PREAMBLE

Taking into account the information actually available today and the factors relative to accessibility to care, the Ordre des dentistes du Québec, guided by its mission of protecting the public-at-large, has developed this document. Its purpose is to provide for and propose to Quebec dentists structured elements of information susceptible of supporting them in the pursuit of their therapeutic objectives.

The general purpose of these guidelines in their application relative to the choice of sedative agents or the techniques used is based on established protocol and norms. They are to be controlled by properly trained practitioners, constraints imposed by the patient or the procedure and the probability to induce an unintentional loss of consciousness.

Professional liability remains a reality. We would, therefore, like to highlight all the ethical obligations that are applicable to everyone.

This document will be reviewed on a regular basis in order to keep it up-to-date.

The members of the Board of Directors of the Ordre des dentistes du Québec would like to graciously thank Doctors Kenneth Bentley, Patrick Canonne, Norman Pierre Edger, David Kozloff and Paul-Richard Trépanier for their expertise and their most appreciated collaboration.

They would also like to thank everyone who took the time to comment on the preliminary drafts of this document.

1. DEFINITIONS

1.1 Conscious Sedation

Conscious sedation is a minimally depressed level of consciousness that allows the patient to retain control of their airways 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, conscious sedation is used to allow dental treatment to be performed with minimal physiological and psychological stress and therefore enhance patient comfort. Conscious sedation techniques must be used in such a fashion that the loss of consciousness is avoided or in other words the patient can control the permeability of their airways and respond appropriately to physical stimulation and verbal command.

Conscious sedation may be pharmacologically induced by one of the following modalities:

a) nitrous oxide and oxygen inhalation;

b) oral administration of a single sedative agent or a combination of sedative agents;
c) the combination of nitrous oxide/oxygen inhalation with the oral administration of a sedative or sedatives;
d) parenteral (intravenous, intramuscular) administration of medication;
e) rectal administration of medication.

1.2 Deep Sedation

Deep sedation is a controlled state of depressed consciousness accompanied by partial loss of protective reflexes, including the inability of a patient to control their airways and the inability to respond appropriately to physical stimulation and verbal command.

1.3 General Anesthesia

General anesthesia is a controlled state of unconsciousness accompanied by partial or complete loss of protective reflexes, including the inability to control one’s airways or respond spontaneously to physical stimulation or verbal command.

The terms “deep sedation” and “general anesthesia” apply to all techniques that depress the state of consciousness of a patient beyond that of conscious sedation and includes neuroleptanalgesia and dissociated anesthesia.

2. GENERAL PRINCIPLES

2.1 All Modalities

The following principles apply to all the modalities of sedation or general anesthesia when they are used by dentists.

1. A dentist must have successfully completed a recognized training program designed according to requirements detailed in Section 3 to attain the competency required with regard to the administration of conscious sedation, deep sedation and general anesthesia techniques.

2. There must be sufficient personnel in the practice facility. The armamentarium (equipment) necessary for the procedures dispensed must be available on site and must conform to the standards of the Canadian Standards Association (CSA). The equipment (see Annex 1) should be maintained in a manner in which to assure they function properly and in conformity with the original norms of the manufacturer and installation.

3. Pertinent medical and dental history must be clearly documented and annotated. This should include: the description of present and past diseases, hospitalizations, actual medication and their dosage and the history of allergies (especially to medication). An appropriate functional investigation and physical examination must be completed for each patient before the administration of all forms of conscious sedation or general anesthesia. The physical status of the patient should
be determined according to the classification of the American Society of Anesthesiologists (ASA). All forms of conscious sedation and general anesthesia should be limited to patients of ASA-I or ASA-II status.

4. Only a dentist having successfully completed a recognized training program or a physician licensed in Quebec, a nurse licensed in Quebec working under the direct supervision and control of a physician, can administer a sedative or a general anesthesia agent.

5. A dentist and his personnel must be prepared to recognize and to treat any inadequate reaction to medication administered. They must use appropriate emergency methods and equipment and make sure that they maintain their level of competency with regard to their respective employment. A dentist and all clinical personnel must have a current cardiopulmonary resuscitation certificate and be able to provide basic cardiopulmonary resuscitation techniques. A dentist must establish the pertinent protocol for emergency procedures. He must inform his personnel and review the protocol with them on a regular basis.

2.2 Conscious Sedation

1. A dentist who administers conscious sedation techniques must be recognized by the Ordre des dentistes du Québec as having the necessary requirements and must be registered in this regard with the O.D.Q.

