

MEDICAL MANAGEMENT PLAN

Mycoplasma genitalium strain G37

Below is a protocol for accidental exposure to Mycoplasma genitalium with antibiotic resistance to tetracycline, gentamicin, and chloramphenicol

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	<p>Mucous Membrane Exposure (eye, nose, or mouth):</p> <ol style="list-style-type: none"> 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/HMC ED for medical treatment/evaluation and lab work. <p>Percutaneous injury (intact skin):</p> <ol style="list-style-type: none"> 1. Splash to intact skin: Wash the site immediately and thoroughly with soap and water for 15 minutes. <p>Percutaneous Injury (through the skin):</p> <ol style="list-style-type: none"> 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.
Surveillance	<ol style="list-style-type: none"> 1. Pre-work counseling: Individuals working with the agent or materials that may contain the agent, and who are immunosuppressed, have a chronic medical condition, or women who are pregnant, should contact the UW EHC (206-685-1026) for a confidential health review. They should also talk with their healthcare provider. 2. Immune compromised individuals may have an increased risk for lab-acquired illness should an exposure occur. 3. Wear the appropriate ABSL-2 PPE when working with this agent (gloves, lab coat, and work in biosafety cabinet) and disinfection of surfaces and equipment. 4. Post-Exposure: Monitor for symptoms and confirm infection by Mycoplasma PCR of infected site (Lab Code: MPLDNA).
Post exposure or Symptoms	<p style="text-align: center;">Post Exposure Protocol for Mycoplasma genitalium</p> <ol style="list-style-type: none"> 1. Call the EHC at 206-685-1026 between 8:00 a.m. to 5:00 p.m., Monday to Friday. Tell them you were exposed to Mycoplasma <i>genitalium</i> 2. Outside of business hours, holidays or weekends, personnel will report to the UWMC Emergency Department for medical evaluation.

	<ol style="list-style-type: none"> 3. The injured employee should take a copy of this medical management plan to the ED, including specific strain information associated with the exposure. 4. For a life-threatening emergency, call 9-1-1. 5. Monitor for symptoms. Diagnosis of <i>Mycoplasma genitalium</i> can be established using serologic, histopathologic, PCR and culture methods. However only <i>Mycoplasma genitalium</i> NAAT (PCR) is clinically available. 6. Post exposure testing: <i>Mycoplasma</i> PCR of infected site (Lab Code: MPLDNA).
Treatment	<p>Recommended Treatment:</p> <ol style="list-style-type: none"> 1. Antibiotic resistant <i>Mycoplasma genitalium</i> G37 strain has been engineered to express resistance to tetracycline, gentamicin, and chloramphenicol. 2. Administer appropriate drug therapy. <i>M. genitalium</i> strain G37. It is exquisitely sensitive to azithromycin (minimum inhibitory concentration is 0.0005 ug/ml) and moxifloxacin (MIC 0.125 ug/ml). 3. If personnel were to become accidentally infected with recombinant G37 containing a resistance cassette they could easily be cured of their infection with azithromycin (1 g once followed by 500 mg daily for the next three days) or moxifloxacin (400mg PO QD X 7 days).
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

M. genitalium is principally transmitted by sexual contact.

Infectious dose

Unknown

Incubation period

Unknown

Communicability

Person-to-person transmission occurs primarily through sexual contact, although transmission rates are low.

Vaccines

None available.

Characteristics

M. genitalium is an intracellular urogenital tract gram negative flask shaped bacterium, which belongs to the Mycoplasmataceae family, in the Mollicutes class. It is the smallest Mollicutes (0.2 µm in diameter), and lacks the genes coding for the cell wall, leading it to a parasitic and saprophytic existence. Instead of a cell wall, *M. genitalium* possess a three-layered membrane containing sterol, which is taken up from the environment. *M.*

genitalium uses the UGA codon to code for tryptophan rather than a stop codon. *M. genitalium* metabolize glucose. This internal pathogen grows better in a fetal calf serum containing medium. On SP4 culture medium, *M. genitalium* produce colonies with a "fried eggs" appearance after 50 days. Growth is accelerated to 14 days by adding 0.25 mg/ml ciprofloxacin to reduce contamination by other microorganisms.

Signs and Symptoms

Symptoms of *Mycoplasma genitalium* include:

- Pelvic pain in females, abnormal vaginal discharge, itching, bleeding and/or odor
- Infections may be asymptomatic
- NGU and NCNGU in men with dysuria and/or non-spontaneous discharge

M. genitalium may play a minor role in bacterial vaginosis, adverse outcomes of pregnancy, and infertility. *M. genitalium* is also known to facilitate HIV transmission.

Survival Outside the Host

If protected from evaporation, *M. genitalium* can survive for one hour in liquid specimen.

Prior Laboratory Acquired Illness

None have been reported to date. Laboratory workers should avoid accidental parenteral inoculation and ingestion.

REFERENCES:

Centers for Disease Control and Prevention: [Mycoplasma genitalium - STI Treatment Guidelines \(cdc.gov\)](#). Accessed 5/21/2023

Center for Disease Control and Prevention: [Detailed STD Facts - Mgen \(cdc.gov\)](#). Accessed 5/21/2023

Government of Canada - [Pathogen Safety Data Sheets: Infectious Substances – Mycoplasma genitalium - Canada.ca](#) Accessed 5/21/2023