

Water-related infections – advice for GPs

Clinical considerations for patients presenting with a wound infection or cellulitis related to contact with water, or of sepsis where cuts and other abrasions are the likely portal of entry.

Background

In the management of cellulitis and deeper skin infections among patients exposed to water the usual bacterial causes should be first considered (*Staph aureus* and *Strep pyogenes*) and antibiotic therapy, where indicated should be targeted against them. However, a number of less-commonly encountered water-dwelling organisms (notably *Aeromonas* species) may cause these infections in this circumstance.

The resulting illness may range from a superficial skin infection, to more deep, serious or systemic manifestations (myositis, sepsis +/- metastatic complications).

Patients with underlying systemic illness are particularly prone to develop the more serious manifestations.

For minor skin infections, treat **as for mild early cellulitis**.

For contaminated wound infections, treat as usual for contaminated wounds (see below for additional antibiotic advice).

Local management of skin lesions as per usual clinical practice may include: incision, drainage and debridement, with collection of appropriate specimens for microbiology as indicated. Assessment of the need for tetanus vaccination would also be appropriate.

Exposure to fresh water

For fresh water-related skin infections of more significant severity, an antibiotic with activity against *Aeromonas* sp can be **added to the usual antibiotic** that would be prescribed for this condition (di/flucloxacillin or clindamycin). Suitable drugs against *Aeromonas* sp for adults include ciprofloxacin in a dose of 500 mg PO BD (no PBS Authority is available for this indication), or co-trimoxazole (in the non-sulfa-allergic patient). For children use co-trimoxazole 4 mg (0.5ml of mixture)/kg/dose 12 hourly.

For more serious infections admission to hospital for consideration of intravenous antibiotic therapy is advised. In this circumstance ciprofloxacin (400 mg IV, 12 hourly) added to the usual antibiotic would be appropriate for adults. For children use cefotaxime 50mg/kg/dose 8 hourly or ceftriaxone 50mg/kg daily IV in addition to the usual antibiotic.

Specialist advice from an Infectious Diseases Physician or Clinical Microbiologist may be appropriate.

Exposure to salt water

For water-related skin infections of more significant severity, in patients who have been exposed to **salt water** an antibiotic with activity against *Vibrio* species (*Vibrio vulnificus*, *Vibrio alginolyticus* and other non-cholera vibrios) can be **added to the usual antibiotic** that would be prescribed for this condition (di/flucloxacillin or clindamycin). A suitable drug in adults in this circumstance would be doxycycline 200 mg orally for the first dose, then 100 mg orally 12-hourly. For children < 8 years of age use ciprofloxacin 12.5mg/kg/dose (up to 500mg) PO BD instead of doxycycline. For children ≥ 8 years of age use doxycycline 5mg/kg up to 200mg PO for the first dose, then 2.5mg/kg up to 100mg PO BD.

For more serious infections admission to hospital for consideration of intravenous antibiotic therapy is advised. In this circumstance ciprofloxacin (400 mg IV, 12-hourly) or ceftriaxone, in addition to the usual antibiotic would be appropriate. For children use cefotaxime 50mg/kg/dose 8 hourly or ceftriaxone 50mg/kg daily IV, in addition to the usual antibiotic.

Specialist advice from an Infectious Diseases Physician or Clinical Microbiologist may be appropriate.

Vector-borne diseases

Dengue fever is NOT endemic in South East Queensland (SEQ).

The mosquito that transmits dengue fever is not currently endemic in SEQ.

A range of other mosquito-borne infections may become more frequent in SEQ following the flooding. Whether this will occur will depend on pre-existing virus transmission/presence, bird migration, mosquito breeding and other factors. These viruses include Ross River virus, Barmah Forest virus, and Kunjin virus.

If an outbreak of arbovirus infection occurs, it is likely that it will be delayed for some time following the peak of the flood.

The most likely presentation of these infections is fever with polyarthrititis. Rash, deranged LFTs and thrombocytopenia may also occur. Serology and/or PCR testing is the appropriate way to make the diagnosis.

Specialist advice from an Infectious Diseases Physician or Microbiologist may be appropriate.

Melioidosis

This infection is caused by the soil organism *Burkholderia pseudomallei*. It occurs across northern Australia and has rarely been reported in regions surrounding Brisbane. It may present in a wide variety of ways.

Pneumonia is the commonest presentation, but bacteraemia with metastatic spread can occur, and cause abscesses in any organ, especially the spleen and prostate.

People with diabetes and heavy alcohol consumption are at increased risk of developing more severe illness.

If this diagnosis is suspected urgent specialist advice should be sought and hospital admission should be considered.

Other Infections

While diarrhoeal illnesses and respiratory tract infections may occur more commonly following the flood, their clinical presentation and management should not differ from current clinical practice.

For more information

A range of useful fact sheets on preparing for and recovering from disasters is available at: www.health.qld.gov.au/healthieryou/disaster

An on-call Infectious Diseases Physician and Microbiologist can be contacted via your nearest major hospital switchboard.

Contact your nearest Queensland Health public health unit during business hours for further advice. After hours, a public health medical officer is available via your nearest major hospital switchboard.

Contact phone numbers for Queensland Public Health Units:

Brisbane North	Tel: 3624 1111	Gold Coast	Tel: 5668 3700	Rockhampton	Tel: 4920 6989
Brisbane South	Tel: 3000 9148	Hervey Bay	Tel: 4120 6000	Sunshine Coast	Tel: 5409 6600
Bundaberg	Tel: 4150 2780	Logan	Tel: 3412 2989	Toowoomba	Tel: 4631 9888
Central West	Tel: 4920 6989	Mackay	Tel: 4885 6611	Townsville	Tel: 4753 9000
Cairns	Tel: 4226 5555	Moreton Bay	Tel: 3142 1800	West Moreton	Tel: 3413 1200
Charleville	Tel: 4656 8100	Mount Isa	Tel: 4744 9100		