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# Regional Palliative Care Services

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## Respiratory Congestion

By Suzy Stever,  
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Respiratory congestion is defined by the BC Centre for Palliative Care as the noise produced by the turbulent movements of secretions in the upper airways that occur during respiration in patients who are dying. It has also been called ‘noisy respirations,’ ‘noisy breathing,’ ‘respiratory tract secretions’ and ‘death rattle,’ although the current preferred term is respiratory congestion. It may be further classified as either Type 1 or Type 2 respiratory congestion (BCIPSMG, 2017).

**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. It is reported to predict death for 75% of dying patients, often within 48 hours of onset. Type 1 (oropharyngeal) respiratory secretions are most likely to re-

spond to drug therapy.

**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.

Respiratory congestion often goes along with dyspnea in palliative patients. For further guidelines on dyspnea management, please refer to the B.C. Inter-professional Palliative Symptom Management Guidelines.

While the sound may be distressing to family members and health care providers, there is **no evidence that the sound is associated with respiratory distress**. If the patient is unconscious, they are unaware of the rattling; similar to a snoring person unaware of his/her own snoring but those around may be disturbed by it. The patient will not suffocate and this does not constitute dyspnea. If patient is alert, they may find themselves feeling anxious or

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agitated along with a fear of suffocating from the secretions.

The following non-pharmacological interventions can be very useful in managing respiratory congestion:

- Limit or discontinue the use of IV fluids or artificial nutrition.
- Patient should take sips of fluid only if they are alert and able to swallow.
- Position the patient lying on their side with the head of the bed elevated (not sitting). Avoid positioning the patient lying on the side of the more functional lung in patients with lung involvement by disease. Position onto alternate side to encourage postural drainage.
- Provide frequent mouth care and keep room humid (i.e. use humidifier machine, plants in room, fill a bathtub with water).

Avoid suction if possible as it can cause agitation and distress. It is ineffective below the oropharynx and it does not correct the underlying problem. Gentle anterior suction may be considered if there are copious amounts of secretions in the oropharynx and patient is unconscious. Suction may also be continued if patients have a tracheotomy and previously required suction as part of their ongoing management, or in patients with an active bleed from oral, esophageal or pulmonary areas.

When pharmacological interventions are used, they should be combined with non-pharmacological interventions. While the use of anticholinergics remain high in clinical practice, there is little supporting evidence of their use overall. As well, there may be undesirable adverse effects, including blurred vision, dry mouth, urinary retention and occasional confusion. Good mouth care and lubricating eye drops can be very helpful when mucous membranes become dry.

**Anticholinergics do not dry up secretions that are already present.** Therefore, they may be more effective when started early (at the first audible sign of congestion) to reduce additional accumulation. If possible, use these agents short term since they may aggravate terminal restlessness and may thicken the secretions (Pereira, 2016).

#### **Atropine**

The evidence regarding effectiveness of atropine eye drops sublingual vs placebo for respiratory congestion is limited. Many studies showed no benefit; however, atropine is the only sublingual anticholinergic option that has been studied. Atropine has the potential for significant anticholinergic adverse effects that may last for many hours; crosses the blood brain barrier, increasing the risk of CNS effects; and may have cardiac effects at higher doses (tachycardia). Atropine has the most

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## Northern Lights in Palliative Care

We would like to highlight the care that Jess provided to a patient and family recently at UHNBC on the High Acuity Unit. Thank you for providing excellent palliative care through a very difficult time.

*"Palliative care is something I have always been passionate about. Many people think of palliative care and end-of-life care with a negative connotation, but what I think a lot of people don't understand is that with end-of-life care, the focus is figuring out what the patient wants and finding a way to make that happen. Death doesn't have to always be ugly and scary. It can be peaceful and on a patient's own terms; this is what I strive for when working with someone who is entering the last phase of life."*

*~Jess Fitterer*



Jessica Fitterer, LPN

bronchodilation effect compared to hyoscine hydrobromide and glycopyrrolate.

### Glycopyrrolate

Glycopyrrolate does not cross the blood brain barrier and, therefore, may cause less CNS side effects (i.e. drowsiness, excitation, delirium or hallucinations) than atropine or hyoscine hydrobromide (scopolamine). Recent studies show that glycopyrrolate is equivalent to hyoscine hydrobromide with respect to reducing secretions. Glycopyrrolate has less cardiac effects than atropine.

### Hyoscine Hydrobromide (scopolamine)

In addition to Subcut/ IM/ IV routes, hyoscine hydrobromide can also be given as a transdermal patch. However, this route may not be effective as the dose may be insufficient. Multiple patches (i.e. two) can be used. Hyoscine hydrobromide has a higher incidence of drowsiness compared to other treatment options.

The most common anticholinergics used in BC are listed below (Source: BC Inter-professional Palliative Symptom Management Guidelines, 2017).

