### Adult Outpatient Treatment Recommendations 2017: Summary of Guidelines

#### Acute rhinosinusitis

90-98% of cases are viral

Antibiotics may NOT help even if cause is bacterial

**Diagnosis**

Presentations consistent with acute bacterial sinusitis are:
- Symptoms of acute rhinosinusitis lasting ≥10 days without improvement
- Severe symptoms lasting ≥3 days:
  - Fever ≥39°C (102.2°F)
  - Purulent nasal discharge
  - Facial Pain
- “Double worsening”, following a typical URI that lasted 5-6 days with new onset:
  - Fever
  - Headache
  - Increased nasal discharge

Sinus radiographs are NOT routinely recommended.

**Management**

If bacterial, watchful waiting encouraged for uncomplicated infections with reliable follow-up.

Evidence-based supportive care:
- Saline nasal irrigation
- Intranasal glucocorticoids
- Oral decongestants when there is Eustachian tube dysfunction
- OTC analgesics and antipyretics

Macrolides (such as azithromycin) are NOT recommended due to high levels of *S. pneumoniae* antibiotic resistance (~40%).

If mild/moderate and no risk factors for resistance:
- amoxicillin/clavulanate 500/125 mg PO 3x/day or 875/125 mg PO 2x/day x 5-10 days
  (Some experts recommend amoxicillin.)

If severe disease or risk factors for resistance (>65 yo, antibiotics within 30 days, recent hosp, ≥10% penicillin non-susceptible *S. pneumoniae*, immunocompromised):
- amoxicillin/clavulanate 2 g/125 mg PO 2x/day x 7-10 days.

Penicillin-allergic patients:
- doxycycline 100 mg PO 2x/day or 200 mg PO 1x/day x5-10 days

See references for additional treatment options, including re-treatment after initial treatment failure, and other important information.

#### Acute uncomplicated bronchitis

Viruses cause >90% of acute bronchitis

Cough typically lasts 5 days to 3 weeks, up to 6 weeks

**Diagnosis**

Focus on ruling out pneumonia, which is rare among otherwise healthy adults without abnormal vital signs (heart rate >100 beats/min, respiratory rate >24 breaths/min, or oral temperature >38 °C (100.4°F)) and abnormal lung examination (focal consolidation, egophony, fremitus).

Colored sputum does NOT indicate bacterial infection.

For most cases, chest radiography is NOT indicated.

Promote appropriate antibiotic use by labeling acute bronchitis as a 'chest cold' or 'viral upper respiratory infection'.

**Management**

Routine treatment of uncomplicated acute bronchitis with antibiotics is NOT recommended, regardless of cough duration.

Patients may benefit from symptomatic therapy:
- Cough suppressants
- Expectorants
- First-generation antihistamines
- Decongestants

Consider pertussis especially with cough paroxysms, post-tussive emesis, or during known outbreaks.

See references for additional treatment options, and other important information..

#### Common cold or non-specific upper respiratory tract infection (URI)

Most adults get 2-4 colds annually

**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.
- Evidence does NOT support antihistamines (as monotherapy), intranasal corticosteroids, and nasal saline irrigation as effective treatments for cold symptom relief.
- Providers and patients must weigh the benefits and harms of symptomatic therapy.
**Pharyngitis**

Group A Streptococcus (GAS) is the only common indication for antibiotics

Only 5-10% cases in adults are caused by GAS

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Management</th>
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<tbody>
<tr>
<td>Clinical features alone do NOT distinguish between GAS and viral pharyngitis; a rapid antigen detection test is necessary to establish a GAS pharyngitis diagnosis. Adults with sore throat and 2 (3 if ≥45 yo) or more of the following features should get a rapid test: 1. Lack of cough 2. Tonsillar exudates 3. History of fever 4. Swollen and tender anterior cervical lymphadenopathy</td>
<td>Antibiotic treatment is NOT recommended for patients with negative rapid test results. GAS resistance to clindamycin and azithromycin is increasingly common. First-line therapy for GAS:  • penicillin V 250 mg PO 4x/day or 500 mg PO 2x/day x10 days  • amoxicillin 1 g PO 1x/day or 500 mg 2x/day x10 days  Non-type I penicillin allergy:  • cephalaxin 500 mg PO 2x/day x10 days  • cefadroxil 1 g PO 1x/day x10 days  • clindamycin 300 mg PO 3x/day x10 days  • azithromycin 500 mg PO 1x/day x5 days  • clarithromycin 250 mg PO 2x/day x10 days  Immediate type I penicillin allergy:  • clindamycin, clarithromycin, or azithromycin as dosed above See references for additional treatment options and other important information.</td>
</tr>
<tr>
<td>Throat cultures after negative rapid test are NOT routinely recommended for adults.</td>
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**Acute uncomplicated cystitis**

