CONTINUOUS PALLIATIVE SEDATION THERAPY (CPST) PROTOCOL FOR COVID-19 PANDEMIC

This protocol is a supplement to the Hamilton Palliative Sedation Therapy Guidelines and has been specifically developed to address palliative sedation therapy for COVID-19 positive patients not ventilated with intractable dyspnea and symptoms. It reflects the reality of a potentially resource-challenged health system (e.g. medications, infusion pumps, staff). Please acquaint yourself with the main Guidelines as they provide important context.

This protocol and the main Hamilton Continuous Palliative Sedation Therapy Guidelines was developed by a work group of the Division of Palliative Care, Department of Family Medicine, McMaster University

Definition

Continuous Palliative Sedation Therapy (PST) is the intentional induction and continuous maintenance of a reduced level of consciousness to relieve a patient's **refractory symptom(s)** during their last days of life. The aim is to use the lowest dose of medication and the lightest level of sedation that achieves patient comfort. In some patients, symptom(s) relief may be achieved at a light level of sedation with small doses of medication. In others, comfort can only be achieved at a deeper level of sedation with higher doses of medication. (proportionality) Titration of the dose may be required.

INDICATIONS

The presence of a refractory symptom(s) is a necessary indication for the use of CPST. **A symptom is considered refractory if** it cannot be adequately controlled without the intentional use of sedation (i.e. there is not appropriate treatment that would be effective within an acceptable time frame or with an acceptable risk benefit ratio to the patient).

Common indications for CPST include refractory dyspnea, delirium, seizures, and pain. Psychological, social, spiritual and existential distress are considered more controversial indications for the use of CPST (please see Guidelines document for more details).

CRITERIA

Each of the following criteria needs to be met prior to initiating CPST:

- The patient's life expectancy is days to about 2 weeks
- The patient is experiencing one or more refractory symptom(s) for which optimised usual treatments have failed and alternative effective treatment options are either not available within an acceptable time frame, or would not provide symptom relief without unacceptable morbidity/side effects
- Informed consent for no Cardio-Pulmonary Resuscitation (CPR) (or Allow Natural Death AND) has been obtained
- Informed consent for CPST has been obtained from the patient or substitute decision maker(s) if the patient lacks capacity to made decisions on their own.
- Input has been obtained from a palliative care clinician/team when possible.

PROCESS

CPST requires comprehensive interprofessional assessment and collaborative decision-making. The essential steps in the decision making, planning and delivery process, for CPST, includes a thorough patient assessment, a review of the goals of care, establishment of informed consent, and development of the CPST care plan. Detailed documentation to support all steps is essential.

- Ensure criteria are met and the rationale for considering and/or initiating CPST is documented.
- Review medications to determine which medications are essential to continue (e.g. pain medications- requires subcut or IV administration) and which can be discontinued (non-essential to comfort).
- Determine and document the target level of sedation
- Ensure monitoring is in place; parameters (e.g. comfort level), method (e.g. RASS, RASS-Pal) and frequency (usually q 30 min until patient comfortable, then q 1h for the next 4 to 6 hours, then QID). Document.
- Communicate with patient (if capacity retained), family and substitute decision makers.
- Document care plan
- Document rationale for any increases in doses.

MEDICATIONS **(The options recommended below are specific for the COVID-19 pandemic)**

The patient's care location (e.g. home, hospice, hospital, long-term care home), and the availability of medication administration routes, and availability of equipment (e.g. infusion pump), guide the selection of medication, dose and route. Several options are provided to account for potential drug and/or nursing/physician shortages that may occur during a pandemic. Start at lower doses suggested and titrate up if needed. Flexibility is required. The options are provided in order of preferred options, with option 1 being the preferred first line approach (drug availability, no need for infusion pumps which may be in short supply and less dosing and monitoring frequencies) and option 4 being added to options 1, 2 or 3 if these are ineffective.

1ST LINE

Option 1: Methotrimeprazine (Nozinan™)*

- Administer a stat dose of methotrimeprazine 25mg subcut STAT (12.5mg in frail, elderly patients).
- Then follow up with methotrimeprazine 12.5-25mg subcut q4hrs or q6hrs. Add a PRN order of midazolam 2.5mg or 5mg subcut or IV q30 min PRN (contact the MD if 4 or more PRNs are needed in a 24 hr period to re-evaluate and adjust).
- If above ineffective, consider Step 2.

