



# WA diphtheria outbreak case and contact management interim guidance

**Note:** This guidance is specific to the current diphtheria outbreak as of **12 June 2026** and will be reviewed and updated as new evidence and recommendations emerge.

## Key updates

Version	Changes
12 June 2026	<p><b><u>General</u></b></p> <ul style="list-style-type: none"><li>• Key updates section added.</li><li>• Minor wording changes throughout.</li></ul> <p><b><u>Testing (cases and contacts)</u></b></p> <ul style="list-style-type: none"><li>• Changed recommended collection method from combined nasopharyngeal/throat swab to high-quality throat swab collection.</li><li>• Recommended medium changed from charcoal swab to semi-solid (Amies) transport medium swab with or without charcoal.</li><li>• Addition of guidance to recommend a paired dry swab alongside an Amies swab.</li></ul> <p><b><u>Case management</u></b></p> <ul style="list-style-type: none"><li>• Addition of an option for a single high-dose of azithromycin for cases with significant barriers to adherence with the standard multi-day regimen of oral antibiotics.</li><li>• Amended wording regarding the use of diphtheria antitoxin.</li><li>• Addition of comment to clarify that cutaneous cases do not require clearance testing following completion of antibiotics unless an initial throat swab is positive.</li></ul> <p><b><u>Contact management</u></b></p> <ul style="list-style-type: none"><li>• Addition of an option for a single high-dose of azithromycin for contacts with significant barriers to adherence with the standard multi-day regimen of oral antibiotics.</li><li>• Updated links to the diphtheria flyer and information sheet for each contact risk category.</li></ul>

