Tufts University/Tufts Medical Center

Exposure Response Plan for the Laboratories Handling *Mycobacterium smegmatis*

**Background Information**

*M. smegmatis* is one of the rapid growing mycobacteria that typically grow in a biofilm in the natural environment. First isolated in 1884, these bacteria are found in soil, water and plants. Like other mycobacteria, they are classified as gram positive, non-motile rods. The outer wall of this agent is thick and composed of lipids which contribute to its hardiness.

The bacterium is less risky to use than *M. tuberculosis* and is often used in research due to the many similarities between it and the pathogenic *Mycobacteria*. It is also used to produce the sugar substitute xylitol.

**Exposure Incidents:** Laboratory acquired infections have not been reported with *M. smegmatis*. Percutaneous exposures are not risk free. There are rare reports of skin or soft-tissue infections after cuts in immunocompetent individuals. Disseminated infections have been documented in children with inherited interferon receptor deficiencies.

**Reporting Exposure Incidents:** Report all exposures to the Principal Investigator or lab supervisor and seek immediate medical evaluation. If help is needed with injuries or clean up, members of the University will contact the Police at 6-6911 and members of the Medical Center will contact Security at 6-5100. Whenever there is an accident involving *M. smegmatis*, the Biosafety Officer must be notified.

**Pre-exposure Health Screening:**

Prior to beginning work with *M. smegmatis*, the PI or an Employee Health Professional will inform each person of the risks s/he takes and of the symptoms s/he may experience following exposure.

**Before an Exposure Incident Occurs:**

A vaccine is not available. Data specific to pregnant women are not available.

**After an Exposure Incident Occurs: Immediate Action by Route of Exposure**

*Needlestick, Laceration or Animal Bite:* Wash the area with soap and running water.

*Mucous membranes (eye, nose, mouth):* If contaminated material is splashed or sprayed contaminating the eyes, nose or mouth: Flush the eyes for 10-15 minutes. Rinse mouth out with clean water and do not swallow.
**Inhalation:** If contaminated materials are aerosolized outside of primary containment and potentially inhaled, rinse mouth twice expelling the rinsate. Do not swallow. Evacuate area.

**After an exposure incident occurs: medical evaluation and follow-up:**

Following immediate post exposure actions, contact the TMC Employee Health Clinic (Boston), TCSVM Occupational Medical Clinic (Grafton) or the Mt. Auburn Occupational Health Services (Medford) and arrange for medical evaluation, diagnosis and treatment if needed.

**Signs and Symptoms:**
- Tender, inflammatory, observable mass; granuloma
- Not responsive to short course antibiotic therapy

**Post-exposure:**

The healthcare provider will determine the course of treatment.

If an employee develops signs and symptoms associated with *M. smegmatis* in the absence of an exposure incident, the PI and Biosafety Officer shall be notified immediately. As a common environmental mycobacterium, isolate information will be needed to confirm the infection is laboratory-acquired.