

---

## *Clinical Champion Update*

---

*Date: 11/11/22*

*Subject: Antibiotic Stewardship*

### Acute Bronchitis

Acute bronchitis is a common clinical condition characterized by cough, with or without sputum production. It is typically **self-limited**, resolving within one to three weeks. Upper respiratory tract infection (e.g. the common cold) can precede the onset of acute bronchitis.

The majority of cases of acute bronchitis are caused by infection with respiratory viruses. Bacteria are rare causes, accounting for <10 percent of cases.

Acute bronchitis usually is **self-limited**; patient education and symptom control are the cornerstones of care. Reassurance that acute bronchitis typically resolves in one to three weeks without specific therapy can improve patient satisfaction and reduce inappropriate antibiotic use. Inappropriate use of antibiotics for viral respiratory infections can cause adverse events and contribute to development of antibiotic resistance.

Multiple major medical societies and health care organizations, including the CDC, American College of Physicians, and the National Health Services in the United Kingdom, specifically recommend against the routine use of empiric antibiotics for the treatment of acute bronchitis.

For most patients, the risks associated with antibiotic use outweigh the benefits. Discussion can help align patient and provider expectations. A systematic review found **that a provider's perception of patient desire for antibiotics was strongly associated with antibiotic prescription, more so than actual patient desire.**

Multiple high-quality trials and meta-analyses have shown that antibiotics do not provide substantial benefit or enhance likelihood of cure in patients with acute bronchitis, and use can result in adverse effects (nausea, vomiting, diarrhea, rash, headache, vaginitis, C. difficile infection, anaphylaxis). Antibiotic use also alters the patient's microbiome (which may actually impair immune function) and carries the risk of inducing antibiotic-resistant organisms both in the individual patient and in the community. Furthermore, antibiotic use also comes at increased financial cost.

A large observational study found no increase in the rate of complications in patients who were not prescribed antibiotics for acute lower respiratory tract infections.

The effect of antibiotic use on complication rates was assessed in a prospective cohort study evaluating over 28,000 adults with acute cough lasting <3 weeks without radiographic evidence of pneumonia. Major complications, including hospital admission and death, occurred in <1 percent of patients; no significant difference in event rates was detected when comparing patients given immediate antibiotic prescriptions with delayed prescription or no prescription.

**Despite these data, inappropriate antibiotic prescription for the treatment of bronchitis is widespread. Studies indicate that 50 to 90 percent of patients with acute bronchitis who seek care are given antibiotics, making acute bronchitis one of the most common reasons for antibiotic overuse.**

Some may find the attached handout from the CDC helpful for patients.

Thank you for all of your efforts to use antibiotics appropriately.

Aaron Grinstein, PA-C

Antibiotic Stewardship Clinical Champion