## Case management

<p><b>Case definitions</b></p>	<p>A <b>confirmed case</b> requires laboratory definitive evidence <b>and</b> clinical evidence:</p> <ul style="list-style-type: none"> <li>• <b>laboratory definitive evidence:</b> isolation of toxigenic <i>C. diphtheriae</i> from site of clinical evidence</li> <li>• <b>clinical evidence:</b> upper respiratory tract infection or skin lesion.</li> </ul> <p>Cases may be further categorised as severe respiratory diphtheria (classical toxin-mediated disease), mild respiratory (pharyngeal) diphtheria or cutaneous (skin) diphtheria.</p> <p>A <b>probable case</b> requires laboratory suggestive evidence <b>and</b> clinical evidence, <b>or</b> clinical evidence <b>and</b> epidemiological evidence:</p> <ul style="list-style-type: none"> <li>• <b>laboratory suggestive evidence:</b> isolation of <i>C. diphtheriae</i> from a respiratory tract specimen (toxin production unknown)</li> <li>• <b>clinical evidence:</b> upper respiratory tract infection <b>with</b> an adherent membrane of the nose, pharynx, tonsils or larynx</li> <li>• <b>epidemiological evidence:</b> contact between two people involving a plausible mode of transmission when: one of them is likely to be infectious (usually 2 weeks or less, and seldom more than 4 weeks after symptom onset); <b>and</b> the other has an illness which starts around 2-5 days after contact; <b>and</b> at least one laboratory confirmed case in the chain of epidemiologically linked cases.</li> </ul>
<p><b>Signs and symptoms</b></p>	<p><b>Cutaneous diphtheria:</b></p> <ul style="list-style-type: none"> <li>• Usually presents on exposed limbs as a secondary infection of skin lesions/wounds, or as primary punched-out ulcers with well demarcated edges and a grey necrotic slough.</li> <li>• Rarely associated with systemic toxicity but plays an important role in transmission through contact with skin lesions/wounds or contaminated fomites and can cause respiratory disease in contacts.</li> </ul> <p><b>Respiratory diphtheria:</b></p> <ul style="list-style-type: none"> <li>• Typically presents with fever and sore throat, ranging from mild pharyngeal disease to severe disease with patches of greyish-white pharyngeal exudate that may form an obstructive and life-threatening pseudomembrane and/or clinical warning signs of systemic toxicity.</li> </ul>
<p><b>Education and advice</b></p>	<ul style="list-style-type: none"> <li>• The case should be advised of the nature of the infection and isolation/exclusion requirements.</li> <li>• Provide <a href="#">diphtheria factsheet</a> or <a href="#">AHCWA diphtheria flyer</a>.</li> </ul>
<p><b>Testing</b></p>	<ul style="list-style-type: none"> <li>• Ensure high-quality throat swab and/or skin lesion swabs have been collected (including high-quality throat swab collection for confirmed cutaneous cases) using semi-solid (Amies) transport medium swab with or without charcoal and clearly mark "culture for diphtheria" on the request form.</li> <li>• In addition to an Amies swab for diphtheria culture, a paired dry throat and/or skin lesion swab for direct PCR toxin testing is recommended to improve case detection and enable more timely laboratory confirmation. In this case, label both swabs appropriately and place in the same collection bag, specify swab collection sites and clearly mark "culture and PCR for diphtheria" on the request form.</li> <li>• The dry throat swab is <b>in addition to</b> any nasopharyngeal or nose/throat swab for respiratory viral PCR testing that is also collected.</li> <li>• Ensure standard, contact and droplet precautions are used when performing all swabs.</li> </ul>
<p><b>Antibiotic treatment of cases</b></p>	<ul style="list-style-type: none"> <li>• Antibiotics should be given immediately but <b>after</b> initial swabs are taken wherever possible.</li> <li>• Macrolides are preferred for empiric treatment due to reduced susceptibility to penicillin in the current outbreak strain, for example:             <ul style="list-style-type: none"> <li>○ <b>cutaneous and mild respiratory (pharyngeal) diphtheria:</b> azithromycin 500 mg (10mg/kg up to 500mg in children) orally once daily for <b>7 days</b>, if no contraindications                 <ul style="list-style-type: none"> <li>▪ the standard multi-day regimen is strongly recommended; however, a single high-dose of azithromycin may be considered if there are significant barriers to adherence to oral therapy:                     <ul style="list-style-type: none"> <li>- azithromycin 2g (30mg/kg up to 2g in children) oral <b>single dose</b>, if no contraindications</li> <li>- follow-up at 5 days and discuss with an infectious disease physician or clinical microbiologist if still symptomatic.</li> </ul> </li> <li>○ <b>severe respiratory diphtheria:</b> start treatment as below if no contraindications, and consult an infectious disease physician or clinical microbiologist for further antibiotic and diphtheria antitoxin advice, including step down to oral therapy and overall duration                 <ul style="list-style-type: none"> <li>▪ azithromycin 500 mg (10mg/kg up to 500mg in children) intravenously, daily <b>AND</b></li> <li>▪ benzylpenicillin 1.2g (50mg/kg up to 1.2g in children) intravenously 6 hourly.</li> </ul> </li> </ul> </li> <li>• If azithromycin is contraindicated, consider alternative agents as per <a href="#">Diphtheria – Therapeutic Guidelines</a> or discuss with an infectious disease physician or clinical microbiologist.</li> <li>• Also ensure appropriate treatment of other organisms consistent with the clinical presentation (e.g. streptococcal throat infections) or identified on lesion/wound swabs (e.g. <i>Staphylococcus</i> and <i>Streptococcus</i> species are frequently co-isolated).</li> </ul> </li></ul>

