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PROCEDURAL SEDATION

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NOTE: The first appearance of terms in bold in the body of this document (except titles) are defined terms – please refer to the Definitions section.

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OBJECTIVES

- To enhance the safety of all **patients** receiving **procedural sedation** within **Alberta Health Services settings**.
- To facilitate the assessment and monitoring of all patients undergoing procedural sedation by **competent health care professionals** within safe clinical environments.

PRINCIPLES

The agents employed in procedural sedation are potent medications that attenuate not only awareness and recall, but also ventilatory and cardiac performance in ways that may be life threatening. While most of these medications in most patients behave in a predictable, albeit rapid and profound manner, they may produce abrupt apnea and cardiac decompensation that may not have been predicted in some patients. The ability to evaluate the cardiovascular, respiratory and neurological reserve of the patient, specifically as they relate to the pharmacologic effects of the medications employed, is a necessary precondition to obtaining and maintaining competency for sedation.

- A standardized Alberta Health Services *Procedural Sedation Policy* promotes safe and effective care for all patients undergoing **treatment/procedures** with procedural sedation.
- All patients undergoing sedation for treatments/procedures within Alberta Health Services settings, shall be assessed, treated and monitored by competent health care professionals.
- Procedural sedation shall only be prescribed by health care professionals who are trained and competent in procedural sedation and the pharmacology related to sedative, anxiolytic, analgesic and reversal agent medications.

- Procedural sedation shall only be administered by health care professionals competent in managing or preventing cardiopulmonary complications or arrest, to include bag mask ventilation and ventilation via an extraglottic device (EGD).
- It should be recognized that the practice of sedation is evolving and that the standards and requirements articulated in this policy statement will also evolve over time to keep pace with those standards.

APPLICABILITY

Compliance with this document is required by all Alberta Health Services employees, members of the medical and midwifery staffs, Students, Volunteers, and other persons acting on behalf of Alberta Health Services (including contracted service providers as necessary).

This policy does not apply to patients less than 15 years of age, anesthesiologists administering sedation in the operating room, patients receiving medications for **anxiolysis**, patients receiving continuous intravenous sedation in a critical care setting or in the setting of patients in palliative care.

ELEMENTS

1. Consent for Treatment

- 1.1 **Informed consent** for the administration of procedural sedation shall be obtained and documented within the patient's **health record** by the **most responsible health practitioner** as outlined in the Alberta Health Services *Consent to Treatment/Procedures* Policy and consistent with the policy framework for the delegation of medical acts in Emergency Medical Services (EMS).
 - a) Exceptions in the case of emergency situations are elaborated in section 5 of the Alberta Health Services *Consent to Treatment/Procedure(s): Adults with Impaired Capacity and Adults Who Lack Capacity Procedure*.

2. Professional Responsibility

- 2.1 Health care professionals performing procedural sedation shall have the knowledge and advanced specialized skills to safely administer procedural sedation medications and be able to perform bag mask ventilation and other emergency interventions if required.
- 2.2 Health care professionals authorized to order and administer (see Section 3.3 below) procedural sedation medications shall repeat course-work offered in this regard on a regular established cycle, or as stipulated in performance reviews, departmental policy or at reappointment intervals as stipulated by the Medical Staff Bylaws and/or standards/expectations established in Alberta Health Services.
- 2.3 Health care professionals authorized to administer procedural sedation medications under direction (see 5.2 a, below) shall repeat course-work offered

in this regard on a regular established cycle and/or or as stipulated in performance reviews, departmental policy and/or determined by standards/expectations established in Alberta Health Services.

3. Ordering Procedural Sedation

- 3.1 The **authorized prescriber** shall ensure, prior to the commencement of procedural sedation, that there is a written order for sedation for each patient. The order shall stipulate the targeted level of sedation to be employed for this procedure. (See Appendix A *The Ramsay Sedation Scale*, and Appendix B *Continuum of Depth of Sedation*.)
- a) The targeted level of sedation is understood to be minimal or moderate sedation in most cases however; if the authorized prescriber intends to deviate from the norms (e.g., deep sedation is the target) such deviation shall be communicated verbally and in writing to inform the entire team so that steps can be taken to address staffing levels or other requirements.
 - b) For Emergency Medical Services, assure that initiating the use of procedural sedation conforms to the conditions of use of the Alberta Health Services Emergency Medical Services *Medical Control Protocols*.
- 3.2 Procedural sedation shall only be ordered by competent health care professionals permitted to order sedative, anxiolytic, analgesic medications and reversal agent medication.
- 3.3 Sedative, dissociative, anxiolytic, analgesic and reversal agents employed during or immediately after procedural sedation, via all routes of administration can only be ordered by the following authorized prescribers as defined within their scope of practice:
- a) physicians,
 - b) dentists,
 - c) oral surgeons,
 - d) podiatrists,
 - e) nurse practitioners, and
 - f) midwives.
- 3.4 Dental hygienists who are competent in procedural sedation may order nitrous oxide.

