IV Procedural Sedation and Analgesia for Adults

STANDARD

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Originating committee: Non-Hospital Medical and Surgical Facilities Program Committee
Preamble

The Non-Hospital Medical and Surgical Facilities Program (NHMSFP) Committee develops standards to assist physicians in meeting high standards of medical practice and conduct. A standard reflects the minimum standard of professional behaviour and ethical conduct on a specific topic or issue expected by the NHMSFP Committee of all physicians. Standards also reflect the relevant legal requirements and are enforceable under the Health Professions Act, RSBC 1996, c.183 (HPA) and College Bylaws under the HPA.

College’s Position

Intravenous procedural sedation and analgesia must only be performed in non-hospital facilities approved and accredited by the College of Physicians and Surgeons of BC and only in facilities where the necessary personnel, resuscitation equipment and supplies are available. The purpose of this standard is to allow qualified physicians and other qualified regulated health-care professionals to administer IV procedural sedation and analgesia in the non-hospital medical/surgical facility setting and to provide patients with the benefits of IV sedation/analgesia while minimizing the associated risks. The standards are meant to ensure safety, quality, and consistency of patient care.

Terms of Reference

For the purposes of these standards the following distinguishing terms must apply in non-hospital medical/surgical facilities:

1. Intravenous procedural sedation and analgesia given under monitored anesthesia care (MAC)
   - Anesthesiologist assessment and management of a patient during a procedure or treatment
   - Administration of intravenous sedatives, hypnotics, analgesics and anesthetic medications commonly used for the induction/maintenance of general anesthesia (GA)
     - Anesthesiologist administering the medications is qualified to recognize “deep” sedation, manage its consequences and adjust the level of sedation to a “moderate” or lesser level
     - Anesthesiologist must be able to convert to a GA when necessary and to intervene to rescue a patient’s airway
     - Allows for the safe administration of a maximal depth of sedation in excess of that provided during intravenous procedural sedation administration

2. Intravenous procedural sedation and analgesia (IV-PSA)
   - Physician (non-anesthesiologist), and/or other regulated health-care professionals qualified to administer IV medication and provide the appropriate assessment and management of a patient during a procedure or treatment
• Administration of sedatives, hypnotics and analgesics only; medications used for the induction/maintenance of general anesthesia (e.g. propofol) must not be administered
• The qualified practitioner administering the medications must be able to recognize “deep” sedation, manage its consequences and adjust the level of sedation to a “moderate” or lesser level

Exclusions from the standards include the following:

1. Minimal sedation (anxiolysis) that entails minimal risk
   Examples: Peripheral nerve blocks, local or topical anesthesia, and either (a) less than 50% nitrous oxide in oxygen with no other sedative or analgesic medications by any route, or (b) a single, oral sedative or analgesic medication administered in doses appropriate for the treatment of anxiety or pain.

2. General or major conduction anesthesia (e.g. spinal or epidural/caudal block)

Definitions Pertaining to All College Guidelines

mandatory  Required by authority; obligatory, compulsory. A compulsory descriptor identified in NHMSFP standards and guidelines. Unfulfilled mandatory descriptors will result in immediate requirements with specified time frames for follow-up.

recommendation  Expression of an action which is advisory in nature.

requirement  Expression of an action which is essential or mandatory.

shall or must  Indicates mandatory requirement and best practice (i.e. the minimum standard).

Abbreviations

ACLS  advanced cardiac life support
BCLS  basic cardiac life support (CPR-level health professional)
ASA  American Society of Anesthesiology patient’s anesthesia physical status classifications according to risk (see Appendix F)
CAS  Canadian Anesthesiologists’ Society
CDSBC  College of Dental Surgeons of BC
CLPNBC  College of Licensed Practical Nurses of BC
CRNBC  College of Registered Nurses of BC
CSA  Canadian Standards Association
**IV-PSA**

intravenous procedural sedation and analgesia

A qualified physician or other qualified regulated health-care professional (e.g. RN) is present to administer IV sedation and analgesia and to monitor patient. May not administer medications that are used for induction/maintenance of general anesthesia (e.g. propofol).

**LPN**

licensed practical nurse

**MAC**

monitored anesthesia care

Anesthesiologist is present to administer IV sedation and analgesia and to monitor patient.

**NHMSFs**

non-hospital medical/surgical facilities

**PACU**

post-anesthesia care unit

**OR**

operating room

**RN**

registered nurse

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**Glossary of Terms**

**adult**

Persons 19 years of age or older. Confirms the rights of adults to make their own health-care decision, either independently or with support from family and friends. Adults can be given health care only with their consent (*BC’s Adult Guardianship Laws: Supporting self-determination for adults in British Columbia*).

**Aldrete Scale**

Clinical scale used as criteria for patient discharge from PACU. The Aldrete scale scores the patient on mobility, respiratory status, circulation, consciousness, and pulse oximetry.

**amnesia**

Loss of memory (e.g. midazolam-induced antegrade amnesia used for surgical procedures).

**anesthesiologist**

All licensed medical practitioners with privileges to administer anesthetics. The only route to specialist recognition in anesthesia in Canada is through the Royal College of Physicians and Surgeons of Canada’s certification process. The Canadian Anesthesiologists’ Society (CAS) acknowledges the fact that remote communities often lack the population base to support a specialist anesthetic practice. In these communities, appropriately trained family physicians may be required to provide anesthesia services. CAS guidelines are intended to apply to all anesthesiologists in Canada.

