# INFECTION CONTROL PLAN

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Introduction
The University of Regina’s Infection Control Plan pertains to all activities related to living, working, and learning at the University that may put faculty, staff, students, and guests at risk of being exposed to infectious agents. Exposure to infectious materials and organisms can compromise the health and well-being of an individual and may cause infectious diseases.

The Infection Control Plan ensures that:
   a) all concerned parties are aware of their responsibilities;
   b) a risk assessment is carried out to identify individuals who may be exposed to infectious agents and how they might be exposed (Exposure Determination);
   c) written infection control procedures are developed and implemented to establish appropriate controls that eliminate or minimize potential exposures to infectious agents identified in the exposure determination; and
   d) all participants have an informed understanding of the hazards and provide their consent to the means of eliminating or minimizing them.

The Infection Control Plan outlines the responsibilities for ensuring the safety of all those participating in activities involving potential exposures to infectious agents. Due diligence must be exercised by all parties in identifying and dealing with the risks associated with each activity related to living, working, and learning at the University.

Refusal of Unsafe Work – Any individual has a duty to refuse, at any time, to participate in any activity which he/she feels may endanger his/her health or safety or that of another person. The Procedures for Refusal of Work outlined in Appendix 1, must be followed.

Background
The spread of infection and disease requires a source of an infectious agent, a susceptible host, and a means of transmission. Infectious agents can be transmitted by various routes thus the University of Regina’s Infection Control Plan (the Plan) must be followed to reduce the risk of exposure and illness.

An Infectious agent is an infectious material or organism that may cause disease and illness to its host. Infectious materials and organisms, including, but not limited to, bacteria, viruses, and parasites, are all around us and may reside in and on things like our skin, blood, doorknobs, animal droppings, and food.
A person’s resistance to infectious agents varies greatly. Some people may be immune to or able to resist colonization by an infectious agent whereas, some may develop infections or diseases following an exposure. A person’s resistance to infectious agents may be compromised by existing illnesses.

The routes of transmission for infectious agents include contact, vehicle, airborne, and vector-borne. Transmission by the contact route includes direct, indirect, and droplet exposures. Infectious agents can be transmitted by direct contact between a susceptible host and an infected/colonized person, indirect contact between a susceptible host and a contaminated intermediate object; and droplet contact when an infected person transfers infectious agents to a susceptible host by coughing, sneezing, or talking. Infectious agents can be transmitted through vehicles such as food, water, and blood. Airborne transmission occurs when a susceptible host inhales aerosols containing infectious agents. Lastly, vector-borne transmission occurs when an infected vector (i.e. mosquito) bites a susceptible host.

The risk of a person becoming infected, when exposed to infectious agents, is determined by numerous factors. For example, when splashed by infectious agents, the following factors determine the risk of infection: the volume of infectious material contacted, the concentration of infectious microorganism in the material contacted, the duration of contact, the state of exposed tissues, and the location and amount of the individual’s body exposed. For puncture injuries, factors such as how contaminated the puncturing object is, the depth of the puncture and gauge of needle (in needlestick punctures) affects the risk of infection. For airborne exposures, factors such as how long the individual is in close proximity to the infected person and whether or not the infected person is coughing, sneezing, or talking affects the risk of infection.

**Regulatory Requirement**

This Plan has been developed to ensure that individuals at risk of being exposed to an infectious agent at the University incorporate preventative measures that reduce risk, aid in incident prevention, and maintain emergency plans that provide responses to unexpected incidents. The *Occupational Health and Safety Regulations, 1996* require the University to develop and implement an exposure control plan to eliminate or minimize employee exposure.

**Scope and Application**

This Plan applies to anyone who is an employee, student, or guest of the University community and is engaged in duties or activities which may cause them to come into contact with a potentially infectious agent.

**Definitions**

*Administrator* means a person authorized by the University to oversee or direct the work of an individual. For purposes of this Plan, the reference shall include senior, out-of-scope, faculty, staff members, supervisors in a department or unit with the authority to address personnel matters as they relate to the individual including the President, Vice-President, Associate Vice-President, Dean, Director, or Manager as the case may be.

*Agent* is a pathogen that can cause human or animal disease including bacteria, mycoplasma, fungi, viruses, and parasites.
**Airborne** means to be carried or transported by the air.

**Biohazard Label** is fluorescent orange-red in colour with the biohazard symbol and the word biohazard on the lower part of the label. This label shall be affixed to containers of regulated waste, refrigerator/freezers, and other containers used to store, transport, or ship blood and other potentially infectious materials or organisms.

**Body Fluids** include saliva, urine, vomitus, tears, sputum, faeces, nasal secretions and synovial, pleural, peritoneal, pericardial, amniotic, and cerebrospinal fluids.

**Colonization** means to establish a colony in.

**Contact** means to touch physically, indirectly, directly, or by droplet.

**Contaminated** means the presence or the reasonably anticipated presence of blood or other potentially infectious materials or organisms on an item or surface.

**Due Diligence** means taking every precaution that is reasonable in the circumstances to avoid harm.

**Engineering Controls** means physical controls or barriers (i.e. sharps disposals containers, self-sheathing needles) that isolate or remove an infectious disease hazard.

**Exposure** means harmful contact with blood or other potentially infectious materials and organisms through injection, inhalation, ingestion, or absorption through the skin.

**Exposure Determination** means the review of all positions and occupation groups to evaluate the possibility of exposure to blood or other potentially infectious materials or organisms.

**Exposure Incident** means harmful contact with blood or other potentially infectious materials or organisms through injection, inhalation, ingestion, or absorption through the skin that may result from the performance of an employee’s duties.

**Handwashing Facilities** means a facility providing an adequate supply of clean hot and cold or warm water, soap, and clean towels or hot air drying machines.

**Hazard** is any activity, situation, or substance that can cause harm including any potentially infectious agent or condition that causes illness or injury.

**Infectious agent** is an infectious material or organism that may cause disease and illness to its host.

**Infectious material or organism** means an infectious material or organism that has been identified in an approved manner as an infectious disease hazard that poses a significantly increased exposure risk to an employee or self-employed person.

**Occupational Exposure** means harmful contact with blood or other potentially infectious materials and organisms through injection, inhalation, ingestion, or absorption through the skin that may result from the performance of an employee’s duties.

**Participants** are students, employees, or volunteers at the University of Regina.
**Personal Protective Equipment (PPE)** means any clothing, device, or other article that is intended to be worn or used by an employee to prevent injury or to facilitate rescue. General work clothes (e.g. uniforms, pants, shirts, or blouses) that are not intended to function as protection against a hazard are not considered to be PPE.

**Risk** is the chance of a hazard causing harm and is assessed based on the probability and severity of an occurrence.

**Sharps** means any object that can penetrate the skin including but not limited to needles, scalpels, razor blades, broken capillary tubes, and broken glassware.

**Supervisor** means a person who is authorized by the University of Regina to oversee or direct the work of employees or students.

**Transmission** is the transfer of anything such as an infectious material, organism, or disease.

**Universal Precautions** is an approach to infection control incorporating the concept that all human blood and certain body fluids be treated as infectious for all infectious agents.

**Vector** is an organism (as an insect) that transmits a pathogen from one organism or source to another.

**Vehicle** is an agent of transmission.

**Responsibilities**

1. **Administrators will:**
   1.1. provide the management support and leadership necessary to ensure a safe and healthy working and learning environment for staff, faculty, students, and the University community in compliance with the University Safety Policy (20.105) and the Plan.
   1.2. ensure the Plan is implemented and require compliance.
   1.3. ensure that adequate resources are available to implement appropriate infection control measures.
   1.4. require that exposures are reported and investigated and take action to prevent a recurrence where it is within their authority and in accordance with the incident reporting procedure.
   1.5. take action to correct unsafe conditions.
   1.6. formulate infection control procedures where applicable.

