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.

Plasmodium falciparum

The following summary is provided by the McMaster Biosafety Office.

For a complete copy of the excerpted text below please refer to:
http://malaria.wellcome.ac.uk/doc_WTD023865.html
http://www.sanger.ac.uk/resources/downloads/protozoa/plasmodium-falciparum.html

Plasmodium falciparum is the most deadly of the five Plasmodium species that cause human malaria.

The widespread resistance of P. falciparum to chloroquine has complicated the prevention and treatment of malaria. Drug-resistant strains of malaria are now common in much of the world.

Risk group 2 in Canada therefore, use all appropriate BSL 2 laboratory practices after a risk assessment.

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/media/advisories_avis/mal_faq-eng.php

Facts

Malaria is a common and serious infection caused by four species of the genus Plasmodium: Plasmodium falciparum, Plasmodium vivax, Plasmodium ovale, and Plasmodium malariae. Infection with P. falciparum can be fatal, and infections caused by P. vivax and P. ovale can relapse from latent liver stages. All species of malaria are transmitted by the bite of an infected female Anopheles mosquito. Rarely, transmission may occur by blood transfusion, by shared needle use, or congenitally from mother to fetus.
**Symptoms**
Symptoms of malaria include fever and flu-like symptoms such as headache, nausea, vomiting, muscle pain and malaise. Rigors (severe shakes or muscle spasms) and chills often occur. Acute infection can cause enlargement of the spleen and make the liver tender. Cerebral malaria, which may occur with P. falciparum infection, affects the brain with symptoms such as personality change, confusion, lethargy and seizures. The severity of the illness varies depending on which species of the malaria parasite is responsible for the infection. Of the four species causing malaria, P. falciparum leads to the most serious illness and can cause seizures, coma, kidney failure and respiratory failure, which can lead to death.

**Diagnosis**
The symptoms of malaria are non-specific, so an accurate diagnosis is not possible without a blood test.

**Treatment**
Treatment for malaria depends on several factors: the species of malaria causing infection, severity of infection, the age of the infected person, and the pattern of drug resistance to malaria treatment in the area where the infection was acquired. If identified early and treated appropriately, almost all malaria can be completely cured. However, even short delays in the diagnosis of malaria can make treatment more difficult and less successful.

**Prevention**
All travelers to subtropical and tropical destinations should consult a travel medicine clinic for assessment of their personal risk and appropriate preventive measures, if indicated.

---

**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: ____________________________