BC Centre for Palliative Care

B.C. INTER-PROFESSIONAL PALLIATIVE SYMPTOM MANAGEMENT GUIDELINES

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BC Centre for Palliative Care

RESPIRATORY CONGESTION

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DEFINITION

Respiratory congestion -- also called 'noisy respirations', 'noisy breathing', 'respiratory tract secretions' (RTS) and 'death rattle' -- is the noise produced by the turbulent movements of secretions in the upper airways that occur during respiration in patients who are dying.[1] This guideline does not support the term 'death rattle', especially with families, encouraging instead use of term **respiratory congestion**. It may be classified as either Type 1 or Type 2:

Type 1: The noise that ensues when excessive secretions are produced by the salivary glands when the patient is unable to swallow due to reduced level of consciousness or profound weakness. Is reported to predict death for 75% of dying patients, often within 48 hours of onset.[1, 2]

Type 2: The presence of mostly bronchial secretions caused by respiratory pathology such as pulmonary infection, aspiration, and/or edema. Type 2 is much more difficult to treat and may be unaffected by standard palliation treatment.[3]

PREVALENCE

Respiratory congestion in the dying patient is a common and expected symptom[4] although reported prevalence varies considerably, from 23-92%.[5, 6.] Respiratory congestion may cluster alongside dyspnea; see dyspnea guidelines for management.

IMPACT

If the person is alert, respiratory secretions can cause him or her to feel agitated and fearful of suffocating.[1] Family may interpret the sound as an indication that the patient is 'drowning in secretions' so it is not surprising that it has been reported as upsetting at the time of dying and even several years after the death.[2] Some professionals may also find the sound distressing.[5] **However, there is no evidence that the sound is associated with respiratory distress.[4]**

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STANDARD OF CARE

Step 1 | Goals of care conversation

Determine goals of care in conversation with the patient, family and inter-disciplinary team. Refer to additional resources (Additional resources for management of respiratory congestion) for tools to guide conversations and required documentation. Goals of care may change over time and need to be reconsidered at times of transition, e.g., disease progression or transfer to another care setting.

Step 2 | Assessment

Respiratory congestion assessment: Using Mnemonic O, P, Q, R, S, T, U and V [5,7, 32]

Mnemonic Letter	**Assessment Questions** *Whenever possible, ask the patient directly. Involve family as appropriate and desired by the patient. At the onset of congestion, most patients are at a reduced consciousness level*[8]*; therefore, assessment is usually dependent on family or care provider observations.*
Onset	When did it begin? How long does it last? How often does it occur?
Provoking /Palliating	What brings it on? What makes it better? What makes it worse? Can the secretions be cleared by coughing or swallowing?
Quality	What does it sound like? Can you describe it?
Region/Radiation	Does it seem to be in the chest? Or throat?

Respiratory congestion assessment: Using Mnemonic O, P, Q, R, S, T, U and V *continued*

Severity	Does the patient appear comfortable? Are the sounds louder or quieter with change of positions?[7] How bothered are you by this symptom? Are there any other symptom(s) that accompany this symptom?
Treatment	What medications and treatments are you currently using? Are you using any non-prescription treatments, herbal remedies, or traditional healing practices? How effective are these? Do you have any side effects from the medications and treatments? What have you tried in the past? Do you have concerns about side effects or cost of treatments? Could other treatments be worsening this symptom (e.g., artificial hydration)?
Understanding	What do you believe is causing this symptom? How is it affecting you and/or your family? What is most concerning to you? Does the patient appear distressed?[7]
Values	What overall goals do we need to keep in mind as we manage this symptom? Are there any beliefs, views or feelings about this symptom that are important to you and your family?

Symptom Assessment: Physical assessment as appropriate for symptom

Diagnostics: consider goals of care before ordering diagnostic testing

Step 3 | Determine possible causes and reverse as possible if in keeping with goals of care

- The cause of noisy breathing remains unproven but is presumed to be due to an

accumulation of secretions in the airways.[6]

- Factors associated with an increased risk, particularly of Type 2, include: a prolonged dying phase, cerebral or pulmonary malignancy, pneumonia, dysphagia, and head injury.[1, 2, 9].
- Excessive oropharyngeal secretions, coupled with a weakening gag and/or cough reflex, cause pooling of the secretions and saliva.[10]

PRINCIPLES OF MANAGEMENT

When considering a management approach, always balance burden of a possible intervention against the likely benefit (e.g., does the intervention require transfer to another care setting?)