<p><b>Diphtheria antitoxin (DAT)</b></p>	<ul style="list-style-type: none"> <li>DAT is <b>not</b> usually required for cutaneous or mild respiratory disease and has no proven role in the prophylaxis of contacts or treatment of carriers.</li> <li>DAT should be reserved for patients with suspected <b>severe</b> respiratory diphtheria, including those with a <b>pseudomembrane</b> and/or features of toxin-mediated disease or airway compromise such as extensive neck swelling, upper airway obstruction, stridor, drooling, signs of sepsis or respiratory distress. These patients will typically require escalation of care, such as airway management, HDU/ICU-level support or transfer to a tertiary hospital. A lower threshold for consideration of DAT should be applied in unvaccinated or under-vaccinated individuals.</li> <li>DAT can cause severe acute allergic reactions and is only to be used in an acute care setting with oversight and approval by an infectious disease physician. It may be accessed <b>in discussion with Public Health</b>.</li> <li>When indicated, DAT should be given <b>promptly</b> – it is most effective against circulating diphtheria toxin and less effective once toxin is bound to tissue.</li> <li>Adults and children receive the same dose; preferred route is intravenous, particularly in severe cases – see <a href="#">WHO Guideline: Clinical management of diphtheria</a> for dose recommendations.</li> </ul>
<p><b>Vaccination</b></p>	<ul style="list-style-type: none"> <li>Cases of cutaneous and respiratory diphtheria should be vaccinated during recovery, as clinical infection may not induce adequate immunity.</li> <li>Cases who have completed a primary course of diphtheria-containing vaccines should receive one booster dose of a diphtheria-containing vaccine if it is more than 12 months since their last dose.</li> <li>Unvaccinated or incompletely vaccinated cases should commence a primary or catch-up course of diphtheria vaccination as per the <a href="#">Australian Immunisation Handbook</a>.</li> <li>If a case received DAT, diphtheria vaccination should be delayed for 4 weeks.</li> </ul>
<p><b>Isolation, restriction and clearance testing</b></p>	<ul style="list-style-type: none"> <li>Cases with non-severe disease may be managed in the community.</li> </ul> <p><b>Cutaneous diphtheria</b></p> <ul style="list-style-type: none"> <li>Cases should be excluded from work, school and childcare settings until their lesions/wounds are healed or clinically improving and can be covered with an occlusive waterproof dressing <b>and</b> until at least 72 hours of appropriate antibiotics have been completed.</li> <li>When admitted to a healthcare facility, all cases should be managed with standard precautions and with additional precautions as outlined below: <ul style="list-style-type: none"> <li>cover skin lesions/wounds with an occlusive waterproof dressing</li> <li>use contact precautions until all lesions/wounds are healed or clinically improving <b>and</b> until at least 72 hours of appropriate antibiotics have been completed</li> <li>use droplet precautions until initial screening throat swabs are negative <b>or</b> until at least 72 hours of appropriate antibiotics have been completed.</li> </ul> </li> <li>If a lesion/wound is not healing following appropriate antibiotics or shows signs of deterioration, re-assessment, including consideration of repeat screening and re-treatment, may be warranted.</li> <li>Cutaneous cases do not require clearance testing following completion of antibiotics unless the initial throat swab is positive.</li> </ul> <p><b>Respiratory diphtheria</b></p> <ul style="list-style-type: none"> <li>Where possible, mild cases should receive clearance testing with at least one negative throat swab taken at least 24 hours after antibiotics are completed: <ul style="list-style-type: none"> <li>it is recognised that this may be difficult in an outbreak setting and cases who attend high-risk settings (e.g. school, childcare, healthcare workers, prisons) should be prioritised</li> <li>if microbiological clearance by negative throat culture is not achieved (where performed), consult with an infectious disease physician or clinical microbiologist for advice about further antibiotics.</li> </ul> </li> <li>Wherever possible, cases should avoid contact with people beyond their household at least for the duration of their antibiotic course, and be excluded from work, school and childcare settings until their clearance testing returns a negative result.</li> <li>Within their household, encourage relative isolation of the case, avoidance of shared personal items (e.g. towels or utensils), and wearing a mask in communal areas, to the extent possible.</li> <li>Cases requiring hospital admission, should be managed with standard precautions, and contact and droplet precautions until <b>two</b> negative throat swabs taken at least 24 hours apart and more than 24 hours after antibiotics have been completed.</li> </ul>
<p><b>Asymptomatic carriers</b></p>	<ul style="list-style-type: none"> <li>If a contact returns a positive toxigenic diphtheria result from a <b>lesion/wound swab</b>, they will fulfill the case definition for a confirmed case and should be managed as such.</li> <li>If <b>asymptomatic</b> contacts (or others, such as screened cutaneous cases) return a positive toxigenic diphtheria throat swab, they should be <b>clinically</b> managed as per a confirmed mild respiratory case, but do <b>not</b> meet the definition of a confirmed or probable case: <ul style="list-style-type: none"> <li>for clearance: azithromycin 500 mg (10mg/kg up to 500mg in children) orally once daily for <b>7 days</b>, if no contraindications.</li> </ul> </li> <li>Public Health will determine if further contact tracing for asymptomatic carriers is required.</li> </ul>

## Contact management

### Infectious period:

- **cutaneous diphtheria:** commences the date the skin infection began (as best determined); for long-standing sores or ulcers without a clear history of recent deterioration, consider commencement of the infectious period as 7 days prior to the swab date
- **respiratory diphtheria:** commences 7 days prior to onset of respiratory symptoms or 7 days prior to positive throat swab (if asymptomatic).

