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.

**Staphylococcus aureus (MRSA)**

The following summary is provided by the McMaster Biosafety Office.

For a complete copy of the excerpted text below please refer to:

Opportunistic pathogen, normal flora; produces a variety of syndromes with a range of clinical manifestations; animal bites can result in localized infections, toxic shock syndrome is an acute multi-system illness caused by TSST-1 a super antigen;

HOST RANGE: Humans and warm-blooded animals. Virulence of strains varies greatly

MODE OF TRANSMISSION: Contact with nasal carriers (30-40% of population); from draining lesions or purulent discharges; spread person-to-person; ingestion of food containing staphylococcal enterotoxin (food may be contaminated by food handlers hands); from mother to neonate during delivery

RESERVOIR: Human; patients with indwelling catheters or IVs act as reservoirs for nosocomial infections; food borne - occasionally cows with infected udders ZOONOSIS: Yes - direct or indirect contact with infected animals

Susceptible to many disinfectants - 1% sodium hypochlorite, iodine/alcohol solutions, glutaraldehyde, formaldehyde. Organisms are destroyed by heat (moist heat - 121° C for at least 15 min, dry heat - 160-170° C for at least 1 hour; enterotoxins are heat resistant, stable at boiling temperature

SURVIVAL OUTSIDE HOST: Carcass and organs - up to 42 days; floor - less than 7 days; glass - 46 hours; sunlight - 17 hours; UV - 7 hours; meat products - 60 days; coins - up to 7 days; skin from 30 min to 38 days
LABORATORY-ACQUIRED INFECTIONS: 29 reported cases up to 1973 with 1 death
SOURCES/SPECIMENS: Clinical specimens - blood, abscesses, lesion exudates, CSF, respiratory specimens, feces, urine. Injuries from contaminated sharp instruments; ingestion; aerosols. Direct contact with open cuts and lesions of skin

CONTAINMENT REQUIREMENTS: Biosafety level 2 practices, containment equipment and facilities for activities with cultures or potentially infectious clinical material. Laboratory coat: gloves when skin contact is unavoidable. Thorough handwashing before leaving the laboratory and after handling infectious materials

The following summary is provided by Employee Health Services.

For a complete copy of the excerpted text below please refer to:
http://www.phac-aspc.gc.ca/id-mi/mrsa-eng.php
http://www.cdc.gov/mrsa/symptoms/index.html

Facts
Staphylococcus aureus (Staph) is a type of bacteria that is commonly found on the skin and in the noses of healthy people. Some Staph bacteria are easily treatable while others are not. Staph bacteria that are resistant to the antibiotic methicillin are known as Methicillin-resistant Staphylococcus aureus or MRSA. If left untreated, MRSA infections may develop into serious, life-threatening complications such as infection of the bloodstream, bones and/or lungs (e.g., pneumonia).

MRSA is primarily spread by skin-to-skin contact or through contact with items contaminated by the bacteria. Those with weakened immune systems and chronic illnesses are more susceptible to the infection and MRSA has been shown to spread easily in healthcare settings. At any given time, between 20 and 30 per cent of the general population carry Staph bacteria on their hands or in their noses, but are not ill. Some of these bacteria may be MRSA, while others are not antibiotic resistant. You may have MRSA and not be sick, however you can still spread it to others and they can become ill.

MRSA is usually spread through direct physical contact or through contact with objects contaminated with infected bodily fluids. If you pick up the bacteria on your hands through physical contact with an infected person or from a contaminated surface, you can spread it to others if you don’t clean your hands properly. You can also infect yourself through an open wound on your own body.

Symptoms
MRSA in healthcare settings usually causes more severe and potentially life-threatening infections, such as bloodstream infections, surgical site infections, or pneumonia. The signs and symptoms will vary by the type and stage of the infection. In the community, most MRSA
infections are skin infections that may appear as pustules or boils which often are red, swollen, painful, or have pus or other drainage. They often first look like spider bites or bumps that are red, swollen, and painful. These skin infections commonly occur at sites of visible skin trauma, such as cuts and abrasions, and areas of the body covered by hair (e.g., back of neck, groin, buttock, armpit, beard area of men).

**Diagnosis**
To diagnose an MRSA infection, often a sample from the infected area is taken. Once the sample has been taken, the organism must be allowed to grow in the laboratory. The organism is then tested to determine which antibiotics may be effective for treating the infection.

**Treatment**
If MRSA is detected early, it can usually be treated effectively with antibiotics other than methicillin. It is important that individuals who think they might have an MRSA infection seek advice from a health professional quickly, so that the infection can be properly diagnosed and treated effectively. Early diagnosis also ensures that appropriate measures can be taken to limit the spread of the infection. Fluid replacement for food poisoning; in localized skin infections, drain abscesses; antibiotic therapy for severe infections. There is no immunization available.

**Prevention**
In order to prevent these infections, it is important to practice good hygiene. Keep your hands clean by washing thoroughly with soap and water or by using an alcohol-based hand sanitizer. Make sure that any cuts and scrapes are kept clean and covered until they have healed. It is also important that you avoid unprotected contact with other people’s wounds or bandages.

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**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:
____________________________________ ________________________________

Signature: __________________________ Signature: __________________________

Date: __________________________ Date: __________________________