Option 2: Lorazepam subcut or IV* (not usual option but in time of midazolam shortage, may be used)

- Start with STAT dose of 1-2mg subcut/IV (or 1mg to 4mg sublingual)
- Then titrate with 0.5mg to 2mg subcut/IV q 2 hrs PRN until desired level of sedation achieved.
- Then provide maintenance dose: Usual maintenance dose is 1mg to 4mg subcut/IV q 2-4 hrs (or 1mg to 8mg sublingual).

Option 3: Midazolam subcut intermittent injections*

- Administer midazolam 2.5mg or 5mg subcut or IV STAT.
- Then continue with midazolam 2.5mg or 5mg subcut or IV q4hrs. Add a PRN order of midazolam 1 – 5mg subcut or IV q30 min to q 60 min PRN.
- If ineffective, consider Step 3 (preferred) or Step 4 (if Step 3 not available).

Option 4: Midazolam by continuous infusion.**

- Administer a loading dose of midazolam: 2.5mg or 5mg subcut or IV stat.
- Then start a continuous infusion of midazolam at 0.5mg to 1mg/hour subcut or IV by infusion pump.
  - Titrate up (or down) every 30 to 60 minutes if needed until the required level of sedation is achieved. The usual dose required is between 1-5mg/hr. Higher doses may be required in select cases.
  - If titration required to achieve desired goal (comfort), increase the dose of midazolam in increments of 0.5mg or 1mg/hr. If crises occur, may give a bolus doses of midazolam 2.5mg or 5mg subcut or IV q 30 minutes PRN.
- If doses of greater than 8-10 mg/hr are required, reassess and consider adding methotrimeprazine or phenobarbital

2nd Line: Add to options 1, 2 or 3 if these are ineffective: Phenobarbital

- Add phenobarbital to methotrimeprazine or midazolam patient is already receiving. Administer 60mg, 90mg or 120mg subcut or IV stat (depending on the severity of the situation)
- Then start phenobarbital 60mg subcut BID. Long-half life though does not allow for rapid titration (only increase dose every day or 2, not sooner)

***These options may be the preferred options in the home setting, but depends on drug and nursing availability.**

****Midazolam may in in short supply, requires frequent administration if PRN only, and requires infusion pump availability if continuous infusion. Midazolam infusions take considerable pharmacy time to prepare (which may not be possible in a pandemic)**

In case medications for options 1 to 4 not available, consider directly to 2nd line, or one of the following (not usually used in normal non-pandemic circumstances):

- **Chlorpromazine PR**:
  - Injectable no longer available in Canada. 100mg tabs usually available. Would need to crush the tablets, place them in gelatin capsules (as commercial suppository not available) and administer rectally (PR).
  - Stat dose of 12.5 – 25mg PR
  - Then follow with maintenance dose of 12.5 – 50mg PR q4 – 6 hrs (starting at lower dose and titrating up to effect)
- Haloperidol:
  - Not necessarily sedating, hence not usually used. Risk of significant adverse effects. Higher doses increase risk for EPS
  - 1 – 2mg subcut q4 – 6 hrs (but higher dose may be required – ideally not to exceed 10mg/24 hrs)

DO NOT USE OPIOIDS FOR PALLIATIVE SEDATION: INEFFECTIVE AND HIGHER RISK OF NEUROTOXICITY IF TITRATED RAPIDLY

Richmond Agitation Sedation Scale – Palliative Version (RASS-PAL) for assessing and monitoring level of sedation (Bush S, et al. BMC Palliative Care 2014)