### High-risk contacts (if any criterion is met)

#### Cutaneous diphtheria

- **Household-like contacts:** majority of day and/or overnight stay in same room, intimate partner or close physical contact **and** had direct contact with skin lesions or exudate, dressings or contaminated items (e.g. towels or bedding).
- **Inpatient contacts:** direct contact with skin lesion/wound or exudate, dressings or contaminated items.
- **Healthcare workers:** direct contact with skin lesion/wound in a situation where droplets may be generated **without** appropriate personal protective equipment (PPE) (e.g. wound irrigation while not wearing eye protection/mask).

#### Respiratory diphtheria

- **Close range respiratory exposures:** direct exposure of mucous membranes to respiratory secretions or droplets (e.g. being coughed or sneezed on at close range).
- **Household-like contacts:** majority of day and/or overnight stay, intimate partner, close co-traveller, or direct sharing of utensils, drinks or bongs.
- **Inpatient contacts:** stayed in same room/bay overnight or for at least 24 cumulative hours.
- **Healthcare workers:** direct unprotected exposure to respiratory secretions or droplets **without** appropriate PPE (e.g. resuscitation, intubation/airway procedures, swabbing/examining throat while not wearing eye protection/mask).

<b>Education and advice</b>	<ul style="list-style-type: none"> <li>• Provide <a href="#">diphtheria high-risk contact letter</a> or <a href="#">AHCWA diphtheria flyer</a> + <a href="#">high-risk contact sheet</a>.</li> <li>• Self-monitor for symptoms for at least 7 days after contact.</li> </ul>
<b>Testing</b>	<ul style="list-style-type: none"> <li>• Testing of <b>asymptomatic</b> high-risk contacts is <b>not</b> routinely required if provided with chemoprophylaxis +/- booster vaccination but may be considered in situations where there may be increased risk of infection (e.g. based on infectiousness of the case, contact vaccination status, or repeated exposure) particularly where the contact attends a high-risk setting (e.g. childcare, school, healthcare facility, prison).</li> <li>• <b>Symptomatic</b> contacts (e.g. with a sore throat or suspicious skin lesions) should be tested and treated as a suspected case (see <a href="#">Case management</a>).</li> </ul>
<b>Chemoprophylaxis</b>	<ul style="list-style-type: none"> <li>• Macrolides are preferred due to reduced susceptibility to penicillin in the current outbreak strain – if no contraindications, the standard multi-day regimen of azithromycin is strongly recommended:               <ul style="list-style-type: none"> <li>◦ azithromycin 500 mg (10mg/kg up to 500mg in children) orally once daily for <b>5 days</b>.</li> </ul> </li> <li>• However, a single high-dose azithromycin may be considered where there are significant barriers to adherence to oral antibiotics:               <ul style="list-style-type: none"> <li>◦ azithromycin 2g orally as a <b>single dose</b> (30mg/kg up to 2g in children).</li> </ul> </li> <li>• If azithromycin is contraindicated, consider alternative agents as per <a href="#">Diphtheria – Therapeutic Guidelines</a> or discuss with an infectious disease physician or clinical microbiologist.</li> </ul>
<b>Vaccination</b>	<ul style="list-style-type: none"> <li>• If vaccination is up-to-date for age, provide diphtheria-containing booster vaccination if it has been more than 12 months since last dose received.</li> <li>• Unvaccinated or incompletely vaccinated contacts should commence a primary or catch-up course of diphtheria vaccination as per the <a href="#">Australian Immunisation Handbook</a>.</li> </ul>
<b>Isolation and restriction</b>	<ul style="list-style-type: none"> <li>• Where possible, avoid contact with vulnerable populations (e.g. young infants, elderly, those requiring dependent care, immunosuppressed individuals) until at least 72 hours of appropriate antibiotics have been completed, <b>or</b> any swabs (where performed) have returned negative results. If unable to avoid contact, a surgical mask should be worn.</li> <li>• Where possible, furlough high-risk <b>healthcare worker</b> contacts until at least 72 hours of appropriate antibiotics have been completed, <b>or</b> any swabs (where performed) have returned negative results. Where this would significantly impact essential service provision, asymptomatic healthcare worker contacts may continue to work while wearing a mask (surgical or N95) until they are cleared.</li> </ul>

