Assessment and Diagnostic Guideline: Cardio-Respiratory

Registered Nurses who hold **Remote Nursing** Certified Practice (RN(C)) designation are authorized to manage, diagnose, and/or treat the following respiratory conditions:

- Acute Bronchitis (adult only)

This *Assessment and Diagnostic Guideline* provides guidance to RN(C)s when conducting assessments and diagnostic tests related to cardio-respiratory conditions that can be managed and/or treated under the Certified Practice framework. RN(C)s maintain an RN scope of practice which is expanded in particular circumstances wherein the RN(C) is able to diagnose and treat a given condition.

RN(C)s must ensure they complete and document their assessments according to BCCMN practice standards and their practice setting requirements. Upon arriving at a diagnosis, RN(C)s are required to follow the relevant *Care and Treatment Plans* to inform the management and treatment of the condition.

Note: A *consultation* refers to the RN(C) collaborating with members of the care team, such as a physician, nurse practitioner, or pharmacist, to support decision-making processes related to the diagnosis, treatment and management of the diseases, disorders, and conditions that the RN(C) are authorized to diagnose, treat and manage. A *referral* is when an RN(C) refers a patient to a medical care provider for further treatment, care or management. This occurs when patients are presenting with symptoms outside of what is provided in this document, including symptoms that require urgent referral.

Visual Summary of Guideline

1 **Cardio-Respiratory: Physical Assessment and Review of Systems** (pages 1-2)
- Symptoms requiring urgent referral
- Associated systems assessments

2 **Typical Findings of Bronchitis** (pages 2-3)
- Potential causes
- Predisposing risk factors
- History
- Physical assessment
- Diagnostic tests

3 **Refer to the appropriate *Care and Treatment Plan*** (page 4)
- DST 401 - Care and Treatment Plan: Acute Bronchitis (Adult)

1) Cardio-Respiratory: Physical Assessment and Review of Systems

Refer to the "Physical Assessment of the Cardio-Respiratory System" section of the *Assessment and Diagnostic Guideline: General,* as needed.

Symptoms Requiring Urgent Referral

The first step is to differentiate acute cardio-respiratory conditions that require a referral and those conditions that can be managed safely by an RN(C).

This *Assessment and Diagnostic Guideline* informs RN(C)s about the diseases, disorders, and conditions they are authorized to diagnose, treat and manage. Patients presenting with symptoms outside of what is provided in this document require referral to a physician or nurse practitioner.

Note: The presentation of the symptoms associated with Acute Bronchitis **in a patient with COPD** falls within the definition of a COPD exacerbation and is not considered Acute Bronchitis and therefore must be referred to a physician or nurse practitioner immediately.[1]

Associated Systems

Ear, Nose and Throat

*Refer to the 'Physical Assessment of the Ears, Nose and Throat' section of *DST 100 Assessment and Diagnostic Guideline: General* as needed.

Examination of the ear, nose, and throat (ENT) should also be performed, given the interrelatedness between these systems and structures and the functioning of the lower respiratory tract.

Cardio-Respiratory Review of System Questions

See 'Review of Systems: Cardio-Respiratory' section of the *Assessment and Diagnostic Guideline: General* if not already done.

2) Typical Findings

Acute Bronchitis

Potential Causes[1–3]

Viral infection: 90% of cases

- Influenza A or B,
- Adenoviruses,
- Rhinoviruses
- Para-influenzae
- Coronaviruses
- Respiratory syncytial virus (RSV)
- Human metapneumovirus

Bacterial infection: <10% of cases

- *Mycoplasma pneumoniae*
- *Chlamydia pneumoniae*
- *Bordetella pertussis*

Note: Predisposing risk factors such as endotracheal intubation, tracheostomies, and COPD can result in other bacterial causes such as *Streptococcus pneumoniae* and *H. influenzae*[3]

Note: If symptoms of systemic STI (sexually transmitted infection) are present, complete the appropriate system assessment per BC Center for Disease Control STI DST 900. STI diagnosis and treatment requires Certified Practice Designation in Reproductive Health: Sexually Transmitted Infections.

Predisposing Risk Factors[1,4]

- Family history of COPD (chronic obstructive pulmonary disease)
- Asthma, cystic fibrosis, bronchiectasis, or other immunocompromising respiratory diseases
- Smoking and second-hand smoke inhalation
- Air pollutants and environmental factors, including:
    - Crowded living conditions
    - Pollen, perfumes and vapours

  - Fumes and dust
- Older age
- Gastroesophageal reflux disease (GERD)

In the initial phase of illness, the presentation of acute bronchitis can be difficult to distinguish from an Upper Respiratory Tract Infection (URTI) due to the prominence of a cough. Further, a URTI or "common cold" can precede the onset of acute bronchitis. Later in the course of the illness, the presentation of acute bronchitis and pneumonia are more often similar.

Note: The organisms that cause bronchitis can also cause pneumonia. The difference is in where the infection lies anatomically: bronchitis involves the larger airways (bronchi), whereas pneumonia involves the smaller airways and air sacs (alveoli).

