

Provincial Clinical Knowledge Topic

Palliative Sedation, Adult – All Locations

V 1.0

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Revision History

Version	Date of Revision	Description of Revision	Revised By
1.0	September 18, 2018	Topic Completion	Michael Slawnych

Important Information Before You Begin

The recommendations contained in this knowledge topic have been provincially adjudicated and are based on best practice and available evidence. Clinicians applying these recommendations should, in consultation with the patient or Alternate Decision Maker (if the patient lacks capacity), use medical judgment in the context of individual clinical circumstances to direct care. This knowledge topic will be reviewed periodically and updated as best practice evidence and practice change.

The information in this topic strives to adhere to Institute for Safe Medication Practices (ISMP) safety standards and align with Quality and Safety initiatives and accreditation requirements such as the Required Organizational Practices. Some examples of these initiatives or groups are: Health Quality Council Alberta (HQCA), Choosing Wisely campaign, Safer Healthcare Now campaign etc.

Guidelines

This Clinical Knowledge Topic is based on the following guideline(s):

- Calgary Zone. (2015). Palliative Sedation Practice Support Document Guidelines. Retrieved from <http://insite.albertahealthservices.ca/assets/policy/clp-palliative-care-palliative-sedation-guideline-hcs-130-01.pdf>
- Dean, M.M., Cellarius, V., Henry, B., Oneschuk, D., & Librach, S.L. (Canadian Society of Palliative Care Physicians Taskforce). (2012). Framework for continuous palliative sedation therapy in Canada. *J Palliat Med*, 15(8), 870-879. doi:10.1089/jpm.2011.0498
- EZPCP. (2015). Edmonton Zone Palliative Care Program Palliative Sedation Guideline. Retrieved from http://palliative.org/NewPC/_pdfs/management/Palliative%20Sedation%20Final%20Dec%202015.pdf

Keywords

- Palliative Sedation
- Sedation at the End of Life
- Continuous Deep Sedation
- Continuous Palliative Sedation
- Terminal Sedation
- Intractable Symptoms

Executive Summary

- For the purpose of this Clinical Knowledge Topic (CKT), palliative sedation is the process of inducing and maintaining deep sleep, in the final hours to days of life, for the relief of severe suffering caused by one or more intractable symptoms when all appropriate alternative interventions have failed to bring adequate symptom relief.
 - The Rationale for Palliative Sedation ([Appendix A](#)).
 - Palliative Sedation Nomenclature and Controversy ([Appendix B](#)).
- Palliative sedation is **NOT** equivalent to Medical Assistance in Dying (MAID).
 - Differences between palliative sedation versus MAID ([Appendix C](#)).
- Palliative sedation can be considered for a patient when ALL of the following criteria are met:
 - The patient has a progressive, irreversible, life-limiting illness, wherein death is expected (either naturally, or secondary to withdrawal of technology, such as ventilation) within hours to days and with a maximum life expectancy of two weeks.
 - The patient is experiencing refractory symptoms (or the expectation is that the patient will develop refractory symptoms as technology is weaned) which are contributing to intolerable suffering.
 - The patient has a documented C2 Goals of Care Designation (GCD) Order. Refer to Advance Care Planning and Goals of Care Designations, All Ages - All Locations Clinical Knowledge Topic on the AHS website.
 - The Care of the Imminently Dying Pathway has been implemented for the patient. Refer to Care of the Imminently Dying (Last Hours to Days of Life), Adult - All Locations Clinical Knowledge Topic on the AHS website.
 - A conversation has taken place between the Most Responsible Health Provider (MRHP), appropriate members of the health care team, and the patient and/or Alternate Decision Maker (ADM) with regards to goals of care, treatment intent, targeted level of sedation and symptom relief, and expectations of the process (see [The Discussion and Consent Process](#)).
- The MRHP, along with appropriate members of the health care team, initiates ongoing communication and shares decision-making with the patient and/or ADM. The MRHP obtains informed consent, generally verbally which is in keeping with consent as per AHS policy.
- The 24/7 On-Call Provincial Palliative Physician Service (Refer to AHS website <https://www.albertahealthservices.ca/info/page14556.aspx>) provides 24/7 consultation for palliative sedation, refractory symptom management and support in all zones of Alberta Health Services.

Goals of Management

To **identify** the Alternate Decision Maker and those whom the patient would wish to be present during discussions which may include family, by means of the following:

- If the patient has capacity, asking the patient directly.
- If the patient does not have capacity, reviewing all of the patient's relevant legal documents (i.e. personal directive, guardianship orders).
- Refer to [Adult Guardianship and Trusteeship Act](#).

To **initiate** ongoing communication and shared decision-making between the MRHP, appropriate members of the health care team, and the patient and/or ADM with regards to the following:

- The patient's cognitive status and specific spiritual, psychosocial, cultural and communication needs.
- The patient's preferences for care and documented wishes which may include personal directive, guardianship orders.
- The current level of understanding with regards to the patient's disease, how much information they would like to know, and how involved they would like to be in shared decision-making.
- Updated information with regards to the patient's clinical status and prognosis, any uncertainty and how it will be addressed.
- The patient's goals and wishes, preferred care setting, concerns, fears and anxieties.
- The patient's understanding and acknowledgement of the expected outcome of the patient's illness, in keeping with C2 GCD.