Nitrates and leukocyte esterase are the most accurate indicators of acute uncomplicated cystitis

Antibiotic treatment of asymptomatic bacteriuria is NOT recommended for healthy adults EXCEPT:

- pregnant women
- before some urological procedures

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

- nitrofurantoin 100 mg PO 2x/day x5 days (nitrofurantoin is NOT recommended if suspicious for early pyelonephritis)
- TMP-SMX 160/800 mg PO (one DS tablet) 2x/day x3 days (where local resistance is <20%)
- fosfomycin 3g PO x1 dose

Reserve fluoroquinolones (e.g. 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**

# Pediatric Outpatient Treatment Recommendations: Summary of Guidelines

## Acute rhinosinusitis

90–98% of cases are viral. Antibiotics may NOT help even if cause is bacterial.

### Diagnosis

Presentations consistent with acute bacterial sinusitis are:
- Symptoms of acute rhinosinusitis lasting ≥10 days without improvement
- Severe symptoms lasting ≥3 days:
  - Fever ≥39°C (102.2°F)
  - Purulent nasal discharge
  - Facial Pain
- "Double worsening", following a typical URI that lasted 5-6 days with new onset:
  - Fever
  - Headache
  - Increased nasal discharge

Halitosis, fatigue, headache, decreased appetite, but most physical exam findings are non-specific and do NOT distinguish bacterial from viral causes.

Imaging tests are no longer recommended for uncomplicated cases.

### Management

If bacterial, consider watchful waiting for up to 3 days if NOT severe or worsening and with reliable follow up.

If mild/moderate and no risk factors for resistance:
- amoxicillin/clavulanate 45 mg/kg/day PO of the amoxicillin component in 2 divided doses (max 1.75 g/day) x10-14 days. (Some experts recommend amoxicillin.)

If severe or risk factors for resistance (age <2yo, daycare, antibiotics within 30 days, recent hosp, under immunized with PCV, ≥10% penicillin non-susceptible S. pneumoniae, immunocompromised):
- amoxicillin/clavulanate 90 mg/kg/day PO of the amoxicillin component in 2 divided doses (max 4g/day) x10-14 days.

Non-type I penicillin allergy:
- clindamycin 30-40 mg/kg/day PO in 3 divided doses plus (cefixime 8 mg/kg/day PO in 2 divided doses or cefpodoxime 10 mg/kg/day PO in 2 divided doses) x10-14 days.

If cannot tolerate oral medication:
- ceftriaxone 50 mg/kg IM x1 dose then oral antibiotics if improving.

Macrolides (such as azithromycin) are NOT recommended due to high levels of S. pneumoniae antibiotic resistance (~40%).

See references for more details, additional treatment options, including re-treatment after initial treatment failure, supportive care, and other important information.

## Acute otitis media (AOM)

4-10% of children with AOM treated with antibiotics experience adverse effects.

### Diagnosis

Definitive diagnosis requires either:
- Moderate or severe bulging of tympanic membrane (TM) or new onset otorrhea NOT due to otitis externa.
- Mild bulging of the TM AND recent (<48h) onset of otalgia (holding, tugging, rubbing of the ear in a nonverbal child) or intense erythema of the TM.

AOM should NOT be diagnosed in children without middle ear effusion (based on pneumatic otoscopy and/or tympanometry).

Severe AOM: moderate or severe otalgia or otalgia for ≥48 hours, or temperature ≥39°C (102.2°F).

