3 Diphtheria: case management

Empiric treatment, escalation, notification and follow-up in primary care

AHCSA Aboriginal Health Council of South Australia

Government of South Australia SA Health

FIRST — exclude severe respiratory diphtheria (Check for signs of severe respiratory diphtheria)

WARNING SIGNS: pseudomembrane · bull neck · stridor · respiratory distress · signs of sepsis. If ANY present: do **not** swab.

Follow local medical emergency protocols for Infectious Respiratory Medical emergency or deteriorating patient ie call MO, RFDS, MedStar, SAVES to stabilise patient , ring CDCB / ID for further advice

Suspected or confirmed RESPIRATORY diphtheria without signs of severe disease

- **First line:**
  - **Azithromycin 500 mg (child 10 mg/kg up to 500 mg) orally, daily for 7 days, OR**
  - **Amoxicillin 1 g (child 30 mg/kg up to 1 g) orally, 8 hourly for 14 days**
- Child <18 yr with adherence concerns: azithromycin 30 mg/kg (max 2 g) as a single dose, repeated at 5 days if still symptomatic.
- Adult ≥18 yr with adherence concerns: azithromycin 1 g stat, then 500 mg daily for 6 days.
- Adequately vaccinated patients can usually be managed as outpatients. Inadequately vaccinated symptomatic patients may need admission — discuss with infectious diseases on call.
- **Review every 1–2 days for worsening pseudomembrane, progressive neck swelling, sepsis or respiratory distress.**
- **If no capacity for staff or patients to review regularly, consider transfer to hospital.**

CUTANEOUS diphtheria

- If the wound is **enlarging (>2 cm), has a grey membrane, or there are systemic features** discuss with infectious diseases on-call and consider admission for DAT

Confirmed CUTANEOUS diphtheria

- **Co-Treat Staph/Strep as per local guidelines and ADD First line:**
  - **Azithromycin 500 mg (child 10 mg/kg up to 500 mg) orally, daily for 7 days. OR**
  - **Amoxycillin 1g (child 30mg/kg up to 1g) orally 8 hourly for 14 days will also cover streptococcal infection**
- Cover lesions with an occlusive dressing; use PPE.
- Confirmed cutaneous cases require 2 x throat swab as well to check for respiratory infection

Suspected CUTANEOUS diphtheria

- Empiric diphtheria treatment should only be given if cutaneous diphtheria is strongly suspected at the time of presentation
  - Clinical factors: punched-out ulcers with rolled-out margins, dirty-grey/black adherent pseudomembrane over the base
  - Patient factors: immunocompromised, high risk history, inadequately vaccinated

For every case

- Vaccinate if >12 months since last diphtheria containing vaccine (Chart 1) if not febrile or unwell, and offer opportunistic vaccination to household contacts.
- If DAT was given, delay vaccination 4 weeks.
- Reinforce hand hygiene, wound covering, environmental cleaning and laundry;
- Start contact tracing with CDCB (Chart 4).

Exclusion from work/school/childcare

- **Respiratory**: until antibiotics completed AND clearance testing negative (two swabs ≥24 h after finishing antibiotics, ≥24 h apart if feasible).
- **Cutaneous**: until wounds are healing or improving, can be covered with an occlusive waterproof dressing, recommended vaccination completed, and ≥72 hours of appropriate antibiotics.

Antibiotic alternatives — allergy, long QT

- See therapeutic guidelines
- **Discuss allergy to first-line agents with Infectious Diseases on call.**
- Due to resistance to penicillin, alternative antibiotics are recommended. Speak with ID for advice.

Recall and follow-up — late toxin-mediated complications cause much of the mortality

- **1 week and 3 weeks** after onset — myocarditis screen: HR, RR, BP, SpO2, ECG. Ask about chest pain, breathlessness and palpitations; check troponin. Refer for specialist review and echocardiogram if indicated. Myocarditis can occur from the first to sixth week, usually the second.
- **3 months and 6 months** after onset — neuropathy screen: numbness, tingling, loss of feeling or function. Consider UEC if renal risk factors. Neurological complications can begin from 10 days after onset.
- Complications can present months after untreated infection resolves — consider diphtheria in an inadequately vaccinated patient with new myocarditis, renal failure or neurology.

NOTIFY CDCB — 1300 232 272 (24/7): suspected and confirmed cases, and late complications. If toxin-positive C. diphtheriae is isolated in a patient not admitted, review urgently and discuss with ID on-call, with a low threshold for admission. If toxin-positive C. diphtheriae is **NOT** isolated, cease azithromycin and continue routine management.