2. **Supervisors will:**
   2.1. ensure that individuals in their areas of responsibility have been given adequate direction, training, and instruction in the safe performance of activities concerning infection control and that the activities are performed without undue risk.
   2.2. require the participants to use the appropriate safety equipment and follow appropriate safety procedures and medical precautions.
   2.3. ensure every worker who is at risk of exposure to an infectious agent has access to the Plan and the unit’s specific infection control procedures.
   2.4. ensure all “at risk personnel” receive appropriate vaccinations and forward documentation to Health and Safety to be placed on personnel file.
2.5. report substandard conditions or procedures to the appropriate authority as necessary and correct such conditions where it is within their authority.
2.6. ensure that all exposure incidents are reported to Health and Safety and investigated and take action to prevent a recurrence in accordance with the incident reporting procedure.

3. **All Employees & Students will:**
   3.1. comply with the requirements of the Plan.
   3.2. practice safe work, learning, and living habits and observe all infection control rules and procedures established in their work areas.
   3.3. use appropriate engineering controls and/or personal protective equipment.
   3.4. if considered “at risk personnel”, provide evidence of required vaccination to their immediate supervisor.
   3.5. immediately report all hazards or unsafe conditions, procedures, or behaviours to the Supervisors.
   3.6. immediately report to a Supervisor all exposures and if necessary, obtain medical treatment without delay.

4. **The Occupational Health Committee will:**
   4.1. support and promote implementation of the Plan, procedures, and related education and training.
   4.2. monitor the adequacy and effectiveness of the Plan.

5. **The Health and Safety Unit will:**
   5.1. provide expertise and advice to all levels of management, employees and students on matters pertaining to infection control.
   5.2. receive, review, and investigate all incidents related to infection control and provide recommendations of corrective action.
   5.3. ensure the Plan is kept current and receive suggestions for Plan improvements.
   5.4. research, develop, provide and/or coordinate education and training on infection control plans, programs, procedures, and initiatives.

**Exposure Determination**
The University has determined which of its employees/volunteers are at risk of occupational exposure to infectious agents. Those identified include full-time and part-time faculty and staff, temporary services personnel, and graduate and undergraduate student employees.

The results of this exposure determination can be found in **Appendix 2**.

This determination will be revised as needed to include new positions or changes in assigned tasks.
Infection Control Procedures
The procedures outlined in this Plan are written generically and are applicable to most positions and occupation groups at risk of exposure to potentially infectious agents. For more specific procedures consult your Supervisor.

1. Emergency Contact Information
All University of Regina faculty, staff, students, and guests at risk of being exposed to infectious agents must read and become familiar with the Emergency Contact Information before starting any activities or duties.

2. Universal Precautions & Safe Work Practices
Universal Precautions and the University of Regina Safe Work Practices are infection control guidelines designed to protect all participants from exposure to diseases spread by infectious agents. Everyone must be familiar with and follow these guidelines. In order to be safe, assume that ALL blood, body fluids, tissues, and secretions are infectious.

- **Wash Hands**
  Wash your hands with soap and warm water for at least 20 seconds after you have had contact with blood or other body fluids, after having contact with respiratory secretions or contaminated objects/materials, after going to the bathroom, before preparing or eating food, and after removing latex gloves.

- **Proper Cough Etiquette**
  Cover the mouth/nose with a tissue when coughing or sneezing. If you don't have a tissue, use your sleeve. Use tissues to contain respiratory secretions and dispose of them in the garbage.

- **Cover Cuts**
  If you have cuts or open sores on your skin, cover them with a plastic bandage.

- **Wear Appropriate Personal Protective Equipment**
  If there is any risk of coming into contact with blood or other potentially infectious materials and organisms, wear appropriate personal protective equipment including, but not limited to, gloves, goggles, gowns, and respiratory protection. Personal protective equipment should be changed if torn or soiled and always removed before leaving the location of the potentially infectious material.

- **Clean Up**
  Spills of blood or other potentially infectious materials should be cleaned up with a fresh mixture of household bleach (1 part) and water (9 parts) or other appropriate disinfectant. Paper towels should be used and disposed of in a plastic garbage bag. Remember to wear latex gloves during clean up.

- **Discard Garbage**
  Use caution when disposing of garbage and other waste that may contain infectious materials and organisms. Discard material soiled with blood or other potentially infectious materials in a sealed plastic bag. The plastic garbage bag must be tied off and disposed of immediately. Needles or sharps CAN NOT go into normal garbage; they must be disposed of in a proper sharps disposal.
• **Wash Up**  
Soiled items should be stored in sealed plastic bags. Wash soiled clothing separately in hot soapy water and dry in a hot dryer, or have clothes dry-cleaned.

• **Routinely Clean and Disinfect Surfaces**  
Take a moment to clean and disinfect areas like your desk, keyboard, and phone.

• **Get Immunized**  
Getting immunizations is easy and low-cost – and most importantly, it saves lives. The 2006 *Canadian Immunization Guide* indicates that all adults (≥18 yrs) should be immunized against diphtheria, tetanus, pertussis, measles, mumps, rubella and varicella.

• **Talk to a health professional if you have health related questions.**

3. **Exposures, Suspected Exposures, and Post-Exposures**  
The plan for post-exposure investigation and follow-up will ensure that: measures are taken to minimize the risk of infection; the circumstances surrounding the exposure is investigated and documented; the employee received timely medical evaluation, medical intervention, and confidential post-exposure counseling, if necessary.

| Medical Emergency |
|-------------------|-------------------------------|
| 1. Phone 911 – Direct them to the scene of the occurrence. |
| 2. Call Campus Security: 585-4999 |
| 3. Give First Aid, if you are qualified to do so, or get help from trained Emergency Wardens and/or Campus Security. |
| 4. Stay with victim. |

3.1 Exposure Procedures

**Needlestick, Puncture Wound, or Percutaneous Injury**
- Remove gloves and allow the wound to bleed.
- Immediately wash the affected area (for 15 minutes) with soap and warm water.
- Notify Supervisor (if available) to obtain assistance.
- Seek medical assistance immediately (within 1-2 hours) from a health care professional. The University of Regina Allied Health Center is open from 8:30 a.m.-5:00 p.m. Monday-Friday: (306) 337-2643.
- Details of the incident must be documented using the Incident Report form and must be forwarded to Health and Safety within 24 hours. Please include details of:
  1. What was the method of contact? i.e. needlestick
  2. How did the exposure occur?
  3. What known body fluids were you in contact with?
  4. What action was taken in response to the exposure to remove the contamination? i.e. handwashing
  5. What personal protective equipment was being used at the time of exposure?
  6. What is your immune status? i.e. tetanus, Hepatitis A or B Virus

**Eyes or Mucous Membrane Exposure**
- Immediately flush the affected area for 15 minutes using an eyewash or shower.
- Notify Supervisor (if available) to obtain assistance.
• Seek medical assistance immediately (within 1-2 hours) from a health care professional. The University of Regina Allied Health Center is open from 8:30 a.m.-5:00 p.m. Monday-Friday: (306) 337-2643.
• Fill out an Incident Report form and forward it to Health and Safety within 24 hours.

