Guidelines for the Management of Upper Respiratory Tract Infections

Part 1: Sore throat and Sinusitus

Working Group of the Infectious Diseases Society of Southern Africa
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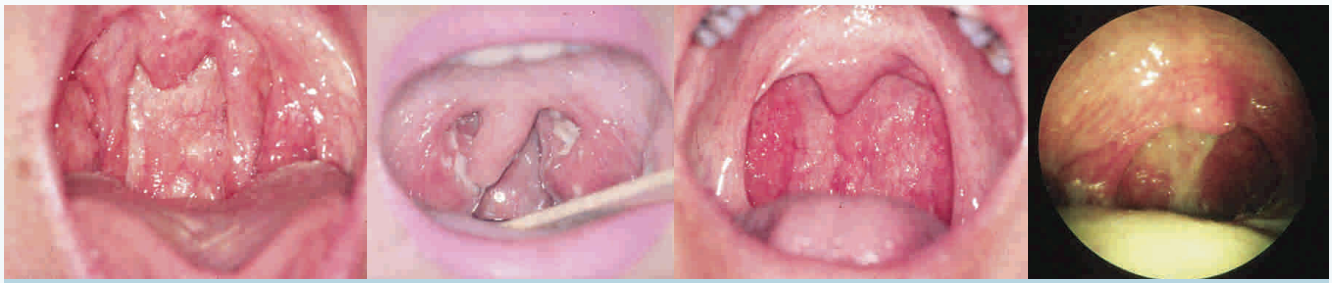

Introduction: Inappropriate use of antibiotics for upper respiratory tract infections (URTIs), many of which are viral, adds to the burden of antibiotic resistance. Antibiotic resistance is increasing in *Streptococcus pneumoniae,* responsible for most cases of acute otitis media (AOM) and acute bacterial sinusitis (ABS).

Method: The Infectious Diseases Society of Southern Africa held a multidisciplinary meeting to draw up a national guideline for the management of URTIs. Background information reviewed included randomised controlled trials, existing URTI guidelines and local antibiotic susceptibility patterns. The initial document was drafted at the meeting. Subsequent drafts were circulated to members of the working group for modification. The guideline is a consensus document based upon the opinions of the working group.

Output: Penicillin remains the drug of choice for tonsillopharyngitis. Single-dose parenteral administration of benzathine penicillin is effective, but many favour oral administration twice daily for 10 days. Amoxycillin remains the drug of choice for both AOM and ABS. A dose of 90 mg/kg/day is recommended in general, which should be effective for pneumococci with high-level penicillin resistance (this is particularly likely in children < 2 years of age, in day-care attendees, in cases with prior AOM within the past 6 months, and in children who have received antibiotics within the last 3 months).

Alternative antibiotic choices are given in the guideline with recommendations for their specific indications. These antibiotics include amoxycillin-clavulanate, some cephalosporins, the macrolide / azalide and ketolide groups of agents and the respiratory fluoroquinolones.

Conclusion: The guideline should assist rational antibiotic prescribing for URTIs. However, it should be updated when new information becomes available from randomised controlled trials and surveillance studies of local antibiotic susceptibility patterns.

Working Group of the Infectious Diseases Society of Southern Africa

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Disclosure statement

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Relationship code: AB = Advisory Board; B = Board member; CL = Collaborator; C = Consultant; EG =Educational grant; ES = Educational support; GI = Grant investigator; I = Investigator; LA Licensing agreement; RC = Research contractor; RG = Research grant; RR = Research relationship ; RS = Research support; SA = Scientific advisor; S = Shareholder; SB = Speakers bureau; U = Unknown.

SORE THROAT

Determine **clinically** what the most likely pathogen is:
(Throat swabs: Only if the sore throat is recurrent despite antibiotic treatment)

Symptom cluster
- Acute onset
- Temperature >38C
- Tender anterior cervical nodes
- Tonsillar erythema or exudates
- Age: 3-15 years
- Previous or current rheumatic heart disease

Bacterial

Symptom cluster
- Rhinorrhoea
- Cough
- Diarrhoea
- Conjunctivitis
- Age >45 years

Viral

Treat symptomatically
No empiric antibiotics indicated, unless there is a positive throat swab.