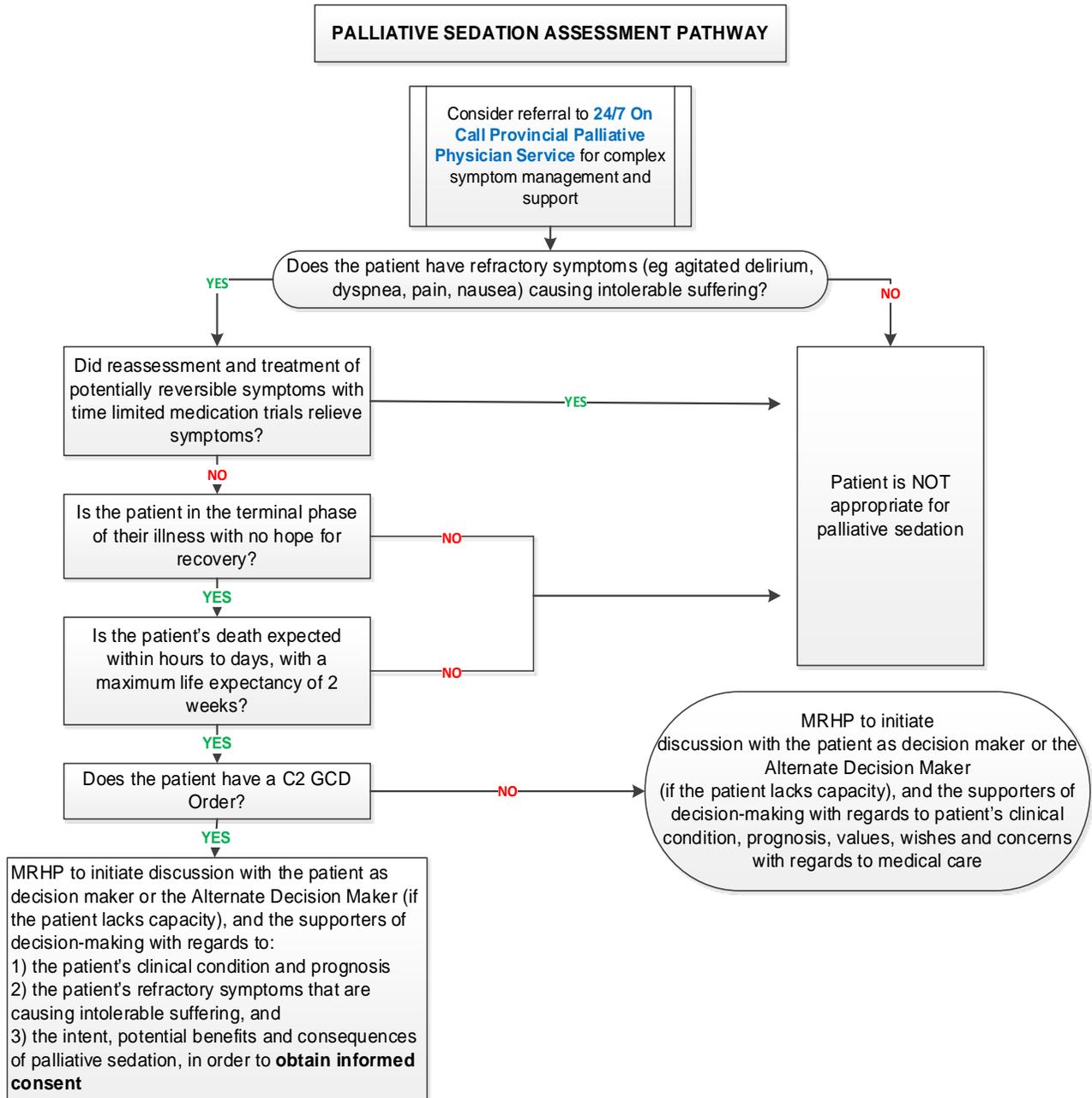
To **implement** the Palliative Sedation Order Set when ALL of the following conditions are met:

- The patient is imminently dying (i.e. in the last days to hours of life).
- The patient has a documented C2 Goals of Care Designation (GCD) Order. Refer to Advance Care Planning and Goals of Care Designations, All Ages - All Locations Clinical Knowledge Topic on the AHS website.
- The Care of the Imminently Dying Pathway has been implemented for the patient (Refer to Care of the Imminently Dying (Last Hours to Days of Life), Adult - All Locations Clinical Knowledge Topic on the AHS website).
- The presence of intractable symptoms (i.e. delirium, dyspnea) that are refractory to all other treatments that are possible and available for alleviation within the time frame and risk-benefit ratio that the patient can tolerate.
- A conversation has taken place between the MRHP, appropriate members of the health care team, and the patient and/or Alternate Decision Maker (ADM) with regards to prognosis, wishes, questions and concerns, and informed consent.

To **consider** referral to the 24/7 On-Call Provincial Palliative Physician Service (Refer to AHS website <https://www.albertahealthservices.ca/info/page14556.aspx>) for palliative sedation, refractory symptom management and support, if not already in place.

Clinical Decision Making

Algorithm 1: Eligibility Appraisal for Palliative Sedation



The Discussion and Consent Process

1) Only the patient and/or ADM can provide informed consent for initiation of palliative sedation, however patients who are imminently dying may have impaired capacity, or may lack capacity, to make independent decisions regarding their medical care.

- To determine who may legally give consent under these circumstances, refer to AHS Procedure on Consent to Treatment / Procedure(s) Adults with Impaired Capacity and Adults who Lack Capacity (<https://extranet.ahsnet.ca/teams/policydocuments/1/clp-consent-to-treatment-prr-01-02-procedure.pdf>) on the AHS website.

2) The discussion of information leading up to informed consent for initiation of palliative sedation, is a shared process between the MRHP and the patient and/or ADM.

- All members of the interdisciplinary team providing care for the patient are encouraged to be involved in the discussion and consent process.
- Ensure support is available for the interdisciplinary team .

3) The MRHP is accountable for discussing with the patient and/or ADM, and ensuring that the patient and/or ADM have received, information relevant to making an informed decision regarding palliative sedation. This includes but is not limited to:

- Updated information with regards to the patient's clinical condition, that there is no expectation of recovery, death is expected within hours to days, with a maximum expected life expectancy of 2 weeks.
- Discussion of the available treatment options, and the potential risks and benefits, that the patient can tolerate within the limited time frame.
- Explanation of the rationale and intent of palliative sedation being alleviation of suffering from refractory symptoms, and NOT to hasten death.
- Description of how palliative sedation is administered, what medications are used, the target level of consciousness to deep sedation, and patient's expectations.
- Facilitating discussion with regards to goals of care, concerns and anxieties, and their needs with regards to initiation of palliative sedation.

4) The MRHP is accountable for ensuring that the patient and/or ADM's understand the purpose, nature, risks, benefits and consequences of palliative sedation. This includes but is not limited to:

- Awareness of barriers to communication with regards to hearing, sight, language, culture, literacy, level of education, level of psychological and social stressors, and environmental considerations, such as location of discussion.
- Providing time and opportunity for the patient to reflect upon the information given, to ask questions and receive answers.

5) The MRHP is accountable for documenting the discussion with the patient and/or ADM, and the decision to consent to, or refuse, palliative sedation, in the patient's health record.

6) Consider referral to the 24/7 On-Call Provincial Palliative Physician Service (Refer to AHS website <https://www.albertahealthservices.ca/info/page14556.aspx>) for complex discussions regarding palliative sedation, refractory symptom management and support, if not already in place.

