The Pharmacist's Guide to:

Antibiotic Prescribing in Acute Wound Care

- Presumptive therapy
- Prophylactic therapy
- Empirical therapy

'Improving wound care literacy'
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References

1. Therapeutic Guidelines Limited. (2025). Therapeutic Guidelines. https://www.tg.org.au
2. Queensland Health - Acute Minor Wound Management Clinical Practice Guideline (PDF). Queensland Health. (July 2025).
3. Sheehan, L., Smithson, J., Carter, K., French, N., Frescos, N., Giana, L., Knowles, N., Patterson, K.-L., Parker, C., Pressley, D., Rajah, S. S., Smith, D., Sussman, G., Tehan, P., & Trezise, F. (2025). The role of the Australian community pharmacist in acute wound care: Best practice statement. Wounds APAC.

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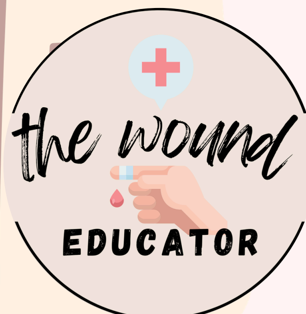

Guide for All Wound Prescribing

Wound Management

1. Cleaning and irrigation
2. Debridement (if necessary)
3. Elevation and immobilisation (within 48-72 hours of injury)
4. Antibiotics (if indicated)

Check tetanus immunisation status and administer if necessary.

Follow up within 24-48 hours to monitor for infection.

Topical Antiseptics for Wound Cleansing

Indicated for:

- Prevention of acute wound infections (e.g. contaminated traumatic wounds)
- Treatment of wounds with signs/symptoms of local or spreading infection
- Decolonisation of wounds with multidrug-resistant bacteria
- Preparation for debridement or wound cleansing of chronic wounds (biofilm-based approach)

Recommended agents: Hypochlorous acid 0.01%, Polyhexamethylene biguanide, Octenidine

Products available in Australia:
Microdacyn® wound solution spray, Prontosan® wound gel/irrigation, Octenisept® spray

Avoid Older Antiseptics

Hydrogen peroxide and chlorhexidine are no longer recommended for wound cleansing:

- Cytotoxic to healthy cells
- Irritating to wound and peri-wound area
- Little effect in reducing bacterial count
- Inactivated by organic materials (blood, pus)

If using povidone-iodine for wound cleansing, rinse off within 3-4 minutes as leaving on the wound for longer can delay healing and cause cytotoxicity.

Always check the product and manufacturer's instructions for indications, directions for use, treatment duration, and contraindications.

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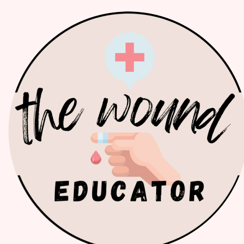
3 Types of Antibiotic Prescribing

Type	Purpose
Presumptive	High-risk wound before infection develops
Prophylactic	Prevent infection in contaminated wounds
Empirical	Treat suspected localised infection

NOTE: Most wounds do NOT require antibiotics. Antibiotics should only be used when there is clear evidence of infection or for wounds at high risk of infection.



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Presumptive Antibiotics

Used when infection risk is HIGH despite no obvious infection yet.

Examples:

- Cat bites (any location)
- Other animal bites e.g. dog (hands, feet, face)
- Human bites (hands, feet, face)
- Clenched fist injuries (aka 'fight bite')
- Delayed presentation (>8 hrs)
- Deep puncture wounds

Presumptive Prescribing Pathway

Presumptive antibiotics indicated:

- high risk animal (including marine), human bites
- clenched-fist injury

First-Line Treatment

Adults: Amoxicillin + Clavulanate 875+125mg orally 12-hourly for 3 days

Children: Amoxicillin + Clavulanate 22.5+3.3mg/kg (up to 875+125mg) orally 12-hourly for 3 days

If penicillin allergy or MRSA risk

Alternative Treatment

Metronidazole 400mg (Adults) / 10mg/kg up to 400mg (Children) orally 12-hourly for 3 days

PLUS either:

1. **Doxycycline 100mg** 12-hourly orally for 3 days (Adults)

OR

2. **Trimethoprim + sulfamethoxazole** 160+800mg (4+20mg/kg up to 160+800mg) 12-hourly for 3 days

Check Therapeutic Guidelines for dosage adjustment in cases of renalimpairment.

