Office of the Chief Risk Officer
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MEDICAL SURVEILLANCE

1. REGULATORY REQUIREMENTS

The University of Ottawa (uOttawa) is obliged under its Human Pathogen and Toxin License and the Canadian Biosafety Standard [issued by the Public Health Agency of Canada (PHAC)] to have a medical surveillance program. This is defined as a program which aims to prevent and detect illnesses related to exposure of personnel to regulated materials and to provide a response mechanism through which potential infections and intoxications can be quickly identified and treated before serious injury, disease, or transmission to the public occurs. The need for an actual program will be based on the regulated materials handled and the activities performed within the containment zone.

It is required for Risk Group 2 and 3 biological materials and toxins:

- Containment zone personnel to immediately inform appropriate internal personnel or authority of any:
    - Incident that may have resulted in an exposure of an individual to a human pathogen or toxin in a facility;
    - Disease that has or may have been caused by an exposure to a human pathogen or toxin in a facility; or
    - Non-exposure biosafety and biosecurity incidents.

Note: Emergency medical contact card to be issued to containment zone personnel handling non-human primates or a pathogen identified by a local risk assessment (LRA). It is the responsibility of the facility to determine when the emergency medical contact card is to be carried by personnel. Refer to Appendix A for an example of an Emergency Medical Contact Card.

2. REPORTABLE DISEASES

The Province of Ontario's reportable disease criteria can be used to help identify pathogens and disease that are of concern and may require additional medical surveillance. As this is within the health care scope, the determination and assessment is undertaken by Health care professionals such as personal physicians.

Note: Diseases of public health significance must be reported to the Medical officer of Health immediately or by the next working day.

A complete list of the reportable diseases in Ottawa can be found in Appendix B.

3. VACCINATIONS AVAILABLE

It is important to ensure all individuals working with or potentially exposed to a biological agent have up-to-date vaccinations. It is recommended for individuals to review their current status with a health care professional to determine if other vaccinations are available that are not routine but may be recommended based on the exposure risk that exist for them. Health care is a provincial jurisdiction and a complete list of Ontario requirements can be found on the Ontario Ministry of Health and Long Term Care website http://www.health.gov.on.ca/en/pro/programs/immunization/schedule.aspx

4. PREGANCY

A number of pathogens pose special concern for expecting or lactating mothers, these are outlined in the "Infection Risks To New And Expectant Mothers In The Workplace a Guide For Employers" (Available on the Biosafety Web Page).

In addition, a representative list of pathogens of concern is provided in Appendix C as a reference.

5. RISK ASSESSMENT

Pathogens Safety Data Sheets remain a primary resource of information outlining key issues such as:

- Hazard Identification: Pathogenicity/Toxicity, Epidemiology, Host Range, Infectious Dose, Mode of Transmission, Incubation Period, Communicability
- Dissemination: Reservoir, Zoonosis, Vector
- Stability And Viability: Drug Susceptibility/Resistance, Drug Resistance-susceptibility To Disinfectants, Physical Inactivation, Survival Outside the Host
- First Aid / Medical: Surveillance, First Aid Treatment, Immunization, Prophylaxis
- Laboratory Hazard: Laboratory Acquired Infections, Sources/Specimens, Primary Hazard, Special Hazard
- Exposure Controls / Personal Protection: Risk Group Classification, Containment Requirements, Protective Clothing, Other Precautions

In addition, a risk assessment must be undertaken to determine if the proposed research or activity presents any additional risk. This risk assessment is considered by PHAC as a local area risk assessment (LRA) and is outlined in the uOttawa Biosafety Manual which is available to the user community through the Biosafety Web page.

6. IDENTIFICATION AND ASSESSMENT PROCESS

a. Human Pathogen and Toxin Licenses, and Importation Permits:

Both the restrictions associated with the HPT License and Import Permits provide boundaries in terms of what material can be possessed and used, and hence help to define what material can pose a potential concern which would require medical surveillance.

b. Biosafety Program:

The structure of the uOttawa Biosafety Program engages both an in-house approval process and the availability of resources to assist in identifying when medical surveillance may be recommended.

c. Institutional Approval:

Disclosure of regulated materials is required prior to possession and use; thus enabling the identification of any inventory that may pose a concern. Similarly, each individual user registers and also states what material will be used. [If needed an inventory of material in use can be provided to Human Resources- Health and Wellness for consideration].

d. Exposure Control Plan:

Due to the need to proactively be prepared to mitigate exposure risk, an exposure control plan is prepared when required.

e. Post Exposure Prophylaxis Protocol:

A document titled “Measures to Minimize Exposure to Bloodborne Pathogens and Post-Exposure Prophylaxis” has also been developed which again assists in reducing exposure risk.

