

## **Nurse Practitioner Clinical Protocols**

Supplement 3 to Clinical Protocol 1 “Health screening and management of chronic health conditions.”

### **ANTIMICROBIALS TO TREAT INFECTIONS IN RESIDENTIAL AND COMMUNITY SETTINGS**

#### **INTRODUCTION**

Treatment of infections is a regular need in residential and community care settings. Early investigation and treatment can prevent the development of more serious infections and therefore reduce presentations to Emergency Departments or admission to hospital for acute care.

Infections that require antimicrobial therapy in these settings include (but not exclusively):

- Otitis externa
- Conjunctivitis and blepharitis
- Community acquired pneumonia
- Sinusitis
- Cellulitis associated with wounds (particularly lower legs).
- Wound infections
- Infected ingrown toenails and paronychia
- Skin fold excoriation (usually a fungal infection)

Diagnosis of these infections is based on signs and symptoms and may be confirmed by microbiological testing (specimen sent for microculture and sensitivity). The Australian Medicines Handbook (Chapter 5, Antiinfectives) and Therapeutic Guidelines (Antibiotic topic) provide evidence-based guidelines for managing a range of infections.

The addition of an antibiotic to a resident or client’s medication regime may result in the need to monitor concurrent pharmacotherapy (e.g. warfarin). Chronic wounds that have been colonised with organisms such as *Pseudomonas aeruginosa* or *Staph. Epidermis* will usually be managed without antimicrobials unless there is a secondary infection resulting in cellulitis.

When an infection is diagnosed and treated with an antimicrobial, the decision to treat is discussed with the resident or client (or representative) to get consent, and the resident or clients GP will be consulted or informed according to established preferences.

## FORMULARY

<u>Drug generic name:</u>	<b>Amoxicillin</b>
<u>Poisons schedule:</u>	4
<u>Therapeutic class:</u>	Antibiotic – Penicillins
<u>Dosage range:</u>	May be taken with or without food. Adults: 250-500 mg every 8 hrs.
<u>Route:</u>	Oral
<u>Frequency of administration:</u>	TDS (8 hourly)
<u>Duration of order:</u>	5 days
<u>Actions:</u>	Amoxicillin acts through the inhibition of biosynthesis of the cell wall mucopeptide.
<u>Indications for use:</u>	Infections by sensitive organisms (e.g. respiratory infections).
<u>Contraindications for use:</u>	Beta-lactam antibiotic hypersensitivity
<u>Precautions:</u>	Renal impairment; lymphatic leukaemia
<u>Adverse effects:</u>	(Mainly hypersensitivity phenomena)
Infrequent:	Nausea, vomiting, diarrhoea, and erythematous maculopapular rashes, urticaria and pruritus.
Rare:	skin reactions such as erythema multiforme, Stevens-Johnson syndrome, toxic epidermal necrolysis and bullous and exfoliative dermatitis and acute generalised exanthematous pustulosis (AGEP). Severe allergic reactions including angioneurotic oedema, anaphylaxis.

<u>Drug generic name:</u>	<b>Amoxicillin and Clavulanic Acid</b>
<u>Poisons schedule:</u>	4
<u>Therapeutic class:</u>	Antibiotic – Penicillins
<u>Dosage range:</u>	Immediately before food. Severe infections 875/125mg; less severe infections or renal impairment 500/125mg.
<u>Route:</u>	Oral
<u>Frequency of administration:</u>	BD (12 hourly)
<u>Duration of order:</u>	5 days
<u>Actions:</u>	Amoxicillin acts through the inhibition of biosynthesis of the cell wall mucopeptide. The Clavulanic Acid inhibits beta-lactamase enzymes, so the combination extends the antimicrobial spectrum.
<u>Indications for use:</u>	In addition to UTIs (separate clinical protocol): Short term infections by sensitive organisms; lower respiratory tract infections (incl community acquired pneumonia, exacerbations of chronic bronchitis); URTIs (incl sinusitis).
<u>Contraindications for use:</u>	History of amoxicillin/ clavulanic acid associated jaundice or hepatic dysfunction; allergy to beta-lactams
<u>Precautions:</u>	Renal impairment; hepatic dysfunction; lymphatic leukaemia
<u>Adverse effects:</u>	(Mainly hypersensitivity phenomena)
Infrequent:	Nausea, vomiting, diarrhoea, and erythematous maculopapular rashes, urticaria and pruritus.
Rare:	Skin reactions such as erythema multiforme, Stevens-Johnson syndrome, toxic epidermal necrolysis and bullous and exfoliative dermatitis and acute generalised exanthematous pustulosis (AGEP). Severe allergic reactions including angioneurotic oedema, anaphylaxis.