Blood or Body Fluid Splash
• If contact was with skin, wash the affected area (for 15 minutes) with soap and warm water, if contact was with a mucous membrane, flush the affected area for 15 minutes using an eyewash.
• Notify Supervisor (if available) to obtain assistance.
• Seek medical assistance immediately (within 1-2 hours) from a health care professional. The University of Regina Allied Health Center is open from 8:30 a.m.-5:00 p.m. Monday-Friday: (306) 337-2643.
• Fill out an Incident Report form and forward it to Health and Safety within 24 hours.

3.2 Suspected Exposure Procedure
• If you suspect you have been exposed to any infectious agent, please follow the corresponding health procedures listed above (i.e. needlestick puncture, body fluid splash, etc).
• Please contact Health and Safety if you have any questions or concerns.

3.3 Post-Exposure
• If an employee has been exposed to blood or other potentially infectious agent at the University of Regina, the University will, with the consent of the employee, during the employee’s normal working hours, arrange for immediate medical evaluation, medical intervention, and confidential post-exposure counselling.
• If an employee cannot receive medical evaluation, medical intervention, or post-exposure counselling during the employee’s normal working hours, the University of Regina will credit the employee’s attendance for evaluation, intervention or counselling as time at work and shall ensure that the employee does not lose any pay or other benefits.
• The University of Regina Health and Safety Unit will investigate and document any occurrence of an occupationally transmitted infection and any infectious agent occupational exposure to identify the route of exposure and implement measures to prevent infection.
• All investigations and documentation concerning personal information of any work-related exposure incident, including the route of exposure and the circumstances in which the exposure occurred, are held in complete confidentiality.

4. Engineering & Work Practice Controls
Engineering and work practice controls are designed to minimize or eliminate employee exposure to infectious agents. Physical means and barriers to isolate or remove an infectious disease hazard, such as sharps disposal containers, are called engineering controls. Altering the manner in which a task is performed, such as prohibiting the disposal of sharps in the garbage, are considered work practice controls.

4.1 Handwashing, Health & Hygiene
Handwashing is the single most important means of preventing the spread of infection.
Handwashing is important because it helps get rid of infectious materials and organisms that make people sick.

Wash hands several times a day with soap and warm water, especially:
- before meals
- before feeding children
- before & after preparing food
- after using the toilet
- after changing diapers
- after blowing your nose
- before & after visiting people who are sick
- after handling animals or their waste.

Infectious materials and organisms such as bacteria, viruses, and parasites are all around us including, but not limited to, on our skin, in the kitchen sink, on doorknobs, etc. Most people get sick when they touch something that is contaminated and then touch their eyes, nose, or mouth. Infectious agents can pass from one person's hands to another and spread diseases.

Regular soap and water do not actually kill microorganisms; they reduce the number of microorganisms on your hands. However, antibacterial soaps are typically considered “overkill” for most purposes except special situations in hospital settings.

**Handwashing Steps:**
1. Remove all rings and wet your hands with warm running water.
2. Use soap and produce lather, rubbing your hands for 20 seconds.
3. Scrub all surfaces of hands including backs of hands, wrists, between fingers, and under fingernails. For best results use a nail brush.
4. Rinse hands in clean, warm running water for at least 10 seconds.
5. Dry hands with a clean towel.
Diagram taken from Canadian Center for Occupational Health and Safety

1. Wet Hands
2. Soap
3. Lather
4. Scrub
5. Rinse
6. Dry
4.2 Sharps, Sharps Disposal, and Sharps Containers
Sharps injuries can be a significant risk for health care and other employees. Some of these injuries can expose personnel to blood borne infections that are potentially life threatening. **Sharps: Needles, razor blades, scalpels, broken glassware, etc.**

The University of Regina presents the following information as a guideline for the University community; however, unit/duty specific guidelines should be developed and implemented for any employee/individual who may come across biologically-contaminated sharps in their daily activities.

At the University of Regina, any individuals who use, handle, or may otherwise encounter biologically-contaminated needles and other sharps are at risk of a sharps-related injury. To prevent sharps injuries the following guidelines must always be followed:

### Preventing Sharps Injuries
- Avoid use of sharps whenever possible
- Use gloves to minimize the risk of a sharp penetrating the skin and to limit the transfer of infectious agents
- Avoid direct contact with edges capable of causing punctures
- Never recap, bend, cut or reuse needles
- Place suitable Biohazard Sharps containers in close proximity of active use areas to encourage use
- Do not over fill containers
- Never force objects into a container

### Biologically-Contaminated Sharps Disposal Guidelines
- Don appropriate personal protective equipment, for example, gloves.
- Use tongs, forceps, or other sharps collection device such as safe hand grabbing device to pickup sharps and immediately place in a suitable Biohazard Sharps container labelled ‘Biohazard’ and ‘Sharps.’ In addition, the container should have the Biohazard symbol on it. **If you do not have a suitable container or do not know where one is located, contact Health and Safety.**
- Securely close and snap lid in place.
- Container should never be filled more than ¾ full.
- Contact Health and Safety to arrange for disposal of container.

### Sharps Training
Any duties and activities related to sharps must be identified by Supervisors and the appropriate personnel advised of the risks and safe work practices working with sharps. Personnel must be trained on appropriate protocols and this training must be documented.

4.3 Precautionary Guidelines (Transmission Based)
These general guidelines are for the caregivers of participants who are confirmed or suspected of being infected with highly transmissible pathogens and who have to remain on campus. These guidelines should be used in addition to the Universal Precautions and Safe Work Practices.
**Contact Precautions**
These precautions should be used for individuals who are infected with infectious agents that are transmitted by direct or indirect contact (e.g. herpes simplex, scabies, streptococcus).
- Individuals must be placed in a private room.
- Gloves must be used and changed after handling potentially infectious material.
- Gloves must be changed after leaving the individual’s room and hands must be washed.
- A gown should be worn if substantial contact with individual or their environment.
- Individual transport should be limited.
- If patient care equipment is used, it must be decontaminated.

**Droplet Precautions**
These precautions should be followed to prevent the transmission of infectious agents from infected individuals that are transmitted by large droplet contact (e.g. influenza, mumps, whooping cough).
- Individuals must be placed in a private room.
- Surgical (or better) mask should be worn when working within 3 feet of the individual.
- Patient transport should be limited and a surgical mask should be placed on patient during transport.

**Airborne Precautions**
These precautions should be followed for infections that are transmitted by airborne droplet nuclei (<5 microns in diameter) that remain suspended in the air (e.g. tuberculosis, rubella, varicella [chickenpox]).
- Individuals must be placed in a private room with monitored negative air pressure.
- The room should have 6-12 air changes per hour.
- Personnel who enter the isolation room should be immune to the infection.
- Patient transport should be limited and a surgical mask should be placed on patient during transport.

**5. Personal Protective Equipment**
Personal protective equipment (PPE) also known as barrier equipment, is used to prevent blood, body fluids, and other potentially infectious materials or organisms from making direct contact with an individual. In accordance with Universal Precautions, blood, body fluids, and tissues of ALL persons are considered potentially infectious. The type and amount of PPE depends upon the task or activity performed. **Remember PPE is the least effective type of hazard control and the last resource to rely on.**

**5.1 Gloves**
- Gloves reduce the possibility that personnel will become exposed to infectious agents and contract infectious diseases.
- Gloves should always be worn when touching blood, body fluids, faecal matter, urine, vomit, mucus, saliva, contaminated objects, pathogens, animal droppings, and wild animals. When in doubt, wear a pair of gloves!!
- When gloves are required, disposable single-use gloves should be worn.
• No glove can provide protection against all hazards, so the gloves selected must be appropriate for duty/activity they are used for. Gloves available for protection against infectious materials are nitrile, vinyl or rubber.

