Background

Greater than 90% of cases of acute cough illness are non-bacterial.
- Viral etiologies include influenza, parainfluenza, RSV, and adenovirus.
- Bacterial agents include *Bordatella pertussis*, *Mycoplasma pneumoniae*, and *Chlamydia pneumoniae*.

The presence of purulent sputum is not predictive of bacterial infection.
- >95% of patients with purulent sputum do not have pneumonia (*J Chron Di* 1984; 37:215).

Diagnosis

Evaluation should focus on excluding severe illness, particularly pneumonia.

Clinical Assessment for Pneumonia

Pneumonia is unlikely if all of the following findings are absent (*JAMA* 1997;278:1440).

<table>
<thead>
<tr>
<th>Sign</th>
<th>Abnormal Finding</th>
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<tbody>
<tr>
<td>Fever</td>
<td>≥ 38 C</td>
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<tr>
<td>Tachypnea</td>
<td>≥ 24 breaths/min</td>
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<tr>
<td>Tachycardia</td>
<td>≥ 100 beats/min</td>
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<tr>
<td>Evidence of consolidation</td>
<td>rales, egophony, fremitus</td>
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<tr>
<td>on chest exam</td>
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Consider chest radiograph for patients with any of these findings or cough lasting >3 weeks.

Treatment

Empiric antibiotic treatment is not indicated for acute bronchitis.
- Meta-analyses of randomized, controlled trials all concluded that routine antibiotic treatment is not justified (*BMJ* 1998;316:906; *Chest* 2006;129:95S-103S).

If influenza therapy is considered, it should be initiated within 48 hours of symptom onset for clinical benefit.
- During the 2005-06 Flu season CDC recommends that neither amantadine nor rimantadine be used for treatment or prevention of influenza A infections because of high levels of resistance (*MMWR* 2006 Jan 20;55(2):44-6).
- Neuramidase inhibitors such as oseltamivir or zanamivir have activity against influenza A and B viruses.
- Antiviral therapy reduces symptom duration by approximately 1 day. [http://www.cdc.gov/flu/professionals/treatment/](http://www.cdc.gov/flu/professionals/treatment/)

If pertussis is suspected, empiric therapy may be initiated while obtaining a diagnostic test for confirmation.
- Antibiotic treatment decreases transmission but has little effect on symptom resolution.

Over-the-counter cough suppressants have limited efficacy in relief of cough due to acute bronchitis (*Chest* 2006; 129:95S-103S).

TIPS TO REDUCE ANTIBIOTIC USE

- Tell patients that antibiotic use increases the risk of an antibiotic-resistant infection.
- Identify and validate patient concerns.
- Recommend specific symptomatic therapy.
- Spend time answering questions and offer a contingency plan if symptoms worsen.
- Provide patient education materials on antibiotic resistance.
- REMEMBER: Effective communication is more important than an antibiotic for patient satisfaction.
- See [www.cdc.gov/getsmart](http://www.cdc.gov/getsmart) or contact your local health department for more information and patient education materials.

Key Reference