Working with Non-Human Primates

Animal Use Medical Screening (AUMS):

All personnel working with animals, their tissues, or working in areas where animals are housed must submit an Animal Use Medical Screening (AUMS) form every 3 years to screen for exposure to possible health hazards in the work environment. Complete the form online at: https://www.ehs.washington.edu/research-lab/animal-use-medical-screening-aums

Potential zoonotic diseases from Non-Human Primates (NHPs):

See *Appendix A: Zoonotic Disease Potentials from Non-Human Primates* for a list of possible zoonotic diseases.

Preventative measures:

- Tetanus booster should be obtained every 10 years.
- Only trained personnel should handle the NHPs.
- Wear appropriate clothing and personal protective equipment (PPE). Wear protective gloves when handling the animals. Wash hands thoroughly upon completion of the tasks with the animal and upon removal of the glove/PPE. Use antiseptic hand sanitizer between glove use if needed, until you can get to handwashing facilities.

Injuries:

- See the EH&S Exposure Response Poster.
- Immediately wash area thoroughly with soap and water for at least 15 minutes.
- Control any bleeding and cover with protective dressing (bandage, etc.)
- For any injuries, needle stick/sharps injury or for signs/symptoms of wound infection such as redness, swelling or pain, contact the Employee Health Center at 206-685-1026. After hours or if the clinic is unavailable, go to the UWMC Emergency Department.
- Report injuries on the UW Online Accident Reporting System (OARS) at: http://www.ehs.washington.edu/workplace/accident-and-injury-reporting

Illness:

- If you develop signs or symptoms that you think may be related to your work with animals and/or research work, contact the Employee Health Center.
- If you see your own provider, inform him/her that you work with these animals and any other pertinent information regarding your research work. Inform Employee Health after seeing your healthcare provider.
- Report work-related illness on the UW Online Accident Reporting System (OARS) at: http://www.ehs.washington.edu/workplace/accident-and-injury-reporting

Allergies:

If you suspect you may be experiencing allergy symptoms, such as runny nose and sneezing (allergic rhinitis), irritation and tearing of eyes (allergic conjunctivitis), asthma, or skin rash (atopic dermatitis), contact the Employee Health Center. Those who already have asthma and/or other allergies are at an increased risk.

References:

- UW Research and Occupational Health webpage: https://www.ehs.washington.edu/research-lab/research-occupational-health
- University of California Davis Zoonosis Information by Species webpage: http://safetyservices.ucdavis.edu/ps/occh/acuohp/pem/zis
- Washington State University Zoonotic Diseases webpage: https://iacuc.wsu.edu/zoonotic-diseases/
- U.S. Air Force Zoonotic Diseases webpage: http://www.phsource.us/PH/ZD/index.htm

Contacts:

- UW Employee Health Center: 206-685-1026
- UWMC Emergency Department: 206-520-5000
- For questions on AUMS: 206-221-7770
- For questions on UW Online Accident Reporting: 206-543-7388

Appendix A: Zoonotic Disease Potentials from Non-Human Primates (NHPs)

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Zoonotic Disease Potentials from Non-Human Primates (NHPs)

Disease/ Infective Agent	Reservoir/ source of infection	Transmission	Disease in people
Amebiasis	Reported incidence of 0-31% in the feces of clinically normal rhesus monkeys and up to 30% in other NHP.	By ingestion of infective cysts. Laboratory animal personnel are usually infected from fecal matter transferred to the skin or clothing.	Incubation period is usually 2-6 weeks. Most humans have few or no detectable symptoms. Mild watery diarrhea to acute fulminating bloody or mucoid dysentery with fever and chills. Disease may have periods of remission and exacerbation over months to years.
Balantidiasis	Distributed worldwide. Incidence in NHP colonies is 0 to 63%. Usually asymptomatic, but may see diarrhea.	Ingestion of cysts or trophozoites from infected animal or human feces. Cyst is the infectious form.	Includes ulcerative colitis, diarrhea, dysentery, nausea, vomiting, or abdominal pain. Severe cases may see blood and/or mucus in stool. Asymptomatic infections often exist in humans.
Coccidioidomycosis (Valley Fever) and Trypanosomiasis (Chagas' disease)	Valley fever is infective only in its hyphae form that exists in the soil of dryer areas such as the southwest US. It is caused by dimorphic saprophytic fungus. Chagas' disease is caused by trypanosomes protozoal parasites (such as *Trypanosoma cruzi*) transmitted by the kissing bug, which lives across the southern United States, among other areas.	Both are carried by some primates at WaNPRC, however the conditions indoors (in the vivaria) do not exist for either of these agents to infect people.	Can cause pneumonia, dermatitis, and systemic disease in people.
Campylobacter Campylobacter is often called "campy." It is a family of bacteria that infects the intestines.	Humans, domesticated pets, farm animals and laboratory animals.	Fecal/oral	Incubation period is one to seven days. Most people get better in two to five days, even without treatment, but some people can take up to ten days to get better. The bacteria are gone after two