Patient Assessment and Monitoring

- 1) Multiple considerations should be taken into account when determining whether the patient's symptoms are refractory. This includes, but is not limited to, the following:
 - Have all appropriate alternative interventions failed?
 - Has interdisciplinary consultation been sought to ensure that all possible options have been explored, including referral to the 24/7 On-Call Provincial Palliative Physician Service (Refer to AHS website <https://www.albertahealthservices.ca/info/page14556.aspx>) for refractory symptom management and support?
 - Are there no other methods available for symptom palliation within an acceptable risk:benefit ratio and time frame for the patient?

- 2) Regular monitoring and assessment of the patient should be in keeping with the Care of the Imminently Dying Pathway (Refer to Care of the Imminently Dying (Last Hours to Days of Life), Adult - All Locations Clinical Knowledge Topic on the AHS website), and the C2 Goals of Care Designation Order (Refer to Advance Care Planning and Goals of Care Designations, All Ages - All Locations Clinical Knowledge Topic on the AHS Website)
 - All components of the Care of the Imminently Dying Pathway (Instructions, Initial Care Needs Assessment, C2 Medication and Care Orders, Nursing Symptom and Care Assessment and Documentation) should be applied concurrently.

- 3) The target level of consciousness to deep sedation may be identified through the use of a sedation scale ([Appendix D](#)).

- 4) Consider referral to the 24/7 On-Call Provincial Palliative Physician Service (Refer to AHS website <https://www.albertahealthservices.ca/info/page14556.aspx>) for ongoing support.

Clinical Scenarios

The following scenarios are for illustrative purposes only, and not for medication selection and dosing.