4. Assessment Prior to the Administration of Procedural Sedation

- 4.1 Prior to the administration of procedural sedation, a baseline assessment shall be undertaken as outlined in the Alberta Health Services *Procedural Sedation Procedure* (section 1.3); the patient's baseline assessment shall be documented

in the patient's health record, by the health care professional undertaking the baseline assessment.

5. Administering Medications

- 5.1 In the event that the sedating agents are to be administered by a non-intravenous route (e.g., rectally, orally, intramuscularly or intranasally), the most responsible health practitioner shall assess and, where indicated for safety, shall ensure that the patient has patent intravenous access prior to the administration of non-intravenous medications.
- 5.2 Intravenous procedural sedation medications can only be administered in the presence of a physician, dentist, oral surgeon, podiatrist, nurse practitioner, or paramedic operating under approved protocols, and who is competent in procedural sedation and procedural sedation pharmacology, resuscitation and airway management (see PRINCIPLES).
- a) Administration by a competent health care professional includes, but is not limited to, the following, who have achieved the required learning at prescribed intervals in procedural sedation and procedural sedation pharmacology, cardiopulmonary resuscitation and airway management; and, who are authorized to perform this procedure per their regulatory Colleges:
- (i) registered nurses;
 - (ii) registered psychiatric nurses;
 - (iii) paramedics;
 - (iv) registered respiratory therapists; and
 - (v) diagnostic and therapeutic technologists.
- 5.3 Procedural sedation beyond anxiolysis shall only be undertaken in Alberta Health Services settings, by competent health care professionals who can provide the required intra-procedure and post-procedure care and monitoring, as outlined in the Alberta Health Services *Procedural Sedation Procedure*.

6. Intra-procedure and Post-procedure Monitoring

- 6.1 Programs undertaking procedural sedation within Alberta Health Services settings, shall secure, replenish and maintain all appropriate monitoring and emergency equipment as defined in the Alberta Health Services *Procedural Sedation Procedure*.
- 6.2 If required, ensure a second health care professional competent in patient monitoring is present in the room with the patient (see Appendix C *Health Care Professional and Monitoring Frequency Requirement*, this document; and,

section 3.2 and Appendix D *Health Care Professional and Monitoring Frequency Requirement* in the Alberta Health Services *Procedural Sedation Procedure*).

- 6.3 All monitoring and emergency equipment shall be functional; all emergency equipment and medications (including antagonist medications) shall be present prior to the commencement of the administration of procedural sedation (see Alberta Health Services *Procedural Sedation Procedure*).
- 6.4 All health care professionals providing care for patients undergoing procedural sedation shall be trained and competent in using monitoring and emergency equipment. Monitoring of patients undergoing procedural sedation shall be undertaken in accordance with Appendix C *Health Care Provider and Monitoring Frequency Requirement*.
- 6.5 All assessment data including vital signs, medication used in sedation and the patient's response to the procedure and sedation shall be recorded in the patient's health record and acted upon as necessary.

7. Recovery and Discharge of Patients Following Procedural Sedation

- 7.1 All patients receiving procedural sedation shall meet the discharge criteria prior to discharge (see section 4. of the Alberta Health Services *Procedural Sedation Procedure*). It is recognized that Emergency Medical Services providers shall transfer care to an Emergency Department whenever sedation is employed to perform a procedure.
- 7.2 Any patient that does not reach the desired level of recovery, as determined by the authorized prescriber, no matter how measured, and/or the patient's baseline level of assessment, or has experienced any complications during the treatment/procedure, shall be monitored post-procedure in an appropriate clinical area.
- 7.3 The authorized prescriber who ordered the procedural sedation shall:
- maintain responsibility of care of the patient until the patient is fully recovered and discharged home, or until care for the patient is accepted by another physician/most responsible health practitioner, and
 - respond in person, even if initial contact is by telephone, when assistance is requested by another health care professional. This response should be as rapid as possible, be consistent with the nature of the condition triggering the request and reflect professional standards of care.
- 7.4 Patients administered a benzodiazepine or opioid reversal agent shall be monitored for a minimum of two (2) hours after the administration of said reversal agent to ensure the patient does not become re-sedated after reversal effects have worn off.
- 7.5 The authorized prescriber shall contact and consult with an emergency physician and/or an anesthesiologist as soon as possible regarding any patient in a

community-based clinic who does not meet the discharge criteria post-procedural sedation, and who can no longer be managed in the community setting.