2. The successful completion of a training program recognized by the O.D.Q. and developed to achieve a level of competency required for a specific modality of conscious sedation is mandatory. Such a program can be offered by dental faculties or within the framework of a continuing education program. It should be:
   - organized and taught by dentists recognized by the O.D.Q. as having the competency to administer general anesthesia and conscious sedation as they apply to dentistry. They would be assisted, as necessary, by other professionals recognized in relation to the techniques that are taught;
   - understood that this teaching would be provided in an adequate environment which allows the candidate to apply the techniques taught, on patients during dental treatment;
   - mandatory that the candidate be given a written evaluation attesting to the level of competency attained with regard to a specific type of conscious sedation administration.

3. Preoperative and postoperative instructions must be given in writing to the patient or a responsible adult who accompanies the patient during the visit prior to treatment.
4. If a dentist administers parenteral conscious sedation and concurrently acts as the provider of dental services, he must be assisted by the necessary personnel (see Section 4).

5. Written consent from the patient or from a responsible adult accompanying the patient must be obtained prior to the administration of conscious sedation.

6. During any intervention where the patient’s level of consciousness is altered, the presence of a third person (e.g.: assistant) is required.

7. A dentist who is responsible for the administration of conscious sedation must never leave his patient unattended.

8. The professional who administers the sedative technique must evaluate the physical status of the patient before signing for the discharge of the patient. He must never leave the premises before the patient is deemed to be able to leave.

9. With the exception of nitrous oxide and oxygen used as a separate entity, all conscious sedation techniques require, that when the patient is discharged, that the patient be entrusted to a responsible adult. The patient must be informed that they not drive a car, that they not operate hazardous machinery, that they not make important decisions and that they avoid drinking alcohol for a minimal period of 18 hours or more if drowsiness or dizziness persists.

3. SPECIFIC PRINCIPLES

3.1 Oral administration of a single sedative agent

A medication can be used to induce conscious sedation. Preferably it should be administered in the dental office. The patient’s level of consciousness must be controlled by clinical observation and the assessment of vital signs. When the patient is discharged, the patient must be entrusted to a responsible adult. The dentist must have a cardiopulmonary resuscitation certificate.

3.2 The use of nitrous oxide with or without one or more oral sedative agent(s) and the use of multiple oral sedative agents

The use of nitrous oxide alone or in combination with an oral sedative agent or oral sedative agents can be administered by:

a) a qualified dentist having completed specialized training in conscious sedation (parenteral pathway) in a university or hospital setting.

b) a specialist in oral and maxillofacial surgery with adequate training in sedation and general anesthesia.

c) a dentist having successfully completed specific training in this modality of sedation.

This training will satisfy the following requirements:
Didactic requirements: 20 hours of courses given by a dentist formally trained for sedation and anesthesia as it applies to dentistry or by a physician formally trained in anesthesia.

Clinical requirements: Active and supervised application of these modalities in the treatment of a minimum of 10 patients; and

the equivalent of a 2 week rotation in the anesthesia department of a university hospital with active participation in the administration of general anesthesia including venipuncture, endotracheal intubation and airway maintenance; or

the successful completion of training in advanced cardiopulmonary resuscitation (Advanced Cardiac Life Support - ACLS) or its equivalent.

In the three above-mentioned cases, the dentist should have a valid cardiopulmonary resuscitation certificate.

3.3 Parenteral Conscious Sedation
The use of parenteral conscious sedation with one or more sedative agents can be administered by:

a) a specialist in oral or maxillofacial surgery having specific training for the administration of conscious sedation and general anesthesia;

or

b) a dentist having successfully completed specialized training in a university or hospital setting for the use of sedation and general anesthesia. Such a course must be approved by the O.D.Q. and be given by an accredited dental institution. It must also meet the following clinical and theoretical requirements:

Didactic Requirements
Training consists of a minimum of 12 hours of specialized study in a university or hospital setting.

Clinical Requirements
Clinical training consists of the supervised administration of parenteral conscious sedation techniques concurrent with dental treatment, as well as, training in general anesthesia.

The successful completion of an advanced cardiopulmonary resuscitation course (ACLS) or its equivalent is recommended.

3.4 Deep Sedation and General Anesthesia

1. A dentist who administers deep sedation or general anesthesia must be recognized by the O.D.Q. as having the required qualifications and be registered as such with the Order.
2. All private dental offices that offer deep sedation or general anesthesia services must be registered with the O.D.Q. A permit in this regard will be issued by the Order if it is found that the personnel have had adequate training and if conformance with these guidelines is found to be satisfactory. The permit issued is valid for three years.