Figure 1: Progressive Agitation

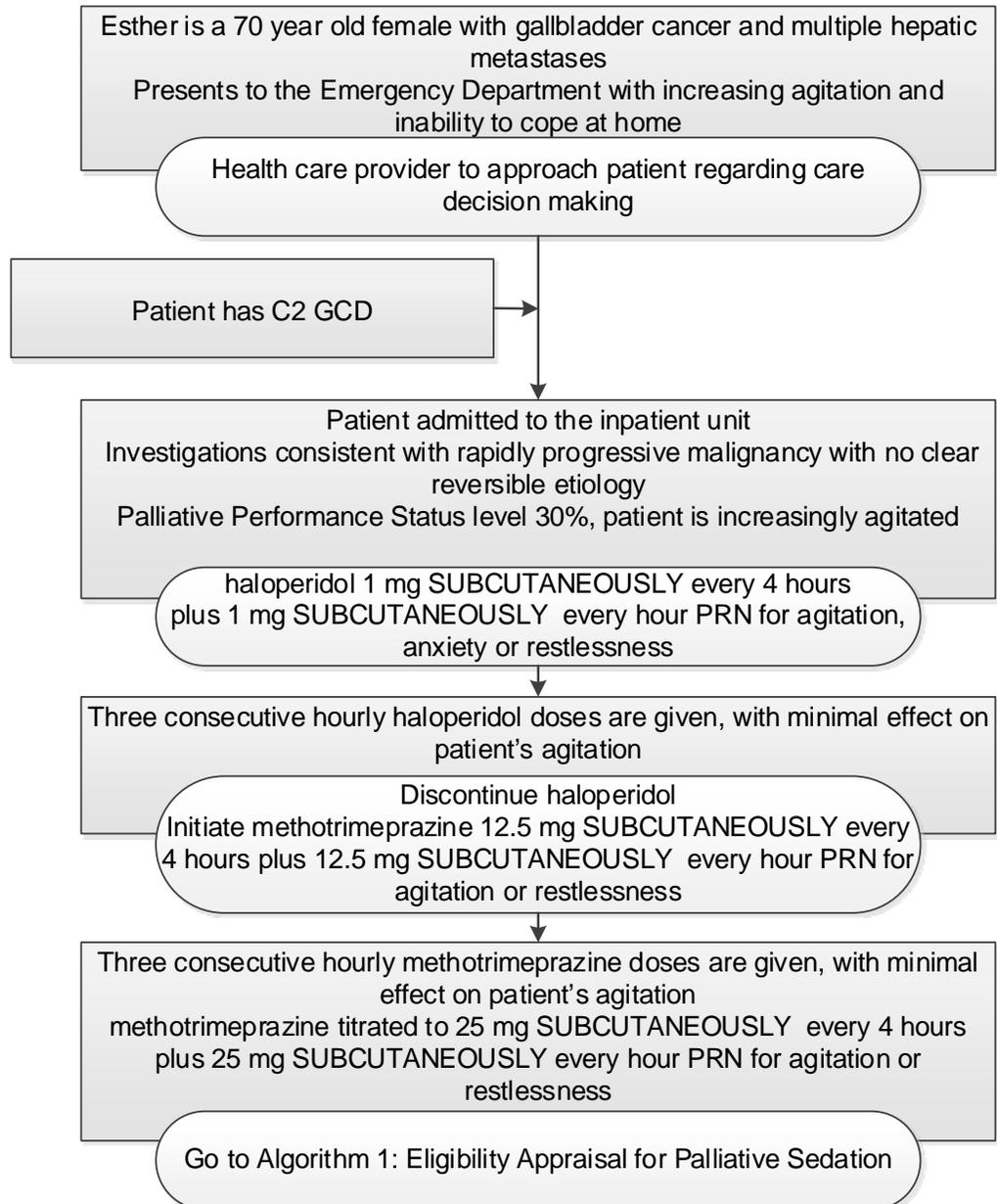


Figure 2: Progressive Dyspnea

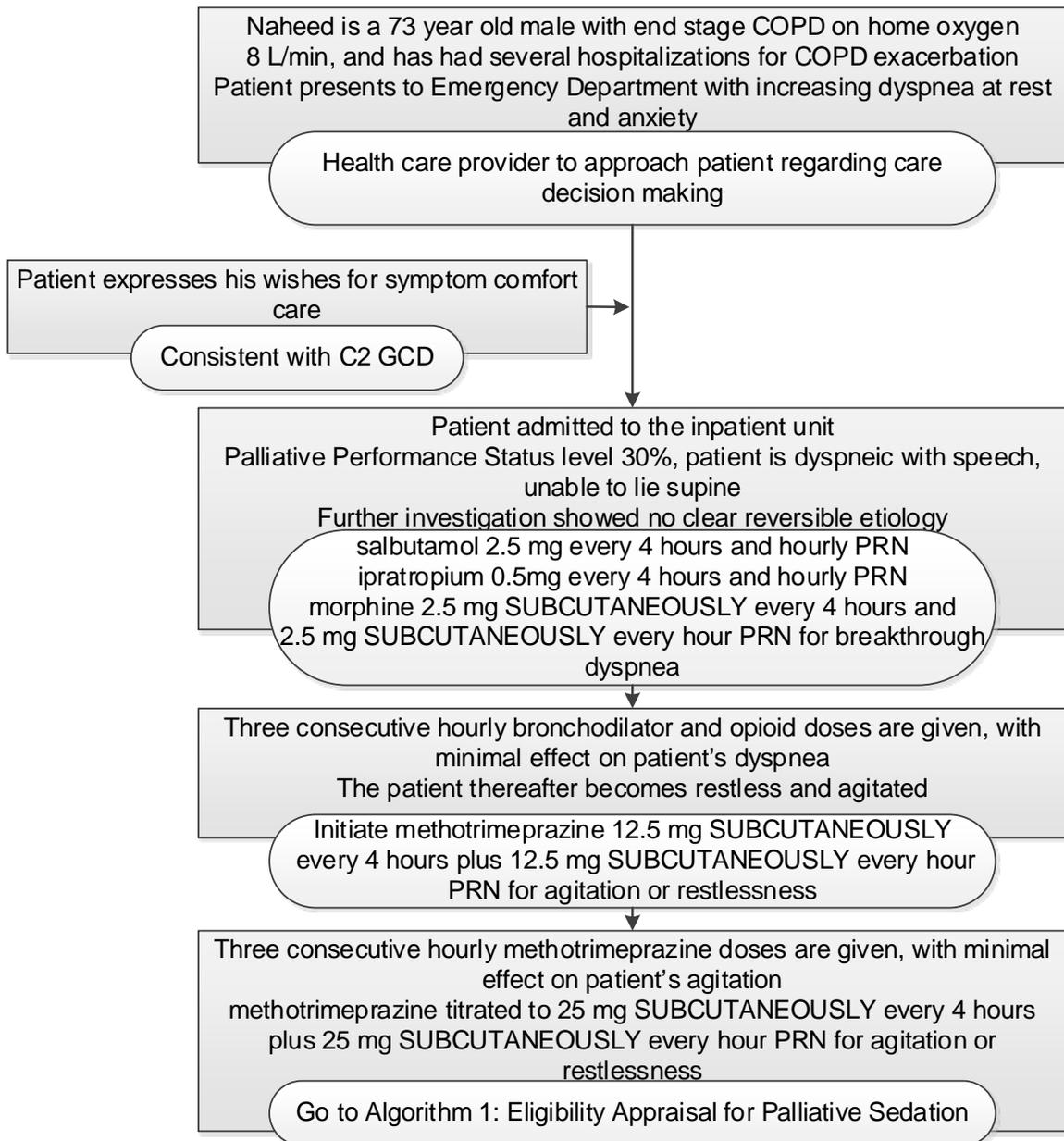


Figure 3: Unclear Prognosis

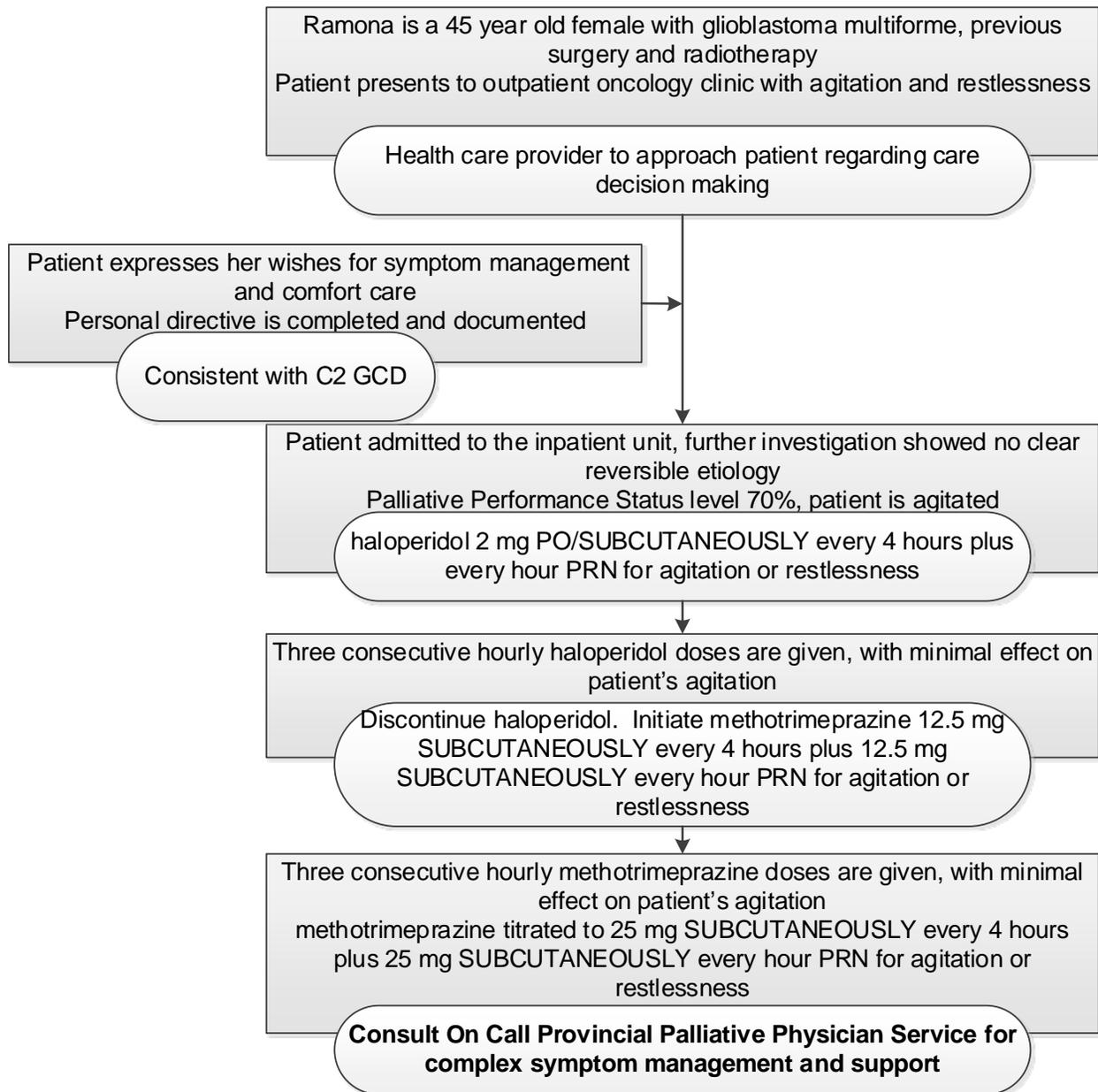
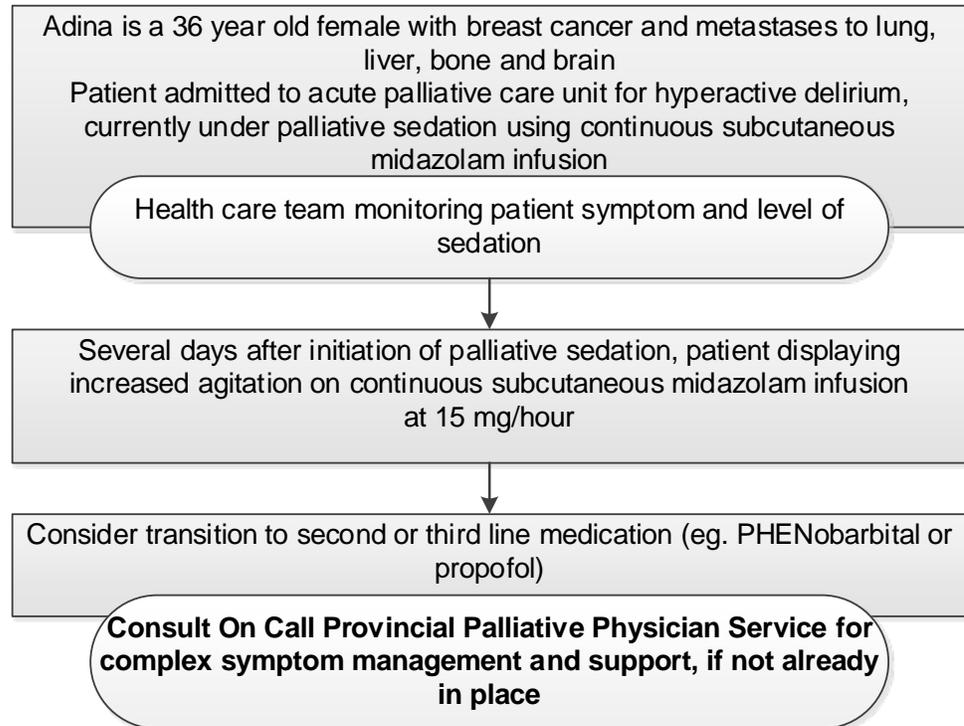


