

Adult Care

Outpatient Treatment Recommendations for Common Infections: Summary of Guidelines¹

The quick initiation of antibiotics to treat infections has been proven to save lives; however, antibiotics can have serious side effects, including adverse drug reactions and *Clostridioides difficile* infection. The misuse of antibiotics can lead to antibiotic resistance, one of the most serious threats in public health. Rates of antibiotic-resistant infections continue to increase leading to many deaths and adding a significant economic burden to our healthcare system.



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Pharyngitis⁴⁻⁶

Group A Streptococcus (GAS) is the most common indication for antibiotics, but only 5-10% of adult cases are caused by GAS.

Diagnosis

Clinical features alone do NOT distinguish between GAS and viral pharyngitis.

A rapid antigen detection test (RADT), or nucleic acid amplification test (NAAT) are needed to establish a GAS pharyngitis diagnosis and should be considered in adults with sore throat, and ≥ 3 of the following:

1. Absence of cough
2. Tonsillar exudates
3. Fever
4. Tender cervical lymphadenopathy

Throat cultures are NOT routinely recommended for adults with negative RADT or NAAT unless higher risk for severe infection or complications from GAS pharyngitis.

Management

Antibiotics are NOT recommended for patients with negative RADT or NAAT. Antibiotic treatment is also NOT recommended for asymptomatic chronic GAS carriers or for GAS carriers who have superimposed viral infections.

GAS pharyngitis, First-line:

- penicillin V 250 mg PO 4x/day OR 500 mg PO 2x/day x 10 days
- amoxicillin 500 mg PO 2x/day (mild-moderate) OR 1g PO 2x/day (severe) x 10 days

Non-type I penicillin allergy:

- cephalexin 500 mg PO 2x/day x 10 days
- cefadroxil 1 g PO 1x/day x 10 days

Type 1 penicillin allergy (angioedema, anaphylaxis):

- Azithromycin 500mg PO 1x/day for 3-5 days
- Clindamycin 300mg PO 3x/day for 10 days

For non-severe Type 1 penicillin allergy, use cefuroxime 250mg PO 2x/day OR cefpodoxime 100mg PO 2x/day OR cefdinir 300mg PO 2x/day for 10 days

Note: GAS resistance to clindamycin and azithromycin is increasingly common.

Acute rhinosinusitis¹⁰⁻¹²

Approximately 90-98% of cases are viral. Even if bacterial, most cases improve with symptomatic treatment alone and antibiotics usually not needed.

Diagnosis

Symptoms of acute viral and bacterial rhinosinusitis (ABRS) overlap and there are no clinical criteria to distinguish them.

ABRS can be considered if symptoms are:

- **Persistent** and not improving for 10 days or more.
- **Severe**, associated with fever $\geq 39^{\circ}\text{C}$ (102.2°F), and purulent nasal discharge or facial pain lasting for $> 3-4$ consecutive days.
- **Worsening symptoms** after initial improvement for 3-4 days.

Sinus radiographs are NOT routinely recommended. Refer for urgent evaluation if signs of complications (i.e., neurological changes, proptosis, peri-orbital edema)

Management

Watchful waiting with supportive care encouraged for uncomplicated ABRS with good follow-up.

Evidence-based supportive care:

- Saline nasal irrigation
- Intranasal glucocorticoids
- Oral decongestants
- OTC analgesics and antipyretics

If condition fails to improve with supportive care and/or symptoms worsen after initial improvement, consider the following antibiotics:

- amoxicillin/clavulanate 875/125 mg PO 2x/day x 5-7 days

Macrolides (such as azithromycin) and TMP/SMX are NOT recommended due to high levels of *S. pneumoniae* antibiotic resistance.

If failure to respond to first line or risk factors for antibiotic resistance (>65 yo, antibiotics within 30 days, recent hospitalization, $\geq 10\%$ penicillin non-susceptible *S. pneumoniae*, immunocompromised), consider:

- amoxicillin/clavulanate extended release 2 g/125 mg PO 2x/day x 7-10 days

Type 1 penicillin allergy (angioedema, anaphylaxis):

- doxycycline 100 mg PO 2x/day

Common Cold or non-specific upper respiratory tract infection^{2,3}

Most adults get 2-4 colds annually.

Diagnosis

Usually nasal discharge begins as clear and changes throughout the course of the illness. Fever, if present, occurs early in the illness.

Management

- Antibiotic treatment is **NOT** recommended for non-specific URIs
- OTC analgesics can be given to relieve symptoms
- Decongestants combined with a first-generation antihistamine may provide short-term relief of nasal symptoms and cough
- Healthcare professionals and patients must weigh the benefits/harms of symptomatic therapy
- Consider use of rapid diagnostic testing for respiratory diseases early for patients that may benefit from anti-viral therapy or in the case of diagnostic uncertainty.

Acute Bronchitis^{7,8}

Viruses cause >90% of acute bronchitis.

Symptoms include a self-limited persistent cough, with or without sputum production, that typically lasts 5 days to 3 weeks (up to 6 weeks) in patients WITHOUT history of chronic obstructive pulmonary disease (COPD).