7. RESOURCES AVAILABLE

From the Office of the Chief Risk Officer:

- The Biorisk Process*
- Exposure Control Plan*
- Public Health Agency of Canada – Pathogen Safety Data Sheets*
- Measures To Minimize Exposure To Bloodborne Pathogens And Post-Exposure Prophylaxis*

* Available on the uOttawa – Biosafety Web Page.

8. PROCESS

a. On-Boarding Process (Biomaterial Use Certificate Applicants and New Users)
Biomaterial Use Certificate Applicants:

The process begins when a principal investigator applies for a Certificate, it is during this process where the proposed work is outlined and discloses the material to be used. A local risk assessment can provide insight of any practices that may increase the risk. The PI is then advised to discuss Medical Surveillance with Health and Wellness.

New Users:

Are assessed and advised based on their proposed work. In addition, they are advised to contact Health and Wellness sector for a confidential discussion regarding any questions or concerns related to medical surveillance.

b. On-Going Management Strategy

To provide effective review of medical surveillance needs, it is important to review the inventory of biological agents periodically. And to provide the medical professionals with the appropriate information and empower follow-up when required. Different types of reports can be prepared such as:

- A report sorted by Inventory.
- A report sorted by Principal Investigator, Faculty, Department, Contact email and their Inventory.

* Upon receipt of a list of agents of concern, these can be easily flagged within the inventory.

9. ACCIDENT/INCIDENTS

The risk of exposure during an accident or incident must be assessed to determine if exposure was possible and if medical surveillance post-exposure is required. Students/personnel involved in a potential exposure are advised to get immediate assistance from medical professionals. The follow up of the incident is undertaken by the Health and Wellness Sector.

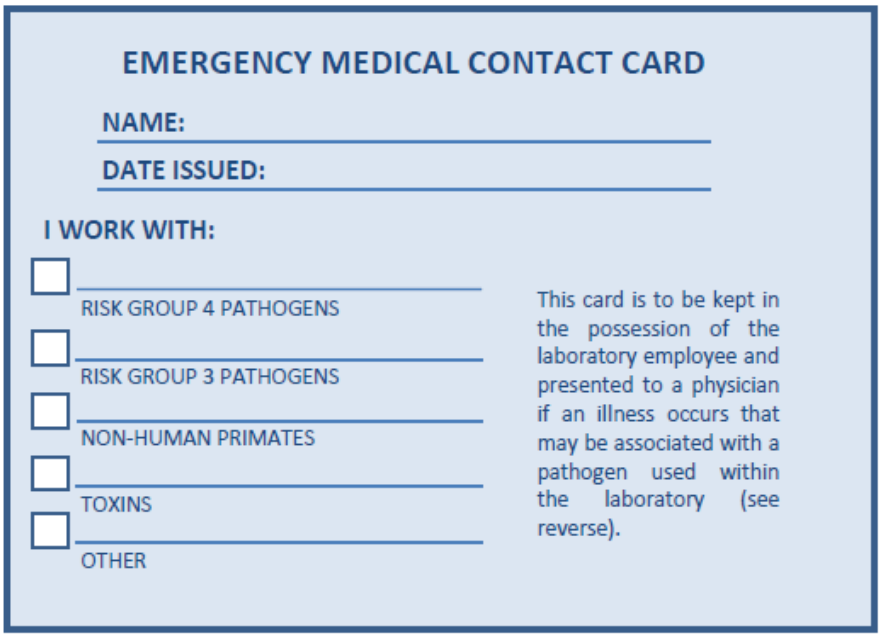
Note: In case of an emergency, contact Protection Services (e.x.t 5411) to request an ambulance for transport to the hospital.

To initiate an assessment, an accident/incident must be reported following the University form available online at https://web30.uottawa.ca/v3/riskmgmtfrm/aioreport.aspx?lang=en .

In addition, reporting to PHAC could be required and is undertaken by the Biosafety Risk Specialist, who investigates the incident from the biosafety perspective.