3. Deep sedation or general anesthesia must only be administered to patients of ASA-I or ASA-II status (according to the classification of the American Society of Anesthesiologists (ASA), by a qualified professional according to the following principles:
   • a dentist who has an O.D.Q. specialist’s certificate in oral and maxillofacial surgery where specific training in sedation and general anesthesia has been evaluated through the program.
   • a dentist who has successfully completed a postgraduate program in deep sedation and general anesthesia in a university and/or teaching hospital setting.
   • a licensed physician in Quebec able and competent to administer deep sedation or general anesthesia.

4. A dentist cannot administer deep sedation or general anesthesia and provide dental services at the same time.

5. Preoperative and postoperative instructions must be given in writing to the patient or a responsible adult who accompanies the patient during the visit prior to treatment.

6. Written consent from the patient or from a responsible adult accompanying the patient must be obtained before the administration of deep sedation or general anesthesia.

7. During any intervention where the patient’s level of consciousness is altered, the presence of a third person (e.g.: assistant) is required.

8. The patient must never be left unattended by the dentist responsible for the administration of deep sedation or general anesthesia.

9. The professional who administers the sedative technique must evaluate the physical status of the patient before signing for the discharge of the patient. He must never leave the premises before the patient is deemed able to leave.

10. Deep sedation and general anesthesia techniques require that the patient be entrusted to a responsible adult when discharged.

4. TEAMS

4.1 Conscious Sedation Team (oral pathway and parenteral pathway)

The administration of nitrous oxide itself or in combination with one or more sedative agent(s) by the oral pathway and parenteral conscious sedation administered to
ambulatory dental patients must be provided by a conscious sedation team. The conscious sedation team shall consist of the following individuals:

1. A DENTIST, duly qualified, responsible for the conscious sedation team and the dental procedures and having a cardiopulmonary resuscitation certificate.

2. AN ASSISTANT who under the supervision and responsibility of a dentist assures that the operative field is free of blood, mucous and debris. Once the operative procedure is over, an assistant supervises and monitors the patient while they awaken (recovery). This person must have a cardiopulmonary resuscitation certificate. A third person can also be responsible for recovery. One cannot fulfill the two duties (assistant and recovery supervisor) simultaneously when more than one patient is in the process of treatment.

3. ADMINISTRATIVE SUPPORT STAFF do the necessary clerical duties in order to not disturb the conscious sedation team.

4.2 Deep Sedation Team and General Anesthesia Team

General anesthesia or deep sedation for ambulatory dental patients must be administered through the combined efforts of the general anesthesia team. The general anesthesia team shall consist of the following individuals:

1. A DENTIST responsible for the dental procedure and having a cardiopulmonary resuscitation certificate.

2. AN ANESTHESIOLOGIST OR A DULY QUALIFIED DENTIST having postdoctoral training specifically for the administration and management of the modalities of deep sedation and general anesthesia. This dentist shall also have Advanced Cardiac Life Support (ACLS) certification or its equivalent.

3. AN INHALOTHERAPIST having a valid permit to practice in Quebec. The inhalotherapist acts under the direction of a physician. The presence of an inhalotherapist is optional.

4. AN ASSISTANT who under the supervision and responsibility of a dentist assures that the operative field is free of blood, mucous and debris. Once the operative procedure is over, the assistant supervises and monitors the patient while they awaken (recovery). This person must have a cardiopulmonary resuscitation certificate. A third person can also be responsible for recovery. One cannot fulfill the two duties (assistant and recovery supervisor) simultaneously when more than one patient is in the process of treatment.

5. ADMINISTRATIVE SUPPORT STAFF do the necessary clerical duties in order to not disturb the conscious sedation team.
5. SYNOPTIC TABLES:
Modality, competency required and team composition

Conscious Sedation (oral and parenteral pathway)