Diagnosis

- Colored sputum does **NOT** indicate bacterial infection. For most cases, specific testing or chest X-ray is **NOT** indicated.
- Molecular testing for specific pathogens such as COVID-19, influenza, or pertussis may be indicated in patients that may benefit from treatment or in the event of public health concerns.
- Focus on ruling out pneumonia in patients with abnormal vital signs (fever, tachypnea, or tachycardia), signs of consolidation or rales on physical examination, or mental status changes in older adults. In this case, a chest X-ray will be indicated.

Management

Antibiotics are NOT recommended, regardless of cough duration. Patients may benefit from symptomatic therapy, such as:

- Cough suppressants
- Expectorants
- First-generation antihistamines
- Decongestants

Community-Acquired Pneumonia (CAP)⁹

Pneumonia can be caused by virus or bacteria, but usually a pathogen is not detected despite extensive evaluation.

Diagnosis

- Clinical presentation includes new cough, fever, dyspnea, pleuritic chest pain, malaise with physical exam suggestive of lung consolidation. Clinical features do not reliably distinguish between viral and bacterial CAP.
- A chest X-ray is required to make the diagnosis. In certain cases, a CT chest can be done if there is high clinical suspicion and chest X-ray is non diagnostic.
- For most patients with mild CAP, microbiologic testing is not needed. COVID-19/influenza testing may help determine need for antivirals.

Management

For most patients aged <65 years, otherwise healthy:

- Amoxicillin 1g PO 3x/day x 5 days OR
- Doxycycline 100mg PO 2x/day x 5 days

For patients with chronic comorbidities (i.e. diabetes mellitus; heart, lung, liver, or renal disease; or immunocompromise), recent hospital admission and antibiotic use (within 90 days), or in an area with high rates (>25%) of macrolide-resistant *S. pneumoniae*:

- Amoxicillin-clavulanate 875/125mg PO 2x/day OR Cefpodoxime 200mg PO 2x/day OR Cefuroxime 500mg PO 2x/day PLUS Doxycycline 100mg PO 2x/day x 5 days
- If macrolide resistant is < 25% can use azithromycin 500mg PO 1x/day on day 1 followed by 250mg 1x/day on day 2-5 (instead of doxycycline).
- For patients who cannot use any beta-lactam, use levofloxacin 750mg PO 1x/day or Moxifloxacin 400mg 1x/day x 5 days
- Follow up is recommended to assure improvement

Acute Uncomplicated Cystitis (Urinary Tract Infection)¹³⁻¹⁵

Asymptomatic bacteriuria (ASB), defined as a positive urine culture without urinary tract infection symptoms, is common and leads to unnecessary antibiotic treatment (about 45% get treated without an indication).

Diagnosis

Urinary symptoms (frequency, urgency, dysuria, suprapubic pain) in combination with pyuria (≥ 10 leukocytes/microlL), leukocyte esterase and/or nitrates on urinalysis are the most accurate indicators of acute uncomplicated cystitis. Urine cultures are not routinely done unless there is a risk of antimicrobial resistance.

Screening and antibiotic treatment of asymptomatic bacteriuria is NOT recommended for healthy adults EXCEPT:

- Pregnant women
- Patients undergoing urologic procedures in which mucosal bleeding is anticipated
- Renal transplant

Management

First-line therapy in healthy non-pregnant, premenopausal women:

- nitrofurantoin 100 mg PO 2x/day x 5 days (NOT recommended if pyelonephritis and/or bacteremia suspected)
- trimethoprim-sulfamethoxazole (TMP-SMX)* 160/800 mg (DS tablet) PO 2x/day x 3 days (where local resistance is $< 20\%$)
- fosfomycin 3g PO x 1 dose (NOT recommended if pyelonephritis and/or bacteremia suspected)

Alternative therapy for patients not able to take first-line options:

- cefadroxil 500mg PO 2x/day x 5 days
- cephalexin 250mg 4x/day OR 500 mg PO 2x/day x 5 days
- cefuroxime 250mg 2x/day x 5 days
- cefdinir 300 mg PO 2x/day x 5 days
- amoxicillin/clavulanate 500/125 mg PO 2x/day x 5 days

If urine culture is completed, adjust antibiotic regimen to susceptibilities. Follow-up urine cultures after treatment are NOT needed with resolution of symptoms.

Reserve fluoroquinolones§ (e.g. levofloxacin or ciprofloxacin) for situations in which other agents are NOT appropriate.

See references for additional treatment options and other important information especially if early pyelonephritis is suspected.

Adult Outpatient References

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Resources

For more information, call RIDOH's Center for Acute Infectious Disease Epidemiology at 401-222-2577.

For more information and to download free patient education resources from RIDOH, visit <http://health.ri.gov/antibiotics>.

For more information and to download free patient education resources from CDC, visit <https://www.cdc.gov/antibiotic-use/>.

To order free patient resources from CDC, visit <https://wwwn.cdc.gov/pubs/CDCInfoOnDemand.aspx> and search "Antibiotic Use."



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