Appendix A: Emergency Medical Contact Card

FRONT



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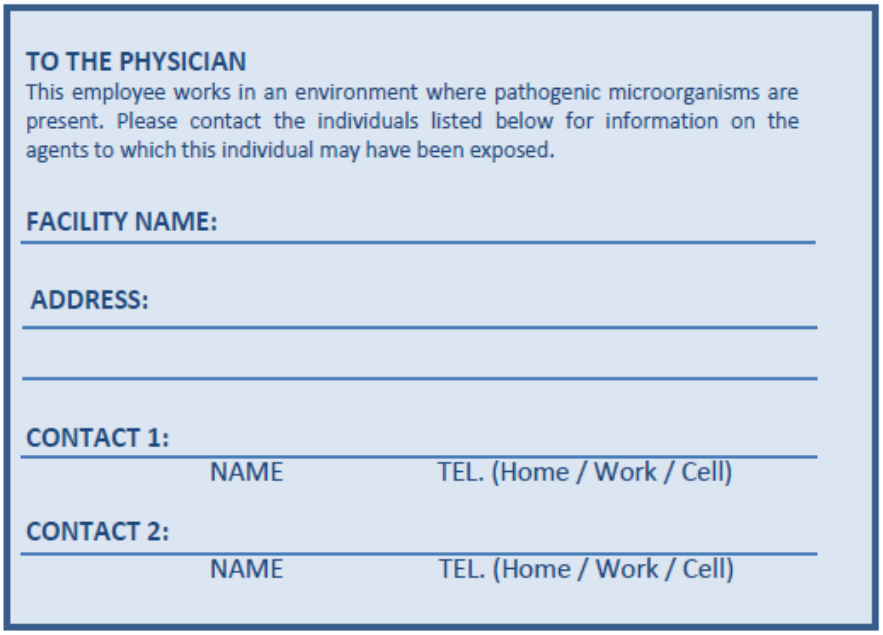

As per the Canadian Biosafety Handbook, Second Edition.

Approved by: OCRO
Created: 2017

Current as of: 2023

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APPENDIX B

Reportable Infectious Diseases and Events (As per Ottawa Public Health)

Timely reporting of diseases of public health significance is essential for their control. If you suspect or have confirmation of the following specified diseases and events (as per Ontario Regulation 135/18 and amendments under the Health Protection and Promotion Act) please report them to the local Medical Officer of Health:

• Diseases marked in bold/with an asterisk are reportable immediately by telephone. All other diseases are reportable by the next business day.

Current as of June 2022.

*** Acute Flaccid Paralysis**
*** Adverse event following immunization (AEFI)**
AIDS (Acquired Immunodeficiency Syndrome)
Amebiasis (Entamoeba histolytica)
*** Anthrax**
*** Bites or exposures to potentially rabid animals**
Blastomycosis
*** Botulism**
*** Brucellosis**
Campylobacter enteritis
Carbapenemase-producing *Enterobacteriaceae* (CPE) infection or colonization
Chancroid
Chickenpox (Varicella)
Chlamydia trachomatis infections
*** Cholera**
Clostridium difficile infection (CDI) outbreaks in public hospitals
Creutzfeldt-Jakob Disease, all types
Cryptosporidiosis
Cyclosporiasis
*** Diphtheria**
*** Diseases caused by a novel coronavirus, including Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS)**
Echinococcus multilocularis infection
Encephalitis (primary viral, post-infectious, vaccine-related, subacute sclerosing panencephalitis, unspecified)
*** Food poisoning**
Gastroenteritis, outbreaks in institutions and public hospitals
Giardiasis, except asymptomatic cases
Gonorrhoea
*** Group A Streptococcal disease, invasive**
HIV infection
Influenza
Legionellosis
Leprosy
Listeriosis
Lyme Disease
*** Measles**
* Meningitis, acute, including: bacterial, viral and other
*** Meningococcal disease, invasive**
*** Mumps**
Ophthalmia neonatorum
*** Paralytic Shellfish Poisoning**
*** Paratyphoid Fever**
*** Pertussis (Whooping Cough)**
*** Plague**
Pneumococcal disease, invasive
*** Poliomyelitis, acute**
Psittacosis/Ornithosis
*** Q Fever**
*** Rabies**
*** Respiratory infection outbreaks in institutions and public hospitals**
*** Rubella**
Rubella, congenital syndrome
Salmonellosis
*** Shigellosis**
*** Smallpox and other Orthopoxviruses including Monkeypox**
Syphillis
*** Tetanus**
Trichinosis
Tuberculosis
*** Tularemia**
*** Typhoid Fever**

Group B Streptococcal disease, neonatal
*** Haemophilus influenzae disease, all types, invasive**
*** Hantavirus pulmonary syndrome**
* Hemorrhagic fevers, including: (**Ebola virus disease, Marburg virus disease, Lassa fever and other viral causes)**
*** Hepatitis A, viral**
Hepatitis B, viral
Hepatitis C, viral
*** Verotoxin-producing E. coli infections including Hemolytic Uremic Syndrome (HUS)**
West Nile Virus illness
Yersiniosis

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APPENDIX C BIOLOGICAL AGENTS AND PREGANCY RISK

This document is being provided as a resource.