**antagonist**

A drug that competes with agonists for opioid receptor binding sites; can displace agonists, thereby inhibiting their action (e.g. naloxone).

**anxiolysis**

Reduction of anxiety utilizing a sedative agent such as benzodiazepine or nitrous oxide.
appropriateness  The degree to which service is consistent with requirements and current best practice.

benzodiazepines  Any of a group of psychotropic agents used as anti-anxiety agents, muscle relaxants, sedatives, and hypnotics (e.g. midazolam, diazepam, lorazepam).

best practice  An approach that has been shown to produce superior results, selected by a systematic process, and judged as exemplary, or demonstrated as successful. A best practice is a technique or methodology that, through experience, research and expert opinion has proven to reliably lead to a desired result.

child  A patient 14 years of age or less.

college  Professional regulatory body.

committee  Non-Hospital Medical and Surgical Facilities Program Committee.

competence  Guarantee that an individual's training, knowledge and skill are appropriate to the service provided and assurance that the training, knowledge and skill levels are regularly evaluated.

guideline(s)  An instructional guide or reference to indicate a course of action or appropriate options. They incorporate the most current evidence-based or consensus-based clinical information into a framework that promotes the best patient outcomes. They do not define a standard of care, but may inform the standard of care. They are not intended to replace the professional judgment of physicians.

half-life  The time it takes for the plasma concentration to decrease by 50%. Five half-lives are required for a drug to be effectively eliminated from the body.

ketamine  A dissociative anesthetic agent capable of producing amnesia, analgesia and all degrees of sedation, including general anesthesia. Must only be administered by an anesthesiologist in the non-hospital setting or by a non-anesthesiologist physician who has been granted privileges to administer IV ketamine in the non-hospital setting by the NHMSFP Committee. Nurses are not permitted to draw up or administer IV ketamine.

opioid  Preferred to the term “narcotic;” refers to natural, semi-synthetic, and synthetic drugs that relieve pain by binding to opioid receptors in the nervous system. Commonly used in conjunction with sedatives for procedural sedation (e.g. morphine, fentanyl, meperidine).

practitioner  An individual who practises a learned profession and supplies health-care services (e.g. physician, registered nurse).

policy  A principle or guideline that governs activities in a facility that employees are expected to follow.
protocol Description of the steps to be taken in a procedure. Formal ideas, written plans and expectations concerning the actions of those involved in patient care.

qualified Having the education, abilities, qualities, training, or certification to perform a particular job or duties.

regulated health-care professional Applies to a health-care professional who is licensed and in good standing with their regulatory college.

reversal agents Agents that act by interfering with the benzodiazepine or narcotic’s action (e.g. flumazenil for benzodiazepines and naloxone for narcotics).

sedation A state of reduced excitement or anxiety that is induced by the administrative of a sedative agent.

sedative An agent that depresses the central nervous system decreasing functional activity, diminishes irritability, and allays excitement (e.g. barbiturates and benzodiazepines are the two major categories of sedative-hypnotics).

standard That which is established by authority as a model, criterion, or rule and serves as a basis for comparison. Authoritative statements that describe the responsibilities for which individuals are accountable. Reflect the values and priorities of the profession. An achievable level of performance against which actual performance is compared.

I. Practitioners’ Qualifications for Administering IV Sedation/Analgesia in a Non-hospital Medical/Surgical Facility

An anesthesiologist who administers IV procedural sedation/analgesia under monitored anesthesia care in a NHMSF must:

- be licensed and be in good standing with the College of Physicians and Surgeons of BC
- hold privileges in a facility approved by the College
- hold hospital privileges in the practice of anesthesia or hold current ACLS training and have completed an airway management course acceptable to the College if they have not practised anesthesia in a hospital setting within three years
- adhere to the practice of anesthesia as recommended by the Canadian Anesthesiologists’ Society
- participate in emergency mock drills at least every six months which may include but are not limited to cardiac arrest, difficult airway management, anaphylaxis, hypovolemia, unresponsiveness, seizure, and stroke

A non-anesthesiologist physician who administers IV procedural sedation and analgesia in a NHMSF must:

- be licensed and be in good standing with the College of Physicians and Surgeons of BC
- hold privileges in a facility approved by the College
• hold hospital privileges unless otherwise approved by the College of Physicians and Surgeons of BC
• hold current ACLS training and possess the requisite knowledge and skills to assess the patient care requirements during procedural sedation and recovery
• participate in emergency mock drills at least every six months which may include but are not limited to cardiac arrest, difficult airway management, anaphylaxis, hypovolemia, unresponsiveness, seizure and stroke

All other qualified and regulated health-care professionals (e.g. registered nurses) who administer IV sedation and/or monitor a patient under IV sedation in a NHMSF must:

• be licensed and be in good standing with their professional regulatory agency (e.g. College of Registered Nurses of BC)
• hold current ACLS training and possess the requisite knowledge and skills to assess the patient care requirements during procedural sedation and recovery
• participate in emergency mock drills at least every six months which would include but are not limited to cardiac arrest, difficult airway management, anaphylaxis, hypovolemia, unresponsiveness, seizure and stroke
• It is further required that all nurses* administering IV sedation and/or monitoring a patient under IV sedation complete a procedural sedation management course and possess the competencies required to carry out this activity
  *Post-anesthesia care registered nurses are not required to complete a procedural sedation management course as they acquire the necessary education to administer IV sedation and/or monitor a patient under IV sedation through their education and experience in critical care/post-anesthesia care nursing.

