**Toxoplasma gondii**

Exposure Medical Response Guidance for the University of Wisconsin

**Instructions:** Information in this guidance is meant to inform both laboratory staff and health professionals about the risks and treatment of infectious agent exposures. In developing this guidance, please consider that multiple routes of exposure may occur in a lab and that organism strains will sometimes be genetically modified to incorporate traits such as antimicrobial resistance. Research protocols and other available guidance such as Health Canada material safety data sheets will be provided as supporting information when available. It should be assumed that when exposures do occur, that the healthcare provider will be provided information about the specific strain involved, route of exposure, inoculum concentration, and victim vaccination and serological status, when available. If there are any questions about this document, please contact Jim Morrison, UW Occupational Health Officer at 263-2177 or jmorrison@fpm.wisc.edu.

**Signs and Symptoms of Infection** - Describe signs and symptoms associated with the agent.

| Most infections in healthy humans are asymptomatic. Ingestion or inhalation of infected oocysts may result in mild cases with symptoms of lymphadenopathy, fever, sore throat, and rash, similar to mononucleosis. In patients who are immunocompromised, widespread dissemination of the infection may result in pneumonitis, myocarditis, and encephalitis. Severe disease is much less common in immunocompetent individuals. Infection during pregnancy may result in congenital infection leading to abortion, stillbirth, severe central nervous system infection, or chorioretinitis. In the laboratory setting, needlestick injury, exposure to open skin, or mucous membrane exposure has the potential to cause disease. Additional clinical manifestations may include local erythema, pain, or tenderness at the site of inoculation, as well as regional lymphadenopathy. |

**Infectivity** - Describe infective dose, relevant exposure routes (considering laboratory use), incubation period and potential severity of infection.

| Infection in the laboratory setting may occur by ingestion or inhalation of infective oocysts. There is also potential for infection upon needlestick injury or exposure to mucous membranes. Exposure to intact skin only is much less likely to cause infection. The infectious dose of *Toxoplasma* for humans is unknown. However, a high laboratory exposure may potentially result in a more severe infection. The incubation period is 5-23 days following ingestion or inhalation of infected oocytes. |

**Description of First Aid** - Provide an overview of first aid treatment of exposures considering that multiple routes of exposure could occur (needlestick, aerosol, eye, skin and ingestion).

| If exposure to skin occurs, the affected area should be washed with 70% ETOH followed |
by immediately with soap and water. For aerosol exposure to eye, the eye should be
flushed with water using a designate eye washing area.

**Urgency of Medical Care** - Describe how soon medical attention should be sought, i.e. is an ER visit necessary, visit to University Health, or simply schedule a visit with a personal physician.

In the event of a possible exposure (needlestick injury, exposure to open skin or mucous membrane, inhalation, ingestion), medical care should be sought within 24 hours at ER or University Health.

**Description of Medical Response** - Provide an overview for clinical treatment of exposures to the agent considering that multiple routes of exposure could occur (needlestick, aerosol, eye, skin and ingestion) and that strains of agents will vary and sometimes include antimicrobial resistance.

1. Patients should be monitored for clinical signs of infection.
2. Acute and convalescent titers to *Toxoplasma* should be measured.
3. Infection during pregnancy may lead to serious congenital infection. Potential for infection, risks to fetus, and use of medications should be discussed on an individual basis with OB/Gyn and/or Infectious Disease physician. For patients early in the course of their pregnancies, typically spiramycin, a nonFDA approved macrolide is typically used, but later in pregnancy (18 weeks) more options become possibilities.
4. For non-pregnant patients with moderate to severe disease or with visceral involvement, treatment may be indicated for 2 to 4 weeks (adults: **pyrimethamine** 200 mg for one day as a loading dose, then 50-75 mg per day; plus **sulfadiazine** 1-1.5 g four times per day; plus folic acid (**leucovorin**) 10-25 mg with each dose of pyrimethamine) followed by reevaluation of the patient's condition. For pyrimethamine resistant strains, patients may be treated with **sulfadiazine** 1-1.5 g four times per day and **clindamycin** 300 mg PO 4x/day.

**Description of Medical Surveillance** - Describe the advisability of medical surveillance strategies (in particular baseline and annual serology) for those working with the agent. If doing so would likely improve the identification, diagnosis or treatment of exposures, please indicate so.

Routine serology for *Toxoplasma* is not recommended. Asymptomatic infection is common in the non-laboratory setting. Asymptomatic workers who seroconvert would not be recommended to receive therapy. Serology at the time of an exposure, should be sufficient to establish a baseline, but if a lab worker particularly one considering pregnancy would like baseline serologies then this information can inform some decision making. Conception 3 months seroconversion or later is considered to offer no risk to the fetus unless the mother is severely immunosuppressed.

Women who are pregnant or planning on becoming pregnant should be advised of the potentially serious risks to fetus during *Toxoplasma* infection.
Considerations for Infection Control-Describe any special precautions required to prevent the further spread of infection. Include precautions for the healthcare, workplace, and home setting.

| None |

Reporting-Describe any state public health or federal regulatory reporting requirements. Include the timing and mechanism for reporting. Not applicable

Public Health: Not applicable

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