REFER IF COMPLICATIONS OCCUR

REFER TO ENT SPECIALIST IF:

Local complications:
- Peritonsillar sepsis including: quinsy abscess, cellulites, trismus and/or asymmetrical peritonsillar swelling
- Recurrent infections (4 or more episodes per annum)
- No response to initial therapy

Systemic complications:
- Acute rheumatic fever
- Severe systemic illness

IF THERE IS NO REASON TO REFER: EMPIRIC ANTIBIOTIC TREATMENT

DRUG OF CHOICE: PENICILLIN

Children

Oral therapy: dose according to weight
- 27kg: PenVK: 250mg bd for 10 days (30 min before meals)
- >27kg: Pen VK: 500mg bd for 10 days (30min before meals)

OR Intramuscular therapy: dose according to age
- 3-5years: 600 000 U benzathine penicillin
- >5years: 1.2 MU benzathine penicillin

Adults
- Oral: 500mg Pen VK bd for 10 days OR,
- IMI: 1.2 MU Benzathine penicillin OR,
- IMI: 900 000 U Benzathine PLUS 300 000 U procaine penicillin.

ALTERNATIVE DRUGS FOR BACTERIAL TONSILITIS TO BE SELECTED IN THE FOLLOWING CASES:

A. CONFIRMED GROUP A BETA-HAEMOLYTIC STREPTOCOCCI (*S. PYOGENES*) ON A THROAT SWAB:

Children
- Amoxycillin, 25mg/kg bd for 10 days

Adults
- Amoxycillin, 500mg bd for 10 days

B. SEVERE BETA LACTAM ALLERGY

Children:
- Erythromycin estolate, 40mg/kg bd for 10 days
- Azithromycin, 10-20mg/kg once daily for 3 days
- Clarithromycin, 7.5-15mg/kg bd for 5 days

Adults
- Erythromycin estolate, 500mg bd for 10 days
- Azithromycin, 500mg once daily for 3 days
- Clarithromycin (Modified release), 500mg once daily for 5 days
- Telithromycin, 800mg once daily for 5 days

C. SHORT COURSE THERAPY (3-5 DAYS)

Children:
- Amoxycillin-clavulanate, 40mg/kg/day in 3 divided doses*
- Azithromycin, 10-20mg/kg once daily for 3 days
- Clarithromycin, 7.5mg/kg bd*
- Cefpodoxime proxetil, 4mg bd*
- Cefprozil, 7.5mg/kg bd*
- Cefuroxime axetil, 10mg/kg bd*

Adults
- Amoxycillin-clavulanate 375mg tds*
- Azithromycin, 500mg once daily for 3 days
- Clarithromycin (Modified release), 500mg once daily*
- Telithromycin, 800mg once daily*
- Cefpodoxime proxetil, 100mg bd*
- Cefprozil, 500mg bd*
- Cefuroxime axetil, 250mg bd*

*** 5 days**

SINUSITIS

The duration of nasal symptoms is more important than the colour of secretions:
- If symptoms persist for up to 10 days without complications: more likely viral
- If symptoms persist after 10 days: more likely bacterial.
- If symptoms worsen after 5-7days: more likely bacterial

Special investigations: Not recommended in GP practice. X-rays of limited value, CT scans to be done before surgery. Nasal swabs from nasal puncture by ENT surgeon only.

SYMPTOMS & SIGNS OF ACUTE BACTERIAL SINUSITIS

DURATION

1. Nasal symptoms that **worsen after 5-7days** or persist **for longer than 10 days**.

ASSOCIATED SYMPTOMS (Some or all)
- Documented fever > 38 ^{0}C
- Facial tenderness, particularly unilateral or focused in the region of a sinus group (peri-orbital, maxillary, frontal)
- Dental tenderness
- Nasal discharge, nasal congestion, anosmia, cough, ear fullness and pressure in the ear.

