPENDIX VIII: SEDATION GUIDELINE COMPARISONS

It is the dentist's responsibility to ensure that the dental office in which sedation is being performed is equipped with the following drugs and equipment for management of emergencies, including:

MINIMAL SEDATION	• full face masks of appropriate sizes and connectors; • pulse oximeter; • stethoscope and sphygmomanometers of appropriate sizes.	• AED (automatic external defibrillator); • Oxygen tank with mask (an E-size cylinder is required); • Blood pressure cuff with gauge; • Benadryl tablets (pediatric, adult and 50 mg pills/injectable); • Soluble baby aspirin (4 x 81 milligrams); • Glucose tablets or gels (or orange juice); • Epinephrine in 1 mg ampules and syringes or prepared injectable product (i.e., Epipen) for adults and children; • Nitroglycerine spray; • Salbutamol spray (Ventolin); • Parenteral diphenhydramine; • Flumazenil (if a benzodiazepine is administered); • Naloxone (if an opioid is administered).
MODERATE SEDATION	Same as above.	All of the above, plus: • portable auxiliary systems for light suction and oxygen; • portable apparatus for intermittent positive pressure resuscitation.
PARENTERAL SEDATION	All of the above, plus: • tonsil suction (Yankauer) adaptable to the suction outlet; • adequate selection of endotracheal tubes and appropriate connectors; • adequate selection of laryngeal mask airways and appropriate connectors; • laryngoscope with an adequate selection of blades, spare batteries and bulbs • Magill forceps; • adequate selection of oral airways; • apparatus for emergency tracheotomy or cricothyroid membrane puncture; • needles – IV.	All of the above, plus: • Parenteral vasopressor (e.g. Ephedrine); • Parenteral atropine; • Parenteral corticosteroid; • Appropriate intravenous fluids.
DEEP SEDATION	All of the above, plus: • electrocardioscope; • defibrillator (either an automated external defibrillator [AED] or one with synchronous cardioversion capabilities); • capnometer/capnograph, if endotracheal intubation or a laryngeal mask airway is used to administer general anesthesia.	All of the above, plus: • Succinylcholine; • Parenteral amiodarone; • Parenteral beta-blocker; • Dantrolene, if triggering agents for malignant hyperthermia are being used (consistent with MHAUS guidelines).

New Brunswick Dental Society
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