- Although the sound of respiratory congestion can be disturbing to hear, determine if the patient is distressed by observing other indicators (such as wincing) and reassure family.
- If the patient seems distressed, start medication early for best effect.
- Positioning is the most effective non-pharmacological intervention.
- Suctioning may cause more harm and not relieve the congestion

LEGEND FOR USE OF BULLETS

Bullets are used to identify the type or strength of recommendation that is being made, based on a review of available evidence, using a modified GRADE process.

✓	**Use with confidence:** recommendations are supported by moderate to high levels of empirical evidence.
⬠	**Use if benefits outweigh potential harm:** recommendations are supported by clinical practice experience, anecdotal, observational or case study evidence providing low level empirical evidence.
⚠	**Use with caution:** Evidence for recommendations is conflicting or insufficient, requiring further study
☒	**Not recommended:** high level empirical evidence of no benefit or potential harm

Non-pharmacological interventions

Interventions available in the home and residential care facilities

- ⬠ **Limit or discontinue use** of IV fluids or artificial nutrition to decrease burden of secretions.[1, 10, 11.]
- ⬠ **Sips of fluids only** if patient is alert and able to swallow.
- ⬠ Provide **frequent mouth care**; **humidify room** (fill a bathtub with water, keep plants, use a humidifier machine if available).[10]
- ⬠ **Reposition** the patient in a side-lying position with the head of the bed elevated.
- ⬠ **Position** onto alternate side to encourage postural drainage.[2]

Interventions requiring additional equipment or admission to acute care

- **Avoid suction** when possible. It can cause agitation and distress, is ineffective below the oropharynx, and does not correct underlying problem.[1, 11.]
- In the event of copious secretions in the oropharynx, gentle anterior suction may be useful.[3, 5, 12] **However, consider goals of care, equipment availability, and your organization's policies.**
- Patients with a tracheotomy who have previously required suction as part of their ongoing management, may continue to require it.
- With active bleeding from oral, esophageal or pulmonary areas, suction may be required (see severe bleeding guideline).

Pharmacological interventions

Evidence of superiority not established for any specific medication or benefit over placebo.[5, 6, 14, 15.]

- Use of anticholinergic drugs remains high in clinical practice, up to 80-88%,[8, 16] despite the lack of evidence.[8 17] They are also recommended in the UK national guidelines.[18] Routine or standard use of anticholinergics has been increasingly questioned.[4, 5, 18, 19]
- When drugs are used, combine with non-pharmacological interventions. (See non-pharmacological interventions section.[20])

In BC, drug choices used are primarily either glycopyrrolate, atropine or scopolamine.

Starting therapy (**for further drug dosing and precautions, see** Medications for management of respiratory congestion):

- When started, begin at the first audible sign of congestion, as drugs do not dry up secretions that are already present.[7]
- Anticholinergics may be more effective when started early, or in patients with a lower intensity of congestion.[8, 21, 22]
- Onset of effect for subcutaneous route reported within 30 to 60 minutes from anticholinergics.[21]

Alternative routes

- Subcutaneous administration of anticholinergics is most commonly used; however, consider alternative routes in the community due to the need for equipment and training for administration.
- Other routes of administration include transdermal (scopolamine patch) or sublingual (atropine 1% ophthalmic drops). The use of atropine sublingually, 1 to 3 drops every two to four hours, has been suggested while patients are starting on scopolamine patch as patch can take 6 to 8 hours to be effective; steady state levels reached in 24 hours.[23]

Monitoring of beneficial effects and undesirable adverse effects

- Oropharyngeal secretions (Type 1 respiratory congestion) is most likely to respond to drug therapy, while treatment success for bronchial secretions (Type 2) is poor, if at all.[20, 24]
- Common adverse effects are dry mouth, urinary retention, visual disturbances and occasionally confusion.[6, 18] A significant difference in the incidence of adverse effects amongst each of the anticholinergics has not been established.[21] Provide good mouth care and lubricate eyes with drops if necessary as mucous membranes often become dry.
- Patients are commonly unable to report benefit or adverse effects due to reduced level of consciousness.[8]
- Consider stopping anticholinergics if congestion is not helped. Often treatment may be initiated for the benefit of relatives and others.[6, 25]
  Do not continue use merely as a drive to "do something" if ineffective or if distress levels are unaltered.[26] Monitor symptoms regularly after drug discontinuation.
- Octreotide had no anti-secretory benefit on respiratory congestion intensity when compared with scopolamine in a 10-patient randomized trial.[27] Higher cost precludes use.
- Although perceived benefit of oxygen administration or measurement of oxygen saturation remains high at 83%, oxygen has no known patient benefit for respiratory congestion.[13]