Figure 4: Agitation While Under Palliative Sedation



Criteria for Palliative Sedation, Adult

- The patient has a progressive, irreversible, life-limiting illness, wherein death is expected (either naturally, or secondary to withdrawal of technology, such as ventilation) within hours to days and with a maximum life expectancy of two weeks.
- The patient is experiencing refractory symptoms (or the expectation is that the patient will develop refractory symptoms as technology is weaned) which are contributing to intolerable suffering.
- The patient has a documented C2 Goals of Care Designation (GCD) Order. Refer to Advance Care Planning and Goals of Care Designations, All Ages - All Locations Clinical Knowledge Topic on the AHS website.
- The Care of the Imminently Dying Pathway has been implemented for the patient. Refer to Care of the Imminently Dying (Last Hours to Days of Life), Adult - All Locations Clinical Knowledge Topic on the AHS website.
- A conversation has taken place between the Most Responsible Health Provider (MRHP), appropriate members of the health care team, and the patient and/or Alternate Decision Maker (ADM) with regards to goals of care, treatment intent, targeted level of sedation and symptom relief, and expectations of the process (see [The Discussion and Consent Process](#)).

Palliative Sedation, Adult – All Location Order Set

Order Set Requirements: To be used in conjunction with C2 Medication and Care, Adult – All Locations Order Set and the Care of the Imminently Dying Pathway (refer to Care of the Imminently Dying (Last Hours to Days of Life), Adult - All Locations Clinical Knowledge Topic)

Order Set Restrictions: For patient with C2 Goals of Care Designation

Order Set Keywords: Palliative Sedation, Terminal Sedation, Continuous Sedation until Death, Intractable Symptoms

Patient Care

- Clinical Communication – Ensure consent is obtained and/or discussed with the patient or decision maker/Alternate Decision Maker (if the patient lacks capacity), and the supporters of decision-making

Monitoring

- Monitor: Patient for relief of suffering, level of sedation and potential adverse effects of sedation.
 - Frequency:
 - Every 20 to 30 minutes, until deep sedation is achieved **AND THEN** every 2 – 8 hours and PRN, at a minimum of three times per day. Notify MRHP if target sedation is not achieved. Monitoring frequency can be ordered as per unit protocol and as per MRHP.

Intravenous and Subcutaneous Therapy

- Subcutaneous Cannula – Insert: Initiate SC line(s) for Palliative Sedation
- Intravenous Cannula – Insert: Initiate IV line(s) for Palliative Sedation

Medications

Benzodiazepines

midazolam including PRN dosing may be individualized based on past patient experience and/or discretion of the MRHP

Recommended loading dose range 1 mg to 5 mg

Recommended continuous dose range 1 mg/hour to 10 mg/hour

Recommended titration dose rang 0.5 mg/hour to 1 mg/hour

- midazolam _____mg SUBCUTANEOUSLY/IV loading dose once **AND THEN**
midazolam _____mg/hour SUBCUTANEOUSLY/IV continuous
Titrate by _____ mg/hour every 15 minutes until deep sedation is achieved

Analytics

Analytics – Outcome Measure #1

Name of Measure	Compliance to clinical standards of CKT ie. Scoring tools, specific items/orders in the order set
Definition	The elements of the CKT for which it is important to measure compliance against ie. Scoring tools, specific items/orders in the order set are: <ul style="list-style-type: none"> - Patient is C2 goals of care designation
Rationale	Measure compliance to specified clinical standards within the CKT