II. Staffing Requirements

During procedures when an anesthesiologist is present, the following staffing requirements must be met:

1. When the scrub role is required, there must be a minimum of two perioperative registered nurses* who are dedicated to the operating room from the start to the finish of each surgical procedure. One nurse is assigned to the scrub role and the second is assigned to the circulating role. Both nurses must hold perioperative certification and/or the equivalent in training and qualifications to perform their expected duties.
   *The scrub role may be assigned to either a registered nurse or a licensed practical nurse who has successfully completed an accredited operating room course. A licensed practical nurse must not assume the circulating role in a NHMSF.
2. If the scrub role is not required for a procedure, a minimum of one registered nurse in the circulating role is required. The circulating registered nurse must have perioperative certification and/or the equivalent in training and qualifications to perform their expected duties.
In the absence of an anesthesiologist when the operating physician and/or other qualified regulated health-care professional (e.g. registered nurse) administers the IV sedation, the following staffing and training must be met:

1. When the scrub role is required there must be a minimum of two perioperative registered nurses* who are dedicated to the operating room from the start to the finish of each surgical procedure. One nurse is assigned to the scrub role and the second is assigned to the circulating role. Both nurses must have perioperative certification and/or the equivalent training and qualifications to perform their expected duties.

   * The scrub nurse role may be assigned to either a registered nurse or a licensed practical nurse who has successfully completed an accredited operating room course. A licensed practical nurse must not assume the circulating role in a NHMSF.

2. If the scrub nurse role is not required for the procedure a minimum of one registered nurse in the circulating role is required. The circulating registered nurse must have perioperative certification and/or the equivalent in training and qualifications to perform their expected duties.

3. In addition to the above and depending on patient acuity and the complexity of the procedure, it may be necessary for an additional registered nurse to be present and dedicated solely to the monitoring of the patient.

III. Practice Guidelines

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

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

For information on principles of IV-PSA, its indications, physiological contraindications refer to appendices A to I.

- Indications for IV-PSA (Appendix A)
- Relative contraindications include anatomical or medical conditions that could potentially complicate sedation, as determined by the attending physician (Appendix B)
- Principles of procedural sedation and analgesia. (Appendix C)
- Definitions of sedation depth (Appendix D)
- Discharge from one-to-one monitoring criteria (Appendix E)
- Discharge from facility criteria. (Appendix E)
- American Society of Anesthesiology (ASA) patient classification status (Appendix F)
- College of Physicians and Surgeons of BC Fasting Guideline (Appendix G)
• College of Physicians and Surgeons of BC Position Statement on Single-use Devices and Multi-
dose Vials (Appendix H)
• College of Physicians and Surgeons of BC Obesity Guideline (Appendix I)
• Cardiovascular disease classification chart (Appendix J)

a. **Medical records**

A permanent record of all IV procedural sedation/analgesia procedures will be maintained and must include at a minimum:

- name and address of patient
- names of physicians and other health-care professionals directly involved in patient care
- procedure performed
- informed consent
- preoperative history and physical
- preadmission anesthetic record
- record of medications
- laboratory and/or diagnostic testing as indicated by the patient’s medical status, drug therapy or nature of the procedure
- anesthetic record or a specific IV procedural sedation document
- operative report
- nursing record
- post-anesthesia recovery record
- discharge record

b. **Patient selection and screening**

- ASA classification must be recorded for each patient (see Appendix F).
- Only patients at categories I and II risk level as defined by the American Society of Anaesthesiologists should normally be accepted in the facility; however, risk level category III patients may be treated there if the patient’s disease is not expected to be affected by the anaesthetic.
- College of Physicians and Surgeons of BC Obesity Guideline should be followed (see Appendix I).
- Pre-procedure health evaluation to include risk assessment, health history, review of systems, statement as to airway patency, vital signs and physical examination, patient BMI.
- The patient or guardian will be informed of risks and benefits of the procedure and written informed consent for IV procedural sedation and analgesia will be obtained and documented. Refer to the BC Health Care (Consent) and Care Facility (Admission) Act.
c. **Patient admission**
   - The staff members managing the patient care will confirm with the patient that he/she has a responsible adult to accompany them home. If a responsible adult is not available to accompany the patient home post-procedure, the planned procedure will be cancelled.
   - RN reviews and ensures documentation of pre-procedure health evaluation including allergies, BMI and any problems with previous sedation or anesthetics.
   - Ensures appropriate fasting guidelines have been followed.
   - Provides patient with information regarding procedure, nature of medications and post procedure care.
   - Obtain and document baseline data: heart rate and rhythm; respiratory rate and status; blood pressure; temperature; mental status; ability to ambulate; and pain level.
   - Initiate IV access or tested saline lock is acceptable.