## Medium-risk contacts (if no high-risk criteria are met)

### Cutaneous diphtheria

- **Close contacts:** contact in a shared indoor space for at least 20 cumulative hours while case infectious with potential for exposure to uncovered skin lesions or contaminated items.
- **Inpatient contacts:** indirect prolonged exposure for at least 20 cumulative hours when lesion/wound uncovered.
- **Healthcare workers:** direct contact with skin lesion/wound while not wearing appropriate PPE (gloves) but no risk of droplet generation during contact, or uncertain level of exposure.

### Respiratory diphtheria

- **Close contacts:** contact in a shared indoor space for at least 8 cumulative hours (e.g. classroom, childcare), but no household-like or direct secretion/droplet exposure.
- **Inpatient contacts:** stayed in same room/bay for less than 24 cumulative hours and no overnight stay.
- **Healthcare workers:** close contact without appropriate PPE (eye protection/mask), but no direct secretion exposure, or uncertain level of exposure.

<b>Education and advice</b>	<ul style="list-style-type: none"><li>• Provide <a href="#">diphtheria medium-risk contact letter</a> or <a href="#">AHCWA diphtheria flyer</a> + <a href="#">medium-risk contact sheet</a>.</li><li>• Self-monitor for symptoms for at least 7 days after contact.</li></ul>
<b>Testing</b>	<ul style="list-style-type: none"><li>• Testing of <b>asymptomatic</b> medium-risk contacts is <b>not</b> required if provided with chemoprophylaxis +/- booster vaccination.</li><li>• <b>Symptomatic</b> contacts should be tested and treated as a suspected case (see <a href="#">Case management</a>).</li></ul>
<b>Chemoprophylaxis</b>	<ul style="list-style-type: none"><li>• Macrolides are preferred due to reduced susceptibility to penicillin in the current outbreak strain – if no contraindications, the standard multi-day regimen of azithromycin is strongly recommended:<ul style="list-style-type: none"><li>◦ azithromycin 500 mg (10mg/kg up to 500mg in children) orally once daily for <b>5 days</b>.</li></ul></li><li>• However, a single high-dose azithromycin may be considered where there are significant barriers to adherence to oral antibiotics:<ul style="list-style-type: none"><li>◦ azithromycin 2g orally as a <b>single dose</b> (30mg/kg up to 2g in children).</li></ul></li><li>• If azithromycin is contraindicated, consider alternative agents as per <a href="#">Diphtheria – Therapeutic Guidelines</a> or discuss with an infectious disease physician or clinical microbiologist.</li></ul>
<b>Vaccination</b>	<ul style="list-style-type: none"><li>• If vaccination is up-to-date for age, provide diphtheria-containing booster vaccination if it has been more than 12 months since last dose received.</li><li>• Unvaccinated or incompletely vaccinated contacts should commence a primary or catch-up course of diphtheria vaccination as per the <a href="#">Australian Immunisation Handbook</a>.</li></ul>
<b>Isolation and restriction</b>	<ul style="list-style-type: none"><li>• Exclusion of medium-risk contacts is not routinely required but may be considered in situations where there may be increased risk of infection (e.g. based on infectiousness of the case, contact vaccination status, or repeated exposure) particularly where the contact attends a high-risk setting (e.g. childcare, school, healthcare facility, prison).</li><li>• Furlough of <b>asymptomatic healthcare workers</b> is <b>not</b> required but they must wear a mask while at work until 72 hours of appropriate antibiotics have been completed.</li></ul>

## Low-risk contacts (if no high- or medium-risk criteria are met)

### Cutaneous diphtheria

- **Casual contacts:** casual or indirect contact (e.g. same school or workplace without close exposure).
- **Inpatient contacts:** indirect exposure for less than 20 cumulative hours when skin lesion/wound uncovered.
- **Healthcare workers:** no direct exposure to skin lesions or wound droplets.

### Respiratory diphtheria

- **Casual contacts:** casual or indirect contact (e.g. same school or workplace without close exposure).
- **Inpatient contacts:** stayed in the same ward/hospital without close contact.
- **Healthcare workers:** no exposure to respiratory droplets nor direct contact with respiratory secretions.