Refer patient to their medical practitioner promptly for further assessment

Prophylactic Prescribing Pathway

Prophylactic antibiotics indicated:
Significantly contaminated traumatic wounds e.g. soil, dirt, gravel, stab wound, penetrating injury

First-Line Treatment

A 24 hour course of antibiotics can be initiated (ideally within 3 hours of injury) before referring to a medical practitioner.

1. **Dicloxacillin 500mg** (12.5mg/kg up to 500mg) orally 6-hourly

OR

2. **Flucloxacillin 500mg** (12.5mg/kg up to 500mg) orally 6-hourly

If penicillin allergy or MRSA risk

Alternative Treatment

Nonsevere penicillin allergy:
Cephalexin 500mg (12.5mg/kg up to 500mg) orally 6-hourly
OR
Cephalexin 20mg/kg up to 750mg orally every 8 hours
(if adherence with 6-hourly regimen is unlikely)

Severe penicillin allergy:
Clindamycin 450mg (10mg/kg up to 450mg) orally 8-hourly

Check Therapeutic Guidelines for dosage adjustment in cases of renal impairment.

Refer patient to their medical practitioner promptly for further assessment

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Empirical Prescribing Pathway

Empirical oral antibiotic therapy indicated:

- **localised post-traumatic wound infections**
- **localised bite and clenched-fist wound infections**

First-Line Treatment

Duration guided by clinical response (usually 5 days).

1. **Dicloxacillin 500mg** (12.5mg/kg up to 500mg) orally 6-hourly for 5 days

OR

2. **Flucloxacillin 500mg** (12.5mg/kg up to 500mg) orally 6-hourly for 5 days

If penicillin allergy or MRSA risk

Alternative Treatment

Penicillin allergy (nonsevere) / low MRSA risk:

Cephalexin 500mg (12.5mg/kg up to 500mg) orally 6-hourly for 5 days

OR

Cephalexin 20mg/kg up 750mg orally 6-hourly for 5 days (if adherence with a 6-hourly regimen is unlikely or challenging)

Severe penicillin allergy or increased MRSA risk:

1. **TMP+SMX** 160+800mg (4+20mg/kg up to 160+800mg) orally 12-hourly for 5 days

OR

2. **Clindamycin 450mg** (10mg/kg* up to 450mg) orally 8-hourly for 5 days

*There is no commercially available liquid for dosing of clindamycin in children.

Check Therapeutic Guidelines for renal impairment dosing.

Refer patient to their medical practitioner promptly for further assessment

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Empirical Prescribing Pathway

- localised infection of water-immersed wounds (not associated with systemic features or involving deeper tissues)

Sea-Water Immersed Wounds

First-Line Treatment

Doxycycline 100mg orally 12-hourly
(Children <21kg: 2.2mg/kg 12-hourly)
(Children 21-<26kg: 50mg 12-hourly)
(Children 26-35kg: 75mg 12-hourly)
Children who can't take doxycycline:
Ciprofloxacin 12.5mg/kg up to 500mg 12-hourly

PLUS EITHER

1. **Dicloxacillin 500mg** (12.5mg/kg up to 500mg) 6-hourly

OR

2. **Flucloxacillin 500mg** (12.5mg/kg up to 500mg) 6-hourly

Alternative Treatment

Nonsevere penicillin allergy:
Cephalexin 500mg (12.5mg/kg up to 500mg) 6-hourly
OR
Cephalexin 20mg/kg up to 750mg 8-hourly (if 6-hourly adherence unlikely)

Penicillin allergy/MRSA risk:
TMP+SMX 320+1600mg
(8+40mg/kg up to 320+1600mg) 12-hourly

Fresh/Brackish Water Wounds

First-Line Treatment

TMP+SMX 320+1600mg
(8+40mg/kg up to 320+1600mg) 12-hourly
OR
Ciprofloxacin 500mg
(12.5mg/kg up to 500mg) 12-hourly

PLUS EITHER

1. **Dicloxacillin 500mg** (12.5mg/kg up to 500mg) 6-hourly

OR

2. **Flucloxacillin 500mg** (12.5mg/kg up to 500mg) 6-hourly

Alternative Treatment

Penicillin allergy/MRSA risk:
TMP+SMX 320+1600mg
(8+40mg/kg up to 320+1600mg) 12-hourly

Soil/sewage-contaminated water:
Add **Metronidazole** to above regimens

Duration: Usually guided by clinical response; a 5-day course is appropriate.

Check Therapeutic Guidelines for dosage adjustment in cases of renal impairment.

Refer patient to their medical practitioner promptly for further assessment

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