d. **Patient care during procedure**
   - **Procedure: Preparation Phase**
     - Ensure all supplies and equipment is fully stocked and functional
     - Prepare and label all medications to be administered; have ready reversal agents
   - **Procedure: Administration Phase**
     - A one-to-one RN/patient ratio is recommended to be maintained during the administration of IV-PSA (i.e. the RN should have no other responsibilities during the procedure and will not leave the patient unattended or engage in tasks that will compromise continuous monitoring)
     - If the scrub nurse role is **not** required for the procedure a minimum of one registered nurse in the circulating role is required to be present during the procedure to assist and monitor the patient; the circulating registered nurse must have perioperative certification and/or the equivalent in training and qualifications to perform their expected duties
     - In addition to the above and depending on patient acuity and the complexity of the procedure, it may be necessary for an additional registered nurse to be present and dedicated solely to the monitoring of the patient
   - **Administering IV medications**
     - IV-PSA medications should be given in small, incremental doses that are titrated until the desired level is achieved
     - IV-PSA ketamine administered by a non-anesthesiologist physician is limited to a single weight-based dose of 0.25 mg/kg to a maximum dose of 20 mg; nurses are not permitted to draw-up or administer the IV ketamine
   - **Monitor continuously** – patient responses to IV-PSA which must include:
o ECG,* BP, respiratory status, oxygen saturation, level of consciousness (ability to follow directions and maintain own airway), skin colour/condition and pain assessment. CO₂ monitoring as required.** The ability to monitor temperature shall be available but it is not required to be continuously monitored. Baseline admission temperature is recommended and then taken as appropriately if abnormal or if there is a change in the patient’s condition.

*Initiate, monitor and interpret ECG rhythms as indicated i.e. ASA score >2 previous cardiac disease and/or dysrhythmias, patient complaints and/or observations of cardiorespiratory symptoms e.g. SOB, irregular pulse, decreased SpO₂), patient presently taking medications with stimulant and/or depressant effects. Only ASA I and II patients should be accepted in non-hospital facilities. An ASA III patient may only be accepted for minor procedures at the discretion of an anesthesiologist and if the patient’s disease is not expected to be affected by the level of anesthesia/IV sedation and analgesia.

**Establish end-tidal CO₂ during monitored anesthesia care (MAC) as determined by the anesthesiologist present when:

- deep sedation is a probable or planned outcome
- moderate or dissociative sedation is a probable or planned outcome in any patient with ASA III classification
- the respiratory rate assessment may be difficult due to procedural draping or positioning

Record the following vital signs every five minutes three times after initial and subsequent sedation and analgesia doses and the every 15 minutes thereafter. Recording of vital signs must be recorded every five minutes for patients in deep sedation:

- BP, HR, respiratory rate and depth, oximetry reading, level of consciousness/sedation
- provide reassurance and emotional support
- respond immediately to adverse events or significant changes in baseline parameters—if an unintentional state of general anesthesia (unrousable even with painful stimulus) is produced as a result of sedation administered, all health-care professionals must recognize this as an emergency situation and must attend to the patient’s well-being, by suspending the procedure and attending to resuscitative interventions
- maintain continuous IV access
- procedural record must be completed and signed by a regulated health-care professional
- Patient-specific IV-PSA orders will be completed and signed by the physician

Supplemental oxygen should be provided to ensure oxygen saturation levels are maintained at 94% or greater or equal to pre-procedural status.
e. **Procedure: Recovery Phase**

- The anesthesiologist or other competent physician shall remain on the premises until the patient receiving IV procedural sedation and analgesia meets predetermined recovery criteria.
- **Monitor continuously** ECG, BP, Oximetry. Temperature device available and monitored and recorded as necessary. Following receiving IV procedural sedation and analgesia patients must be monitored until they return to their pre-procedural status.
- **Continue monitoring and record** vital signs, level of sedation (LOS), mental status and pain every 15 minutes until discharge from facility criteria are met (Appendix E). Inform physician immediately of any adverse response or significant changes in baseline parameters.

The patient must remain in the recovery area for a minimum of:
- 30 minutes after the last dose of IV sedation or analgesia is given
- 120 minutes after the last dose of IV reversal agent is given

Maintain IV access until discharge criteria are met.

- A qualified regulated health-care professional must be dedicated to monitoring the patient during and after IV sedation and analgesia and must stay with the patient until such time as the patient meets the discharge from one-to-one monitoring criteria (see Appendix E).

f. **Discharge**

- Discharge criteria must be met prior to discharge from the patient from the facility (see Appendix E).
- The patient and/or guardian/responsible adult will be instructed in the after care of the patient. Verbal and written discharge instructions will be given to the patient and/or responsible adult and must include:
  - when to resume taking medications taken before procedure
  - new prescriptions
  - wound care
  - diet and activity restrictions, additive effects of alcohol and other sedative drugs
  - no driving or operating dangerous machinery for at least 24 hours
  - follow-up care, telephone contact numbers
  - responsible adult to remain with patient commonly for 24 hours
  - written materials applicable to procedure
- Responsible person should remain with patient for the length of two half-lives of the drugs administered for IV-PSA.

