

## Appropriate antibiotics for respiratory tract infections

---

At first presentation in primary care, all patients (over the age of 3 months), with symptoms suggestive of the conditions below, should be offered a clinical assessment:

- ◆ common cold
- ◆ acute cough/bronchitis
- ◆ acute rhinosinusitis
- ◆ acute sore throat/pharyngitis/tonsillitis
- ◆ acute otitis media.

The assessment should include a full history (including presenting symptoms, use of over-the-counter and self-medication, previous medical history, relevant risk factors, and relevant co-morbidities) and, if indicated, examination to identify relevant clinical signs.

For most patients, one of the following two strategies should then be adopted:

- ◆ **no antibiotic prescribing**  
Patients should be given reassurance that antibiotics are likely to make little difference to symptoms, told that they may cause adverse effects such as GI disturbances, and offered a review if symptoms worsen.
- ◆ **delayed antibiotic prescribing**  
In addition to the above, patients should be advised about when and how to use the delayed prescription.

Some groups of patients (both adults and children) are likely to be at higher risk of developing complications, making the above strategies unsuitable. Instead, they should be considered for:

- ◆ **immediate antibiotic prescribing and/or further investigation and management**
  - If the patient is systemically very unwell.
  - If the patient has symptoms and signs suggestive of serious illness and/or complications (e.g. pneumonia, mastoiditis), or is at high risk of complications because of pre-existing co-morbidity. This includes patients with significant heart, lung, renal, liver, or neuromuscular disease, immunosuppression, cystic fibrosis, and young children who were born prematurely.
  - Certain patients aged over 65 years with acute cough.

See overleaf for information about the illnesses above and their treatment with antibiotics.

---

### References

1. National Institute for Health and Clinical Excellence. Respiratory tract infections – antibiotic prescribing. NICE Clinical Guideline 69, July 2008. [www.nice.org.uk/cg69](http://www.nice.org.uk/cg69)
  2. Health Protection Agency. Management of infection guidance for primary care. 2010. [www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/PrimaryCareGuidance](http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/PrimaryCareGuidance)
  3. McIsaac WJ et al. A clinical score to reduce unnecessary antibiotic use in patients with sore throat. CMAJ 1998; 158: 75-83
-

## Common cold

**Average duration:** 1½ weeks

**Antibiotics:**

- ♦ no benefit

## Acute cough/bronchitis

**Average duration:** 3 weeks

**Antibiotics:**

- ♦ symptoms of cough and feeling ill reduced by less than one day
- ♦ some benefit in lower respiratory tract infection; may be useful in preventing pneumonia, especially in older people (NNT = 39 in age 65 and over and NNT = 119 in younger patients)

Consider immediate antibiotics (dependent on assessment of clinical severity) for acute cough if the patient is **older than 65 with two or more** of the following criteria, or **older than 80 years with one or more** of the following criteria: hospitalisation in the previous year; type 1 or 2 diabetes; history of congestive heart failure; current use of oral glucocorticoids.

## Acute rhinosinusitis

**Average duration:** 2½ weeks

Resolves in 80% of patients within 2 weeks without antibiotics.

**Antibiotics:**

- ♦ NNT = 15 for 'marginal benefit' after 7 days

## Acute sore throat/pharyngitis/tonsillitis

**Average duration:** 1 week

Resolves in 90% of patients within 1 week without antibiotics.

**Antibiotics:**

- ♦ duration of pain reduced by ~ 16 hours
- ♦ NNT > 4 000 to prevent one case of peritonsillar abscess (quinsy)

Consider 2-3 day delayed or immediate antibiotics if Modified Centor score  $\geq 3$ .

### Modified Centor criteria

**Score 1 point** for each of: temperature  $>38^{\circ}\text{C}$ ; absence of cough; tender anterior cervical adenopathy; tonsillar swelling or exudate; age  $<15$  years.

**Subtract 1 point** if: age  $\geq 45$  years.

Chance of *Streptococcal* infection: 2-6% if score 0-1; 10-28% if score 2-3; 38-63% if score  $\geq 4$ .

## Acute otitis media

**Average duration:** 4 days

Resolves in 60% of patients within 24 hours without antibiotics.

**Antibiotics:**

- ♦ NNT = 15 to reduce pain at 2 days
- ♦ NNT > 4 000 to prevent one case of mastoiditis
- ♦ do not prevent deafness

Consider immediate antibiotics (dependent on assessment of clinical severity), for bilateral illness in children younger than 2 years and in children with otorrhoea.

## Resources

### Public Health Wales Antimicrobial Resistance Programme

Public Health Wales co-ordinates the annual European Antibiotic Awareness Day (EAAD) in Wales in partnership with the Welsh Government.

Educational resource packs to support antimicrobial stewardship can be downloaded from the Welsh Antimicrobial Resistance Programme website.

[www.publhealthwales.org/patient-antibiotic-information-leaflet](http://www.publhealthwales.org/patient-antibiotic-information-leaflet)

### STAR educational programme

[www.stemmingthetide.org](http://www.stemmingthetide.org)

### European Antibiotic Awareness Day

[www.antibiotic.ecdc.europa.eu](http://www.antibiotic.ecdc.europa.eu)

### TARGET Antibiotics toolkit

This toolkit has been developed by a multi-professional group with the aim of encouraging GPs and patients to use antibiotics responsibly. It provides resources in the form of guidance, education, and tools that GPs can share with their patients during consultation.

Available from the Royal College of General Practitioners website.

[www.rcgp.org.uk](http://www.rcgp.org.uk)

### Health Protection Agency: Primary Care Guidance on Infections

[www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/PrimaryCareGuidance](http://www.hpa.org.uk/Topics/InfectiousDiseases/InfectionsAZ/PrimaryCareGuidance)

### National Prescribing Indicators 2012/2013: Use of antibiotics

[www.wales.nhs.uk/sites3/home.cfm?orgid=371](http://www.wales.nhs.uk/sites3/home.cfm?orgid=371)

### When Should I Worry? Your guide to coughs, colds and sore throats

This booklet from Cardiff University contains information for parents on respiratory tract infections in children.

It has been designed for use in primary care consultations and a randomised controlled trial has shown that its use could result in a two-thirds reduction in antibiotic prescribing without impacting on parental satisfaction.

[www.whenshouldiworry.com](http://www.whenshouldiworry.com)