Note: Frontal sinusitis does not occur in toddlers <4years of age.

ACUTE BACTERIAL SINUSITIS

SYMPTOMS & SIGNS OF THE COMMON COLD:
Nasal stuffiness and throat irritation

Sneezing and watery nasal discharge

Symptoms persist up to 10 days in 35%

VIRAL SINUSITIS

Treat symptomatically until bacterial sequelae are apparent

If symptoms worsen after 5-7days or if symptoms persist beyond 10 days

REFER TO THE ENT SPECIALIST IF:
- Failure to respond after 72hours of therapy
- Peri-orbital swelling
- Evidence of CNS extension (meningism, focal neurological signs, altered level of consciousness)
- Severe systemic illness
- Chronic sinusitis

IF THERE IS NO REASON TO REFER: EMPIRIC ANTIBIOTIC TREATMENT

ADULTS

DRUG OF CHOICE: ORAL AMOXYCILLIN
- **Adults:** 1000mg tds for 10 days

ALTERNATIVE ANTIBIOTIC CHOICES

SEVERE BETA-LACTAM ALLERGY

Macrolides/azalide/lincosamide/ketolide
- Erythromycin estolate, 500mg qid for 10 days
- Azithromycin, 500mg once daily for 3 days
- Clarithromycin (Modified release), 1000mg once daily for 10 days
- Telithromycin, 800mg once daily for 5-10 days

Fluoroquinolones
- Gatifloxacin, 400mg once daily for 5-10days.
- Levofloxacin, 500mg once or twice daily for 10 days
- Moxifloxacin, 400mg once daily for 5-10days

BETA-LACTAMASE STABLE AGENTS
- Amoxycillin-clavulanate, 1000mg bd plus additional amoxycillin, 500mg bd for 10 days
- Cefpodoxime proxetil, 200-400mg bd for 10 days
- Cefprozil, 500mg-1000mg bd for 10 days
- Cefuroxime axetil, 500mg-1000 mg bd for 10 days

FAILED INITIAL THERAPY
- Amoxycillin-clavulanate, 1000mg bd plus additional amoxycillin, 500mg bd for 10 days
- Telithromycin 800mg once daily for 5-10 days
- Respiratory fluoroquinolones at the above doses
- Ceftriaxone IV or IMI 1-2g once daily for 3-5 days

CHILDREN

DRUG OF CHOICE ORAL AMOXYCILLIN
- **Children:** 90mg/kg/day in 3 divided doses for 10 days

ALTERNATIVE ANTIBIOTIC CHOICES

SEVERE BETA-LACTAM ALLERGY
- Erythromycin estolate, 40mg/kg bd for 10 days
- Azithromycin, 10mg/kg once daily for 3 days
- Clarithromycin, 15mg/kg bd for 10 days

BETA-LACTAMASE STABLE AGENTS
- Amoxycillin-clavulanate, plus additional amoxycillin (to 90mg/kg amoxycillin per day in three divided doses for 10 days)
- Cefpodoxime proxetil, 8-16mg bd for 10days
- Cefprozil, 15-30mg/kg bd for 10 days
- Cefuroxime axetil, 15-30mg/kg bd for 10 days

FAILED INITIAL THERAPY
- Amoxycillin-clavulanate, plus additional amoxycillin (to 90mg/kg amoxycillin per day in three divided doses for 10 days)
- Ceftriaxone, IV or IMI 50-75mg/kg once daily for 3-5days

Special notes

Subsequent to the recent publication of the recommendations for the antibiotic treatment of upper respiratory tract infections in the SAMJ (2004), a new slow release formulation of amoxycillin-clavulanate (2000mg SR bd) was licensed for use in South Africa. This formulation would be a suitable replacement for the previously recommended amoxycillin-clavulanate and additional amoxycillin, formulation.