Along with the increasing usage of latex gloves, there have been increasing reports of irritations or allergic reactions to latex, including some severe, immediate reactions. If you detect a reaction to latex notify your Supervisor immediately.

**Steps for Putting on Gloves:**
1. Place hand through opening of first glove and pull the glove up to the wrist.
2. Repeat with second glove.
3. Adjust gloves to cover wrists or cuffs of gown. **Caution: Do not touch any part of your body with gloved hands.**
4. Complete duty.

**Steps for Removing Gloves:**
1. Grasp one glove on the inside of wrist at ½ inch below band of dirty side of glove without touching the skin.
2. Pull down glove, turning it inside out, and pull hand. Hold the glove with the still-gloved hand.
3. Insert fingers of ungloved hand under the cuff of the glove on the other hand (on inside of cuff).
4. Pull down glove until it is inside out, drawing it over the first glove.
5. Discard both gloves by dropping them in appropriate trash container.
6. Wash hands well.

5.2 **Laboratory Coats, Gowns, Coveralls, and Aprons**
• Currently University of Regina employee uniforms are not considered appropriate PPE.
• Lab coats, gowns, coveralls, and aprons are used to prevent skin and clothing from being splashed or soiled with infectious agents.
• These are used in heavily soiled areas and must be properly disposed of in a plastic-lined garbage receptacle after use and before leaving area of use.

5.3 **Face and Eye Protection**
• Face and eye protection must be worn whenever there is potential for the generation of splashes, spray, splatter, or droplets of potentially infectious agents in the face, especially eyes, nose, and mouth.
• Eye protection may be provided by safety glasses, goggles, or chin length face shields. Nose and mouth protection may be provided by surgical masks and face shields. Some face shields may provide protection against impact injuries.
• Surgical masks may protect the mucous membranes of the mouth and nose against sprays, splashes, and droplets but offer **limited** protection from infectious aerosols.
Remember that although face shields and surgical masks reduce the risk of splashes and sprays of blood, body fluids, etc. from reaching the wearer’s mouth and nose, they do not offer mucous membrane protection from infectious aerosols.

5.4 Respiratory Protection
- Respirators offer levels of protection against different contaminants by varying their aerosol filter or cartridge efficiency (95, 99, & 99.7%).
- NIOSH approved masks and respirators for airborne protection against infectious aerosols are the N95, N99, or N100 rated respirators.
- All respirator wearers must be properly Fit Tested before they can use a respirator! If the respirator does not fit tightly on the user’s face it will not offer any protection against infectious aerosols.
- Please see the Health and Safety Respiratory Protection Procedures for more information.

6. Housekeeping Practices

6.1 General
Housekeeping practices are everyone’s responsibility. Developing proper work habits and disposal techniques helps ensure a safe working environment. Health and Safety may be contacted for assistance.

Any disposable equipment, personal clothing items, and personal protective equipment (PPE) that has been exposed to infectious agents must be properly decontaminated or disposed of. For equipment, personal clothing, PPE, environmental surfaces and carpets that can not be disposed of, the following decontamination guidelines must be followed in addition to unit/duty specific procedures.

6.2 Equipment Decontamination
All equipment and PPE must be decontaminated before reintroduction into public places.
- Close area from public use.
- Don the appropriate PPE for cleaning contaminated equipment; this corresponds with the spill cleaning procedures (Section 7):
  - Gloves should always be worn during the cleaning and disinfecting procedures.
  - If the possibility of splashing exists, the worker should wear a face shield or goggles.
  - If equipment and surfaces are extremely contaminated, wear coveralls, coats, gowns, or aprons in addition to booties or shoe coverings.
  - For airborne pathogens, an appropriate respirator must be worn. You MUST be Fit Tested before wearing a respirator!
- PPE should be changed if torn or soiled and always removed before leaving the location of the contamination.
- Examine equipment for gross soiling.
- Wipe all surfaces thoroughly with a cloth moistened with a disinfectant solution (such as 1:10 dilution of sodium hypochlorite (chlorine bleach)). Refer to manufacturer’s instructions for required contact time to disinfect the surface.
・ A stronger dilution may be needed depending on what infectious material or organisms are present. Refer to manufacturer’s instructions.
・ For carpet or upholstered surfaces, a low level disinfectant may be used. Add the disinfectant to the regular carpet shampoo, according to manufacturer’s instructions.
・ Remove gloves and other PPE and dispose of in a plastic-lined waste container used for spill clean up.
・ Wash hands very well.

6.3 Soiled Clothing and Laundry
All soiled personal clothing items and non-disposable gowns, coveralls, and coats must be properly decontaminated to reduce risk of transmission and exposure. The risk of disease transmission from soiled linen is low, but soiled linens may carry organisms that may contaminate the air and immediate environment.
・ Close area from public use.
・ Don the appropriate PPE for cleaning contaminated clothing and laundry; this corresponds with the spill cleaning procedures (Section 7):
  - Gloves should **always** be worn during the cleaning and disinfecting procedures.
  - If the possibility of splashing exists, the worker should wear a face shield or goggles.
  - If the clothing is heavily soiled, wear booties or shoe coverings.
  - For airborne pathogens, an appropriate respirator must be worn. **You MUST be Fit Tested before wearing a respirator!**
  - PPE should be changed if torn or soiled and always removed before leaving the location of the contamination.
・ For personal clothing and uniforms- clothing should be removed promptly while wearing appropriate PPE (i.e. gloves).
・ If soiled clothing and laundry cleaning and disinfecting procedures can not be completed in the room that the clothing and laundry was soiled, the items must be removed and transported in strong biohazard/plastic bags.
・ Soiled clothing should be handled as little as possible and with minimum agitation.
・ Hold the soiled clothing away from your unsoiled clothing.
・ Wash soiled clothing and laundry separately in hot soapy water and dry in a hot dryer or have items dry-cleaned.
・ Wash hands very well.

7. Spills
The most immediate concern following a spill of potentially infectious material or organism is to contain the spill and treat any exposed persons. After this occurs a properly trained employee can then begin the clean up and decontaminated process. Please use unit/duty specific procedures in addition to the following information provided by the Public Health Agency of Canada:

<table>
<thead>
<tr>
<th>Infection/Disease</th>
<th>Disinfectant</th>
<th>Survival Outside Host</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Immunodeficiency Virus (HIV)</td>
<td>Susceptible to many disinfectants: 1% sodium hypochlorite, ethanol</td>
<td>Drying in environment causes rapid (within several hours) 90-99% reduction in HIV concentration</td>
</tr>
<tr>
<td>Hepatitis A Virus (HAV)</td>
<td>Susceptible to 1% sodium hypochlorite</td>
<td>Survives in water and sewage for long periods; HAV at 4° C, infectivity is reduced after 6 weeks</td>
</tr>
<tr>
<td>Hepatitis B Virus</td>
<td>Susceptible to many disinfectants: 1%</td>
<td>Survives in dried blood for long</td>
</tr>
<tr>
<td>Infection/Disease</td>
<td>Disinfectant</td>
<td>Survival Outside Host</td>
</tr>
<tr>
<td>-------------------</td>
<td>--------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td><strong>Hepatitis B Virus</strong>&lt;br&gt;(HBV)</td>
<td>sodium hypochlorite, 70% ethanol</td>
<td>periods (weeks), stable on environmental surfaces for a least 7 days at 25° C</td>
</tr>
<tr>
<td><strong>Hepatitis C Virus</strong>&lt;br&gt;(HCV)</td>
<td>Limited data; susceptible to 1% sodium hypochlorite, 70% ethanol</td>
<td>Not known. Suspected to be similar to hepatitis B virus (survives in dried blood for long periods- weeks)</td>
</tr>
<tr>
<td><strong>Tuberculosis</strong>&lt;br&gt;(<em>Mycobacterium tuberculosis; TB</em>)</td>
<td>Resistant to disinfectants requires long contact times: 5% phenol, 1% sodium hypochlorite (only if low organic matter &amp; longer contact times), iodine solutions (high concentration of available iodine required)</td>
<td>Carpet - up to 70 days; dust - 90 to 120 days; cockroaches - 40 days; manure 45 days; paper book - 105 days; sputum (cool, dark location) - 6 to 8 months; clothing - 45 days</td>
</tr>
<tr>
<td><strong>Tetanus</strong>&lt;br&gt;(<em>Clostridium tetani</em>)</td>
<td>Spores are resistant to many disinfectants; moderately susceptible to sodium hypochlorite; susceptible to high level disinfectants such as glutaraldehyde with a prolonged contact time</td>
<td>Manure - several days; soil - spores survive long periods; textiles - 730 days</td>
</tr>
<tr>
<td><strong>Influenza Virus</strong>&lt;br&gt;i.e. H1N1, Avian Flu</td>
<td>Susceptible to disinfectants - 1% sodium hypochlorite, 70% ethanol</td>
<td>Dried mucus - several hours</td>
</tr>
<tr>
<td><strong>West Nile Virus</strong></td>
<td>Susceptible to 2-3% hydrogen peroxide, 500 to 5000ppm available chlorine, alcohol, 1% iodine and other organic solvents/detergents</td>
<td>10 fold decrease in titer per 24 hour period at 28° C</td>
</tr>
<tr>
<td><strong>Hantavirus</strong></td>
<td>Susceptible to 1% sodium hypochlorite (10% sodium hypochlorite for heavily soiled material), 70% ethanol</td>
<td>Sensitive to drying; infectivity of Hantavirus has been reported to persist for several hours at 37° C &amp; for several days at lower temperatures as well as in dried cell cultures for up to 2 days; virus suspensions have been stored at -60° C in salt solution + 1% bovine albumin for over 5 years and remain infectious</td>
</tr>
<tr>
<td><strong>Escherichia coli</strong>&lt;br&gt;(enterohemorrhagic)</td>
<td>Susceptible to many disinfectants: 1% sodium hypochlorite, 70% ethanol</td>
<td>Butter - up to 50 min; cream - 10 days; hamburger meat - survives well; does not survive long in slurry systems; survives well in contaminated faeces and soil, only small reduction in organism number over 2 months</td>
</tr>
<tr>
<td><strong>Salmonella</strong>&lt;br&gt;(Salmonellosis)</td>
<td>Susceptible to many disinfectants: 1% sodium hypochlorite, 70% ethanol</td>
<td>Survives for long periods in the environment</td>
</tr>
</tbody>
</table>

The following procedures are University of Regina guidelines:

**7.1 Blood and Body Fluid Spill Clean Up**

Blood and body fluids may contain: HIV, Hepatitis B, Hepatitis C, Influenza
- Close area from public use.
- Don the appropriate PPE for cleaning up a blood/body fluid spill:
  - Gloves should **always** be worn during the cleaning and disinfecting procedures.
  - If the possibility of splashing exists, the worker should wear a face shield and gown.
  - For large spills- coveralls, gowns, or aprons in addition to booties or protective shoe covers should be worn.
  - PPE should be changed if torn or soiled and always **removed** before leaving the location of the spill.
• Collect any sharp objects with forceps or other mechanical device and place in a sharps container/biohazard container.
• Care must be taken to avoid splashing or generating aerosols during the clean up.
• The blood/body fluid spill area must be cleaned of obvious organic material before applying a disinfectant, as sodium hypochlorite (chlorine bleach) and other disinfectants are substantially inactivated by blood and other materials. Absorb excess blood and body fluids with paper towels and place in a biohazard bag or plastic-lined receptacle.
• Lay paper towels over the remaining spill.
• The area should be disinfected with a low-level chemical disinfectant such as bleach.
  - Concentrations ranging from ~ 500 ppm (1:100 dilution) to 5000 ppm (1:10 dilution) of bleach are effective.
  - A stronger dilution may be needed depending on the amount of organic material (e.g. blood or mucus) present on surface to be cleaned and disinfected.
  - For carpet or upholstered surfaces, a low level disinfectant may be used.
• Spray the site with the freshly prepared bleach disinfectant and for larger spills make enough dilute bleach to pour into the spill puddle to double its size. Start applying the disinfectant from the outside and move inwards.
• Leave the bleach disinfectant on the surface for 10-15 minutes.
• The treated area should then be wiped with paper towels soaked in tap water. Allow the area to dry.
• Discard all paper towels and disposable items used to decontaminate the spill, including disposable PPE, in a biohazard bag or a plastic-lined waste container. The plastic garbage bag must be tied off and disposed of immediately.
• Decontaminate any reusable items with disinfectant.
• Wash hands very well.

7.2 Human Faecal Matter Spill Clean Up

Faecal matter may contain: *E. coli*, *Salmonella*, and Tetanus
• Close area from public use.
• Don the appropriate PPE for cleaning up a faecal matter spill:
  - Gloves should always be worn during the cleaning and disinfecting procedures.
  - If the possibility of splashing exists, the worker should wear a face shield and gown.
  - For large spills- coveralls, gowns, or aprons in addition to booties or protective shoe covers should always be worn.
  - Personal protective equipment should be changed if torn or soiled and always removed before leaving the location of the spill.
• Collect any sharp objects with forceps or other mechanical device and place in a sharps container/biohazard container.
• Care must be taken to avoid splashing or generating aerosols during the clean up.
• The faecal spill area must be cleaned of obvious organic material before applying a disinfectant, as sodium hypochlorite (chlorine bleach) and other disinfectants are substantially inactivated by blood and other materials. Absorb excess faecal matter with paper towels and place in a biohazard bag or plastic-lined receptacle.
• Lay paper towels over the remaining spill.
• The area should be disinfected with a low-level chemical disinfectant such as bleach.
  - Concentrations ranging from ~ 500 ppm (1:100 dilution) to 5000 ppm (1:10 dilution) of bleach are effective.
  - A stronger dilution may be needed depending on the amount of organic material (e.g. blood or faeces) present on surface to be cleaned and disinfected.
  - For carpet or upholstered surfaces, a low level disinfectant may be used.
• Spray the site with the freshly prepared bleach disinfectant and for larger spills make enough dilute bleach to pour into the spill puddle to double its size. Start applying the disinfectant from the outside and move inwards.
• Leave the bleach disinfectant on the surface for 10-15 minutes.
• The treated area should then be wiped with paper towels soaked in tap water. Allow the area to dry.
• Discard all paper towels and disposable items used to decontaminate the spill, including disposable PPE, in a biohazard bag or a plastic-lined waste container. The plastic garbage bag must be tied off and disposed of immediately.
• Decontaminate any reusable items with disinfectant.
• Wash hands very well.