<table>
<thead>
<tr>
<th>ADMINISTRATION</th>
<th>COMPETENCY REQUIRED FOR ADMINISTRATION</th>
<th>TEAM</th>
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<tbody>
<tr>
<td>• A sedative agent, oral pathway</td>
<td>DENTIST with a valid CPR certificate</td>
<td>Notice of conformity:</td>
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<tr>
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<td></td>
<td>- Certified CPR assistant</td>
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<td>Recommendation:</td>
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<td>- Administrative support</td>
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<td>Suggestion:</td>
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<td></td>
<td>- Recovery supervisor</td>
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<tr>
<td>• Nitrous oxide (alone)</td>
<td>DENTIST certified by the O.D.Q:</td>
<td>Notice of conformity:</td>
</tr>
<tr>
<td>• Nitrous oxide + one or more sedative agent(s), oral pathway</td>
<td>• Dentist having completed 12 months of specialized training in parenteral sedation in a university or hospital setting</td>
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<td>• Oral and maxillofacial surgery specialist</td>
<td>Recommendation:</td>
</tr>
<tr>
<td>• Multiple sedative agents, oral pathway</td>
<td>• Dentist having successfully completed specific training (see text) in these modalities</td>
<td>- Administrative support</td>
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<td>• One or more sedative agent(s), parenteral pathway</td>
<td>DENTIST certified by the O.D.Q:</td>
<td>Notice of conformity:</td>
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<tr>
<td></td>
<td>• Oral and maxillofacial specialist (having specific training in sedation and general anesthesia)</td>
<td>- Certified CPR assistant</td>
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<td>• Dentist having completed 12 months of recognized training in a university or hospital setting</td>
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# Deep Sedation and General Anesthesia

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<td>DENTIST certified by the O.D.Q:</td>
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<tr>
<td></td>
<td>• Oral and maxillofacial surgery specialist</td>
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<td>(having specific training in sedation and general anesthesia)</td>
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<td><strong>ACLS certification is required.</strong></td>
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**Notice of conformity:**
1. Qualified person to:
   - read monitors
   - administer appropriate medication
   - assist in resuscitation, if necessary, (e.g.: physician, dentist)

2. Certified CPR assistant or recovery supervisor having the required competency for deep sedation and general anesthesia (e.g.: nurse)

3. Administrative support

**Notes:**

- **ACLS:** Advanced Cardiac Life Support
- **Notice of conformity:** Conformity is **mandatory** (law)
- **Recommendation:** A dentist **should** take the recommendation into account
- **Suggestion:** A dentist **can** take this condition into account

A dentist who is exclusively responsible for the clinical procedure must have a cardiopulmonary resuscitation certificate.
ANNEX 1

EQUIPMENT AND MONITORING: “Notice of conformity”

The following equipment is required for administration of the modalities listed below:

1. **An oral sedative agent:**
   - Sufficient quantity of oxygen and apparatuses to control the flow and concentration;
   - Stethoscope and sphygmomanometer.

2. **Nitrous oxide used alone or in combination with and oral sedative agent:**
   - Sufficient quantity of oxygen and apparatuses to control the flow and concentration;
   - Stethoscope and sphygmomanometer;
   - Necessities for artificial ventilation, i.e., masks of appropriate sizes, a complete selection of oral “airways”, etc.;
   - An antipollution system for the evacuation of anesthetic gases;
   - Magill forceps.

3. **One or more multiple agent(s) (parenteral pathway) and multiple oral sedative agents (oral pathway):**
   - Sufficient quantity of oxygen and apparatuses to control the flow and concentration;
   - Stethoscope and sphygmomanometer;
   - Necessities for artificial ventilation, i.e., masks of appropriate sizes, a complete selection or oral “airways”, etc.;
   - Magill forceps;
   - Necessities for endotracheal intubation, appropriate tubes and laryngoscopes;
   - An emergency drug kit as detailed in annex 4, with medication for cardiopulmonary resuscitation or treatment of shock, cardiac failure, cardiac arrhythmia and an allergic reaction, etc.;
   - Necessities for intravenous perfusion;
   - A pulse oximeter and electronic sphygmomanometer with a fail-safe mechanism;
   - Necessities to perform an emergency tracheotomy or cricothyroidectomy.

4. **Deep Sedation and General Anesthesia**
   - Sufficient quantity of oxygen and apparatus to control the flow and concentration;
   - Stethoscope and sphygmomanometer;
   - Necessities for artificial ventilation, i.e., masks of appropriate sizes, a complete selection of oral “airways”, etc.;
• An antipollution system for the evacuation of anesthetic gases;
• Magill forceps;
• Necessities for endotracheal intubation, appropriate tubes and laryngoscopes;
• An emergency drug kit as detailed in annex 4, with medication for cardiopulmonary resuscitation or treatment of shock, cardiac failure, cardiac arrhythmia and an allergic reaction, etc.;
• Necessities for intravenous perfusion;
• A pulse oximeter and electronic sphygmomanometer with a fail-safe mechanism;
• Necessities to perform an emergency tracheotomy or cricothyrodectomy;
• A cardiac monitor or a cardioscope;
• A low pressure fail-safe mechanism when a ventilator is used;
• Calibrated vaporizers allowing for the exact flow of the anesthetic substance for general anesthesia;
• A capnometer with a fail-safe mechanism;
• A defibrillator;
• A neuromuscular stimulator;
• A thermometer to measure the patient’s temperature;
• The equipment used to provide general anesthesia must meet the standards of the Canadian Standards Association (CSA).
ANNEX 2

RECOVERY ROOM : “Notice of conformity”

In order to assure the safety of patients, the following measures should be respected:

1. A sedative agent (oral pathway) and nitrous oxide used alone or in combination with a sedative agent (oral pathway)
   - The patient may be discharged (see: discharge criteria) when they are alert, properly oriented and ambulatory.