g. **Equipment and supplies**

- non-invasive blood pressure monitor
• pulse oximeter with audible signal
• ECG monitor with audible signal
• defibrillator (AED is acceptable for Class 2 facility)
• manual resuscitation bag-valve-mask
• end-tidal CO₂ monitor as indicated by anesthesiologist during MAC
• stethoscope
• means to measure temperature
• IV catheters, supplies and IV fluids
• procedural sedative, analgesic and reversal agents
• emergency medications as per the Emergency Cart Medication and Equipment accreditation standard for a class 2 IV procedural sedation and/or analgesia facility

Basic airway management equipment
• 100% oxygen source (2 E tanks available) and supplies (masks of appropriate sizes and nasal prongs)
• suction machine and supplies (suction catheters and tonsil tip)
• oral and nasal airways – assortment of sizes appropriate to patient

Advanced airway management equipment
• laryngeal mask airways – variety of appropriate sizes (e.g. sizes 3, 4, 5)
• laryngoscopes x 2 with appropriate range of blades sizes
• endotracheal tubes – assortment of cuffed sizes cuffed 6.5, 7.0, 7.5, 8.0, 8.5, 9.0 mm ID and stylets

h. Medication management
Controlled substances/narcotics must be managed in a manner that permits full auditing of the substances from acquisition through to patient administration and wastage.

i. Safety
• All equipment and supplies will be appropriate, CSA-approved and calibrated according to the manufacturers’ recommended standards.
• All equipment must undergo annual inspection and maintenance by qualified personnel (i.e. biomedical engineer). Records indicating conformity to CSA and CAS regulations and inspection and maintenance must be retained by the facility.
• Emergency mock drills must be performed at least every six months which would include but are not limited to: cardiac arrest, difficult airway management, anaphylaxis, hypovolemia, unresponsiveness, seizure, and stroke. All staff must participate in mock drills with attendance and specified drills practiced documented.
j. **Sterile processing management**
   
   The Ministry of Health document (2011) *Best Practice Guidelines for Cleaning, Disinfection and Sterilization of Medical Devices in Health Authorities* must be incorporated into facility policy and followed.

k. **Physical space**
   
   - There must be adequate space in facility for the health team to deliver safe, private and efficient patient care in all patient areas.
   - Emergency medical services and fire department access to facility is mandatory.

l. **Infection prevention and control management**
   
   - Routine practices must be used in the handling of all patients, care items and medical devices.
   - Sufficient hand-washing sinks must be available and hand washing protocol posted as a visible reminder of the importance for staff to wash their hands.
   - Appropriate personal protective devices must be employed by all staff.
   - Aseptic and/or Sterile technique must apply as appropriate to procedure(s) performed.
   - All sharps devices must be handled appropriately and disposed of in a dedicated biohazard puncture resistant container (see WorksafeBC Guideline at www.worksafebc.com – Reference OSHR 6.36(1)).
   - Single-use medical devices (e.g. syringes) must not be reused (see Appendix H).
   - Ensure that potentially infectious materials or agents are not transferred from one patient to another. Special attention must be given to syringes, infusion pump administration sets and multi-dose mediation vials.

m. **Quality assurance**
   
   A system for recording and reporting adverse events must be in place.

n. **Manuals**
   
   - Policies and procedures pertaining to intravenous sedation and analgesia must be current, complete and available for staff review.
   - Education materials relevant to the services provided at the facility.
Appendix A

**Indications for PSA**

**Indications for IV procedural sedation**

- To provide analgesia and amnesia during painful diagnostic and therapeutic, and surgical procedures
- To minimize the adverse psychological effect associated with medical and surgical procedures and interventions

**Potential indications for adult procedural sedation and analgesia**

- colonoscopy
- upper GI endoscopy
- flexible sigmoidoscopy
- sclerotherapy
- variceal banding
- polypectomy
- bronchoscopy
- therapeutic dilatation and curettage
- dilation and curettage
- hysteroscopy
- limb manipulations
- Pacemaker/generator change
- wound care management
- dental procedures
- cystoscopy
- pterygium
- cataract extraction/intraocular lens insertion
- blepharoplasty
- ptosis
- insertion of venous access devices
APPENDIX B

POTENTIAL CONDITIONS THAT MAY PROMPT CONSULTATION PRIOR TO PSA BY NON-ANESTHESIOLOGISTS

- Head injury associated with loss of consciousness or altered level of consciousness.
- CNS lesions associated with increased intracranial pressure.
- History of airway instability, tracheal surgery or stenosis or tracheal malacia.
- Facial, dental or airway abnormality that might inhibit or preclude tracheal intubation.
- Allergy or sensitivity to relevant medications.
- Failed previous sedation/extreme anxiety.
- Difficult airway syndrome/abnormal face, mouth, neck, dentition.
- Sleep apnea (Diagnosed).
- Stridor, airway obstruction.
- Increased intracranial pressure.
- Severe neurological impairment.
- Patients at high risk for vomiting or aspiration.
- Spinal instability.

**Unstable blood glucose levels:**
- Glucose < 4 > 12 requires management and may require consultation with appropriate physician to manage glucose control.

**Hemodynamically unstable:**
- Systolic BP > 200
- Diastolic BP > 100
- Systolic BP < 90
- Should prompt consultation for management and may postpone procedure.