7.3 Dead Animal and Animal Excrement Spill Clean Up
Rodent droppings, urine, and saliva may contain: Hantavirus. Dead birds may contains: *Salmonella*

Hantavirus is transmitted to people when they inhale airborne particles contaminated by the saliva or excretions of infected rodents. People who develop a fever or respiratory illness within six weeks of potential exposure to sources of infection should immediately seek medical attention and inform Health and Safety.
• Close area from public use.
• Ventilate closed buildings or areas for 30 minutes before the start of cleaning.
• Wear a proper, well-fitted disposal filter respirator. **You MUST be Fit Tested before wearing a respirator!**
  - Select high efficiency particulate air (HEPA) filter cartridges or filter masks that are approved by the National Institute for Occupational Safety and Health (NIOSH). Look for one of the following approval ratings on the filter or packaging: N100; R100; or P100.
  - For occasional cleaning, a disposable N100, R100 or P100 respirator is adequate in most cases.
• Wear eye goggles when cleaning overhead or when it is necessary to clean heavily contaminated areas using dry methods such as dusting, sweeping, vacuuming, or air hosing.
• Wear plastic or rubber gloves. For severe infestations or for prolonged periods of cleaning, consider using disposable coveralls, head covers, and rubber boots or disposable shoe covers.
• Spray debris with a disinfectant solution (such as 1:10 dilution of sodium hypochlorite (chlorine bleach)) and scoop it into double plastic bags. Close bags with a twist-tie and put them in the regular garbage.
• Spray or soak dead rodents in a disinfectant solution before placing them in double plastic bags for disposal.
• Clean the area using wet methods such as wet-wiping, mopping, or using a water hose whenever possible. Use the disinfectant solution for cleaning.
  - Avoid using dry methods (e.g. dusting, sweeping, vacuuming). Vacuum machines equipped with a HEPA filter can be used.
  - For carpets, use a commercially available carpet disinfectant. Add the disinfectant to the regular carpet shampoo, according to manufacturer’s instructions.
• Disinfect countertops, cabinets, drawers, and other non-porous surfaces.
• PPE should be decontaminated or safely disposed of after use:
  - Disposable PPE should be placed in a plastic-lined waste container.
  - Non-disposable coveralls, coats, and head coverings should be laundered on-site if possible. If not, coveralls, coats, head coverings should be immersed in liquid disinfectant until they can be washed.
  - Disinfect eye goggles and rubber boots.
  - Disinfect and clean gloves before removing them.
• Wash hands and exposed skin surfaces thoroughly with soap and water.

7.4 Pathogen or Toxin Spill Clean Up
For spills of known pathogens or toxins refer to Infectious Agents and Diseases (Section 8) for special precautions and the above table for disinfectant instructions.
• Close area from public use.
• Don the appropriate PPE for cleaning a pathogen or toxin spill:
  - Gloves should always be worn during the cleaning and disinfecting procedures.
  - If the possibility of splashing exists, the worker should wear a face shield or goggles.
  - For large spills- coveralls, gowns, or aprons in addition to booties or protective shoe covers should always be worn.
  - For airborne pathogens, an appropriate respirator must be worn. You MUST be Fit Tested before wearing a respirator!
  - Personal protective equipment should be changed if torn or soiled and always removed before leaving the location of the spill.
• Collect any sharp objects with forceps or other mechanical device and place in a sharps container.
• Care must be taken to avoid splashing or generating aerosols during the clean up.
• The pathogen or toxin spill area must be cleaned of obvious organic material before applying a disinfectant, as sodium hypochlorite (chlorine bleach) and other disinfectants are substantially inactivated by organic material. Absorb excess fluids with paper towels and place in a biohazard bag or plastic-lined receptacle.
• Lay paper towels over the remaining spill.
• The area should be disinfected with a low-level chemical disinfectant such as bleach.
  - Refer to the above table for specific pathogen or toxin disinfectant instructions.
  - A stronger dilution may be needed depending on what pathogen or toxin is spilt.
  - For carpet or upholstered surfaces, a low level disinfectant may be used.
- Spray the site with the freshly prepared bleach disinfectant and for larger spills make enough dilute bleach to pour into the spill puddle to double its size. Start applying the disinfectant from the outside and move inwards.
- Leave the bleach disinfectant on the surface for 10-15 minutes.
- The treated area should then be wiped with paper towels soaked in tap water. Allow the area to dry.
- Discard all paper towels and disposable items used to decontaminate the spill, including disposable PPE, in a biohazard bag or a plastic-lined waste container. The plastic garbage bag must be tied off and disposed of immediately.
- Decontaminate any reusable items with disinfectant.
- Wash hands very well.

### 8. Infectious Agents and Diseases

The following information is from the Public Health Agency of Canada; please see Spills (Section 7) for infectious agent spill procedures. If you have been or think you may have been exposed to infectious agents, please seek medical attention immediately. Please refer to Material Safety Data Sheets (MSDS) for more information.