Patient and family education

- Use plain language such as 'moist or noisy breathing'. Avoid the term 'death rattle' when talking with families or other clinicians.[1]
- Inform families in advance that noisy breathing may occur as a normal part of the dying process. [2, 9-11]
- Inform families that oxygen does not change the noisy breathing and is not beneficial.[13] If in community, a family decision to seek oxygen may lead to unnecessary emergency department visits.
- Family distress with noisy breathing decreases when they see patient is comfortable.[5] Point out non-verbal indicators of comfort such as facial expression. If the patient appears comfortable, reassure the family; if patient has laboured breathing or appears uncomfortable, treat the dyspnea and/or pain.[11]
- If appropriate, encourage family involvement in providing mouth care as a way to care for their loved one.

ADDITIONAL RESOURCES FOR MANAGEMENT OF RESPIRATORY CONGESTION

Resources Specific to Respiratory Congestion

- ALS Society of Canada: A guide to ALS patient care for primary care physicians. Sections on sialorrhea (drooling due to decreased ability to manage saliva), dyspnea and palliative care
  - ➞ https://als.ca/wp-content/uploads/2017/02/A-Guide-to-ALS-Patient-Care-For-Primary-Care-Physicians-English.pdf

General Resources

- **Provincial Palliative Care Line** – for **physician** advice or support, call **1 877 711-5757** In ongoing partnership with the Doctors of BC, the toll-free Provincial Palliative Care Consultation Phone Line is staffed by Vancouver Home

Hospice Palliative Care physicians 24 hours per day, 7 days per week to assist physicians in B.C. with advice about symptom management, psychosocial issues, or difficult end-of-life decision making.

- BC Centre for Palliative Care: Serious Illness Conversation Guide
  - ➞ https://www.bc-cpc.ca/cpc/serious-illness-conversations/
- BC Guidelines: Palliative Care for the Patient with Incurable Cancer or Advanced Disease
  - ➞ http://www2.gov.bc.ca/gov/content/health/practitioner-professional-resources/bc-guidelines/palliative-care
- BC Palliative Care Benefits: Information for prescribers
  - ➞ https://www2.gov.bc.ca/gov/content/health/practitioner-professional-resources/pharmacare/prescribers/plan-p-bc-palliative-care-benefits-program
- National Centre for Complementary and Alternative Medicine (NCCAM) for additional information on the use of non-pharmacological interventions
  - ➞ https://nccih.nih.gov/
- Canadian Association of Psychosocial Oncology: Algorithms for Cancer-related Distress, Depression and Global Anxiety
  - ➞ https://www.capo.ca/resources/Documents/Guidelines/4.%20Algorithms%20for%20Cancer-related%20Distress,%20Depression%20and%20Global%20Anxiety.pdf
- Fraser Health psychosocial care guideline
  - ➞ https://www.fraserhealth.ca/employees/clinical-resources/hospice-palliative-care#.W-by_pNKg2w

Resources specific to health organization/region

- Fraser Health
  - ➞ https://www.fraserhealth.ca/employees/clinical-resources/hospice-palliative-care#.XDU8UFVKjb1
- First Nations Health Authority
  - ➞ http://www.fnha.ca/

- Interior Health
  - ➞ https://www.interiorhealth.ca/YourCare/PalliativeCare/Pages/default.aspx
- Island Health
  - ➞ https://www.islandhealth.ca/our-services/end-of-life-hospice-palliative-services/hospice-palliative-end-of-life-care
- Northern Health
  - ➞ https://www.northernhealth.ca/for-health-professionals/palliative-care-end-life-care
- Providence Health
  - ➞ http://hpc.providencehealthcare.org/
- Vancouver Coastal Health
  - ➞ http://www.vch.ca/your-care/home-community-care/care-options/hospice-palliative-care