The actual determination of risk and applicability resides with the Health Care Professionals.

uOttawa strives to create a work environment that recognizes and mitigates risk while providing guidance, structure and education to create a safe workplace for all employees. It is well known that pregnant women are in an immunocompromised state and that the developing fetus possesses no further immunity than that provided by the mother, thus rendering both to a vulnerable state. Infectious diseases, chemical hazards, as well as additional general hazards encountered in the laboratory environment are important considerations regarding the health and wellbeing of both mother and developing child. A complete risk assessment specific to the work environment and hazards likely to be encountered by different laboratorians working on different areas should be conducted by their supervisors in consultation with the appropriate safety officers on a case by case basis. Pregnant laboratorians are encouraged to discuss their laboratory work environment with their physician or other medial professional.

This document complies with regulatory guidance stating that when an occupational exposure is substantially more hazardous to identifiable sub-populations (such as pregnant women) "workers should be informed about risks". Self-reporting of pregnant status is entirely at the discretion of the individual and is in no way a requirement. Nor can a change in job duties be imposed upon an individual solely because of self-reporting of pregnancy status.

General Safety:

Working in a laboratory creates an environment in which physical hazards, beyond chemical and biological concerns, may also exist. Heavy lifting, excessive noise or vibration, and temperature extremes are among these concerns. Ergonomic issues can be compounded by the challenges associated with the rapid physiological changes occurring during the gestational period. Additionally, exposure to ionizing radiation above background levels should also be avoided. The best way to mitigate factors that may have a negative impact on a pregnant laboratorian and her developing child, is communication with supervisors, safety officers and human resources. An evaluation of assigned duties is necessary to identify relevant hazards.

Biosafety:

Any severe infection may be detrimental to the health of the mother and child during pregnancy, after birth, and during the lactation period. Below is a list of some agents known to have adverse effects on the developing fetus and/or mother, this should not be regarded as an extensive list. We recommend performing a risk assessment and consulting with a physician before working with biological agents while pregnant, trying to become pregnant, or lactating.

Brucella spp.	Listeria Monocytogenes
Campylobacter species	Lymphocytic choriomeningitis virus (LCMV)
Chikungunya Virus	Malaria
Chlamydia psittaci	Measles
Coccidioides (Valley fever)	Mycobacterium tuberculosis
Coxiella burnetti (Q Fever)	Parvovirus B19
Cytomegalovirus	Rubella Virus
Ebola virus	Severe acute respiratory syndrome virus 2 (SARS-CoV-2)
Hepatitis B virus	Toxoplasma gondii
Hepatitis C virus	*Varicella-zoster* (chickenpox)
Human immunodeficiency virus 1 and 2 (HIV-1 and HIV-2)	Zika Virus
Influenza virus	

Pregnant laboratorians should consult with their physician regarding further questions and consult about other possible complicating factors (such as having gestational diabetes, pre-eclampsia, asthma, autoimmune disorders, etc.) that could further compromise their immune system and make them vulnerable to infections.

Additionally, this list does not include antibiotic resistant or multidrug resistant organisms that could further complicate treatment in the case of a pregnant woman.

References:

1. Campylobacter species: http://www.antimicrobe.org/new/b91.asp
2. Chikungunya: http://www.intechopen.com/books/current-topics-in-chikungunya/chikungunya-fever-during- pregnancy-and-in-children-an-overview-on-clinical-and-research-perspectives
3. Human brucellosis in pregnancy - an overview - PubMed (nih.gov)
4. (PDF) New Detection and Treatment for Chlamydia Psittaci: A Case Report (researchgate.net)
5. Tuberculosis in Pregnancy | SpringerLink
6. Foodborne Pathogens Resources for Medical Professionals - Food Safety for Moms to Be | FDA
7. Reproductive health and the workplace: https://www.cdc.gov/niosh/topics/repro/infectious.html
8. biological-reproductive-hazards.pdf (washington.edu)