GENERAL INFORMATIONS

IMPORTANT CONSIDERATIONS

▶ Most cases of acute bronchitis (>90%) are of viral origin.
▶ The symptoms of acute bronchitis generally resolve on their own.
▶ Antibiotic therapy is generally not recommended in healthy individuals with acute bronchitis.
▶ The increase in antimicrobial resistance is directly linked to the prescribed amount of antibiotics.

MAIN PATHOGENS THAT CAN CAUSE ACUTE BRONCHITIS

| Mostly of viral origin: | • Adenovirus  
• Coronavirus  
• Enterovirus  
• Influenza  
• Human metapneumovirus  
• Parainfluenza  
• Rhinovirus  
• Respiratory syncytial virus |
|-------------------------|--------------------------------------------------|
| In the rare cases of bacterial infection: | • Bordetella pertussis  
• Chlamydophila pneumoniae  
• Mycoplasma pneumoniae |

PREVENTIVE MEASURES

▶ Regular hand hygiene and respiratory etiquette.
▶ Vaccination
  • Annual influenza vaccination
  • Vaccination or booster (>10 years) for whooping cough. For further details consult the [Quebec Immunization Protocol](http://inss.sqs.ca).
ACUTE BRONCHITIS

DIAGNOSIS

SYMPTOMS

- Cough with or without sputum is the main symptom of acute bronchitis and generally lasts 2 to 3 weeks, although it can last for up to 6 weeks.
- A repetitive cough can cause chest pain.
- Purulent or coloured sputa are not a reliable bacterial infection indicator in healthy individuals, whereas in individuals with chronic obstructive pulmonary disease (COPD), they may require treatment. Consult the guide on acute exacerbation of COPD.
- Fever is mostly absent, however the patient may be in a subfebrile state. Fever suggests the possibility of another illness (e.g., pneumonia).
- Auscultation of the lungs is generally normal. However, the patient may have rhonchi or wheezing.

Consider a *B. pertussis* infection if more than one the following factors applies:
Whooping-like cough (barking, cock's crow), cough lasting > 3 weeks, vomiting (caused by coughing), exposure to *B. pertussis*, patient not vaccinated against whooping cough or needs a booster.

MICROBIOLOGICAL INVESTIGATIONS

- Identifying the infectious agent is not recommended. In certain epidemiological contexts (e.g., a risk of influenza or *B. pertussis* infection), or if the patient has flu-like symptoms, tests for identifying the infectious agent may be ordered.

RADIOGRAPHY

- A radiograph is not recommended. Consider ordering a radiograph if another illness is suspected (e.g., pneumonia or congestive heart failure).

TREATMENT PRINCIPLES

- Acute bronchitis generally resolves on its own within 4 weeks.

SUPPORTIVE TREATMENTS

- Analgesics/antipyretics
- Antitussives
  - Dextromethorphan (DM):
    DM seems to have a modest beneficial effect on cough frequency.
  - Chlophedianol:
    Chlophedianol’s efficacy against cough has not been established, but the tendency seems to be toward modest efficacy.
  - Codeine, morphine, normethadone, hydrocodone:
    The use of these narcotics is generally not recommended because of the lack of efficacy evidence or good-quality scientific data, and because of the high risk of adverse effects. However, these narcotics can be prescribed to patients with a severe cough affecting their functional status or sleep. However, when prescribed, they should be limited to once-daily use (e.g., at night) for a limited time.

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Expectorants
Because there are no good-quality scientific data, the routine use of an expectorant (guaifenesin) cannot be recommended. It may, however, be useful in patients with a productive cough, although its effectiveness can vary from none to modest.

Bronchodilators
The use of a short-acting beta-2-agonist is generally not recommended. However, it seems that a reduction in cough duration is observed in patients with respiratory function limitations (e.g., wheezing).

Corticosteroids (inhaled or oral)
Because of a lack of good-quality scientific data, the use of corticosteroids (inhaled or oral) in acute bronchitis in the absence of asthma cannot be recommended.

**ANTIBIOTIC THERAPY**

Antibiotics have very modest efficacy in the treatment of acute bronchitis.

When antibiotic therapy is compared to treatment with placebo, the following are observed:

- A statistically significant, but clinically very modest, mean reduction of:
  - 0.5 days in cough duration
  - 0.5 days of lost activity
- A statistically significant increase of 20% in adverse effects.

Antibiotic therapy is generally not recommended in healthy individuals with acute bronchitis.

An antibiotic can be prescribed in a patient with significant comorbidities, a persistent cough (>3 weeks) or advanced age (≥75 years), based on clinical judgement and bearing in mind the risk of adverse effects and drug interactions.

<table>
<thead>
<tr>
<th>Antibiotic</th>
<th>Dosage</th>
<th>Recommended Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clarithromycin</td>
<td>500 mg PO BID</td>
<td>5 days</td>
</tr>
<tr>
<td>Clarithromycin XL</td>
<td>1000 mg PO daily</td>
<td>5 days</td>
</tr>
<tr>
<td>Azithromycin¹</td>
<td>500 mg PO daily on day 1, then 250 mg PO daily from days 2 to 5</td>
<td>5 days</td>
</tr>
<tr>
<td>Doxycycline</td>
<td>100 mg PO BID</td>
<td>7 days</td>
</tr>
</tbody>
</table>

1. Vanderkooi and colleagues found a significantly lower risk of emerging macrolide resistance with the use of clarithromycin than with that of azithromycin.

If *B. pertussis* infection is suspected (see box on p. 2), a macrolide should be prescribed to quickly limit the spread of the infection. Whooping cough is a notifiable disease and must be reported to the public health department in your area.

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</tr>
<tr>
<td>Trimethoprim-sulfamethoxazole</td>
<td>160/800 mg PO BID</td>
<td>7 days</td>
</tr>
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1. Vanderkooi and colleagues found a significantly lower risk of emerging macrolide resistance with the use of clarithromycin than with that of azithromycin.
If pneumonia is suspected (e.g., *presence of fever, abnormal lung auscultation*) order a radiograph and consult the guide on community-acquired pneumonia to provide treatment suited to the patient’s condition.

If an acute exacerbation of undiagnosed chronic obstructive pulmonary disease (COPD) is suspected, (e.g., presence of dyspnea, *abnormal lung auscultation, smoker*) consult the [guide on acute exacerbation of COPD](#) to provide treatment suited to the patient’s condition.

**FOLLOW-UP**

- If the cough persists beyond 3 weeks or if the patient’s condition worsens, do a reevaluation.

**CRITERIA FOR REFERRING THE PATIENT TO A SPECIALIST**

- Refer the patient to a specialist if:
  - The cough persists beyond 6 weeks and if at least one therapy appropriate for the patient’s symptoms has been attempted.
  - The patient has more than 3 episodes of acute bronchitis in the past year.
  - Another cause that could explain chronic cough is suspected, apart from posterior rhinorrhea (e.g., asthma, allergy or pulmonary fibrosis).

**MAIN REFERENCES**


Please note that other references have been consulted.