**Severe cardio-vascular disease:**
- Any cardiac condition with functional class NYHA or CCS Class III (see Appendix J) should prompt consultation and may delay procedure.

**Severe obesity:**
- BMI > 31 should prompt consultation for moderate or deep sedation.

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Note: This is a CONTROLLED document. Any documents appearing in paper form should ALWAYS be checked against the server file versions (Electronic version) prior to use. The electronic version is always the current version.

Date: (12/2007)
APPENDIX C

PRINCIPLES OF PROCEDURAL SEDATION AND ANALGESIA

Sedation and analgesia are distinct processes that must be tailored to each individual patient and each individual situation. Different procedures demand different levels of sedation and analgesia (see Appendix A).

"Procedural sedation and analgesia" refers to a continuum of endpoints. The optimal endpoint in any situation will depend on the procedure to be performed, the painfulness of the procedure, and the patient’s anxiety level and cardiorespiratory reserve.

The urgency of the procedure and the desired depth of sedation should be balanced against the risk of aspiration in all cases, particularly when fasting may be inadequate.

Children, the elderly, and patients with underlying cardiorespiratory disease constitute higher risk groups for PSA. Practitioners should proceed with sedation only if their level of expertise and experience justifies doing so.
Appendix D

Continuum of Depth of Sedation

Definition of General Anesthesia and Levels of Sedation/Analgesia

<table>
<thead>
<tr>
<th></th>
<th>Minimal sedation (anxiolysis)</th>
<th>Moderate sedation/analgesia (conscious sedation)</th>
<th>Deep sedation/anesthesia</th>
<th>General anesthesia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Responsiveness</td>
<td>Normal response to verbal stimulation</td>
<td>Purposeful* response to verbal or tactile stimulation</td>
<td>Purposeful* response after repeated or painful stimulation</td>
<td>Unrousable even with painful stimulus</td>
</tr>
<tr>
<td>Airway</td>
<td>Unaffected</td>
<td>No intervention required</td>
<td>Intervention may be required</td>
<td>Intervention often required</td>
</tr>
<tr>
<td>Spontaneous ventilation</td>
<td>Unaffected</td>
<td>Adequate</td>
<td>May be inadequate</td>
<td>Frequently inadequate</td>
</tr>
<tr>
<td>Cardiovascular function</td>
<td>Unaffected</td>
<td>Usually maintained</td>
<td>Usually maintained</td>
<td>May be impaired</td>
</tr>
</tbody>
</table>

**Minimal sedation (anxiolysis)**
A drug-induced state during which patients respond normally to verbal commands. Although cognitive function and coordination may be impaired, ventilatory and cardiovascular functions are unaffected.

**Moderate sedation/analgesia (conscious sedation)**
A drug-induced depression of consciousness during which patients respond purposefully* to verbal commands, either alone or accompanied by light tactile stimulation. No interventions are required to maintain a patient airway, and spontaneous ventilation is adequate. Cardiovascular function is usually maintained.

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

**General anesthesia**
A drug-induced loss of consciousness during which patients are not arousable, even by painful stimulation. The ability to independently maintain ventilatory function is often impaired. Patients often require assistance in maintaining a patent airway, and positive pressure ventilation may be required because of depressed spontaneous ventilation or drug-induced depression of neuromuscular function. Cardiovascular function may be impaired.
Because sedation is a continuum, it is not always possible to predict how an individual patient will respond. Hence, practitioners intending to produce a given level of sedation should be able to rescue patients whose level of sedation becomes deeper than initially intended. Individuals administering moderate sedation/analgesia (conscious sedation) should be able to rescue patients who enter a state of deep sedation/analgesia, while those administering deep sedation/analgesia should be able to rescue patients who enter a state of general anesthesia.

*Reflex withdrawal from a painful stimulus is not considered a purposeful response.

**Reference:** American Society of Anesthesiologists *Practice Guidelines for Sedation and Analgesia by Non-Anesthesiologists* (page 1005).
## Appendix E

### APPENDIX E

**Discharge Criteria - Modified Aldrete Scale – Revised**

**Discharge Criteria from One to One Monitoring:**

- The score for Criteria 3 - Respiration must be 2.
- The score for Criteria 4 - O₂ saturation must be 1 or greater.
- The **TOTAL** score for criteria 1-5 must be 8 or greater.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>0</th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Level of Consciousness/</td>
<td>Non-responsive</td>
<td>Responds to verbal stimuli but falls asleep readily.</td>
<td>Awake &amp; oriented or equivalent to pre-op status.</td>
</tr>
<tr>
<td>Sedation</td>
<td>or responsive</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>only to painful</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>stimuli.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>below 100 mmHg.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Respiration</td>
<td>Apneic – requires</td>
<td>Shallow, irregular breathing.</td>
<td>Able to breathe deeply and cough on command or equivalent to pre-op status.</td>
</tr>
<tr>
<td></td>
<td>airway support.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. O₂ Saturation</td>
<td>SpO₂ below or</td>
<td>SpO₂ above 92% on oxygen.</td>
<td>SpO₂ above or equal to 94% on room air or equivalent to pre-op.</td>
</tr>
<tr>
<td></td>
<td>equal to 92% on</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>oxygen.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Activity Level</td>
<td>Unable to lift</td>
<td>Lifts head or moves extremities voluntarily or on command.</td>
<td>Lifts head and moves all extremities spontaneously. Is able to ambulate consistent with surgical procedure, or equivalent to pre-op status.</td>
</tr>
<tr>
<td></td>
<td>head or move</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>extremities</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>voluntarily or</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>on command.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Discharge from Unit/Facility/Transfer Criteria**