Subcutaneous Drug	Stat and PRN Subcutaneous Dose	CSCI dose per 24 hours	Adverse effects information	Precautions
<b>Glycopyrrolate</b>	0.2 mg to 0.4 mg Q4-6H	0.6 mg to 1.2 mg	Does not cross BBB, CNS adverse effects may be minimized	Half dose in end-stage renal failure.
<b>Atropine</b>	0.4 mg to 0.6 mg Q4-6H	1.2 mg to 2 mg	May be stimulating, rather than sedating. Use IV may have risk of tachycardia	Cardiac effects at higher doses.
<b>Scopolamine (hyoscine HYDRObromide)</b>	0.4 mg to 0.6 mg Q4-6H	1.2 mg to 2 mg	May be more sedating	Avoid in end-stage renal failure due to increased risk of delirium.
<b>Hyoscine BUTYLbromide (e.g. Buscopan)</b>	20 mg Repeat doses every 4 to 6 hrs	20 mg 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

<p><b>Scopolamine Transdermal</b></p> <p>Apply one patch every 72 hrs (allow 6-8 hrs onset of action, steady levels at 24 hrs)</p> <p>Each 1.5 mg patch releases approximately 1 mg of scopolamine base over 72 hrs. Multiple (e.g. two) concurrent patches have been used.</p>	<p>Locate behind ear(s) for optimal absorption.</p>
<p><b>Atropine 1% ophthalmic drops for SUBLINGUAL use</b></p> <p>1 to 4 drops (providing approximately 0.5 mg per drop) sublingual every two to four hrs.</p>	<p>Avoid inadvertent and unintended administration into eyes.</p> <p>Effectiveness not established.</p> <p>Off-label indication.</p>

+ 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.

Pulmonary edema is differentiated from respiratory congestion as a buildup of excess fluid in the interstitial and alveolar space in the lungs, often from cardiac factors such as heart failure. If pulmonary edema is suspected, furosemide IV or subcutaneous may be considered.

**Consider stopping the anticholinergic if congestion is not improving and/or distress levels are unaltered.** Often treatment may be initiated for the benefit of relatives and others or the healthcare provider feels a need to “do something;” however, this is not an indication

to continue treatment. Patients are often unable to report benefit or adverse effects due to a reduced level of consciousness. Therefore, determine if the patient is distressed by observing other indicators (such as grimacing).

Inform families in advance that noisy breathing may occur as a normal part of the dying process. Family distress with noisy breathing decreases when they see that the patient is comfortable by using non-verbal indicators such as facial expression.

If the patient appears uncomfortable or has laboured breathing, treat the pain and/or dyspnea.



## References:

- "B.C. Inter-professional Palliative Symptom Management Guidelines." BC Centre for Palliative Care, 2017, [www.bc-cpc.ca/cpc/symptom-management-guidelines/](http://www.bc-cpc.ca/cpc/symptom-management-guidelines/). Accessed 21 Aug. 2018.
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- Downing, G. M. (Ed.). (2006). *Companion booklet: medical care of the dying* (Fourth ed., pp. 153-155). Victoria, Canada: Victoria Hospice Society.
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- Pereira, J. L. (2016). *The Pallium palliative pocketbook* (Second ed., pp. 6.26-6.27). Ottawa, Canada: Pallium Canada. Companion booklet: medical care of the dying, 4<sup>th</sup> edition.

# Upcoming Palliative Education Opportunities

## Education Sessions by Skype

A team of experts in palliative care will be presenting a series of interdisciplinary webinars on palliative care. All health professionals from all care settings are invited to attend. A specific subject will be taught each month and repeated throughout the month to allow more people to participate. Webinars are recorded and provided on OurNH and the external website.

Month	Date & Time	Topic	Presenter
September	Wed, Sep 26, 2-3 pm	Palliative Approach in Chronic Disease	Dr. Reddy
October	Thu, Oct 4, 2-3 pm	Providing Psychosocial Care for PSWs	Annie Leong
	Wed, Oct 10, 3-4 pm		
	Thu, Oct 18, 2-3 pm		
November	Wed, Nov 8, 3-4 pm	Being Aware, LEAP Core Module 1	Jenna Hemmerich
	Thu, Nov 14, 2-3 pm		
	Wed, Nov 22, 3-4 pm		
December	Thu, Dec 6, 2-3 pm	TBD	Jennifer Ferguson
	Wed, Dec 12, 3-4 pm		
	Thu, Dec 20, 2-3 pm		

***If you are interested in having your name added to our distribution list, please contact [Janet.Grainger@northernhealth.ca](mailto:Janet.Grainger@northernhealth.ca).***

Please note: schedule subject to change

## Pallium Canada's Learning Essential Approaches to Palliative Care (LEAP)

Palliative Care Consultation will be providing LEAP education near you. Dates will be announced on an ongoing basis so please watch for this.