- 7.6 Health care professionals shall advise patients that, following the administration of procedural sedation, they should be accompanied by a responsible adult at the time of discharge from the facility, if at all possible. If the patient chooses to leave without being accompanied or does not have this support available to them, document this information in the patient's health record.
- 7.7 Fitness for discharge should not be confused with a patient's capacity to consent to or to engage in important decisions or behaviours related to life, limb and finances. Advise patients per section 4.3 of the Alberta Health Services *Procedural Sedation Procedure*.

8. Transfer of Patients Following Procedural Sedation

- 8.1 Prior to any transfer of patients to alternate clinical areas or sites, the most responsible health practitioner shall determine whether the transfer is necessary or appropriate.
- 8.2 The Alberta Health Services *Procedural Sedation Procedure* (section 5.) shall be followed when determining the level of health care professional support required for patients being transferred/transported following the administration of procedural sedation.
- 8.3 Sedation beyond anxiolysis shall not be administered immediately prior to transfer between departments or sites unless ordered by the authorized prescriber.

9. Documentation

- 9.1 Documentation of assessments, administration of medications, monitoring, transportation, and discharge – prior to, during and following the administration of procedural sedation – shall be recorded in the patient's health record.

DEFINITIONS

Alberta Health Services setting means any environment where treatment/procedures and other health care are delivered by, on behalf of, or in conjunction with, Alberta Health Services.

Anxiolysis means a medication-induced state during which patients respond normally to verbal commands; although cognitive function and coordination may be impaired, ventilatory and cardiovascular functions are unaffected.

Authorized prescriber means a health care professional who is permitted by Federal and Provincial legislation, her/his regulatory college, Alberta Health Services and practice setting (where applicable) to prescribe medications.

Competent means a health care professional who possesses the knowledge, skills, attitudes and judgment required to safely perform professional health services.

Health care professional means an individual who is a member of a regulated health discipline, as defined by the *Health Disciplines Act* [Alberta] or the *Health Professions Act* [Alberta], and who practises within scope and role.

Health record means the Alberta Health Services legal record of the patient's diagnostic, treatment and care information.

Informed consent means the agreement of a patient to undergo a treatment/procedure after being provided with the relevant information about the treatment/procedure(s), its risks and alternatives and the consequences of refusal.

Most responsible health practitioner means the health practitioner who has responsibility and accountability for the specific treatment/procedure(s) provided to a patient and who is authorized by Alberta Health Services to perform the duties required to fulfill the delivery of such a treatment/procedure(s), within the scope of his/her practice.

Patient means an adult or child who receives or has requested health care or services from Alberta Health Services and its health care providers or individuals authorized to act on behalf of Alberta Health Services. This term is inclusive of residents, clients and outpatients.

Procedural sedation means the administration of sedatives/anxiolytics/analgesics via the oral, intranasal, inhaled, intravenous, intramuscular, rectal or sublingual route, for the purposes of assisting patients in their ability to tolerate unpleasant diagnostic or therapeutic treatments/procedures.

Treatment/procedure(s) means a specific treatment, investigative procedure(s), or series of treatment/procedure(s) planned to manage a clinical condition.

REFERENCES

- Appendix A *The Ramsay Sedation Scale*
- Appendix B *Continuum of Depth of Sedation*
- Appendix C *Health Care Professional and Monitoring Frequency Requirement*
- Alberta Health Services Governance Documents:
 - *Consent to Treatment/Procedure(s) Adults with Impaired Capacity and Adults Who Lack Capacity Procedure* (#PRR-01-02)
 - *Procedural Sedation Procedure* (#PS-21-01)
- Alberta Health Services Resources:
 - *Emergency Medical Services Medical Control Protocols*

VERSION HISTORY

Date	Action Taken
September 16, 2016	Revised

APPENDIX A

The Ramsay Sedation Scale (RSS) (modified)

Value	Description (level of sedation)	Test to follow:
1	Awake: Patient is anxious and agitated, or restless, or both.	Observe the patient.
2	Awake: Patient is co-operative, orientated, and tranquil.	Observe the patient. Does patient make eye contact and respond to commands?
3	Awake: Patient responds to commands only.	Talk to the patient. Does patient make eye contact and respond to commands?
4	Asleep: Patient reacts with a brisk response to a light glabellar tap or a loud auditory stimulus.	Physically stimulate the patient by shaking the shoulder while speaking loudly. Does patient respond within 10 sec?
5	Asleep: Patient reacts with a sluggish response to a light glabellar tap or a loud auditory stimulus.	Physically stimulate the patient by shaking the shoulder while speaking loudly. Does patient respond after 10 sec?
6	Asleep: Patient does not respond to pain.	Use painful stimuli. No response.