Relevant Guidelines, Procedures, Protocols

Procedures

[Advance Care Planning and Goals of Care Designation Procedure](#)

Policy

[Advance Care Planning and Goals of Care Designation Policy](#)

Additional Resources

[Palliative and End of Life Care \(PEOLC\) Alberta Provincial Framework \(2014\)](#)

[Provincial PEOLC MyHealthAlberta website](#)

Relevant Clinical Knowledge Topic

Advance Care Planning and Goals of Care Designations, All Ages - All Locations

Care of the Imminently Dying (Last Hours to Days of Life), Adult - All Locations

Appendix A – The Rationale for Palliative Sedation

As defined and endorsed by the PEOLC Steering Committee, Palliative and End of Life Care is both a philosophy and an approach to care that enables all individuals with a life-limiting and/or life-threatening illness to receive integrated and co-ordinated care across the continuum.¹

Palliative care aims to prevent and alleviate suffering through the early identification, assessment and management of distressing physical, psychosocial and spiritual problems². Although there is growing evidence to support its quality of life benefits earlier in the disease trajectory,³ palliative care plays a principal role in the last months, weeks and days of life, wherein symptom burden increases in frequency and intensity.⁴

In the Study to Understand Prognoses and Preferences for Outcomes and Risks of Treatment (SUPPORT), Freeborne⁵ examined 9105 patients with life-limiting illnesses (i.e. cirrhosis, chronic obstructive pulmonary disease (COPD), acute respiratory failure and multiple organ failure with sepsis (MOSF), colon cancer, non-small cell lung cancer and congestive heart failure (CHF) from initial hospitalization until death, or up until six months from study entry;⁶ patient surrogates reported that in the last three days of life, 80% of all patients experienced severe fatigue, more than 50% of patients with COPD, CHF, lung cancer and MOSF had serious dyspnea, 40% of conscious patients had serious pain, and severe confusion was noted in approximately one in four patients near death.⁵ In Hui et al.'s study³ of 203 cancer patients admitted to acute palliative care units, patients themselves reported increasing intensity of anorexia, drowsiness, fatigue, poor well-being and dyspnea over the last seven days of life.⁷ The need to manage distressing symptoms, therefore, becomes critical in optimising quality of life when death is imminent.

In the event when symptoms at the end of life become refractory to maximized pharmacological and psychosocial interventions, palliative sedation is a potential option for alleviating suffering at the end of life.⁸ The European Association of Palliative Care defines palliative sedation as “the monitored use of medications intended to induce a state of decreased or absent awareness (unconsciousness) in order to relieve the burden of otherwise intractable suffering in a manner that is ethically acceptable to the patient, family and health-care providers.” (p.581).⁹ In their 2012 national framework, the Canadian Society of Palliative Care Physicians defines continuous palliative sedation therapy as “**the use of ongoing sedation continued until the patient’s death**” (p.870) and **recommends its sole indication as refractory and intolerable suffering in the last 2 weeks of life.**¹⁰ Guidance documents on palliative sedation, which include protocols, frameworks, position statements and evidence-based guidelines, differ according to institutional, governmental and societal aims and priorities for their development.¹¹ Notwithstanding various institutional and regional guidance documents within Canada, there appears to be variation in the nomenclature, methodology and actual practice of palliative sedation.^{12,13,14,15,16}

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Appendix B – Palliative Sedation Nomenclature and Controversy

A discussion about nomenclature is warranted, as the literature shows significant ambiguity in regard to the general concept of “palliative sedation”. Formally, palliative sedation is defined as the controlled administration of sedative medications to reduce patient consciousness to the minimum extent necessary to render intolerable and refractory suffering tolerable.^{1,2} Several terms have been used to describe this practice, including “palliative sedation”, “palliative sedation to unconsciousness”, “terminal sedation”, “proportionate sedation”, “continuous sedation until death”, and “continuous deep sedation until death”.³

The first published record of palliative sedation was in 1963, when Nadir et al. commented on their practice of “sedation” in status asthmaticus for a group of patients with severe chronic asthma at the end of life.⁴ Nearly three decades passed before Ventafridda and colleagues summarized their experience with sedation for the management of intractable symptoms in terminally ill cancer patients.⁵ Multiple publications followed thereafter.

Recognizing the inconsistencies in terms of the application as well as the degree and duration of sedation as discussed in the various articles in the literature, Morita and colleagues proposed that the term “palliative sedation therapy” or “palliative sedation” be formally adopted.^{6,2} This terminology was chosen as it was felt to represent the two core components of this practice: 1) the presence of intractable or severe distress refractory to standard palliative treatment, and 2) the use of sedative medications with the primary aim of relieving severe symptoms by reduction in consciousness. The authors went on to state that the alternative term “Terminal Sedation” was not chosen for several reasons. Firstly, they were concerned that the intention of sedation may be misinterpreted to be termination of life. Secondly, the authors felt that the term “Terminal Sedation” did not adequately summarize the primary aim of this medical intervention, namely symptom alleviation. Lastly, “terminal sedation” did not cover the temporary use of sedatives for symptom relief in non-terminal patients. However, the latter is out of the context of what is generally felt to constitute palliative sedation.

Palliative sedation represents a very small subset of sedation in general. However, even within this small subset, the term “palliative sedation” has effectively become a catch-all term for all levels and patterns of sedation for those close to death.⁷ It has also been used for patients receiving intermittent temporary sedation who are not near death.⁸ Formally, this does not represent palliative sedation. Some investigators have advocated for a change in terminology to “continuous deep sedation at the end of life”, abbreviated as CDS,⁷ to eliminate this ambiguity.

