

Cutaneous Diphtheria Infections Locally

The Issue:

- Between May and October 2019, *Corynebacterium diphtheriae* was isolated from 4 wound cultures at a local lab, with subsequent testing at the Public Health Ontario Lab determining that the isolates were all non-toxigenic, rather than toxigenic (more severe, vaccine-preventable, potential to cause life-threatening diphtheria)
- Now that we have evidence of endemic, non-toxigenic *C. diphtheriae* as a skin organism, it is reasonable to treat non-severe cutaneous diphtheria without reporting to public health, unless or until a toxigenic strain is identified
- Foreign travel-related *C. diphtheriae* or cases that are clinically severe should be reported to public health so that treatment measures (such as anti-toxin) can be accessed promptly

What we know:

- Diphtheria caused by toxigenic *C. diphtheriae* is generally clinically severe, and is vaccine-preventable.
- Some non-toxigenic strains of *C. diphtheriae* can convert to toxin-forming, although it is highly unlikely.

C. diphtheriae is a known but uncommon skin pathogen. Incidence in North America has been increasing, but that may be related to improved lab processes rather than a true increase. Public Health Ontario reviewed historic data and did not find evidence of *C. diphtheriae* isolates from Northwestern Health Unit's area in the past, but also provided this article discussing the pathogen. https://www.canada.ca/en/public-health/services/reports-publications/canada-communicable-disease-report-ccdr/monthly-issue/2019-45/issue-11-november-7-2019/article-4-corynebacterium-diphtheriae-canada-2006-2019.html?hq_e=el&hq_m=1864173&hq_l=4&hq_v=8f467d498d

What do to:

- Health care providers should ensure their diphtheria immunization is up to date; it does not prevent non-toxigenic diphtheria but provides protection in the unlikely event that a patient presents with toxigenic *C. diphtheriae*.
- Patient diphtheria immunization should be updated as well; it ensures that coverage rates are high and provides protection for the patient and the community in the unlikely event that diphtheria is introduced.
- For clinically severe cases where toxigenic diphtheria is suspected (e.g. throat has a pseudomembrane or severe illness along with grey pseudomembrane coating the wound): report to public health to assess need for and access to diphtheria anti-toxin for the patient.
- For any diphtheria case who has recently travelled outside of North America, report to public health.



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