Therapeutic Guidelines

Medication shortages

Alli Patterson – Editorial Director

Therapeutic Guidelines: Who we are, what we do

- Not-for-profit organisation
- Independent, self-funded
- Expert, evidence-based guidelines
- Unbiased content
- Clear, concise recommendations for use at point-of-care

Therapeutic Guidelines

Therapeutic Guidelines: Users

- GPs, hospital doctors, specialists, pharmacists, dentists, nurses, students
- Approximately 120 000 sessions undertaken each week
- All public hospitals in Australia
- All medical schools in Australia
- RACGP & ACCRM GP training organisations

Therapeutic Guidelines

Scope of content

Therapeutic Guidelines

- Addiction Medicine
- Antibiotic
- Bone and Metabolism
- Cardiovascular
- Dermatology
- Developmental Disability
- Diabetes
- Fatigue
- Gastrointestinal
- Liver Disorders
- Neurology
- Oral and Dental
- Pain and Analgesia
- Palliative Care
- Psychotropic
- Respiratory
- Rheumatology
- Sexual and Reproductive Health
- Toxicology and Toxinology
- Ulcer and Wound Management
- Wilderness Medicine

Therapeutic Guidelines

Therapeutic Guidelines

- Schedule of review
  - Update each guideline every 4 years
- Targeted updates
  - Respond to significant changes in evidence and practice – targeted updates
  - Subscribe to updates: https://www.tg.org.au/content-updates/

Therapeutic Guidelines

- Antibiotic guidelines are under review
- Increased representation of GPs on expert groups
- Feedback from users is an important driver of updates
- Primary Care summary table

https://www.tg.org.au/wp-content/uploads/GPSummary_v15.pdf

Therapeutic Guidelines

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Antibiotic prescribing in primary care: Therapeutic Guidelines summary table 2022

This table summarises information in ***Therapeutic Guidelines*** about the management of common conditions in primary care. For detailed and up-to-date information, including **second-line treatment options** and management of **special patient groups** (eg penicillin hypersensitivity, renal impairment), see *Therapeutic Guidelines*.
This table should be used in conjunction with **clinical judgement**. Prescribers should consider the **harm–benefit profile** of a drug in each patient (eg consider potential drug interactions).
Antibiotics that are **overused** in primary care include **amoxicillin+clavulanate, cefalexin, cefaclor, roxithromycin** and **erythromycin**.

Indication	First-line therapy	Notes
acute rhinosinusitis	**symptomatic treatment**	Antibiotic treatment is required rarely—most cases are viral. See *Therapeutic Guidelines* for more information and resources to support discussion with the patient or carer.
acute otitis media	**symptomatic treatment for most cases**	80% of cases spontaneously resolve without antibiotic treatment. Advise the carer to return if symptoms do not improve within 72 hours. Consider a delayed prescription for antibiotic therapy. **Treat the following groups**: infants younger than 6 months; children younger than 2 years with bilateral infection; children who are systemically unwell (eg lethargic, pale; fever alone is not sufficient); children who have otorrhoea; Aboriginal or Torres Strait Islander children; children at risk of complications (eg immunocompromised children). See *Therapeutic Guidelines* for the dose of **amoxicillin**. See *Therapeutic Guidelines* for resources to support discussion with the patient or carer.
acute pharyngitis/tonsillitis	patients *not* at high risk of acute rheumatic fever: **symptomatic treatment for most cases** patients at high risk of acute rheumatic fever: **phenoxymethylpenicillin** 500 mg (child: 15 mg/kg up to 500 mg) orally, 12-hourly for 10 days	Most cases are viral. In patients *not* at high risk of acute rheumatic fever, even if infection is bacterial, antibiotic treatment is of limited benefit. See *Therapeutic Guidelines* for resources to support discussion with the patient or carer. In patients at high risk of acute rheumatic fever, antibiotic treatment is recommended for all patients because the increased risk of acute rheumatic fever and resultant rheumatic heart disease outweighs the risk of harms from potentially unnecessary antibiotic treatment. See *Therapeutic Guidelines* for assessment of risk of acute rheumatic fever.
acute bronchitis	**symptomatic treatment**	Antibiotic treatment is **not** indicated—over 90% of cases are viral. See *Therapeutic Guidelines* for resources to support discussion with the patient or carer.
mild infective exacerbation of COPD	**amoxicillin** 500 mg orally, 8-hourly for 5 days	Antibiotic treatment has **little benefit** for patients managed in the community with less severe COPD: for every 100 patients treated with antibiotics, only 8 patients will be better by 4 weeks because they took antibiotics. Consider a delayed prescription for antibiotic therapy. See *Therapeutic Guidelines* for more information and resources to support discussion with the patient or carer.
community-acquired pneumonia in adults: low-severity (mild)	**amoxicillin** 1 g orally, 8-hourly. If the patient has significantly improved after 2 to 3 days, treat for 5 days. If the clinical response is slow, treat for 7 days	Assess the patient's pneumonia severity, comorbidities and social circumstances to decide whether to admit the patient to hospital; see *Therapeutic Guidelines*. See *Therapeutic Guidelines* for risk factors for infection caused by atypical bacteria. **Patient review** within 48 hours is essential. If patient follow-up within 48 hours may not occur, consider using initial combination therapy with doxycycline instead; see *Therapeutic Guidelines*. If the patient is not improving after 48 hours of monotherapy, see *Therapeutic Guidelines*.
pneumonia in residents of aged-care facilities: oral therapy	**amoxicillin** 1 g orally, 8-hourly. If the patient has significantly improved after 2 to 3 days, treat for 5 days. If the clinical response is slow, treat for 7 days	Consider whether a viral infection could be the cause of symptoms. See *Therapeutic Guidelines* for indications for parenteral therapy. If infection caused by atypical bacteria (eg *Legionella* species) is suspected, see *Therapeutic Guidelines*. **Patient review** within 48 hours is essential; see *Therapeutic Guidelines* if the patient is not improving.

