

# SYMPTOM MANAGEMENT: RESPIRATORY CONGESTION

[Symptom management of patients with COVID-19 receiving end-of-life supportive care outside the ICU<sup>\(1\)</sup>](#) can be managed by generalist nurses and prescribers. Clinical consultation by the local health authority palliative consult team may be helpful.

Prescriber and nurse utilize a team approach to discuss diagnosis and probable short prognosis with patient and family, ensuring they are aware that medications to manage symptoms may also cause drowsiness.

<p><b>General Information about respiratory congestion</b></p>	<p>Respiratory congestion is common and expected at end of life<sup>(2)</sup>, and will be expected for people dying with COVID-19 related illness.<sup>(3)</sup></p> <p>Family and staff may find the noise of the upper respiratory secretions distressing, but there is no evidence that the sound is associated with respiratory distress.<sup>(4)</sup></p> <p>Completing a physical assessment, identifying patients' goals of care, and reversing the underlying cause of the respiratory congestion (if possible) occurs before medication is started.<sup>(4)</sup></p> <p>Best practice combines medication with non-pharmacological interventions and family teaching.<sup>(4)</sup></p>
<p><b>Non-pharmacological strategies</b></p>	<p><b>Positioning</b> remains the most effective non-pharmacological intervention<sup>(4)</sup>: High Fowler's; sitting upright, supported by pillow or arms on table; lying on side, with poor lung side down.<sup>(4)</sup> Continue to reposition q4h to prevent skin breakdown.</p> <ul style="list-style-type: none"> <li>• Alternating sides may encourage postural drainage.<sup>(4)</sup></li> <li>• Suctioning is discouraged as it may cause more harm, reduce oxygenation and will not relieve the congestion.<sup>(4, 5)</sup></li> <li>• If copious secretions are noted in the oral cavity, gentle buccal suction may be useful,<sup>(2)</sup> NO deep suctioning.<sup>(3, 5)</sup></li> <li>• Limit intravenous (IV) fluids.<sup>(4)</sup></li> <li>• Provide frequent mouth care.<sup>(4)</sup></li> </ul> <p>A calming presence by a nurse can go a long way to assist patient and family.</p>
<p><b>Family Teaching</b></p>	<p>Normalize the noisy breathing<sup>(4)</sup> and educate that this can be a normal part of the dying process. Good analogy: the dying person is having a 'wet snore' (the snoring person is not bothered, but the people around them are bothered by the noise).</p> <p>Teach the family that when the dying person is unconscious, they are no longer aware but they may still be able to hear, so the family should continue to talk to them.</p>

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	<p>Assess the family's understanding and values of the respiratory congestion.</p> <p>Ask the family:</p> <ul style="list-style-type: none"> <li>• What goals do we need to keep in mind?</li> <li>• What is most distressing to you about this symptom?</li> </ul> <p>Encourage the family to have breaks from the bedside or alternate who is present with the dying person.</p>
<p><b>Indications for atropine 1% ophthalmic eye drops given by sublingual route</b></p>	<p>To reduce production of upper airway secretions in palliative patients.<sup>(4)</sup></p> <p>Begin giving medication at the first audible sign of congestion, as drugs do not dry up secretions that are already present.<sup>(4)</sup></p> <p>Administering atropine 1% ophthalmic drops by sublingual route is considered off label<sup>(4)</sup> and is not well established by literature.<sup>(2)</sup> However, it is used widely in community settings<sup>(4, 7)</sup>, pediatric populations<sup>(8)</sup>, and when there are medication shortages.<sup>(7)</sup></p>
<p><b>Indications for glycopyrrolate</b></p>	<p>To reduce upper airway secretions in palliative patients.<sup>(4)</sup></p> <p>It does not cross the blood-brain barrier, so is less sedating than atropine.<sup>(4)</sup></p> <p>Begin giving medication at the first audible sign of congestion, as drugs do not dry up secretions that are already present.<sup>(4)</sup></p>
<p><b>How the drugs work: anticholinergic classification</b></p>	<p>Anticholinergic<sup>(2, 3)</sup>: Chemical substance that blocks the neurotransmitter acetylcholine in the central and the peripheral nervous system.<sup>(7)</sup></p> <p>Atropine will inhibit parasympathetic nerve impulses by selectively blocking the binding of the neurotransmitter acetylcholine to its receptor in nerve cells. The nerve fibers of the parasympathetic system are responsible for the involuntary movement of smooth muscles present in the gastrointestinal tract, urinary tract, lungs, and many other parts of the body.<sup>(7)</sup></p> <p>Anticholinergics generally have <a href="#">antisialagogue</a> effects (<b>decreasing saliva production</b>), and most produce some level of sedation.<sup>(7)</sup></p> <p>Use of anticholinergic medications at end of life remains high, despite the lack of evidence.<sup>(4)</sup></p>

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<b>Contraindications</b>	Tachycardia and severe heart disease. <sup>(2)</sup> Full list on Parenteral Drug Therapy Manual (PDTM): <a href="#">atropine</a> <sup>(2)</sup> <a href="#">glycopyrrolate</a> . <sup>(3)</sup>															
<b>Reversal agents</b>	none															

## References:

- (1) Symptom management of patients with COVID-19 receiving end-of-life supportive care outside the ICU. UBC Division of Palliative Medicine: <https://palliativecare.med.ubc.ca/coronavirus/>
- (2) Vancouver Coastal Health Parenteral Drug Therapy Manual (PDTM): [atropine](#)
- (3) Vancouver Coastal Health Parenteral Drug Therapy Manual (PDTM): [glycopyrrolate](#)
- (4) BC Centre for Palliative Care: [Symptom Management Guidelines](#) Respiratory Congestion
- (5) Canadian Association of Emergency Physicians. End-of-life care in the Emergency Department for the patient imminently dying of a highly transmissible acute respiratory infection (such as COVID-19): <https://caep.ca/covid-19/covid-19-clinical-flow-charts-guidelines-and-protocol/>

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- (6) Centre to Advance Palliative Care, Managing Symptoms in the Home:  
<https://www.capc.org/documents/780/>
- (7) [Access to Drugs for Palliative Care in COVID-19 Pandemic 1-4-20](https://palliativecare.med.ubc.ca/coronavirus/) - retrieved from:  
<https://palliativecare.med.ubc.ca/coronavirus/>
- (8) Sublingual Atropine Drops for the Treatment of Pediatric Sialorrhea. Journal of Pain Symptom Management, November 2010 40(5) PII S0885392410003131
- (9) Wikipedia: <https://en.wikipedia.org/wiki/Anticholinergic>
- (10) Vancouver Coastal Health: [Medication Administration: Subcutaneous](#) (insertion and assessment)

## Further Reading:

UBC, Division of Palliative Care website: <https://palliativecare.med.ubc.ca/coronavirus/>

Pallium Canada webinar: Managing Dyspnea in Patients with COVID-19; one-hour webinar:  
[https://youtu.be/Z\\_Pu2peHeHI](https://youtu.be/Z_Pu2peHeHI)

Thunder Bay Regional Health Sciences (video 4:30 minutes) How to insert a Subcutaneous Catheter:  
<https://www.youtube.com/watch?v=li47l4861gY>