<table>
<thead>
<tr>
<th>Infection/Disease</th>
<th>Mode of transmission</th>
<th>Infectious Dose</th>
<th>Communicable Period; Incubation Period</th>
<th>Early Signs &amp; Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Human Immunodeficiency Virus</strong></td>
<td>Person-to-person through direct exposure to infected body fluids (blood, semen), sexual contact, needlestick, blood splash into mucous membranes (eyes, nose, and mouth), or blood contact with open wound</td>
<td>Unknown</td>
<td>Unknown Communicable Period. Incubation Period is 6 months – 7 years</td>
<td>Anorexia, weight loss, chronic diarrhea, fever, fatigue, and opportunistic infections</td>
</tr>
<tr>
<td><strong>Acquired Immune Deficiency Syndrome (AIDS)</strong></td>
<td></td>
<td>Unknown</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Hepatitis A Virus</strong></td>
<td>Person-to-person by faecal-oral route; ingestion of contaminated food (i.e., shell fish) and water; rare instances of transmission by blood transfusion; hands may play an important role in the direct and indirect spread of HAV</td>
<td>Unknown, however presumed to be in the range of 10-100 virus particles</td>
<td>Communicable Period is maximal during the latter half of the incubation period, and continuing for a few days after onset of jaundice; HAV is excreted in a highly concentrated form in the faeces for a short period of time, reaches peak level the week or two before onset of symptoms Incubation Period is from 10-50 days, depending on dose; average 28-30 days</td>
<td>Many infections are asymptomatic; abrupt onset with fever, malaise, anorexia, nausea and abdominal discomfort, followed within a few days by jaundice; mild illness (1-2 weeks) to severely disabling (6-9 months period)</td>
</tr>
<tr>
<td><strong>Hepatitis B Virus</strong></td>
<td>Percutaneous or permucosal exposure to infectious body fluids (blood, blood products, cerebral spinal fluid, serum-derived fluids,)</td>
<td>Unknown</td>
<td>Communicable Period can start weeks before symptoms show; remains infective through clinical and chronic carrier states</td>
<td>Two major forms: asymptomatic infection and symptomatic hepatitis; onset is insidious with anorexia, vague abdominal discomfort,</td>
</tr>
<tr>
<td>Infection/Disease</td>
<td>Mode of transmission</td>
<td>Infectious Dose</td>
<td>Communicable Period; Incubation Period</td>
<td>Early Signs &amp; Symptoms</td>
</tr>
<tr>
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</tr>
<tr>
<td>Hepatitis C Virus (HCV)</td>
<td>Percutaneous exposure to contaminated blood and plasma derivatives; contaminated needles and syringes; risk of HCV transmission by household contact and sexual activity has not been well defined; in over 40% of cases, the risk factor(s) for HCV transmission cannot be identified</td>
<td>Unknown</td>
<td>Communicable period is from one or more weeks before onset of first symptoms; may persist in most persons indefinitely</td>
<td>Anorexia, vague abdominal discomfort, nausea and vomiting, progressing to jaundice; severity ranges from unapparent cases in approximately 90% of infections to rare fulminating, fatal cases; chronic liver disease with fluctuating or persistently elevated liver enzymes is common; of those with chronic liver disease, 30%-60% may develop chronic active hepatitis and 5%-20% may develop cirrhosis; chronic infection is often not symptomatic</td>
</tr>
<tr>
<td>Mycobacterium tuberculosis (Tuberculosis; TB)</td>
<td>Entry is by the lung; pathogen is carried as airborne particles (droplet nuclei); exposure to airborne bacilli from sputum of infected persons; direct invasion of mucous membranes or breaks in skin</td>
<td>10 bacilli by inhalation</td>
<td>Communicable as long as bacilli are discharged in sputum (may be years if untreated)</td>
<td>Initial infection usually unnoticed, tuberculin sensitivity appears in a few weeks and lesions commonly heal; may progress to pulmonary tuberculosis- fatigue, fever, cough, chest pain, hemoptysis fibrosis, cavitation or extrapulmonary involvement by lymphohematogenous dissemination; serious outcome of initial infection more frequent in infants and children</td>
</tr>
<tr>
<td>Clostridium tetani (Tetanus)</td>
<td>Tetanus spores are introduced into the body through a wound contaminated with soil, street dust, faeces, or injected street drugs; also through lacerations, burns</td>
<td>Toxin is extremely potent</td>
<td>No Communicable Period</td>
<td>An acute disease induced by a neurotoxin; painful muscular contractions, primarily of neck muscles, secondarily of trunk muscles; abdominal</td>
</tr>
<tr>
<td>Infection/Disease</td>
<td>Mode of transmission</td>
<td>Infectious Dose</td>
<td>Communicable Period; Incubation Period</td>
<td>Early Signs &amp; Symptoms</td>
</tr>
<tr>
<td>----------------------------</td>
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</tr>
<tr>
<td>Influenza Virus i.e. H1N1 Avian Flu</td>
<td>By direct contact through droplet infection, aerosols; airborne spread among crowded populations in enclosed spaces; virus may persist for hours in dried mucus and be transmitted by direct contact</td>
<td>Influenza A 2-790 p.f. units</td>
<td>Highly Communicable period 3-5 days from clinical onset, up to 7 days in young children</td>
<td>An acute viral disease of the upper respiratory tract characterized by acute fever, chills, headache, myalgia, weakness, runny nose and mild sore throat and cough, cough can be severe; nausea and vomiting are uncommon; fatality is generally low, except in those with chronic lung or heart conditions; recovery in 2-14 days</td>
</tr>
<tr>
<td>West Nile Virus</td>
<td>Spread by the bite of an infected mosquito or tick; transmitted from an infected animal-to-person through punctures and cuts</td>
<td>Unknown</td>
<td>No Communicable Period. Incubation Period usually 3-14 days, with symptoms lasting 3-6 days</td>
<td>Sudden onset of a feverish “flu-like” illness, anorexia, nausea, vomiting, eye pain, headache, rash, swollen lymph glands, aseptic meningitis, encephalitis, mental status changes, paralysis, occasional seizures, and coma.</td>
</tr>
<tr>
<td>Hantavirus</td>
<td>Aerosol transmission from infected deer mice/ rodent saliva and excreta; Potential routes of transmission: ingestion, contact of infectious materials with mucous membranes, broken skin and via animal bites</td>
<td>Unknown</td>
<td>No believed Communicable Period. Incubation Period is from 3-60 days; average 14-30 days</td>
<td>Begins as a flu-like illness: fever, muscle aches, cough, headaches, nausea and vomiting. As disease worsens, pneumonia may develop: fluid in lungs. Heart function may be affected.</td>
</tr>
<tr>
<td><em>Escherichia coli</em> (enterohemorrhagic)</td>
<td>Ingestion of contaminated food (undercooked hamburger meat, unpasteurized milk); fecal-oral transmission; extremely high person-to-person transmission. Affects all ages.</td>
<td>Low</td>
<td>Communicable Period for duration of fecal excretion (7-9 days); 3 weeks in one third of children. Incubation Period is 2-8 days (median of 3-4 days)</td>
<td>Hemorrhagic colitis, intestinal disease accompanied by cramps and abdominal pain; initially watery, followed by bloody diarrhea; low grade fever; last about 8 days; 5-10% of hemorrhagic colitis victims may develop hemolytic uremic syndrome</td>
</tr>
<tr>
<td><em>Salmonella</em> (Salmonellosis)</td>
<td>By ingestion of directly or indirectly contaminated food from infected animals or food by infected animal or person;</td>
<td>Ingestion of 100 – 1,000 organisms</td>
<td>Communicable Period is throughout course of infection; several days to several weeks; temporary carriers can</td>
<td>Sudden onset of abdominal pain, diarrhea, nausea and vomiting; dehydration may be severe; food borne</td>
</tr>
<tr>
<td>Infection/Disease</td>
<td>Mode of transmission</td>
<td>Infectious Dose</td>
<td>Communicable Period; Incubation Period</td>
<td>Early Signs &amp; Symptoms</td>
</tr>
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</tr>
<tr>
<td></td>
<td>from animal feeds and fertilizers prepared from contaminated meat scraps; fecal-oral transmission from person to person; direct contact with pets such as reptiles, birds, turtles, tortoises</td>
<td>continue for several months; 1% of 1% of infected adults and 5% of infected children excrete organism for over 1 year. Infection Period is 6 -72 hours, usually about 12-36 hours</td>
<td>disease; may progress to more serious septicemia, includes focal infections, abscesses, endocarditis, pneumonia; may also cause typhoid like enteric fever; some cases develop reactive arthritis which may become chronic</td>
<td></td>
</tr>
</tbody>
</table>

9. Mould

All employees involved with mould remediation must receive training consistent with their duties. The training must include the understanding, knowledge, and skills necessary for the safe performance of the duties assigned under the Plan.

Please see the following information provided by the Saskatchewan Ministry of Advanced Education, Employment and Labour:  
http://www.labour.gov.sk.ca/mould/

9.1 Mould Remediation Procedures

Mould growth occurs when building materials become wet due to water leaks, floods, or high humidity. It is essential that water and moisture be controlled as soon as possible to prevent mould growth. If the cause of the water accumulation is not rectified and cleaned immediately, mould growth will recur. An immediate response (24 to 48 hours) and thorough clean up, drying, and/or removal of water damaged materials will prevent or limit mould growth.

The following procedures are to be carried out by trained individuals provided with appropriate personal protective equipment. Cleaning mould from various items/materials/furnishings:

- Only non-porous (e.g., metals, glass, and hard plastics) and semi-porous (e.g., wood, and concrete) materials that are structurally sound and are visibly mouldy can be cleaned and reused. Cleaning should be done by damp wiping with an appropriate cleaning agent. All reused materials should be dry and visibly free of mould.
- Porous materials such as ceiling tiles, insulation, and gypsum board should not be cleaned and should be removed and discarded. Seal in plastic bags and dispose of as normal waste. HEPA vacuum surrounding area.
- Carpeting, backing, and fabric upholstered furniture can be cleaned using wet vacuuming, or steam cleaning. After carpeting has dried, repeat cleaning with a HEPA vacuum.
- Books may be cleaned using a HEPA vacuum.

The use of gaseous, vapor-phase, or aerosolized biocides for remedial purposes is not recommended. The use of biocides can pose health concerns for people in occupied spaces of the building and if used improperly for those returning to the treated space. Furthermore, the effectiveness of these treatments is unproven and does not address the possible health concerns of the remaining non-viable mould.
10. Guide to Vaccinations
A vaccination is a simple and effective way to prevent serious disease or illness in employees who may be exposed to an infectious agent. Side effects are rare. A vaccination stimulates a person’s immune system to protect against the infectious organism before it can cause disease or illness.