Modified after Ramsay M.A., Savege T.M., Simpson B.R., Goodwin R.: *Controlled sedation with alphaxalone-alphadolone*. BMJ 1974, 2:656-659; and, van Dishoeck A.M. et al. *Reliable assessment of sedation level in routine clinical practice by adding an instruction to the Ramsay Scale*. Eur J Cardiovasc Nurs. 2009 Jun;8(2):125-8. [Used with permission.]

APPENDIX B

Continuum of Depth of Sedation

(American Society of Anesthesiologists)

	<i>Minimal Sedation Anxiolysis</i>	<i>Moderate Sedation/ Analgesia</i> <i>("Conscious Sedation")</i>	<i>Deep Sedation/ Analgesia</i>	<i>General Anesthesia</i>
<i>Responsiveness</i>	Normal response to verbal stimulation	Purposeful** response to verbal or tactile stimulation	Purposeful** response following repeated or painful stimulation	Unarousable even with painful stimulus
<i>Airway</i>	Unaffected	No intervention required	Intervention may be required	Intervention often required
<i>Spontaneous Ventilation</i>	Unaffected	Adequate	May be inadequate	Frequently inadequate
<i>Cardiovascular Function</i>	Unaffected	Usually maintained	Usually maintained	May be impaired

Committee of Origin: Quality Management and Departmental Administration (Approved by the ASA House of Delegates on October 13, 1999, and amended on October 21, 2009)

Definition of General Anesthesia and Levels of Sedation/Analgesia*

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

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

Deep sedation/analgesia is 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.

[Continued next page]

General anesthesia is 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.
- * Monitored Anesthesia Care does not describe the continuum of depth of sedation, rather it describes “a specific anesthesia service in which an anesthesiologist has been requested to participate in the care of a patient undergoing a diagnostic or therapeutic procedure.”
- ** Reflex withdrawal from a painful stimulus is NOT considered a purposeful response.
- *** Rescue of a patient from a deeper level of sedation than intended is an intervention by a practitioner proficient in airway management and advanced life support. The qualified practitioner corrects adverse physiologic consequences of the deeper-than-intended level of sedation (such as hypoventilation, hypoxia and hypotension) and returns the patient to the originally intended level of sedation. It is not appropriate to continue the procedure at an unintended level of sedation.

APPENDIX C

Health Care Professional and Monitoring Frequency Requirement

	Minimal Sedation Anxiolysis (Ramsay 1 and 2)	Moderate Sedation (Ramsay 3 and 4)	Deep Sedation (Ramsay 5 and 6)
Intra-procedural Health Care Professional	Minimum One (1) Health Care Professional	Minimum Two (2) Health Care Professionals <ul style="list-style-type: none"> One to perform the procedure and order medication One to assist the proceduralist, monitoring the patient and administer medication as needed 	Minimum Three (3) Health Care Professionals <ul style="list-style-type: none"> One to perform procedure and order medication One dedicated to assisting with procedure One dedicated to monitoring Patient and administration of medication (must be competent to administer medication by IV injection and must not be assisting with procedure)
Intra-procedural Monitoring Frequency & Documentation	<ul style="list-style-type: none"> Medication documentation is completed Vital signs may be required dependent on the patient's condition 	<ul style="list-style-type: none"> Place patient on continuous oximetry Monitor/observe the patient at all times. Document vital signs at the time of assessment or every 15 minutes as a minimum standard throughout the procedure and immediately following procedure 	<ul style="list-style-type: none"> Place patient on continuous oximetry Monitor and document vital signs every 5 minutes throughout the procedure and immediately following procedure Capnography (by Dec 31 2016)
Post-procedural Health Care Professionals and Monitoring Frequency & Documentation	<ul style="list-style-type: none"> Medication documentation is completed Vital signs may be required dependent on the patient's condition 	<ul style="list-style-type: none"> Monitor and document vital signs every 15 minutes for at least 30 minutes and until the patient reaches Aldrete Score of 8 or returns to baseline level of assessment 	<ul style="list-style-type: none"> Document vital signs every 15 minutes as a minimum standard and more frequently as needed – dependent on the patient's condition throughout the procedure and immediately following procedure; and, until the patient reaches Aldrete Score of 8 or returns to baseline level of assessment

A patient who experiences an intra-procedure complication or requires a reversal agent must be monitored for a minimum of two (2) hours post-procedure and achieve an appropriate Aldrete or Ramsay score prior to being discharged.