<b>Education and advice</b>	<ul style="list-style-type: none"><li>• Provide <a href="#">diphtheria low-risk contact letter</a> or <a href="#">AHCWA diphtheria flyer</a> + <a href="#">low-risk contact sheet</a>.</li><li>• Self-monitor for symptoms for at least 7 days after contact.</li></ul>
<b>Vaccination</b>	<ul style="list-style-type: none"><li>• Offer a dose of diphtheria-containing vaccine if more than 5 years since their last dose.</li><li>• Unvaccinated or incompletely vaccinated contacts should commence a primary or catch-up course of diphtheria vaccination as per the <a href="#">Australian Immunisation Handbook</a>.</li></ul>

## Appendix: Quick reference guide – diphtheria healthcare worker contact management

		Low risk contacts	Medium risk contacts	High risk contacts
Exposure type	Cutaneous	No direct exposure to skin lesions or wound	Direct contact with skin lesion/wound while not wearing appropriate PPE (gloves) but no risk of droplet generation during contact, or uncertain level of exposure	Direct contact with skin lesion/wound in a situation where droplets may be generated <b>without</b> appropriate PPE (e.g. wound irrigation while not wearing eye protection/mask)
	Respiratory	No exposure to respiratory droplets nor direct contact with respiratory sections	Close contact without appropriate PPE (eye protection/mask), but no direct secretion exposure, or uncertain level of exposure	Direct unprotected exposure to respiratory secretions or droplets <b>without</b> appropriate PPE (e.g. resuscitation, intubation/airway procedures, swabbing/examining throat while not wearing eye protection/mask)
Education and advice		<ul style="list-style-type: none"> <li>Provide <a href="#">diphtheria low-risk contact letter</a></li> <li>Self-monitor for symptoms for at least 7 days after contact</li> </ul>	<ul style="list-style-type: none"> <li>Provide <a href="#">diphtheria medium-risk contact letter</a></li> <li>Self-monitor for symptoms for at least 7 days after contact</li> </ul>	<ul style="list-style-type: none"> <li>Provide <a href="#">diphtheria high-risk contact letter</a></li> <li>Self-monitor for symptoms for at least 7 days after contact</li> </ul>
Testing		Nil	<ul style="list-style-type: none"> <li>Testing of <b>asymptomatic</b> medium-risk contacts is <b>not</b> required if provided with chemoprophylaxis +/- booster vaccination</li> <li><b>Symptomatic</b> contacts should be tested and treated as a suspected case (see <a href="#">Case management</a>)</li> </ul>	<ul style="list-style-type: none"> <li>Testing of <b>asymptomatic</b> high-risk contacts is <b>not</b> routinely required if provided with chemoprophylaxis +/- booster vaccination</li> <li>Testing may be considered in situations where there may be increased risk of infection (e.g. based on infectiousness of the case, contact vaccination status, or repeated exposure)</li> <li><b>Symptomatic</b> contacts should be tested and treated as a suspected case (see <a href="#">Case management</a>)</li> </ul>
Chemoprophylaxis		Nil	Azithromycin 500mg once daily for <b>5 days*</b> (if contraindications to azithromycin or barriers to adherence, see <a href="#">Diphtheria – Therapeutic Guidelines</a> or discuss with an infectious disease physician or clinical microbiologist)	
Vaccination		dTpa vaccination if more than 5 years since last dose	ADT or dTpa booster vaccination if more than 12 months since last dose	
Isolation and restriction		Nil	<ul style="list-style-type: none"> <li>Furlough of <b>asymptomatic healthcare workers</b> is <b>not</b> required but they must wear a mask while at work until 72 hours of appropriate antibiotics have been completed</li> </ul>	<ul style="list-style-type: none"> <li>Where possible, furlough high-risk <b>healthcare worker</b> contacts until at least 72 hours of appropriate antibiotics have been completed, <b>or</b> any swabs (where performed) have returned negative results</li> <li>Where this would significantly impact essential service provision, asymptomatic healthcare worker contacts may continue to work while wearing a mask (surgical or N95) until they are cleared</li> </ul>

\*Repeat exposure whilst receiving azithromycin chemoprophylaxis, or within 3 days of completing a course, does not require additional chemoprophylaxis.