Palliative sedation has been the subject of extensive ethical debate since its initial clinical interest in the early 1990s, and has gone through several phases of evolution.⁹ In the first phase, the focus was on differentiating palliative sedation from a form of “slow euthanasia”. The second phase saw the development of guideline and framework documents. These documents were of the nature of expert opinion, as opposed to being based on high quality clinical data. At the present time, the general opinion is that palliative sedation, administered in the proper context and manner, is an ethically defensible intervention. Current available evidence does not support that palliative sedation shortens life.^{10,11,12,13} However, there is still a need for research to provide a better evidence base on the impact and provision of palliative sedation.^{12,14}

Although there is agreement on the use of palliative sedation for controlling refractory physical symptoms causing suffering in the imminently dying patient, the use of palliative sedation for existential suffering remains controversial. The 2012 Canadian framework states that “continuous palliative sedation therapy for purely existential symptoms should only be initiated in rare cases of severe existential distress and after skilled multidimensional management directed at the physical, psychological, and existential dimensions has been attempted, preferably in consultation with relevant experts in this area, such as, for example, a psychologist or psychiatrist, chaplain, ethicist, or palliative care physician” (p.871).¹⁵ A recent systematic review highlights the lack of consensus regarding: 1) the definitions and terminology for existential suffering, 2) the assessment of existential suffering, given the subjectivity involved in the patient’s narrative and in provider’s interpretation of it, 3) the assessment of providers’ intentions, and the definition of good versus bad effect when applying the ethical principle of double effect, and 4) the intensity and refractoriness of existential suffering, given the subjectivity of evaluation.¹⁶ Further research is needed to develop a standard definition and conceptual framework of existential suffering, in order to support the ethical arguments underpinning the use of palliative sedation for this purpose.

Despite widespread variation in clinical practice worldwide,^{3,17,18} there is increasing recognition of two different types of palliative sedation therapy. Quill introduced a conceptual distinction between sedation gradually titrated to an achieved level of symptom palliation and in which the patient’s ability to communicate may be retained (proportional palliative sedation), and the rapid titration of sedation until the patient is unresponsive and which is continued until the patient’s natural death (palliative sedation to unconsciousness).¹⁹ Given the ethical challenges of distinguishing physician foreseeing and intention,^{20,21} Morita extended this further by proposing that continuous deep sedation be primarily defined by an intervention protocol (proportional versus deep).²² In a retrospective cohort study of 398 consecutive cancer patients who received continuous midazolam infusion in palliative care unit in Japan, 68.8% of those receiving the proportional sedation protocol achieved acceptable symptom relief while maintaining patient consciousness, and 83.3% of those receiving the deep sedation protocol achieved deep sedation.²³

The authors acknowledge that the difference between these two types of palliative sedation therapy may itself be proportional and likely exists on a continuum;^{22,23} thus, at this time, the provisional term palliative sedation therapy may be most appropriate given the emerging empirical research in this area. The primary focus of this Clinical Knowledge Topic, therefore, is palliative sedation therapy. For the purpose of this clinical knowledge topic, palliative sedation is the process of inducing and maintaining deep sleep, in the final hours to days of life, for the relief of severe suffering caused by one or more intractable symptoms when all appropriate alternative interventions have failed to bring adequate symptom relief.

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Appendix C – Differences between Palliative Sedation and Medical Assistance in Dying (MAID)

Medical assistance in dying (MAID), also known as physician assisted death, is a federally legislated option for terminally ill patients in Canada (<https://www.canada.ca/en/health-canada/services/medical-assistance-dying.html>). Despite having a very different aim, MAID is commonly confused with palliative sedation. The distinctions between these two interventions are summarized in Table 1. For more information, refer to AHS website for Medical Assistance in Dying <https://www.albertahealthservices.ca/info/Page13497.aspx>.

Table 1 Key Characteristic Comparison of Palliative Sedation versus Medical Assistance in Dying (MAID)

Key Characteristic	Palliative Sedation	Medical Assistance in Dying (MAID)
Primary Intent	To alleviate intolerable suffering from distressing symptoms due to progressive, incurable etiology and that are refractory to medication management	To end a patient's life
Goal of Intervention	Intentional lowering of the patient's level of consciousness, to a target level of deep sedation so as to remove patient awareness of distressing symptoms	To end a patient's life so that the patient no longer has to endure intolerable suffering

Key Characteristic	Palliative Sedation	Medical Assistance in Dying (MAID)
Reason for Intervention	Presence of distressing symptoms due to progressive, incurable etiology and that is refractory to medication management	All of the following criteria must be met: <ol style="list-style-type: none"> 1. Patient has a serious and incurable illness, disease or disability 2. Patient is in an advanced state of irreversible decline in capability 3. Patient's illness, disease, disability or state of decline causes them enduring physical or psychological suffering that: is intolerable to them; and, cannot be relieved under conditions or with treatment that they consider acceptable 4. Patient's natural death has become reasonably foreseeable, taking into account all of their medical circumstances
Request for Intervention	An alternate decision maker (ADM) can make a request for intervention on behalf of the patient who lacks capacity	Requests must be made voluntarily by adult patients with capacity to provide informed consent
Documentation	Most Responsible Health Practitioner (MRHP) provides request for the patient's health record	The request for medical assistance in dying shall be in writing, dated and signed by the patient before two independent witnesses who also sign and date the request
Consent for Intervention	An ADM can consent to intervention on behalf of the patient who lacks capacity	A patient who lacks capacity is unable to consent and is not eligible

Key Characteristic	Palliative Sedation	Medical Assistance in Dying (MAID)
Patient's death	The intent is not to hasten death, but death may be a foreseeable but unintended consequence of the use of medications	Death is the intended and direct consequence
Patient Prognosis at Time of Intervention	Patient estimated prognosis less than 2 weeks of life	A specific prognosis as to the remaining length of life is not required
Eligibility Determination	The MRHP (Physician or Nurse Practitioner)	Two health practitioners must independently perform an assessment and document eligibility
Legally Responsible Prescriber of Intervention	The MRHP (Physician or Nurse Practitioner)	The provisioning Physician or Nurse Practitioner
Administration of Intervention	Medications administered and monitored by health care provider under guidance of MRHP	Medications either self-administered or administered and monitored by a Physician or Nurse Practitioner
Intervention	Specific medications titrated and monitored for effect on symptom distress by health care provider under guidance of MRHP	Intentionally inducing death as a result of administering lethal doses of medications to specific protocols
Goals of Care	The Goals of Care Designation should be C2, based on the proximity of death (within 2 weeks) with maximal efforts directed at symptom management and comfort	The MRHP shall review, affirm, and/or determine that the patient's advance care planning and goals of care designation has occurred as per the AHS Advance Care Planning and Goals of Care Designation Policy and Procedure. The goals of care designation order shall be documented and placed in the Green Sleeve on the patient health record

Key Characteristic	Palliative Sedation	Medical Assistance in Dying (MAID)
Palliative Care Consultation	Consider referral to 24/7 On Call Provincial Palliative Physician Service for complex symptom management and support	Timely and reasonable access to information regarding palliative and end-of-life care options is recommended

Appendix D – Monitoring for Level of Sedation

In their national framework for continuous palliative sedation therapy, the Canadian Society of Palliative Care Physicians state that no particular scale can be recommended for monitoring.¹ Patients receiving palliative sedation therapy, however, should be monitored for the depth of sedation, relief of refractory symptoms, and potential adverse effects. For the purposes of this CKT, the therapeutic goal is deep sedation.