- No reversal agents in previous 2 hr.
- The score for criteria 1-5 must be 10.
- A **TOTAL** score for criteria 1-8 must be 13 or greater.

|                            |                 |                                                                  |                                                                  |
| 7. Bleeding                | Growing area of | Dressing/operative site requires extra padding but marked and not increasing; hematoma present but not growing. Indications of potential for internal bleeding absent. | Dressing/operative site dry and clean. No evidence of internal or external bleeding as result of procedure. |
|                            | bleeding on     |                                                                  |                                                                  |
|                            | dressing/hematoma |                                                                  |                                                                  |
|                            | growing.        |                                                                  |                                                                  |
|                            | Symptoms of     |                                                                  |                                                                  |
|                            | internal bleeding |                                                                  |                                                                  |
|                            | present.        |                                                                  |                                                                  |

**Note:** This is a **CONTROLLED** document. Any documents appearing in paper form should **ALWAYS** be checked against the server file versions (Electronic version) prior to use. The electronic version is always the current version.

**Date:** (12/2007)

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Appendix F

American Society of Anesthesiologists (ASA)

Physical Status Classification System

Only patients at categories 1 and 2 risk level as defined by the American Society of Anesthesiologists should normally be accepted in the facility. However, risk level category 3 patients may be treated there if the patient’s disease is not expected to be affected by the anesthetic.

ASA I  A normal healthy patient
        e.g.  Healthy patient without any systemic medical problems other than surgical.

ASA II  A patient with mild systemic disease
        e.g.  Patient who smokes and has hypertension, which is well controlled.

ASA III A patient with severe systemic disease
        e.g.  Patient with diabetes and angina. Takes medications, including insulin. angina – fairly stable.

ASA IV A patient with severe systemic disease that is a constant threat to life
        e.g.  Patient with diabetes, angina and congestive heart failure. Patient has dyspnea on mild exertion and chest pain.

ASA V  The moribund patient who is not expected to survive 24 hours with or without the procedure.
Appendix G

See Fasting Guideline.
Appendix H

Single Use Devices and Multi-dose vials (Non-Hospital Medical/Surgical Facilities)

Policy Update: November 3, 2008

Preamble

Due to recent findings and media coverage regarding two health-care facilities in Alberta and Saskatchewan concerning the re-use of syringes in the administration of medication between multiple patients, the College of Physicians and Surgeons of BC advises all non-hospital medical/surgical facilities to reinforce required policy and ‘best practice’ in the use of single-use devices and multi-dose vials.

Medical devices are categorized as single-use devices (SUDs) or as reusable devices. Plastic syringes, needles and cannulas are considered critical single-use devices and are designated by the manufacturer to be used only once, on one patient only. SUDs must not be reprocessed or used on another patient.

Potential infection control risks indicate the need for immediate implementation or reinforcement of existing infection prevention and control policies regarding the use of single-use devices. All health-care facilities have an obligation to protect patients and provide consistent quality of care.

The College’s Position

Facilities should consider first the interests, well-being and safety of their patients and avoid any situation that may put patients at risk. All non-hospital facilities are advised to continue or implement the following practices immediately:

1. Healthcare providers (physicians, nurse or anyone providing injections) must never reuse a needle, cannula or syringe for multiple patients or reuse a needle, cannula or syringe to withdraw medication from a vial.

2. Needles, cannulas and syringes must be discarded immediately following single use.

3. It is not safe practice to change a needle and reuse a syringe under any circumstance. Changing the needle alone does not prevent cross-contamination.

4. Whenever possible, single-use medication vials should be used instead of multi-dose vials.

5. Multi-use vials of medication should be assigned to single patients to reduce the risk of disease transmission.

6. If multi-dose vials must be used the following practices must be followed:
   - Once the protective cap is removed the vial must be dated and initialled by the healthcare provider.
• Use aseptic technique each time the multi-dose vial is accessed e.g. wipe the rubber stopper with alcohol gauze prior to entry.

• The vial must be discarded within seven days of opening.

• Multi-dose vials must be stored appropriately between uses per manufacturer instructions e.g. refrigerated or room temperature.

• Discard any multi-dose vial if the sterility is compromised or questionable.

• Each time a multi-dose vial is accessed the needle or cannula and syringe must be sterile and used only once.

7. Syringes, needles or cannulas are considered contaminated once used to access a patient’s intravenous bag or administration set.

8. Intravenous bags must not be used as a common source for multiple patients.

9. There must be written policies regarding the use of single-use medical devices and multi-dose vials.

Summary
The reuse of critical single-use syringes, needles or cannulas puts patients at risk of contracting blood-borne pathogens. The College of Physicians and Surgeons of BC advises all non-hospital facilities to take immediate action in assuring compliance with infection prevention and control guidelines for the use of single-use devices.

