

This decision support tool is effective as of October 2016. For more information or to provide feedback on this or any other decision support tool, e-mail [certifiedpractice@crnbc.ca](mailto:certifiedpractice@crnbc.ca)

## ADULT ACUTE BRONCHITIS

### DEFINITION

Inflammation of trachea and bronchi (larger airways)

### Potential Causes

#### Viral infection: 90% of cases

- Influenza A or B, adenovirus, rhinovirus, para-influenzae, corona virus, Respiratory Syncytial Virus (RSV), human metapneumovirus

#### Bacterial infection: 10% of cases

- *Mycoplasma pneumoniae*, *Chlamydia pneumoniae*, *Bordetella pertussis* possible causes
- *Streptococcus pneumoniae* and *H. Influenzae* usually only causative organisms if there is underlying lung disease

### Predisposing Risk Factors

- Chronic sinusitis
- Chronic Obstructive Pulmonary Disease (COPD)
- Asthma
- Bronchiectasis
- Immunocompromised (chronic asthma)
- Smoking
- Second hand smoke
- Air pollutants, environmental factors
- Alcoholism
- Gastro Esophageal Reflux Disease (GERD)
- Wood stoves
- Mould

### Typical Findings of Acute Bronchitis

Initially the presentation of acute bronchitis is difficult to distinguish from an Upper Respiratory Tract Infection (URTI).

Later the presentation of acute bronchitis and pneumonia are often similar. In general, clients with pneumonia are sicker and usually have more chest abnormalities.

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CRNBC monitors and revises the CRNBC certified practice decision support tools (DSTs) every two years and as necessary based on best practices. The information provided in the DSTs is considered current as of the date of publication. CRNBC-certified nurses (RN(C)s) are responsible for ensuring they refer to the most current DSTs.

The DSTs are not intended to replace the RN(C)'s professional responsibility to exercise independent clinical judgment and use evidence to support competent, ethical care. The RN(C) must consult with or refer to a physician or nurse practitioner as appropriate, or whenever a course of action deviates from the DST.

The organisms that cause bronchitis can also cause pneumonia. The difference is in where the infection lies anatomically. Bronchitis involves the larger airways, whereas pneumonia involves the smaller airways and air sacs.

### **History**

- Previous infection of Upper Respiratory Tract (URT)
- General malaise
- Fever
- Cough: initially dry, later productive of white, yellow or green sputum
- Cough for more than 5 days
  - Cough often lasts 10-20 days
  - 45% still have a cough after two weeks, and 25% still have a cough after 3 weeks
- Muscular aching in the chest wall or discomfort with coughing
- Wheezing may be present
- Dyspnea on exertion may be present

### **PHYSICAL ASSESSMENT**

- Temperature may be mildly to moderately elevated
- Pulse may be mildly elevated if febrile
- Respirations may be slightly elevated
- Purulent sputum is common in 50% of cases
- Rhinitis may be present
- Expiratory phase may be slightly prolonged
- Wheezes (scattered, low pitched) may be present
- Abnormal vital signs (fever, tachypnea or tachycardia) and signs of consolidation or rales on physical exam suggest the possibility of pneumonia

### **Diagnostic tests**

- Electrocardiogram (ECG), Culture and Sensitivity (C&S) of sputum
- Consider swab for pertussis, particularly if cough lasts more than 6 days and is accompanied by vomiting
- Consider Tuberculosis (TB) skin test for cough greater than 2 weeks and in high risk or susceptible populations

### **MANAGEMENT AND INTERVENTIONS**

#### **Goals of Treatment**

- Relieve symptoms (coughing, fever)
- Prevent pneumonia

#### **Non-pharmacological interventions**

- Increased rest (especially if febrile)
- Adequate hydration (8-10 glasses of fluid per day)
- Increased humidity in the environment
- Avoidance of pulmonary irritants (e.g., stop or decrease smoking)

## PHARMACOLOGICAL INTERVENTIONS

- To manage fever or pain
  - Acetaminophen 325 mg 1-2 tabs po q4-6h prn
- OR
  - Ibuprofen 200 mg 1-2 tabs po q4-6h prn
- If bronchospasm, dyspnea or wheezing is significant, short-acting  $\beta_2$ -agonist bronchodilators can be used until acute symptoms resolve
  - Salbutamol 100mcg Metered-Dose Inhaler (MDI) 1 or 2 puffs q4h prn via aero chamber- maximum dose of 8 puffs/day
- Avoid antibiotics

**In most cases, antibiotics are not recommended for acute bronchitis in an otherwise healthy client, as the cause is usually viral.**

- Antibiotics may be considered in those at high risk of serious complications because of pre-existing co-morbidity (heart, lung, renal, liver, or neuromuscular disease, Congestive Heart Failure, diabetes mellitus, current use of oral glucocorticoids, immunocompromised)
- In clients with an acute bronchitis overlying chronic bronchitis, antibiotics may be considered for clients who have two or more of the following symptoms:
  - Increased sputum volume
  - Increased sputum purulence
  - Increased dyspnea

### Choices:

- Amoxicillin 500 mg po tid for 5-7 days
- OR
- Doxycycline 200 mg once, then 100 mg po bid for 5-7 days
- OR
- Trimethoprim 160 mg / Sulphamethoxazole 800 mg (DS) po bid for 5-7 days

### Pregnant or Breastfeeding Women:

- Amoxicillin may be used as listed above.
- DO NOT USE doxycycline and Trimethoprim 160 mg / Sulphamethoxazole 800 mg.

### Potential Complications

- Pneumonia
- Post-bronchitis cough

### Client Education and Discharge Information

- Recommend hand washing to prevent spread of infection throughout a household
- Inform client that cough may persist for more than 2 weeks
- Inform client that routine antibiotic therapy is not necessary or recommended

**Monitoring and Follow-Up**

Arrange for follow up in 2-3 days if antibiotics are used and the client's condition is not resolving.

**Consultation and/or Referral**

Consult with or refer to physician and/or nurse practitioner if unresponsive to treatment or if pneumonia is suspected.

**Documentation**

As per agency policy.

**REFERENCES**

More recent editions of any of the items in the Reference List may have been published since this DST was published. If you have a newer version, please use it.

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