McMaster University
Medical Monitoring Program Information Sheet

The purpose of this document is to provide information on an agent/virus in order for all McMaster University staff and students to make an informed decision about entering our medical monitoring program.

Please review this document, print your name, sign and date the Memorandum of Understanding and Agreement and then provide it to your supervisor.

**Trycophyton SPP** Also Epidermophyton floccosum, Microsporum spp.

The following summary is provided by the McMaster Biosafety Office.


Mycotic disease of keratinized areas of the body (hair, skin and nails) and of variable severity depending on genera and species of dermatophyte; usually scaling or hair loss or breakage, sometimes erythema, induration, crusting or suppuration; lesions often circular or annular. Transmitted by direct or indirect contact with skin or scalp lesions of infected people or animals or fomites (floors, shower stalls, clothing) contaminated with desquamated epithelium. Communicable as long as infective lesions are present and viable.

**DISINFECTANTS:** Susceptible to 1% sodium hypochlorite, phenolics, glutaraldehyde, formaldehyde. Inactivated by moist heat (121° C for at least 15 min). Agents survive for months to years in dry, cool, shaded areas.

**LABORATORY-ACQUIRED INFECTIONS:** Sixth most commonly reported laboratory-acquired infection; 161 reported cases most frequently associated with *T. mentagrophytes*; most acquired through contacts with naturally or experimentally infected laboratory animals (mice, rabbits, guinea pigs) and rarely, with handling cultures; processing of clinical material has not been associated with laboratory infections.

**SOURCES:** Skin, hair nails of human and animal hosts. Contact with infected laboratory animals with inapparent or apparent infections.

**CONTAINMENT REQUIREMENTS:** Biosafety level 2 practices, containment equipment and facilities for all laboratory and experimental animal activities with dermatophytes. Laboratory coat; gloves when handling infected materials. Good sanitation, cleaning & disinfection are important.
The following summary is provided by Employee Health Services.

For a complete copy of the excerpted text below please refer to:
http://www.who.int/water_sanitation_health/diseases/ringworm/en/
http://en.wikipedia.org/wiki/Ringworm

**Facts**
Ringworm is a contagious skin disease, in which the scalp (tinea capitis), nails (tinea unguium), feet (tinea pedis or “athlete’s foot”), or body (tinea corporis) can be affected. Despite its name, ringworm is caused by a fungus. Ringworm is caused by various types of fungi known as the dermatophytes. It is spread by direct contact with an infected person or animal (dogs, cats, guinea-pigs, cattle), contact with soil or by indirect contact with items contaminated by the fungus, for example clothing, towels, bedclothes, chairs, and toilet articles handled by people with the infection. The link with water is via poor personal domestic hygiene and shortage of water for cleaning and washing. A number of different species of fungi are involved. Dermatophytes of the genera *Trichophyton* and *Microsporum* are the most common causative agents.

**Symptoms**
Dermatophytosis can affect all keratinized areas of the body (hair, skin and nails). Depending on the region that is affected, the symptoms may vary. If hair is infected (tinea capitis, tinea barbea), there may be hair loss (ectotrix) or breakage (endotrix). On the skin, lesions may look circular or annular and elevated, producing a ringworm infection form. Zoophilic dermatophyte infections are more inflammatory (vesicle, pustules and blisters) than those caused by antropophilic dermatophytes. Infection of human nails may present as discoloration, dystrophy, hyperkeratosis and occasionally onycholysis. The disease is not fatal. The main effects are aesthetic and will persist until treated with the appropriate medication. Transmission is by direct or indirect contact with skin or scalp lesions of infected people, animals or fomites (i.e. floors, shower stalls, clothing, hairbrushes, etc.) contaminated with desquamated epithelium. In individuals with suppressed cell-mediated immunity, infection may occur via broken skin.

**Diagnosis**
Confirm infection using potassium hydroxide denaturation followed by microscopic examination of cultured scrapings from the head or by skin or nail biopsy.

**Treatment**
Treat with appropriate fungicide as directed by a physician. The length of the treatment and the dosage will depend on the fungicide employed. There are currently no vaccines available for humans. Commercial vaccines intended to prevent zoophilic infection are available for cattle, horses, cats and dogs.

**Prevention**
Containment Level 2 facilities, equipment, and operational practices for work involving infectious or potentially infectious materials, animals, and cultures. These containment requirements apply to the *Microsporum* spp. and *Trichophyton* spp. genus as a whole, and may not apply to each
species within the genus. 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 or exposure to splashes. 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.

Memorandum of Understanding and Agreement (“MUA”) for BSL2 Medical Monitoring Program

Note: This MUA is to be signed by the employee/student and supervisor, filed and kept by the supervisor. It will be reviewed during the annual biosafety audit by the McMaster Biosafety office.

The employee/student named below acknowledges and agrees as follows:

- I have read and understand all of the information in this Medical Monitoring Information Sheet provided jointly by the McMaster Biosafety Office and Employee Health Services and reviewed the biologically hazardous agent to which I have potential exposure. **Initial here**

- I will report a pregnancy or a compromised immune system (due to medication {steroid or other immunosuppressive therapy}, organ transplant, chemotherapy or radiation therapy, HIV infection etc.) to my supervisor and X (graduate students) or Employee Health Services Occupational Health Nurse at ext. 20310 (faculty and staff) **Initial here**

- I will report an exposure to a biological agent to my supervisor immediately and complete a McMaster incident/accident report. **Initial here**

- I will report any illness that resembles the symptoms listed in this Medical Monitoring Information Sheet to my supervisor. **Initial here**

- I recognize my responsibility to observe all safety practices and precautions while present in the BSL2 laboratory. **Initial here**

- I am aware of, and wish to participate in, the medical monitoring program (RMM #605) for this biological level 2 agent. Please circle: [yes] [no] **Initial here**

Employee/Student print name: ____________________________

Supervisor print name: ____________________________