

Pink Book antimicrobial guidelines (adults) update

Community-acquired pneumonia, post-TRUS sepsis, gynaecology, gastroenterology, and aminoglycosides

This bulletin outlines key changes to guidelines in the Pink Book published this month. Review the changes to ensure familiarity.

COMMUNITY-ACQUIRED PNEUMONIA (CAP)

Table 1: New empiric antimicrobial recommendations for CAP

CAP severity (CURB-65 score)	
Mild (0 – 1)	amoxicillin PO ¹ ADD azithromycin PO, if risk factors for <i>Legionella</i> spp.
Moderate (2)	amoxicillin IV/PO ¹ AND azithromycin PO
Severe (3 – 4)	amoxicillin+clavulanic acid IV ¹ AND EITHER azithromycin PO OR clarithromycin IV
Extremely severe (5)	amoxicillin+clavulanic acid IV ^{1,2} AND ciprofloxacin IV

¹For patients with penicillin allergy – consult the Pink Book Antimicrobial Guidelines.
²Substitute piperacillin+tazobactam for amoxicillin+clavulanic acid if patient is immunosuppressed or has pre-existing lung disease with increased risk of *Pseudomonas* spp.,

- Doxycycline is no longer recommended for cover of *Legionella* spp., as local research suggests it may not be effective^[1].
- Amoxicillin is now dosed at PO 1000 mg three times daily (or IV 1 g every 8 hours) to cover more resistant *Streptococcus pneumoniae*.
- For empiric treatment of mild CAP in patients at risk of legionella infection, give amoxicillin with azithromycin as ~25% of *S. pneumoniae* isolates are resistant to macrolides. Amoxicillin can be stopped if *Legionella* spp., is confirmed as the pathogen.
- Empiric treatment of extremely severe CAP is now with amoxicillin+clavulanic acid plus ciprofloxacin, except in patients with increased risk of *Pseudomonas* spp., infections (see Table 1).

SEPSIS AFTER TRUS PROSTATE BIOPSY (new guideline)

- Sepsis affects ~3% of patients after transrectal ultrasound-guided (TRUS) prostate biopsy despite prophylaxis with ciprofloxacin.
- Key susceptibilities are given in Table 2. Around 13% of pathogens are multidrug resistant gram-negative bacilli (MDR-GNB).

Table 2: Susceptibilities from patients with post-TRUS sepsis

Antimicrobial agent	% susceptibility from urine and blood isolates (n=77)*
Amoxicillin	33%
Amoxicillin+clavulanic acid	82%
Cefalexin	82%**
Ceftriaxone	87%
Ciprofloxacin	37%
Gentamicin	75%
Meropenem	100%
Piperacillin+tazobactam	100%
Trimethoprim+sulfamethoxazole	54%

*72 *Escherichia coli*, 4 *Klebsiella pneumoniae*, 1 *Proteus mirabilis*
**Extrapolated from a wider Canterbury Health Laboratories dataset

- Recommended empiric treatment of post-TRUS sepsis is with piperacillin+tazobactam IV. Meropenem IV is appropriate in mild penicillin allergy or if risk factors for MDR-GNB (now defined).
- Oral follow-on is with amoxicillin+clavulanic acid or cefalexin if susceptibilities are not available. If proven susceptibility, ciprofloxacin or trimethoprim+sulfamethoxazole may be used.
- Most bacterial isolates will be susceptible to nitrofurantoin *in vitro*. However, nitrofurantoin is not an appropriate oral stepdown for sepsis as serum and prostate concentrations are too low to treat infections in these sites. Nitrofurantoin is only recommended for treatment of urine infections in the bladder.

GASTROENTEROLOGY

Parasitic gastrointestinal infections

- *Giardia lamblia* – resistance is increasing. Consult with ID after two failed treatment courses of metronidazole.

Cholecystitis/cholangitis

- Do not treat with gentamicin for more than 72 hours, or with ciprofloxacin IV or oral, unless advised by ID/Micro (document this in the notes and drug chart).
- Empiric treatment is with cefuroxime IV. Add metronidazole PO/IV for anaerobic cover if chronic obstruction. Add gentamicin IV if disease is severe (e.g. sepsis).
- Follow with oral amoxicillin+clavulanic acid or, in mild penicillin allergy, cefuroxime (plus metronidazole, if chronic obstruction).
- In severe penicillin allergy, start gentamicin and clindamycin IV, and consult ID/Micro.
- If inadequate response to antimicrobial treatment or IV therapy is required for more than 72 hours, consult ID/Micro.

Diarrhoea – *Clostridium difficile*

- Guideline name changed to reflect focus on the small proportion of antimicrobial-associated diarrhoea cases caused by *C. difficile* (most cases are due to osmotic mechanisms).
- If *C. difficile*-associated diarrhoea is severe and the patient is nil-by-mouth, use metronidazole IV. Vancomycin IV is not appropriate due to inadequate penetration into the colon.

Diarrhoea – infection associated

- Recent travel (e.g. to Southeast Asia) increases the likelihood of ciprofloxacin-resistant organisms. If empiric treatment is required, consider azithromycin or erythromycin.
- *Campylobacter jejuni* – antimicrobial treatment is not usually needed, but may be considered in severe illness, the elderly and those who are immunocompromised.

Acute peritonitis

- Empirical treatment as per cholecystitis/cholangitis, except that anaerobic cover (usually with metronidazole) is given routinely.

OBSTETRICS AND GYNECOLOGY

Bacterial vaginosis

- Many women (~50%) with bacterial vaginosis are asymptomatic and do not need treatment. Spontaneous resolution often occurs.
- ‘Stat’ imidazole doses are less effective than longer courses and are only recommended if compliance is likely to be poor.

Candidal vulvovaginitis

- Asymptomatic colonisation is common (10 – 20% of non-pregnant women of reproductive age) and does not need treatment.
- If symptomatic, ideally use topical therapy. Fluconazole PO may be given if topical is not tolerated or oral treatment is preferred.
- Longer topical courses may be needed if the patient is immunocompromised or pregnant, or has severe symptoms.
- Consult specialist if recurrent infection or non-albicans species.

GENTAMICIN DOSING IN BACTERIAL ENDOCARDITIS

- Gentamicin is used for synergy with other antimicrobials for endocarditis. It is usually given once daily, but ID may advise, once the pathogen is known, divided daily dosing. For clarity, there is a new guideline for gentamicin dosing in endocarditis.

CANTERBURY HEALTH LABORATORIES ANTIBIOGRAM

The Pink Book “General Antimicrobial Advice” section now links to the Canterbury Health Laboratories antibiogram <http://chl.co.nz/images/stories/chl%20antibiogram.pdf>.

Abbreviations: ID – Infectious Diseases, Micro – Microbiology, Gastro – Gastroenterology.
Ref: [1] Iseman H et al., J Antimicrob Chemother 2018; 73: 1102-4.