Score	Term	Description	
+4	Combative	Overtly combative, violent, immediate danger to staff (e.g. throwing items); +/- attempting to get out of bed or chair	
+3	Very agitated	Pulls or removes lines (e.g. IV/SQ/Oxygen tubing) or catheter(s); aggressive, +/- attempting to get out of bed or chair	
+2	Agitated	Frequent non-purposeful movement, +/- attempting to get out of bed or chair	
+1	Restless	Occasional non-purposeful movement, but movements not aggressive or vigorous	
0	Alert and calm		
-1	Drowsy	Not fully alert, but has sustained awakening (eye-opening/eye contact) to *voice* **(10 seconds or longer)**	Verbal Stimulation
-2	Light sedation	Briefly awakens with eye contact to *voice* **(less than 10 seconds)**	
-3	Moderate sedation	Any movement (eye or body) or eye opening to *voice* **(but no eye contact)**	
-4	Deep sedation	No response to voice , but any movement (eye or body) or eye opening to *stimulation by light touch*	Gentle Physical Stimulation
-5	Not rousable	No response to *voice or stimulation by light touch*	

Monitoring

Frequency of patient monitoring and parameters to be monitored are influenced by the setting, circumstances and availability of clinical staff. Some parameters should be monitored routinely, while others are on a case-by-case basis. Parameters being assessed may also change over time.
Parameters that should be assessed using a valid tool include:

- Level of sedation
- Level of comfort or discomfort
- Airway patency and air entry (if sedation is not being done for irreversible airway obstruction)
- Parameters that may be monitored on a case-by-case basis include but are not restricted to: respiratory rate, oxygen saturation and bladder fullness (in patients who are not catheterized)

DOCUMENT THESE IN THE PATIENT CHART

Frequency of CPST monitoring (recommend using RASS-PALL)

	ACUTE CARE SETTINGS	HOME, RESIDENTIAL OR LONG-TERM CARE SETTINGS	
Medications	**Midazolam, Methotrimeprazine and/or Phenobarbital***	**Midazolam**	**Methotrimeprazine and/or Phenobarbital***
Initiating PST	Monitor every 30 minutes until the goal of PST is achieved. During this time dose titrations may be required.	Initial titration will require nursing support. Monitor every 30 minutes until the goal of PST is achieved. During this time dose titrations may be required.	Monitor every hour until the goal of PST is achieved.
Maintaining PST	Monitor q 4hrs.	Monitor q 8 -12 hrs.	Monitor q 8 -12 hrs.*
Any dose adjustments made or additional bolus/PRN doses given	Restart monitoring q30min as above until the target symptom is controlled and then q4hrs thereafter.	Restart monitoring q30min as above until the target symptom is controlled and then q8hrs thereafter.	Restart monitoring q l hr as above until the target symptom is controlled and then q8hrs thereafter. * If these medications are used in conjunction with midazolam, then monitor as per midazolam monitoring guidelines

*Nursing support may be through 24/7 telephone access rather than direct monitoring.

MONITORING DURING A PANDEMIC

During a pandemic, shortage of health care workers may occur. Therefore, monitoring recommendations may need to be adjusted accordingly, with monitoring having to occur less often in some cases.

Consensus-based development process by work group members. May be adopted or adapted with acknowledgement of Division of Palliative Care, Dept of Family Medicine, McMaster University.

This is ongoing work; please visit www.fhs.mcmaster.palliativecare for updates. Please share with us any improvements you may have by email Palcare@mcmaster.ca

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Suggested language for physicians providing support to a patient or family member who is denied intensive care due to resource scarcity

(Courtesy of Champlain Regional Palliative Care Program, Ontario)

Normally, when somebody develops critical illness, the medical team would offer them intensive care (a combination of medications and machines to support their vital organs), provided that the medical team felt that they had a reasonable chance of survival. However, because of the COVID outbreak, we are currently unable to offer intensive care to everyone who is critically ill. As a result, our hospital is working under triage guidelines, which means that we are only offering intensive care to those who are most likely to be able to survive and recover from their critical illness. You probably have heard about this in the news – all hospitals in the region are working under these guidelines.

I regret to inform you that we are unable to offer you intensive care treatments at this time, as a result of the triage guidelines. Because of your medical condition, the likelihood that you would survive even with intensive care is considered to be too low for us to offer intensive care. The team has made this decision based on the following information:_____.

I am deeply sorry about this situation. This is not the way we ordinarily make these decisions, and I can only imagine how you must feel right now. I want you to know that even though we cannot offer intensive care, we will do everything else that could conceivably give you a chance of recovering, including: _____.

And I promise you that, no matter what, we will also use medication to treat any discomfort, such as pain or shortness of breath. We know that when we treat discomfort appropriately, this is not harmful and may actually help improve your condition.