There are some risks with taking a vaccine, thus you must be informed about any risks before being immunized. Contact the Regina Qu’Appelle Health Region Immunization Services, Adult Immunization: (306) 776-7904 for more information.

Employees in certain occupations may be exposed to infectious agents that they normally would not come in contact with in everyday life, thus, the 2006 Canadian Immunization Guide recommends vaccinations for certain occupational groups. However, there are no recommendations currently for occupational groups at the University of Regina.

The University of Regina supports but does not require vaccinations for students, staff, faculty, and guests at this time, however the following is recommended:
- Campus Security- Hepatitis A, Seasonal Influenza, and Tetanus
- Electrical Services- Hepatitis A, Seasonal Influenza, and Tetanus
- Mechanical Services- Hepatitis A, Seasonal Influenza, and Tetanus
- Custodial Services- Hepatitis A, Seasonal Influenza, and Tetanus

If you fall within these occupational groups, please contact your Supervisor to make arrangements to receive these vaccinations during your normal work time and to be reimbursed for the associated costs. If you cannot receive a vaccination during your normal hours then your supervisor will credit the attendance for the vaccination as time at work and you will not lose any pay or other benefits.

Non-Compliance
All individuals participating in activities related to living, working, and learning at the University of Regina that may expose them to any potentially infectious materials and organisms are subject to the requirements of these procedures. Violations place the University at significant risk and are therefore unacceptable and will be subject to appropriate corrective administrative or non-academic discipline.

Related Documents
- Health and Safety Policy
- Emergency Management Policy
- Unit Emergency Preparedness and Response Plans
- University Closure Policy
- Pandemic Plan
Appendix 1

Procedures for Refusal of work

Start
Employee has reasonable grounds to believe job is unusually dangerous

Step 1:
Involve the supervisor

Employee satisfied?

YES
Return to work

NO

Step 2:
Involve the committee

Employee satisfied?

YES
Return to work

NO

Step 3:
Committee investigates

Employee satisfied?

YES
Return to work

NO

Step 4:
Involve the OH&S Division

Employee satisfied?

YES
Return to work

NO

The refusing employee informs the supervisor that the job is being refused for health and safety reasons.

The supervisor and employee attempt to resolve the concern. The supervisor may reassign the employee during the investigation.

The employee does not leave the university without the permission of the supervisor.

The supervisor contacts Health & Safety to assist in the resolution of the refusal. Health & Safety contacts the appropriate committee representative (CUPE, APT or URFA).

They interview the employee and supervisor.

They refer to University policies, procedures and applicable legislation.

Health & Safety and the Occupational Health Committee representative convene an emergency committee meeting. The committee investigates the refusal.

If required, a quorum of the committee votes to decide if the disputed work is unusually dangerous. Unanimity is required to vote against the refusal.

The committee sends its recommendations for corrective action to the supervisor and VP Admin. The VP Admin reports the Universities actions to the committee.

An occupational health officer investigates and provides a written ruling to the parties.

Anyone directly affected by the officer’s decision may appeal under Part VIII of the Act.
Exposure Determination

This exposure determination was originally conducted in August 2009. The information presented in this appendix is reviewed and updated annually. All University occupational groups have been evaluated for risk of occupational exposure to infectious materials and organisms.

Faculty/Department Emergency Preparedness and Responses Plans may have identified other at risk personnel not listed here and these personnel must be informed of the University of Regina Infection Control Plan by their supervisor.

OPIM means other potentially infectious materials and organisms.

<table>
<thead>
<tr>
<th>Occupational Group</th>
<th>Tasks with Potential for Exposure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Staff Members including anyone on Campus conducting research</td>
<td>Handling blood/tissues/OPIM/contaminated sharps/biological spill clean up. Handling contaminated equipment.</td>
</tr>
<tr>
<td>Allied Health Center Employees</td>
<td>Handling blood/tissues/OPIM/contaminated sharps/biological spill clean up. Handling contaminated equipment.</td>
</tr>
<tr>
<td>Athletics Coaches and Trainers</td>
<td>Handling blood/tissues/OPIM/contaminated sharps. Providing CPR and first aid.</td>
</tr>
<tr>
<td>Custodial Services</td>
<td>Handling blood/tissues/OPIM/contaminated sharps/biological spill clean up. Handling contaminated equipment. Exposure to dead animals or animal excrement.</td>
</tr>
<tr>
<td>Electrical/Mechanical Services Utility Labourer/Maintenance</td>
<td>Trades work in areas where there is potentially exposure to infectious agents. Maintenance work on contaminated equipment. Exposure to dead animals or animal excrement.</td>
</tr>
<tr>
<td>Fitness and Lifestyle Employees</td>
<td>Handling blood/tissues/OPIM/contaminated sharps/biological spill clean up. Handling contaminated equipment. Providing first aid and CPR. Emergency encounters.</td>
</tr>
<tr>
<td>Research/Student Assistants &amp; Coop Students</td>
<td>Handling blood/tissues/OPIM/contaminated sharps/biological spill clean up. Handling contaminated equipment.</td>
</tr>
<tr>
<td>Technicians</td>
<td>Handling blood/tissues/OPIM/contaminated sharps/biological spill clean up. Handling contaminated equipment.</td>
</tr>
</tbody>
</table>
Recommendations Regarding Prevention and Management of Infectious Diseases for Summer Camp Programs

The risk of transmission of infectious diseases will vary depending on the disease, type of camp, number of campers, the type of interaction, activities that the camp offers and the health status of the campers. The risk of transmission in day camps is considered to be similar to that in childcare centres or schools. Overnight camps are thought to have a greater risk of transmission than day camps due to the more prolonged and intimate contact (sharing sleeping quarters, sharing washrooms, etc.) between individuals. Also, overnight camps are usually further away from urban centres and may not have ready access to medical facilities. Special needs camps have similar risk of transmission as that of overnight camps but in some instances may have a population of children who are higher risk of severe illness or complications.

The development and implementation of a training program for camp staff and volunteers regarding communicable disease control, including specific information on how to recognize and report possible cases of infectious diseases is recommended following the University Infection Control Plan.

The provision of relevant age appropriate educational materials and information for campers is also recommended. Camp Staff Procedures should include:

- **Screening/Monitoring/Reporting**
  - Entry screening, at the point where students are dropped off or enter camp, may help to prevent entry of an infectious disease into the camp setting. A process of monitoring for illness should be developed including a reporting system. Established camp protocols should include monitoring and reporting procedures. Emergency contact information should be obtained in advance of the camp including where to obtain emergency assistance when in remote areas.

- **Hand Hygiene**
  - Hand hygiene supplies (plain soap and running water and/or alcohol-based hand rub with 60-90% alcohol) located at multiple sites around the camp, in particular the common areas where campers congregate, will facilitate proper hand hygiene.

- **Cleaning**
  - Cleaning and disinfecting objects and surfaces that are commonly touched by multiple campers/staff, surfaces such as doorknobs, faucet handles, athletic equipment, and shared supplies, will help to prevent the transmission of viruses from person to person through contaminated hands.
  - It is recommended that high touch surfaces be cleaned at least twice daily. No special disinfectants are required for influenza; regular household or commercially available cleaning products are sufficient for this purpose.

- **Employee Training**
  - Provide camp staff with University of Regina procedures, for example Emergency Procedures Manual and reporting (University of Regina Incident Report).