Drug generic name: **Clarithromycin**  
Poisons schedule: 4  
Therapeutic class: Antibiotic – macrolides  
Dosage range: 250 mg  
Route: Oral  
Frequency of administration: 12 hourly  
Duration of order: 7 - 14 days  
Actions: Inhibition of protein synthesis in susceptible organisms.  
Indications for use: Infections due to susceptible organisms: community acquired pneumonia; skin, skin structure infections; acute bacterial exacerbation of chronic bronchitis; H. pylori assoc peptic ulcer (in combination therapy); acute otitis media.

Contraindications for use: Macrolide antibiotic hypersensitivity  
Precautions: Renal impairment; immunocompromise; macrolide cross resistance; bleeding duodenal ulcer;

Adverse effects:  
 Infrequent: Asthenia; headache; dizziness; GI upset; raised LFTs; pruritus; taste perversion; pseudomembranous colitis.  
 Very rare: Anaphylaxis, Stevens-Johnson syndrome, blood dyscrasia.

Drug generic name: **Dicloxacillin**  
Poisons schedule: 4  
Therapeutic class: Antibiotic – Penicillins  
Dosage range: 250 – 500mg (smaller dose in severe renal impairment, or make 8 hourly).  
Route: Oral  
Frequency of administration: 6 hourly  
Duration of order: 5 days  
Actions: Penicillinase resistant penicillins exert a bactericidal action against penicillin susceptible microorganisms during active multiplication.

Indications for use: Infections due to susceptible staphylococcal, other Gram +ve coccal infections incl skin, skin structure (e.g. Cellulitis).

Contraindications for use: Penicillin hypersensitivity  
Precautions: Renal impairment; hepatic dysfunction; lymphatic leukaemia

Adverse effects: (Mainly hypersensitivity phenomena)  
 Infrequent: Nausea, vomiting, diarrhoea, and erythematous maculopapular rashes, urticaria and pruritus.  
 Rare: Skin reactions such as erythema multiforme, Stevens-Johnson syndrome, toxic epidermal necrolysis and bullous and exfoliative dermatitis and acute generalised exanthematous pustulosis (AGEP). Severe allergic reactions including angioneurotic oedema, anaphylaxis, serum sickness.

Drug generic name: **Doxycycline**  
Poisons schedule: 4  
Therapeutic class: Antibiotic – Tetracyclines  
Dosage range: 100 mg (with food, mane dosing).  
Route: Oral  
Frequency of administration: 12 hourly on first day, then daily  
Duration of order: 6 days  
Actions: Penicillinase resistant penicillins exert a bactericidal action against penicillin susceptible microorganisms during active multiplication.  
Indications for use: Infections due to susceptible organisms including primary atypical pneumonia.  
Contraindications for use: Tetracycline hypersensitivity  
Precautions: Ensure adequate fluid intake with dose, sit up 30 minutes after dose.  
Adverse effects:  
     Infrequent: Rash, GI upset, increased prothrombin time  
     Rare: Photosensitivity, benign intracranial hypertension, pseudomembranous colitis, superinfection (CI difficile), SLE exacerbation

Drug generic name: **Flucloxacillin**  
Poisons schedule: 4  
Therapeutic class: Antibiotic – Penicillins  
Dosage range: May be taken with or without food. Adults: 250-500 mg every 8 hrs.  
Route: Oral  
Frequency of administration: TDS (8 hourly)  
Duration of order: 5 days  
Actions: Flucloxacillin acts through the inhibition of biosynthesis of the cell wall mucopeptide. Narrow spectrum action against Beta Lactamase-producing organisms.  
Indications for use: Infections due to susceptible Gram positive organisms incl pneumonia, osteomyelitis, skin, skin structure, wound, burn infections, cellulitis.  
Contraindications for use: Beta-lactam antibiotic hypersensitivity, hepatic dysfunction history  
Precautions: Renal impairment; hepatic impairment  
Adverse effects: Hypersensitivity incl rash, angioedema, anaphylaxis (rare); fever, arthralgia, myalgia (discontinue); GI upset; pseudomembranous colitis; hepatitis, cholestatic jaundice; haematological effects; superinfection; rare: CNS, renal disturbance

## References

- Australian Medicines Handbook (AMH). (2006). *Drug choice companion: aged care*. 2<sup>nd</sup> Ed., Adelaide: AMH.  
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