References:


Appendix I

College of Physicians and Surgeons of BC Obesity Guideline

The Non-Hospital Medical and Surgical Facility Committee has addressed the matter of complications and potential complications related to obesity and considers the following guidelines, which are based on BMI, to be appropriate for surgery in non-hospital medical/surgical facilities.

BMI = weight in kg / height in metres²

1. BMI < 29.9 ASA 1 or 2 – suitable for surgery
2. BMI 30 - 34.9 ASA 1 or 2
   a. Suitable for surgery only if two or fewer well controlled stable comorbid conditions exist and,
   b. The proposed surgery/anesthesia is not likely to aggravate or precipitate comorbid conditions – e.g., airway or neck surgery in sleep apnea patients.

Comorbid conditions include but are not limited to the following:
1. Established coronary heart disease
2. Other artherosclerotic diseases and/or hyperlipidemia
3. Hypertension
4. Type II Diabetes
5. Sleep Apnea
6. Elevated waist circumference, > 88 cm in women, > 102 cm in men

In considering the impact of comorbid conditions in obesity, the severity and acuity of these conditions, the effectiveness of the current medications, and the site and type of surgery, all need to be taken into consideration.

3. BMI 35-38 ASA 1 or 2
   Surgical procedures should be limited to minor peripheral procedures, with regional or local anesthesia.
4. BMI 38.1 or greater

Patients are not considered to be suitable for non-hospital surgery/medical facilities except under extraordinary situations which should be documented by the Medical Director of the facility, (eg., cataract procedures under topical anesthesia in “healthy” obese patients).

In such extraordinary circumstances the medical director is required to provide the reasons for the procedure being performed in a non-hospital medical/surgical facility and the outcome.
## Cardiovascular Disease Classification Chart

<table>
<thead>
<tr>
<th>Class</th>
<th>New York Heart Association Functional Classification</th>
<th>Canadian Cardiovascular Society Functional Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Patients have cardiac disease but <strong>without</strong> the resulting <strong>limitations</strong> of physical activity. Ordinary physical activity does not cause undue fatigue, palpitation, dyspnea, or anginal pain.</td>
<td>Ordinary physical activity, such as walking and climbing stairs, <strong>does not cause angina</strong>. Angins present with strenuous or rapid or prolonged exertion at work or recreation.</td>
</tr>
<tr>
<td>II</td>
<td>Patients have cardiac disease resulting in <strong>slight limitation</strong> of physical activity. They are comfortable at rest. Ordinary physical activity results in fatigue, palpitation, dyspnea, or anginal pain.</td>
<td><strong>Slight limitation</strong> of ordinary activity. Walking or climbing stairs rapidly, walking uphill, walking or stair climbing after meals, in cold, or when under emotional stress or only during the few hours after awakening. Walking more than two blocks on the level and climbing more than one flight of stairs at a normal pace and in normal conditions.</td>
</tr>
<tr>
<td>III</td>
<td>Patients have cardiac disease resulting in <strong>marked limitation</strong> of physical activity. They are comfortable at rest. Less than ordinary physical activity causes fatigue, palpitation, dyspnea, or anginal pain.</td>
<td><strong>Marked limitation</strong> of ordinary physical activity. Walking one to two blocks on the level and climbing more than one flight of stairs in normal conditions.</td>
</tr>
<tr>
<td>IV</td>
<td>Patients have cardiac disease resulting in <strong>inability</strong> to carry on any physical activity without discomfort. Symptoms of cardiac insufficiency or of the anginal syndrome may be present even at rest. If any physical activity is undertaken, discomfort is increased.</td>
<td><strong>Inability</strong> to carry on any physical activity with out discomfort - anginal syndrome may be present at rest.</td>
</tr>
</tbody>
</table>

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Cochran Foundation of Medical Research. Cardiovascular Disease Classification Chart. [http://www.cochranfoundation.org/main/Cardio%20NYHA%20Classifications.htm](http://www.cochranfoundation.org/main/Cardio%20NYHA%20Classifications.htm)

Note: This is a CONTROLLED document. Any documents appearing in paper form should ALWAYS be checked against the server file versions (Electronic version) prior to use. The electronic version is always the current version.

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References


Operating Room Nurses Association of Canada (ORNAC). Recommended standards, guidelines, and position statements for perioperative registered nursing practice. 7th ed. [place unknown]:ORNAC; 2003. Module 4, Environmental hazards/responsibility and nursing care of the anaesthetized patient; p. 29-32.


Revision History

<table>
<thead>
<tr>
<th>Version No.</th>
<th>Version Date</th>
<th>Summary of Change</th>
</tr>
</thead>
</table>
| 1.2         | 2017-03      | Edits to preamble and the College’s position  
Practitioner Qualifications: Qualified and Regulated Health Care Provider – updated procedural sedation course and competency requirements  
Appendix G – updated to cross-reference NHSFMP Fasting Guideline References – updated |
| 1.1         | 2013-09      | Document title change, cover page  
Edits to preamble and College’s position  
Glossary of Terms: Ketamine – updated to include use by non-anesthesiologist physicians granted privileges to administer IV Ketamine by the NHMSFP Committee  
Patient Care During Procedure: Administering IV medications – IV Ketamine dose limitations  
Appendix H – Multi-dose vial discarding updated to within seven days of opening |
| 1.0         | 2009-09      | Initial final version |