History[1,3]

*Refer to Appendix A – Evaluation of Acute Bronchitis in Adults

- Previous Upper Respiratory Tract Infection (URTI):
  - General malaise
  - Headache
  - Nasal congestion
  - Cough
- Cough lasting for more than 5 days
  - Cough often lasts 1-3 weeks in acute bronchitis
- High fever is rare in acute bronchitis (>38.0 degrees Celsius)
- Muscular aching in the chest wall or discomfort with coughing
- Mild wheezing or dyspnea may be present
- Presence or absence of sputum with coughing is not diagnostic (approximately 50% report productive cough)
- Post-tussive vomiting or inspiratory 'whoop' more indicative of pertussis infection

Physical Assessment[1,3]

- Mildly elevated temperature, pulse and respirations may be indicative of dehydration secondary to viral illness
- High fever, tachycardia and other systemic findings may be indicative of bacterial infection
- Wheezes or rhonchi may be present on auscultation, and may clear with coughing in bronchitis
- Crackles and consolidation on auscultation are more indicative of pneumonia

Diagnostic Tests

- If Pertussis infection is suspected, swab for Culture and Sensitivity (C&S) or PCR (where available)
- If concern for Pneumonia vs Bronchitis, obtain chest radiograph (CXR)

Note. RN(C)s are authorized to initiate a client-specific ordering for screening and diagnostic tests only when employer policies, processes and/or resources are in place as outlined by BCCNM.[5,6]

Note: RN(C) practice allows for the diagnosis, management and treatment of Acute Bronchitis only, if other causes of illness are identified or significantly suspected, a consultation or referral to a physician or nurse practitioner is required to discuss further diagnostic or treatment options.

3) Refer to the appropriate Care and Treatment Plan

Based on the differential diagnosis established with assessment and diagnostic tests above, proceed to the appropriate *Care and Treatment Plan:*

- **DST 401** - Care and Treatment Plan: Acute Bronchitis – Adult

References

1. Singh A, Avula A, Zahn E. Acute Bronchitis. StatPearls. March 9, 2024. Accessed April 29, 2025. https://www.ncbi.nlm.nih.gov/books/NBK448067/

2. Goto A, Komiya K, Umeki K, Hiramatsu K, Kadota J ichi. Impact of Antibiotics Used for Acute Aspiration Bronchitis on the Prevention of Pneumonia. *Geriatrics*. 2024;9(2). Accessed April 29, 2025. https://www.mdpi.com/2308-3417/9/2/26

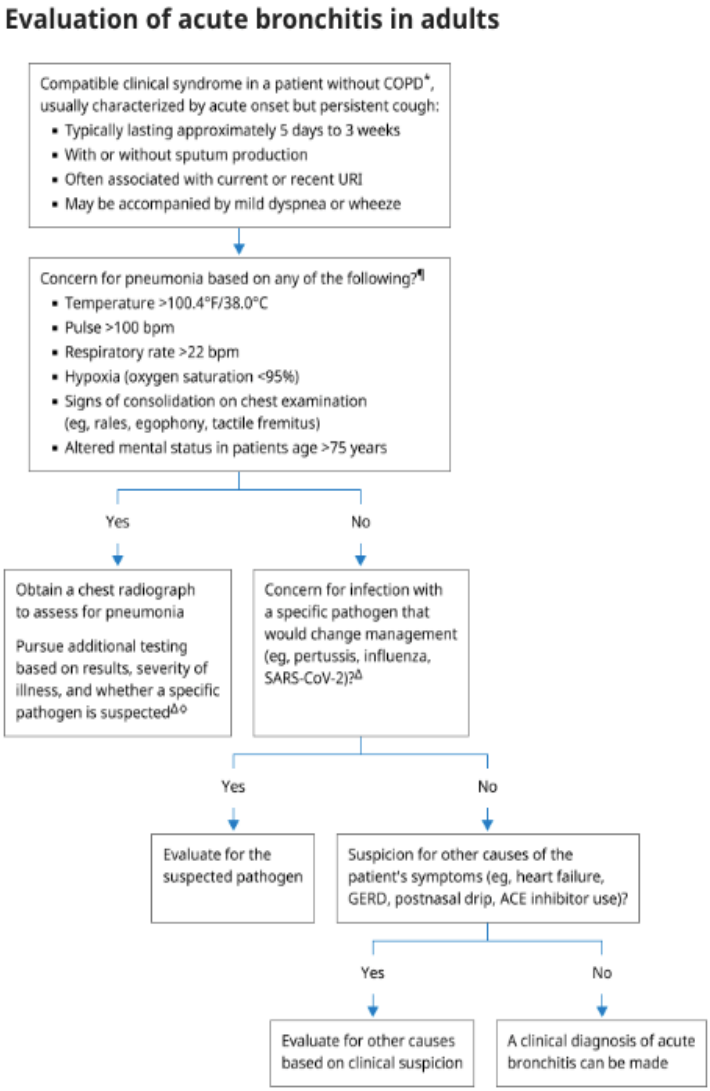
3. File T. Acute bronchitis in adults. UpToDate. January 12, 2025. Accessed April 29, 2025. https://www.uptodate.com/contents/acute-bronchitis-in-adults

4. National Health Institute. Bronchitis. NHI. December 2, 2022. Accessed April 29, 2025. https://www.nhlbi.nih.gov/health/bronchitis

5. BCCNM. Acting Within Autonomous Scope of Practice (Certified Practice). BCCNM. Accessed June 28, 2025. https://www.bccnm.ca/RN/PracticeStandards/Pages/CPAutonomousSoP.aspx

6. BCCNM. Screening and Diagnostic Tests & Imaging. BCCNM. Accessed June 27, 2025. https://www.bccnm.ca/RN/PracticeStandards/Pages/ScreeningDiagnosticTestsImaging.aspx

Appendix A



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