### Management

Treat with antibiotics:
- AOM in <6 mo
- Age 6-23 mo with bilateral AOM
- Severe AOM, regardless of age

Consider watchful waiting (if reliable follow-up):
- Age 6-23 mo with unilateral AOM
- ≥2 yo with unilateral or bilateral AOM

If mild/moderate and no risk factors for resistance:
- amoxicillin 80-90 mg/kg/day PO in 2 divided doses (max 2 g/dose)

If severe or risk factors for resistance (recent beta-lactam therapy, purulent conjunctivitis, or history of recurrent AOM unresponsive to amoxicillin):
- amoxicillin/clavulanate 80-90 mg/kg/day and 6.4 mg/kg/day PO, in 2 divided doses or cefpodoxime 10 mg/kg/day PO in 2 divided doses

Non-type I penicillin allergy:
- cefdinir 14 mg/kg/day IM daily or in 2 divided doses
- cefuroxime 30 mg/kg/day PO in 2 divided doses
- cefpodoxime 10 mg/kg/day PO in 2 divided dose

Duration of treatment:
- <2 yo or severe symptoms: 10 days
- 2-5 yo, mild-moderate symptoms: 7 days
- ≥6 yo, mild-moderate symptoms: 5-7 days

See references for more details, additional treatment options, and other important information.

## Common cold or non-specific upper respiratory tract infection (URI)

Colds usually last around 10 days.

### Diagnosis

Usually nasal discharge begins as clear and changes throughout the course of the illness.

Fever, if present, occurs early in the illness.

### Management

Antibiotics are NOT helpful and should NOT be used. Focus on symptomatic relief. OTC cough and cold medications are NOT recommended for use in children younger than 6 yo. These substances are among the top 20 substances leading to death in children <5 yo. Low-dose inhaled corticosteroids and oral prednisolone do NOT improve outcomes in non-asthmatic children.

See references for more details, additional treatment options, and other important information.
Diagnosis and treatment of urinary tract infections in children.

### Urinary tract infections (UTIs)

#### Diagnosis

Clinical features alone do NOT distinguish between GAS and viral pharyngitis. Children with sore throat plus 2 or more of the following features should undergo a rapid test:

1. Lack of cough
2. Tonsillar exudates
3. History of fever
4. Swollen and tender anterior cervical lymphadenopathy
5. Age younger than 15 yo

Testing should generally NOT be performed in children younger than 3 yo in whom GAS rarely causes pharyngitis and rheumatic fever is uncommon.

In children and adolescents, negative rapid tests should be confirmed with a throat culture; positives do NOT require a follow up culture.

#### Management

First-line therapy:

- amoxicillin 50 mg/kg/day PO (max 1 g/day) daily or in 2 divided doses x 10 days
- penicillin V 250 mg PO 2-3x/day (adolescents and adults: 250 mg 4x/day or 500 mg 2x/day) x 10 days

Non-type I penicillin allergy:

- cephalaxin 40 mg/kg/day PO (max 1 g) in 2 divided doses x 10 days
- cefadroxil 30 mg/kg/day PO (max 1 g) daily x 10 days
- clindamycin 21 mg/kg/day PO (max 900 mg) in 3 divided doses x 10 days
- azithromycin 12 mg/kg/day PO (max 500 mg) daily x 5 days
- clarithromycin 15 mg/kg/day PO (max 500 mg) in 2 divided doses x 10 days

Immediate type I penicillin allergy:

- clindamycin, clarithromycin, or azithromycin dosed as above

See references for more details, additional treatment options, and other important information.

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Pharyngitis

During winter and spring, up to 20% of asymptomatic children can be colonized with GAS, leading to false positives from rapid-testing and increases in unnecessary antibiotic exposure.

Streptococcal pharyngitis is primarily a disease of children 5-15 yo and is rare in preschool children.

### Bronchiolitis

#### Diagnosis

Routine laboratory tests and radiologic studies are NOT recommended, but a chest x-ray may be warranted in atypical disease (absence of viral symptoms, severe distress, frequent recurrences, lack of improvement).

#### Management

Antibiotics are NOT helpful and should NOT be used.

Usually patients worsen between 3-5 days, followed by improvement. Nasal suctioning is mainstay of therapy.

Unless hospitalized, neither albuterol nor nebulized racemic epinephrine should be administered to infants and children with bronchiolitis.

There is no role for corticosteroids, ribavirin, or chest physiotherapy in the management of bronchiolitis.

See references for more details, additional treatment options, and other important information.