**Biohazardous Agent Reference Document (BARD) and**

**Information for Healthcare Providers in the Event of an Exposure**

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| The BARD is an additional guidance tool. It is not a substitute for a risk assessment, biosafety training, lab-specific training, SOP as required by the IBC or a formal [IBC master protocol registration](https://www.uvm.edu/rpo/biosafety-oversight). This document must be readily available in the laboratory, and it is the responsibility of the Laboratory Supervisor or Principal Investigator to ensure that all personnel have read and understood the information. The BARD is not intended to be a substitute for professional medical advice, diagnosis, or treatment. Please bring this IBC-approved BARD with you to the UVMMC Emergency Department if there has been an exposure and someone requires medical assistance.  INSTRUCTIONS for BARD Preparation   1. Complete the blue Information for Healthcare Providers section. 2. Review the standard information contained in the green section of this document. 3. Add/revise information that is specific to your work in the laboratory (such as strain-specific information). Please be sure that the track changes function is turned on to indicate any changes that you make. 4. Submit the BARD along with your IBC master protocol registration or amendment. 5. Once approved by the IBC, all personnel must review this BARD. The PI will attest during the submission of the registration or amendment to add new personnel that each lab member has read and understands the material. | |
| **Information for Healthcare Providers**  Dear Healthcare Provider,  This individual works in a UVM research laboratory and has been exposed to a pathogen or toxin. Information about the materials this person may have been exposed to is listed below. You may also find useful additional information in subsequent pages of this reference document. | |
| **Pathogen Name:** | Influenza A Virus |
| **Pathogen/Toxin Classification:** |  |
| **List All Strains Used in the Laboratory:** |  |
| **List Resistant Genes Known to be Encoded:** |  |
| **Modes of Transmission *(mucous membranes, needle stick, inhalation)*:** | Inhalation, mucous membrane contact |
| **Known Medical Precautions and Treatment** | |

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| **Prophylaxis** | Antivirals within 3 days of detected illness may be prescribed |
| **Vaccines** | Flu vaccines available |
| **Treatment and/or Post-exposure Intervention** | Fluids and rest. Antivirals (oseltamivir, zanamivir) may be used in combination with antibiotics to prevent or treat secondary bacterial pneumonia. |
| **Surveillance** | Monitor for symptoms and test using RT-PCR |
| **Additional Medical Precautions (immunosuppression, pregnancy, allergies)** | Highly communicable, shedding may begin before symptoms and may continue for up to 7 days |

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| **Health Hazards** | |
| **Host Range** | Humans, swine, horses, birds, and other mammals |
| **Signs and Symptoms** | Fever, headache, muscle pain, malaise, sore throat, non-productive cough, sneezing, nasal discharge. Children may also experience middle ear infection, nausea, or vomiting. May lead to pulmonary or cardiac complications, secondary bacterial pneumonia. |
| **Infectious Dose** | Unknown |
| **Incubation Period** | 1 – 3 days |
| **Exposure Procedures** | |
| **Mucous membranes** | Flush eyes, mouth or nose for 15 minutes at eyewash station. |
| **Other exposures** | Wash area with soap and water for 15 minutes |
| **Medical Follow-Up** | Contact UVMMC Infectious Disease Dept. directly at **(802) 847-2700** for immediate assistance. Bring this document with you if seeking medical care. |
| **Reporting** | Report all exposures or near misses to:   1. Your immediate Supervisor 2. SOS at 802-656-2560 and ask to have the EH&S team paged 3. Risk Management: <https://www.uvm.edu/riskmanagement/incident-claim-reporting-procedures> |
| **Laboratory Hazards** | |
| **Laboratory Acquired Infections** | 15 reported cases for influenza type A up until 1974. No reports of animal-associated infections, however, risk is high from infected ferrets |
| **Sources** | Respiratory tissues or secretions from infected humans or animals, digestive tract of infected birds, organs of infected animals, laboratory cultures. |
| **Characteristics** | |
| **Morphology** | Member of the Orthomyxoviridae family, enveloped virus, influenza A |
| **Strain Specific Characteristics** | Avian flu & 1918 strain are select agents  PR8 is a mouse-adapted strain |
| **Containment Requirements** | |
| **BSL - 2** | Manipulation of known or potentially infected clinical samples and cell cultures of laboratory adapted strains (RG2) |
| **BSL - 3** | All viral isolations |
| **ABSL - 2** | All work with infected animals |
| **ABSL - 3** |  |
| **Aerosol generating activities** | Centrifugation, homogenizing, vortexing or stirring, changing of animal cages, animal surgeries, cell sorting, pipetting, pouring liquids, sonicating, loading syringes |
| **Primary containment device (BSC)** | Use for all work with samples, aerosol-generating activities, high concentrations, or large volumes |
| **Personal Protective Equipment (PPE)** | |
| ***Minimum PPE Requirements*** | Nitrile gloves, closed toed shoes, lab coat, appropriate eye/face protection. Wash hands after removing gloves. |
| ***Additional Precautions***  ***(Risk assessment dependent)*** | Sharps use strictly limited. Due to modes of transmission, respirators may be required when working with influenza. Medical clearance, fit testing and training is required annually per UVM’s Respiratory Protection Program; <https://www.uvm.edu/riskmanagement/personal-protective-equipment> |
| **Viability** | |
| **Disinfection** | Susceptible to 1% sodium hypochlorite, 2% alkaline glutaraldehyde, 60 – 95 % ethanol, 5% phenol, and 5 – 8% formaldehyde; with 10 minute contact time |
| **Inactivation** | Inactivated by steam autoclaving, or dry heat at 170°C for 1 hour, 160°C for 2 hours, or 121°C for at least 16 hours |
| **Survival Outside Host** | Capable of surviving 24 – 48 hours on hard, nonporous surfaces. 8 – 12 hours on cloth, paper, or tissue. |
| **Spill Clean-Up Procedures** | |
| **Small Spill** | Notify others working in the lab. Allow aerosols to settle. Don appropriate PPE. Cover area of the spill with paper towels and apply approved disinfectant, working from the perimeter towards the center. Allow 30 minutes of contact time before clean up and disposal. Dispose in double biowaste bags and biobox. |
| **Large Spill** | **Inside of a lab:** Call UVM Service Operations at 656-2560 and ask to speak to a dispatcher. Ask them to page Risk Management and Safety.  **Outside of the lab:** Pull the nearest fire alarm and evacuate the building. Wait out front of the building for emergency responders to arrive. |
| **References** | |
| **Canadian PSDS** | <https://www.canada.ca/en/public-health/services/laboratory-biosafety-biosecurity/pathogen-safety-data-sheets-risk-assessment/influenza-virus-type-a.html> |
| **BMBL** | <https://www.cdc.gov/biosafety/publications/bmbl5/> |
| **CDC H1N1 2009 Guidelines** | <https://www.cdc.gov/h1n1flu/guidelines_labworkers.htm> |
| **WHO** | <http://www.who.int/influenza/human_animal_interface/en/> |