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Indication	First-line therapy	Notes
localised odontogenic infection	dental treatment	Prescribe analgesia and **refer** the patient to the dentist. Explain that antibiotic treatment without dental intervention will not be effective. If dental treatment will be delayed or the infection is spreading, see *Therapeutic Guidelines*.
acute cystitis in nonpregnant women	**trimethoprim** 300 mg orally, daily for 3 days	Half of cases in nonpregnant women younger than 65 years resolve within 7 days without antibiotic treatment. See *Therapeutic Guidelines* if the patient is a resident of an aged-care facility or has risk factors for multidrug resistant bacteria. Take a urine sample for culture and susceptibility testing if empirical therapy is **not** effective. Do **not** use ciprofloxacin, norfloxacin or fosfomycin unless susceptibility testing rules out all alternative antibiotics—see *Therapeutic Guidelines*.
acute cystitis in pregnancy	**nitrofurantoin** 100 mg orally, 6-hourly for 5 days	Take a urine sample for culture and susceptibility testing **before** starting treatment, and repeat 1 to 2 weeks after treatment is completed. Avoid using nitrofurantoin close to delivery—see *Therapeutic Guidelines*.
bites and other wounds caused by teeth	**amoxicillin+clavulanate** 875+125 mg (child 2 months or older: 22.5+3.2 mg/kg up to 875+125 mg) orally, 12-hourly for 5 days	Check the patient's tetanus immunisation status. Treatment may **not** be required if the wound is not infected—see *Therapeutic Guidelines*.
erysipelas without systemic symptoms	**phenoxymethylpenicillin** 500 mg (child: 12.5 mg/kg up to 500 mg) orally, 6-hourly for 5 days	Initial intravenous therapy is needed if the patient has **2 or more** systemic symptoms—see *Therapeutic Guidelines*.
cellulitis without systemic symptoms	**phenoxymethylpenicillin** 500 mg (child: 12.5 mg/kg up to 500 mg) orally, 6-hourly for 5 days OR (if penetrating injury or associated ulcer or abscess) **flucloxacillin** 500 mg (child: 12.5 mg/kg up to 500 mg) orally, 6-hourly for 5 days	*Streptococcus* species are the most common cause of nonpurulent, recurrent cellulitis and spontaneous, rapidly spreading cellulitis. If the wound was exposed to fresh or salt water or there is a risk of MRSA, see *Therapeutic Guidelines*. Initial intravenous therapy is needed if the patient has **2 or more** systemic symptoms—see *Therapeutic Guidelines*. See *Therapeutic Guidelines* for periorbital, orbital and peritonsillar cellulitis.
impetigo: localised sores (nonendemic settings)	**mupirocin** 2% ointment or cream topically to crusted areas, 8-hourly for 5 days	Use soap and water topically three times a day to soften crusts. For management of impetigo in endemic settings, see *Therapeutic Guidelines*.
impetigo: multiple or recurrent sores (nonendemic settings)	**flucloxacillin** 500 mg (child: 12.5 mg/kg up to 500 mg) orally, 6-hourly for 7 days	Stop therapy earlier if the infection has resolved. If treatment is unsuccessful, see *Therapeutic Guidelines*. Eradication of staphylococcal carriage may be indicated; see *Therapeutic Guidelines*. For management of impetigo in endemic settings, see *Therapeutic Guidelines*.
acute mild diabetic foot infection	**flucloxacillin** 500 mg orally, 6-hourly	See *Therapeutic Guidelines* if the patient has systemic symptoms, chronic diabetic foot infection, has recently received antibiotics, or has risk factors for MRSA infection.
lactation-associated mastitis	**flucloxacillin** 500 mg orally, 6-hourly. If symptoms and signs resolve rapidly, 5 days of therapy may be sufficient; otherwise continue treatment for 10 days	For patients without systemic symptoms, increased breastfeeding and gentle expression of milk from the affected breast for 24 to 48 hours may resolve symptoms **without** antibiotic treatment. If this fails to resolve symptoms, and in all patients with systemic symptoms, antibiotic treatment is recommended to minimise the risk of abscess. Advise the patient to continue with breastfeeding and gentle milk expression. Consider lactation support.