2. One or more sedative agent(s) (parenteral pathway) and multiple sedative agents (oral pathway):
   - The recovery room will be used for the patient’s recovery from the completion of the operative procedure until the moment the patient is discharged;
   - Oxygenation is continually monitored using a saturometer (pulse oximeter);
   - Blood pressure is continually monitored;
   - Oropharyngeal suction and a reserve source of oxygen must be available in the recovery room;
   - The operatory chair can serve as a place for recovery;
   - The patient may be discharged (see: discharge criteria) when they are alert, properly oriented and ambulatory.

3. Deep Sedation and General Anesthesia
   - Oxygenation is continually monitored using a saturometer (pulse oximeter);
   - Ventilation is continually monitored using a capnometer for the intubated or mechanically ventilated patient;
   - Monitoring cardiovascular function by the continual monitoring of blood pressure and the use of a cardioscope;
   - Oropharyngeal suction and a reserve source of oxygen must be available in the recovery room;
   - The patient may be discharged (see: discharge criteria) when they are alert, properly oriented and ambulatory.

Discharge Criteria
1. Patient alert and well oriented;
2. Vital signs stable within acceptable limits;
3. Accompanied by a responsible adult capable of noticing an eventual complication;
4. Allocating sufficient time after the administration of an antogonistic medication (naloxone, flumazenil) in order to assure that the patient does not return to a state of sedation after the effect dissipates;
5. Review written instructions: diet, medication, authorized activities, emergency telephone number.
ANNEX 3
SEDATION / ANESTHESIA RECORD : “Notice of conformity”

A “work sheet” is required for conscious sedation with multiple sedative agents (oral pathway), conscious sedation (parenteral pathway), deep sedation and general anesthesia.

This sheet must contain the following information:

- Patient identification (name, surname, sex, date of birth, height, address and telephone number);
- Pre-anesthetic consultation recommendations, ASA status and status of being on an empty stomach;
- Type of sedation or general anesthesia, procedure used;
- Nature of intervention;
- Site of venous puncture, size of endotracheal tube;
- Date/time of start and completion of sedation/anesthesia;
- Date/time of start and completion of the procedure;
- Medications: dosage, hour and pathway of administration;
- Pre and postoperative vital signs (blood pressure, respiratory and heart rate and the hour these were taken);
- Periodical description of the patient’s level of consciousness;
- Record readings from different monitors (saturometer, capnometer, etc.);
- Oxygen concentration and its flow;
- Incidents occurring during the procedure;
- Discharge criteria (oriented, ambulatory, etc.) and facts relative to the health status of the patient;
- Time of discharge and name of the responsible individual accompanying the patient;
- Note to the fact that advice relative to what is used has been reviewed with and has been given in writing to the patient/accompanying individual;
- Name of the dentist, anesthesiologist, inhalotherapist, whatever the case may be;
- Anesthesiologist’s signature.
ANNEX 4
EMERGENCY DRUG KIT: “Notice of conformity”

Conscious sedation

1. A sedative agent (oral pathway); nitrous oxide alone or in combination with a sedative agent (oral pathway)

   A basic emergency drug kit includes:
   - epinephrine;
   - nitroglycerin;
   - parenteral antihistamine (e.g. - Benadryl);
   - bronchodilator (e.g. - Salbutamol);
   - parenteral vasopressor (e.g. - Ephedrine);
   - parenteral anticholinergic (e.g. - Atropine);
   - parenteral corticosteroid (e.g. - Solucortef).

2. One or more sedative agent(s) (parenteral pathway) and multiple sedative agents (oral pathway)

   - A basic emergency drug kit (see #1);
   - Intravenous lidocaine;
   - Flumazenil if benzodiazepines are used;
   - Naloxone if narcotics are used;
   - Physiological serum for intravenous administration.

3. Deep sedation and general anesthesia:

   - A basic emergency drug kit (see #1);
   - Intravenous lidocaine;
   - Flumazenil if benzodiazepines are used;
   - Naloxone if narcotics are used;
   - Physiological serum for intravenous administration;
   - Reversal agents for any curare used;
   - Dantrolene if agents associated with malignant hyperthermia are used.