Canterbury District Health Board
Te Poari Hauora o Waitaha

Antimicrobial Stewardship Bulletin

CDHB Antimicrobial Stewardship Committee
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Pink Book antimicrobial guidelines (adults) update

Sepsis, respiratory and urinary tract guidelines

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

RESPIRATORY

Hospital-acquired pneumonia (HAP)

- Empiric antimicrobial therapy is based on HAP severity and risk factors (now defined in the guideline) for multidrug-resistant gram-negative bacilli (MDR-GNB) (Table 1).
- HAP is severe if there is at least one of: rapid progression of infiltrates, severe sepsis/septic shock or need for intubation.

Table 1: Empiric treatment of HAP

Non-severe HAP and low risk for MDR-GNB	Severe HAP or high risk for MDR-GNB*
amoxicillin+clavulanic acid IV/PO	piperacillin+tazobactam IV
Mild penicillin allergy: cefuroxime IV/PO	Mild penicillin allergy: meropenem IV
Severe penicillin allergy: clindamycin PO/IV AND EITHER gentamicin IV OR ciprofloxacin PO	Severe penicillin allergy: consult ID/Micro/Respiratory
	**Complex patient group – consult ID/Micro early*

Aspiration pneumonia

- Empiric recommendations are now divided into hospital-acquired and community-acquired aspiration pneumonia (Table 2). Mild to moderate disease may not require antimicrobials.

Table 2: Empiric treatment of aspiration pneumonia

Mild/moderate disease	Severe disease
Hospital-acquired*: amoxicillin+clavulanic acid PO/IV	piperacillin+tazobactam IV
Mild penicillin allergy: cefuroxime PO/IV	Mild penicillin allergy: meropenem IV
Severe penicillin allergy: clindamycin PO/IV AND EITHER gentamicin IV OR ciprofloxacin PO	Severe penicillin allergy: consult ID/Micro/Respiratory
Community-acquired: amoxicillin PO/IV	ceftriaxone IV AND metronidazole PO/IV
Penicillin allergy: clindamycin PO/IV	Severe penicillin allergy: clindamycin IV AND EITHER gentamicin IV OR ciprofloxacin IV
**For patients needing cover against MDR-GNB, treat as for severe hospital-acquired disease*	

Influenza

- Give patients who have started oseltamivir in hospital the rest of their course to take home (it is not funded in the community).

Infective exacerbation of COPD

- Antimicrobial use only to be considered for infective exacerbations, defined as increase in sputum purulence together with increase in sputum volume and/or dyspnoea.

URINARY TRACT INFECTIONS

- Risk factors for MDR-GNB are now given with guidance for empiric treatment.
- High local resistance of *Escherichia coli* to trimethoprim (~24%) has resulted in changes to the following two empiric guidelines:

Uncomplicated acute lower UTI (cystitis) in women

- Recommended empiric treatment is (in order of preference) nitrofurantoin, cefalexin or trimethoprim.
- ESBL-producing *E. coli* are usually susceptible to nitrofurantoin. Fosfomycin or pivmecillinam are alternatives if susceptibility is proven and usual oral agents are not suitable (liase with hospital pharmacy for supply on discharge).

Pyelonephritis and complicated UTIs

- Recommended empiric treatment for non-pregnant patients without renal failure is now gentamicin IV 5 mg/kg ideal body weight then (in order of preference) oral amoxicillin+clavulanic acid, cefalexin or ciprofloxacin. Adjust treatment, if required, when susceptibilities are available.
- Trimethoprim may be used after IV antimicrobial therapy if susceptibility is proven.
- Treatment duration is usually 10 days with a β-lactam-based regimen, or 7 days with a ciprofloxacin-based regimen. Longer courses may be considered for patients slow to respond.
- Cystitis in men is 'complicated' and should be treated as for non-pregnant women with cystitis but for a longer 7 day course.

UNIVERSAL CHANGE

- Cefuroxime tablets are not funded for most indications in the community. Liase with hospital pharmacy for supply on discharge.

SEPSIS (was called 'septicaemia')

- Empiric antimicrobial recommendations for **sepsis without apparent source** are now stratified by renal function (to guide gentamicin use) and penicillin allergy. Review full changes in the Pink Book online. Key antimicrobial recommendations are summarised below:

Non-neutropenic

• Community-acquired:	amoxicillin+clavulanic acid IV AND gentamicin IV	eGFR < 20 mL/min: ceftriaxone IV Mild penicillin allergy[1]: ceftriaxone IV
• Hospital-acquired:	amoxicillin+clavulanic acid IV AND gentamicin IV	eGFR < 20 mL/min: piperacillin+tazobactam IV Mild penicillin allergy[1]: meropenem IV
Neutropenic:	piperacillin+tazobactam IV AND gentamicin IV[2]	Mild penicillin allergy[1]: meropenem IV AND gentamicin IV[2]

[1]Severe penicillin allergy: ciprofloxacin AND vancomycin, and consult early with ID/Micro
[2]Do not give gentamicin if eGFR ≤ 20 mL/min. Instead start β-lactam and consult with ID/Micro

- **Do not add metronidazole for suspected intra-abdominal source** to regimens that contain amoxicillin+clavulanic acid, piperacillin+tazobactam or meropenem, as these β-lactams have sufficient anaerobic cover.
- **Gentamicin dose** is now IV 7 mg/kg ideal body weight (rounded down to the nearest half vial i.e. 40 mg) for patients with an eGFR ≥ 20 mL/min. This aims to optimise peak concentrations for maximal bacterial kill. Give only one dose empirically, with susceptibility results guiding subsequent antimicrobial choices. If further doses are being considered, discuss antimicrobial choice with ID/Micro and seek advice on dosing/monitoring from your ward pharmacist.