MEDICAL MANAGEMENT PLAN

Treponema pallidum (syphilis) subsp. pallidum (Risk Group 2)

Below is a protocol for accidental exposure to T. pallidum
including strains with known or suspected tetracycline/doxycycline resistance

POST-EXPOSURE CONTACTS

Contact UW Employee Health Center Nurse	206-685-1026 (M-F, 8am-5pm)
If After-Hours, call UW Medical Center Paging Operator	206-906-8082
Request the Campus Health Physician	
Contact UW Environmental Health & Safety Dept. for assistance	206-221-7770 (M-F, 8am-5pm)
Call 911 for a life-threatening emergency	911

Medical Protocol

First aid	Mucous Membrane Exposure (eye, nose, or mouth): 1. Flush the affected areas immediately and thoroughly with water for 15 minutes. 2. Use an eyewash if available, use cold water, and keep eyelids open. 3. Go to UWMC ED or HMC ED for medical treatment/evaluation, lab work, and post-exposure prophylaxis (PEP). Exposure to intact skin: 1. Wash the site immediately and thoroughly with soap and water for 15 minutes. No PEP required. Percutaneous Injury (through the skin): 1. Wash the site immediately and thoroughly with soap and water for 15 minutes (without scrubbing). 2. Do not use harsh detergents or abrasive scrubbing on wounds. 3. Go to UWMC ED or HMC ED for medical treatment/evaluation, lab work, and PEP.
Surveillance	Monitor for symptoms and confirm infection by serological methods.
Post exposure or Symptoms	**Post Exposure Guidelines** for Treponema pallidum, including strains with known or suspected tetracycline/doxycycline resistance 1. Penicillin provides the most effective treatment for all stages of disease caused by T. pallidum including PEP. 2. Monitor for symptoms such as chancre (painless ulcer) at puncture, mucous membrane, or skin exposure site and confirm infection by serological methods. 3. T. pallidum NAAT of swab sample can be done on primary chancre.

	4. Baseline Syphilis IgG and 4–6-week follow-up IgG
PEP (post-exposure prophylaxis)	**Recommended PEP:** 1. Amoxicillin 3.5g and Probenecid 1.0 g PO X 1 OR 2. Benzathine Penicillin G 2.4 million units IM X 1 3. If penicillin allergic: Discuss with EH&S Medical Director or on call Infectious Diseases Attending. For Tetracycline/doxycycline **sensitive** strains: doxycycline can be used as an alternative (200mg PO X 1). Tetracycline/doxycycline **resistant** strains should not be treated with doxycycline. For tetracycline/doxycycline **resistant** strains that are macrolide sensitive: options are azithromycin (1gm PO X 1). Ceftriaxone 1gm IM/IV X 1 is another alternative for PEP.
Confirmed Syphilis Treatment	Treat Per CDC Guidelines: https://www.cdc.gov/std/treatment-guidelines/toc.htm. Tetracycline/doxycycline resistant strains should not be treated with doxycycline.
Reporting	Report all accidents, injuries and near miss events as soon as possible on the UW Online Accident Reporting System.

BACKGROUND INFORMATION

Mode of transmission

Primary hazards for laboratory exposure are via accidental parenteral inoculation and droplet exposure on mucous membranes. Experimentally infected animals are a potential source of infection. All subspecies of *Treponema pallidum* can be transmitted through direct contact with active lesions.

Infectious dose

57 organisms by injection

Incubation period

Incubation is from 10 days to 3 months (usually 3 weeks). Mean incubation is 21 days.

Communicability

Treponema pallidum is transmitted by direct contact with active lesions; healed lesions are not infective. T pallidum pallidum is also spread through sexual contact and from a pregnant mother to her child. T pallidum endemicum is also communicable through mucous membrane contact and is occasionally transmitted vertically.

Vaccines

No vaccine currently available

Characteristics

Treponema pallidum is a spirochete bacterium belonging to the *Spirochaetaceae* family. The three subspecies *(Treponema pallidum pallidum*, *Treponema pallidum endemicum*, and *Treponema pallidum pertenue)* are all morphologically indistinguishable and have an approximate diameter of 0.18 µm and length of 6-20 µm.

Signs and Symptoms

Diverse clinical manifestations including initial genital tract (or skin) lesion followed by disseminated lesions and cardiovascular and neurologic problems; CNS disease manifested as acute syphilitic meningitis; infection during pregnancy results in fetal death and numerous birth defects.

Survival Outside the Host

Treponema pallidum can survive 120 hours or more in blood at 4°C (although this varies by concentration of treponemes)

Prior Laboratory Acquired Illness

Fifteen laboratory acquired cases have been reported. Primary hazards for laboratory exposure are via accidental parenteral inoculation and droplet exposure on mucous membrane.

REFERENCES:

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Government of Canada: Pathogen Safety Data Sheets: Infectious Substances – Treponema pallidum - Canada.ca Accessed 10/09/2024.

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