Resources specific to patient population

- ALS Society of Canada: A Guide to ALS patient care for primary care physicians
  - ➞ https://als.ca/wp-content/uploads/2017/02/A-Guide-to-ALS-Patient-Care-For-Primary-Care-Physicians-English.pdf
- ALS Society of British Columbia 1-800-708-3228
  - ➞ www.alsbc.ca
- BC Cancer Agency: Symptom management guidelines
  - ➞ http://www.bccancer.bc.ca/health-professionals/clinical-resources/nursing/symptom-management
- BC Renal Agency: Conservative care pathway and symptom management
  - ➞ http://www.bcrenalagency.ca/health-professionals/clinical-resources/palliative-care
- BC's Heart Failure Network: Clinical practice guidelines for heart failure symptom management
  - ➞ http://www.bcheartfailure.ca/for-bc-healthcare-providers/end-of-life-tools/

ADDITIONAL RESOURCES FOR MANAGEMENT OF RESPIRATORY CONGESTION *CONTINUED*

- Canuck Place Children's Hospice
  - ➡ https://www.canuckplace.org/resources/for-health-professionals/
    - 24 hr line – 1.877.882.2288
    - Page a Pediatric Palliative care physician – 1-604-875-2161 (request palliative physician on call)
- Together for short lives: Basic symptom control in pediatric palliative care
  - ➡ http://www.togetherforshortlives.org.uk/professionals/resources/2434_basic_symptom_control_in_paediatric_palliative_care_free_download

UNDERLYING CAUSES OF RESPIRATORY CONGESTION IN PALLIATIVE CARE

Information is included in the body of the document.

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MEDICATIONS FOR MANAGEMENT OF RESPIRATORY CONGESTION

Subcutaneous Drug	Stat and PRN Subcutaneous dose	CSCI dose per 24 hours	Adverse effects information	Precautions
Glycopyrrolate	0.2 mg-0.4mg Q4-6H	0.6 to 1.2 mg	Does not cross BBB. CNS adverse effects may be minimized	Half dose in end-stage renal failure
Atropine	0.4 to 0.6 mg Q4-6H	1.2 to 2 mg	May be stimulating, rather than sedating. Use IV may have risk of tachycardia.	Cardiac effects, at higher doses.
Scopolamine (hyoscine HYDRObromide)	0.4 mg to 0.6mg Q4-6H	1.2 to 2 mg	May be more sedating	Avoid in end-stage renal failure due increased risk of delirium
Hyoscine BUTYLbromide (e.g. Buscopan)	20 mg Repeat doses every 4 to 6 hours	20 to 120 mg	Does not cross BBB. CNS adverse effects may be minimized	Use may be confused with scopolamine due to similar name. Use TALLman lettering to differentiate.
Transdermal and Sublingual Drugs				
Scopolamine Transdermal Apply one patch every 72 hours (allow for 6-8 hrs onset of action, steady levels at 24 hrs) Each 1.5 mg patch release approximately 1 mg of scopolamine base over 72 hours. Multiple (e.g. two) concurrent patches have been used.				Locate behind ear(s) for optimal absorption.

Medications for management of respiratory congestion continued on next page

MEDICATIONS FOR MANAGEMENT OF RESPIRATORY CONGESTION *CONTINUED*

Atropine 1% ophthalmic drops for SUBLINGUAL use 1 to 4 drops (providing approximately 0.5 mg per drop) sublingual every two to four hours.	Avoid inadvertent and unintended administration into eyes. Effectiveness not established. Off-label indication

† Off-label. PO = by mouth IV = Intravenous, SC = Subcutaneous, TID = three times daily, QID = four times daily ODT = oral dissolving tablet CSCI = continuous subcutaneous infusion.

Prices for prescription drugs may be obtained from BC PharmaCare. The British Columbia Palliative Care Benefits Plan https://www2.gov.bc.ca/assets/gov/health/health-drug-coverage/pharmacare/palliative-formulary.pdfprovides province wide drug coverage for many of the recommended medications– check website to confirm coverage. **Consider price when choosing similarly beneficial medications, especially when the patient / family is covering the cost.**

RESPIRATORY CONGESTION MANAGEMENT ALGORITHM

No management algorithm included in this document.

RESPIRATORY CONGESTION EXTRA RESOURCES OR ASSESSMENT TOOLS

No extra resources or assessment tools included in this document.

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