COPD = chronic obstructive pulmonary disease; MRSA = methicillin-resistant *Staphylococcus aureus*

Antibiotic shortages: Initiatives to support GPs

- ACQSHC
  - TG is part of a working group convened to provide general advice on how to navigate a shortage

- Working to expand the primary care summary table to include alternatives if first-line therapy is not available
  - aim to publish in March 2023

- National Centre for Antimicrobials (NCAS)
  - intends to expand medication shortage fact sheets https://www.ncas-australia.org/Education#medshortage

Therapeutic Guidelines

Antibiotic shortages: Selecting an alternative

- Consider whether antibiotics are required
- Consider options for the condition
  - As a general principle, choose the next most narrow spectrum antibiotic available that treats the suspected pathogens

- Examples:
  - UTI for nonpregnant female
  - Community acquired pneumonia

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Treatment of acute cystitis in adults

Nonantibiotic therapy for acute cystitis in adults

Offer analgesia to patients with symptoms of acute cystitis; see the paracetamol and nonsteroidal anti-inflammatory drug regimens here.

The safety and efficacy of urinary alkalinising agents for the symptomatic treatment of urinary tract infection (UTI) has not been established. Urinary alkalinising agents significantly reduce the antimicrobial effect of nitrofurantoin, and should not be used with quinolones because there is an increased risk of crystalluria.

Cranberry products, ascorbic acid and methenamine hippurate are not effective for the treatment of acute UTI.

Empirical antibiotic therapy for nonpregnant women with acute cystitis

Most women under the age of 65 who are treated symptomatically (without antibiotic therapy) for acute uncomplicated cystitis become symptom free within 1 week. If antibiotic therapy is not given, the risk of acute pyelonephritis or sepsis following uncomplicated cystitis is low, but may be reduced by antibiotic therapy.

For empirical therapy of acute uncomplicated cystitis in nonpregnant women, use:

1. trimethoprim 300 mg orally, daily for 3 days [Note 1]

OR

2. nitrofurantoin 100 mg orally, 6-hourly for 5 days [Note 2].

See Antibiotic choice for urinary tract infection in adults for a discussion of drug choice.

If trimethoprim and nitrofurantoin cannot be used, for empirical therapy of acute uncomplicated cystitis in nonpregnant women, use:

cefalexin 500 mg orally, 12-hourly for 5 days.

If urine culture and susceptibility testing were performed and the pathogen is resistant to empirical therapy, do not modify therapy if symptoms of cystitis are improving.

Community acquired pneumonia: When monotherapy is indicated

Recommended empirical therapy (monotherapy)

Monotherapy is recommended for patients with low-severity CAP to minimise adverse eff
of the patient within 48 hours is recommended in case modification of therapy is require
consider using initial combination therapy instead (see Combination empirical therapy).

Amoxicillin is the drug of choice for monotherapy because of increasing rates of *Streptococcus pneumoniae* resistance to tetracyclines and macrolides. For patients with low-severity CAP, use:

- amoxicillin 1 g orally, 8-hourly; see below for duration of therapy.

In rural and remote regions of Australia, supervised administration and clinical review through a community management program is sometimes preferred. Use:

- procaine benzylpenicillin 1.5 g intramuscularly, daily; see below for duration of therapy.

Initial monotherapy with doxycycline can be used if atypical pathogens (eg *Mycoplasma pneumoniae, Chlamydophila [Chlamydia] pneumoniae*) are suspected based on epidemiology or the clinical presentation (eg a young adult who presents with nonproductive cough for 5 or more days and bilateral lower zone infiltrates on chest X-ray). Use:

1. doxycycline 100 mg orally, 12-hourly; see below for duration of therapy

OR if doxycycline is poorly tolerated

2. clarithromycin 500 mg orally, 12-hourly; see below for duration of therapy.

For patients with low-severity CAP who are hypersensitive to penicillins , use:

1. doxycycline 100 mg orally, 12-hourly; see below for duration of therapy

OR if doxycycline is poorly tolerated

2. clarithromycin 500 mg orally, 12-hourly; see below for duration of therapy.

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Feedback and questions: always welcome

- Email us feedback@tg.org.au

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