The Richmond Agitation-Sedation Scale (RASS) is one such clinician-based, bedside instrument that is commonly used to assess levels of sedation, and has been extensively validated in intensive care settings.^{2,3} The RASS is a 10-point ordinal scale, ranging from -5 to +4, which is scored according to duration of eye contact following verbal or physical stimulation. The RASS denotes four levels of agitation (+4 = combative; +3 = very agitated; +2 = agitated; +1 = restless), one level of calm (0 = calm and alert state), and five levels of sedation (-1 = drowsy; -2 = light sedation; -3 = moderate sedation, -4 = deep sedation; -5 = unrousable). For advanced cancer patients with persistent agitated delirium, a reduction of ≥ 4 points in the RASS was found to be the minimal clinically important difference for both nurses and caregivers.⁴ For the purposes of this CKT, the therapeutic goal would be RASS -4 or -5.

Modified versions of the original RASS have been tested in advanced cancer patients in Spain⁵ and palliative care inpatients in Canada.⁶ Further research is needed on the validity and reliability of these modified versions for this patient population and context of care.

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Appendix E – Medication Table

There is no good evidence to strongly recommend one medication class over another.¹ Regardless, benzodiazepines tend to be the preferred medication. Antipsychotics are also commonly employed, either in isolation or in combination with a benzodiazepine. Opioids are a poor choice for sedation, as sedation typically occurs at doses that are associated with respiratory depression. It is recognized that there may be unique circumstances and local site-specific practices for medication use (e.g. hospice, intensive care unit, etc.).

Table 2 Medication^{2,3,4,5,6}

Medication and Route	Initial Dose	Titration	Maintenance Dose	Range	Advantages	Disadvantages
First Line						
midazolam SUBCUTANEOUSLY, IV	1 to 5 mg	0.5 to 1 mg/hour until goal level of sedation	1 to 20 mg/hour infusion	30 to 1200 mg/24 hours	Onset of action: 1 minute Time to peak effect: 2 to 5 minutes for bolus	Risks: ceiling to CNS depression, paradoxical excitation
methotrimeprazine SUBCUTANEOUSLY, IV	12.5 to 25 mg every 4 hours	25 to 37.5 mg every 1 hour as needed	25mg to 37.5 mg every 4 hours	25 to 250 mg/24 hours	Targets multiple receptors with antiemetic and analgesic effects	Risks: extrapyramidal side effects, orthostatic hypotension, lowers seizure threshold
Second Line (Consider Referral to 24/7 On Call Provincial Palliative Physician Service)						
PHENobarbital SUBCUTANEOUSLY, IV	1 to 3 mg/kg bolus dose	Starting infusion of 0.5 mg/kg/hour	50 to 100 mg/hour	Less than or equal to 2500 mg/24 hours	Onset of action: 5 minutes	Long half-life (53 to 120 hours) with accumulation, thus difficult to titrate Long time to peak effect: 30 minutes Risks: paradoxical excitation, hypotension, Stevens-Johnson syndrome
Third Line (Consider Referral to 24/7 On Call Provincial Palliative Physician Service)						
propofol IV	0.5 to 1 mg/kg/minute administered over a 2 to 5 minute loading dose	Increase by 0.5 mg/kg/hour every 5 to 10 minutes until sedation is achieved	1 to 4 mg/kg/hour continuous infusion	Less than or equal to 4 mg/kg/hour	Onset of action: 30 seconds Time to peak effect: 5 minutes Duration of action: Less than 10 minutes after single bolus	Restricted to acute care inpatient setting with trained and experienced staff Risks: cardiorespiratory depression, propofol-related infusion syndrome: metabolic acidosis, rhabdomyolysis, cardiac arrhythmias, renal failure, cardiac arrest

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Appendix F – Glossary of terms

Glossary of Terms	
ADM	<p>Alternate Decision Maker</p> <p>A person who is authorized to make decisions with or on behalf of the patient. These may include a minor’s legal representative, a guardian, or ‘nearest relative’ in accordance with the Mental Health Act, an agent in accordance with a personal directive, a co-decision-maker, a specific decision-maker, supported decision-maker, or a person designated in accordance with the Human Tissue and Organ Donation Act. ADM and substitute decision maker (SDM) are equivalent terms</p>
Adult	A person aged eighteen (18) years and older
Agent	The person(s) named in a Personal Directive who can make decisions on personal matters according to the wishes expressed by the Patient
AHS	Alberta Health Services
Capacity	1) The patient understands the nature, risks and benefits of the procedure and the consequences of consenting or refusing and 2) The patient understands that this explanation applies to him/her
CKTs	<p>Clinical Knowledge Topics</p> <p>Clinical Knowledge Topics (CKTs) are provincial best practice/evidence-informed clinical guidance for defined diseases/conditions, specific patient populations or segments of a clinical pathway</p>
Family(-ies)	Means one or more individuals identified by the patient as an important support, and who the patient wishes to be included in any encounters with the health care system, including, but not limited to, family members, legal guardians, friends and informal caregivers.

GCD	Goals of Care Designation	One of a set of short-hand instructions by which health care providers describe and communicate general care intentions, specific clinically indicated health interventions, transfer decisions, and locations of care for a patient as established after consultation between the most responsible health practitioner and patient or alternate decision-maker
GCD Order	Goals of Care Designation Order	The documented order for the goals of care designation as written by the most responsible health practitioner (or designate)
Imminently dying		Any patient who, according to the most responsible health practitioner's clinical assessment, is within the last hours to days of life
Informed consent		The informed agreement of a patient or Alternate Decision-Maker (if applicable) prior to the patient undergoing a Treatment/Procedure(s) after being provided with the relevant information about the Treatment/Procedure(s), its risks and alternatives and the consequences of refusal
MRHP	Most Responsible Health Practitioner	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		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
Personal Directive		A written document in accordance with the requirements of the Personal Directives Act in which an adult names an Agent(s) or provides instruction regarding his/her personal decisions, including the provision, refusal and/or withdrawal of consent to Treatments/Procedures. A Personal Directive (or part of) has effect with respect to a personal matter only when the maker lacks Capacity with respect to that matter

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