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- Hospice Palliative Care Program
Symptom Guidelines

Terminal Secretions/ Congestion

Terminal Secretions/Congestion

□ Rationale

This guideline is adapted for inter-professional primary care providers working in various settings in Fraser Health, British Columbia and the Fraser Valley Cancer Center and any other clinical practice setting in which a user may see the guidelines as applicable.

Terminal secretions and congestion are common in the terminal phase – 23 to 95%. Terminal secretions are a strong predictor of death – 48% within 24 hours and 76% within 48 hours of onset. They are not usually distressing to patients in the terminal phase but, in contrast, may dominate the experience and memory of loved ones at the bedside.⁽¹⁻¹⁴⁾

□ Scope

This guideline provides recommendations for the assessment and symptom management of adult patients (age 19 years and older) living with advanced life threatening illness and experiencing the symptom of terminal secretions and/or congestion. This guideline does not address disease specific approaches in the management of terminal secretions and/or congestion.

□ Definition of Terms

Airway secretion refers to mucus secreted by the submucosal glands and goblet cells. The airway secretion can accumulate due to increased production, decreased mucociliary clearance and ineffective cough reflex.⁽¹⁾

Congestion Type I: Salivary Secretions accumulating when swallowing reflexes are inhibited.⁽¹⁵⁾

Congestion Type II: Bronchial secretions which cannot be coughed up or swallowed.⁽¹⁵⁾

□ Standard of Care

1. Assessment
2. Diagnosis
3. Education
4. Treatment: Nonpharmacological
5. Treatment: Pharmacological

Recommendation 1 Assessment of Terminal Secretions/Congestion

Ongoing comprehensive assessment is the foundation of effective management of congestion and its related secretions, including interview, physical assessment, medication review, medical and surgical review, psychosocial and physical environment review and appropriate diagnostics (*see Table 1*). Assessment must determine the cause, effectiveness and impact on quality of life for the patient and their family.^(1, 3, 12)

Patients with terminal secretions are often not responsive enough to be interviewed. The following questions are important to guide observation and may be asked to family members.

Table 1: Terminal Secretions/Congestion Assessment using Acronym O, P, Q, R, S, T, U and V^(8, 12)

O Onset	When did it begin? Can the secretions be cleared by coughing or swallowing? How often do they occur?
P Provoking / Palliating	What brings it on? What makes it better? What makes it worse? Is it positional?
Q Quality	What does it sound like?
R Region / Radiation	Where are the secretions? Throat? Chest?
S Severity	What is the intensity of this symptom (On a scale of 0 to 10 with 0 being none and 10 being worst possible)? Right Now? At Best? At Worst? On Average? How bothered are you by this symptom? Are there any other symptom(s) that accompany this symptom?
T Treatment	What medications and treatments are you currently using? How effective are these? Do you have any side effects from the medications and treatments? What medications and treatments have you used in the past?
U Understanding / Impact on You	What does the person / family believe is causing this congestion? How is this symptom affecting the family? Is the person distressed?
V Values	What is the family goal for this symptom? What is your comfort goal or acceptable level for this symptom (On a scale of 0 to 10 with 0 being none and 10 being worst possible)? Are there any other views or feelings about this symptom that are important to you or your family?

* Physical Assessment (as appropriate for symptom)

Recommendation 2 Diagnosis

Identifying the underlying etiology of the secretions and congestion is essential in determining the interventions required.^(3, 5, 12, 16)

Type of Congestion	Factors Contributing
Increased fluid in airway	<ul style="list-style-type: none"> • Oropharyngeal secretions (saliva) <ul style="list-style-type: none"> – Type I, accumulate near death • Tracheo-bronchial secretions (normal mucous production) <ul style="list-style-type: none"> – Type II, accumulate over several days as patients deteriorate and cough weakens • Non-respiratory secretions (aspiration, blood, exudates, tumour debris)
Decreased airway diameter	<ul style="list-style-type: none"> • Increased resistance and turbulence • Edema • Smooth muscle hypertrophy • Intrinsic or extrinsic compression
Ventilatory rate	<ul style="list-style-type: none"> • Tachypnea • Altered, rapid breathing patterns

Recommendation 3 Education

The importance of education regarding treatment of terminal secretions is to support the family at the bedside. Drowning and suffocation are not accurate descriptions of what is going on. “Death rattle” is a term to avoid, instead use the term congestion. Prepare the family by reviewing changes they can expect in the patient condition as death approaches.^(2, 3, 7, 9, 11-13)

Recommendation 4 Treatment: Nonpharmacological

- Prevent aspiration with positioning.⁽²⁾ Repositioning (move the patient from supine to lateral recumbent with head slightly raised) – to encourage drainage, maintain airway and decrease pooling of secretions.^(1, 2, 4, 5, 7-12)
- Suction:
 - While it may seem to the family that suction should help, most secretions are usually below the larynx and inaccessible to suction.^(3, 5, 14)
 - Routine use of suctioning in the hospital setting needs to be discouraged.^(1, 2, 5, 8, 14)
 - The exception to this is fulminant pulmonary edema (copious “frothing”) or thick inspissated mucous, blood or other fluid in the throat or mouth – suctioning may be of value.^(2, 3, 9, 12)
- Provide good mouth care.⁽³⁾
- Avoid over hydration if fluid built up in upper airways^(5, 6, 9, 13, 14) especially in lung cancer patients.⁽¹⁰⁾

Recommendation 5 Treatment: Pharmacological

Anti-cholinergics are effective in reducing both saliva and mucus production. They should be used at the **first sign** of congestion as anti-cholinergics do not dry up secretions that are already present.^(3-5, 9, 13, 16) There is no evidence to support a first choice anti-cholinergic for the treatment of terminal secretions and congestion.

- Anti-cholinergics:
 - Atropine 0.4 to 0.8 mg S.C. q4h and q1h p.r.n.^(3-5, 7, 14)
 - Anecdotal evidence (as an alternative route to S.C. in the home) - atropine eyedrops 1 to 2 drops q1 to 2h p.r.n. sublingual^(3, 14) or buccal route.⁽⁷⁾
 - Scopolamine (hyoscine hydrobromide) 0.3 to 0.6 mg S.C. q4 to 6h regularly and/or p.r.n.^(3, 4, 7, 9, 12, 13)
 - Scopolamine transdermal patch 1 mg q72h; slow onset thus not indicated in terminal phase unless augmented with subcutaneous route for 8 to 12 hours.^(3-5, 8, 14)
- Glycopyrrolate 0.1 to 0.2 mg S.C. q6 to 8h regularly and/or p.r.n.; does not cross the blood brain barrier thus should be considered in non-obtunded patients.^(1, 3-5, 12, 14) May be given orally⁽³⁾ and sublingually.⁽³⁾

□ References

Information was compiled using the CINAHL, Medline (1996 to April 2006) and Cochrane DSR, ACP Journal Club, DARE and CCTR databases, limiting to reviews/systematic reviews, clinical trials, case studies and guidelines/protocols using respiratory/terminal secretions/congestions terms in conjunction with palliative/hospice/end of life/dying. Palliative care textbooks mentioned in generated articles were hand searched. Articles not written in English were excluded.

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