Disease/ Infective Agent	Reservoir/ source of infection	Transmission	Disease in people
The disease is called campylobacteriosis.			to three weeks if illness is treated. If the infection is not treated, the bacteria can stay in in the body's waste for up to three months and can get sick again as well as infect other people. Symptoms include mild to severe diarrhea, or bloody diarrhea, nausea and vomiting, stomach pain/cramping, fever, headache, and general malaise.
Cryptosporidium	This protozoal organism is common in many mammals, particularly younger animals.	Fecal/oral, contaminated water	Self-limiting diarrhea except in immune compromised people where it can be quite severe. No treatment.
Giardia	This protozoal organism is found in NHPs and many other mammals.	Fecal/oral, contaminated water	Chronic intermittent diarrhea and/or other systemic signs such as malaise, anorexia, severe cramping and nausea/vomiting.
Macacine herpesvirus 1 (Formerly *Cercopithecine herpesvirus* 1 [CHV-1], *Herpesvirus simiae,* monkey B virus)	This disease is extremely rare despite its high prevalence in the host species. Macaques are the major source of infection; although other old world primates may be infected. Most macaques are asymptomatic carriers or display only mild oral lesions that are difficult to detect. Therefore, all macaques should be presumed to be shedding "B-virus".	Via scratches, splashes (any body fluid or secretion, feces) needle sticks, and other contact of mucous membranes or broken skin with infected body fluids from macaques or with wet, unfixed tissues or primary cell culture tissue material. Contaminated husbandry or research equipment can potentially spread B virus.	Incubation period is variable, but typically about 2-3 weeks. Some early stage symptoms reported are unexplained febrile disease, fever, chills, nausea, vomiting, dizziness, and persistent headache. Occasionally, fluid filled vesicles can form near the skin wound. Symptoms of disease progression may include symptoms attributable to central nervous system infection, such as ascending encephalomyelitis, diplopia, seizures, and respiratory failure. Fatality rate is 46%. The fatality rate exceeds 80% when the exposure is not evaluated and treatment is not received.

Disease/ Infective Agent	Reservoir/ source of infection	Transmission	Disease in people
			INJURIES OR MUCOUS MEMBRANE EXPOSURE REQUIRE IMMEDIATE FIRST AID! FOLLOW INSTRUCTIONS IN THE SCRUB KIT
Methicillin-Resistant *Staphylococcus aureus* (MRSA)	MRSA is a multi-drug resistant strain of Staphylococcus aureus that can cause severe disease in cases of immunosuppression or when there are breaks or damage to the skin. It can colonize healthy skin nasal cavities of human, primates, and many other domestic animals.	MRSA can live on surfaces for an extended period of time, and can be transmitted indirectly. Therefore, it is essential to decontaminate any equipment used after working with animals that are colonized with MRSA. MRSA skin infections in people from the bite of a MRSA-colonized primate have occurred although these are rare.	Life-threatening infections.
Salmonella *S. typhimurium* & *S. enteritidis* have been associated most commonly with lab animal colony infections.	Intestinal tract of NHPs	Fecal/oral	Acute gastroenteritis with sudden onset of abdominal pain, diarrhea, nausea, and fever.
Shigellosis Shigella is a significant cause of diarrhea in NHPs, and is a significant zoonotic disease that has frequently been transmitted from NHPs to man.	Humans are the main reservoir of disease, but infected monkeys can be a source of infection. Any NHP may harbor *Shigella* bacteria, and clinical signs may not be apparent.	Fecal/oral. The organism is shed from clinically ill as well as asymptomatic humans and NHP. Only minimal contact is necessary for transmission.	Signs range from none to a severe diarrhea, sometimes accompanied with blood or mucus. More commonly a mild diarrhea.
Simian Retroviruses	A subclinical latent disease is most common with these	Through saliva (bites) or blood (needle sticks). In	No human disease has been identified with

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Simian Retroviruses include *Simian Foamy Virus (SFV), Simian T-lymphotropic Virus (STLV), Simian Type D Retrovirus (SRV),* and *Simian Immunodeficiency Virus* (SIV)	retroviruses in primates although SRV and SIV and may cause subclinical to fatal immunosuppressive disease. Additionally, STLV can cause a rare lymphoproliferative disease or a rare T-cell lymphoma. No disease is associated with SFV infection.	the case of SRV the virus can be transmitted by fomites.	these viruses, but some humans have developed antibodies to them, suggesting there could be replication in humans.
Tuberculosis	Acquired from humans and then passed between NHPs. Secondary spread back to humans has been documented.	Primarily though the aerosol route. Exposure to dusty bedding of infected animals, coughing of infected animals, and aerosolization of the organism during sanitation procedures may also be sources of the disease in the lab environment. Contact with body fluids during necropsy may be a major mode of transmission to humans.	Incubation period is about 2-10 weeks from exposure to skin-test positivity. Symptoms include chronic cough, fatigue, fever, weight loss, and hemoptysis.
Zika Virus	*Aedes* spp. mosquitoes and infected humans.	Naturally transmitted by *Aedes* spp. mosquitoes or by sexual contact. While not commonly occurring in the U.S., Zika could be transmitted by blood products such as a blood transfusion. Transmission occurs via percutaneous (needle stick) or mucous membrane routes; it has not been found to be spread through inhalation of the virus.	Symptoms in adults are mild and limiting including fever, rash, joint pain, and conjunctivitis, however Zika can cause birth defects including microcephaly. Persons with direct contact (with the agent or animals) must contact the Employee Health Center.