

Section 1 - Infectious Agent

Agent Name: *Corynebacterium xerosis*

Agent Type: Bacteria

Taxonomy:

Family: Corynebacteriaceae

Genus: *Corynebacterium*

Species: *C. xerosis*

Subspecies/Strain/Clonal Isolate:

Synonym/Cross Reference

Characteristics

Brief Description: Gram positive, rod shaped aerobe. *C. xerosis* is referred to as a diptheriod because of its relation to *C. diptheriae*, the bacterium which causes diptheria.

Properties: In antibiotic-resistant corynebacteria, transmission of the plasmid responsible for the resistance may be important.

Section 2 - Hazard Identification

Pathogenicity/Toxicity

Not normally pathogenic, but can cause bacteremia, skin infections, and pneumonia in immunocompromised hosts (e.g., patients with blood disorders, bone marrow transplants, intravenous catheters) and pharyngitis.

Predisposing Factors: Weakened or compromised immune status.

Communicability

Transmission from patient to patient, from colonized hospital staff to patients, and from environmental contamination to patients have all been suggested.

Epidemiology

Infections with the nondiphtherial corynebacteria are reported worldwide with infections reported in children and elderly persons or persons with a compromised immune system.

Host Range

Natural Host(s): Common colonizer of human skin and mucous membranes. Has also been isolated from goats and pigs.

Other Host(s): Not applicable.

Infectious Dose

Unknown

Incubation Period

Unknown.

Section 3 - Dissemination

Reservoir

Commensal organism on human skin.

Vectors

None.

Zoonosis / Reverse Zoonosis

None reported specifically for *C. xerosis*, although there is some reports of suspected transfer of *Cornebacterium* spp. from animal to human and from human to animal.

Section 4 - Dissemination**Drug Susceptibility**

Susceptible to penicillin, erythromycin, vancomycin, teicoplanin, tetracycline, rifampin and pristinamycin.

Drug Resistance

Resistant to Beta-lactam antibiotics, streptomycin, kanamycin, gentamycin, clindamycin, fosfomycin and ciprofloxacin. Has also demonstrated resistance to erythromycin in some cases.

Susceptibility to Disinfectants

Susceptibility has been shown for 1% sodium hypochlorite, 2% glutaraldehyde, 70% ethanol, iodines, phenolics, and formaldehyde.

Physical Inactivation

The bacteria can be inactivated by moist heat (121°C for 15 min - 30 min) and dry heat (160-170°C for 1-2 hours)

Survival Outside Host

No information.

Section 5 - First Aid and Medical**Surveillance**

Monitor for symptoms.

First Aid / Treatment

For the nondiphtherial corynebacteria, antibiotic susceptibility testing is often required to determine the best treatment.

Immunization

None.

Prophylaxis

None.

Section 6 - Laboratory Hazards**Laboratory Acquired Infections**

None reported.

Sources / Specimens

Skin, infected tissues.

Primary Hazards

Ingestion, accidental inoculation, direct contact with contaminated areas

Special Hazards

None.

Section 7 - Exposure Controls and Personal Protection

Risk Group Classification

What is the Risk Group classification in humans and animals for the pathogen?

Human Risk Group Classification RG2

Animal Risk Group Classification RG2

Containment Requirements

Containment Level: CL2

Containment Zone Requirements:

Containment Level 2 facilities, equipment, and operational practices for work involving infectious or potentially infectious materials, animals, or cultures.

Protective Clothing

Lab coat. Gloves when direct skin contact with infected materials or animals is unavoidable. Eye protection must be used where there is a known or potential risk of exposure to splashes.

If there are no special hazards for this agent enter "none".

Other Precautions

All procedures that may produce aerosols, or involve high concentrations or large volumes should be conducted in a biological safety cabinet (BSC). The use of needles, syringes, and other sharp objects should be strictly limited. Additional precautions should be considered with work involving animals or large scale activities.

Section 8 - Handling and Storage

Spills

Allow aerosols to settle. Wearing protective clothing, gently cover the spill with absorbent paper towel and apply suitable disinfectant, starting at the perimeter and working towards the centre. Allow sufficient contact time before clean up.

Disposal

Decontaminate all wastes that contain or have come in contact with the infectious organism by autoclave, chemical disinfection, gamma irradiation, or incineration before disposing.

Storage

The infectious agent should be stored in appropriately labelled leak-proof containers in a locked area. Containers of infectious material or toxins stored outside the containment zone must be labelled, leakproof, impact resistant, and kept either in locked storage equipment or within an area with limited access.

Section 9 - Regulatory Information

The import, transport, and use of pathogens in Canada is regulated under many regulatory bodies, including the Public Health Agency of Canada, Health Canada, Canadian Food Inspection Agency, Environment Canada, and Transport Canada. Users are responsible for ensuring they are compliant with all relevant acts, regulations, guidelines, and standards.

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References

Risk Group determination from "PHAC Biological Agent Search".

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