Potential non-human primate zoonoses

**Tuberculosis (TB)**
- Caused by a bacterium called *Mycobacterium tuberculosis*
- Can be found in birds, livestock, and non-human primates
- Transmission
  - Aerosolization of infective bacilli
    - Found mainly in sputum and other body fluids
  - When handling animals, contact with body fluids during necropsy may be a major mode of transmission
- Symptoms
  - Bad cough that lasts 3 weeks or longer
  - Pain in the chest
  - Coughing up blood or sputum (phlegm from deep inside the lungs)
- Pulmonary TB is most common
  - Other organs may also be involved

**B Virus (herpes B virus, Cercopithicine herpesvirus 1)**
- Macaque monkeys major source of infection
- Rare in humans, but if contracted, is fatal or causes permanent neurological disease
- Most macaques are asymptomatic carriers or display mild oral lesions that are difficult to detect
  - All macaques should be presumed to be shedding B virus
- Transmission
  - Percutaneous exposure to infected oral or genital secretions via

- Bites and scratches
- Needle stick injuries
- Direct contact with macaque tissue
- Splashes to the eyes, mouth, or open skin lesions from infected body fluids
- *Use NHP exposure kit if exposure occurs*
  - Includes medical alert card and further instructions on NHP exposure
- Incubation period: 5-21 days
- Symptoms (start within one month of being exposed; could appear in as little as 3-7 days)
  - First indications of infection
    - Fever and chills
    - Muscle aches
    - Fatigue
    - Headache
  - Small blisters may develop in area of body that had contact with monkey
  - Other symptoms include: shortness of breath, nausea and vomiting, abdominal pain, hiccups
  - As disease progresses, the virus spreads to and causes inflammation of the brain and spinal cord

**Simian Immunodeficiency Virus (SIV)**
- Animals with naturally occurring and experimental SIV infections and associated primate tissues (including blood and blood products) constitute potential infectious hazards to personnel
- Transmission
  - Splashes of infectious material onto mucous membranes
  - Contamination of open cuts on skin
  - Needle stick injuries
- Post-exposure prophylaxis include antiviral agents

**Shigellosis**
- Caused by *shigella* (non-motile, Gram-negative bacteria)
- Transmission
  - Fecal-oral route
- Symptoms start 1 to 2 days after contact
  - Diarrhea that can be bloody or prolonged (lasting more than 3 days)
  - Fever
- Stomach pain
- Feeling the need to pass stool even when the bowels are empty
- Some people will not have any symptoms

Other diseases associated with contact with non-human primates:
- Salmonellosis, Hemorrhagic Fever viruses, Filoviruses, Mpox viruses

**ALLERGIC REACTIONS TO NON-HUMAN PRIMATES**
- No known allergens associated with non-human primates
  - Environment may have common allergens
    - e.g. dust from bedding
  - Contact Occupational Health if you develop allergic symptoms

**HOW TO PROTECT YOURSELF**

**Wash your hands**
- Single most effective preventative measure
- Regular, thorough hand washing
- Wash hands and arms after handling any animal
- Never drink or eat in the animals rooms or before washing your hands

**Wear gloves**
- When working with non-human primates, wear appropriate gloves for the task
- Wash your hands after removing gloves

**Wear respiratory protection**
- Respiratory protection should be worn when there is risk of aerosol transmission of zoonotic agents
- Respiratory protection should be worn when there is a medical history or symptoms of allergies
- Initial Medical Evaluation for respiratory clearance is performed through Occupational Health
- Fit testing is performed through Industrial Hygiene once clearance is complete through Occupational Health

**Wear other protective clothing**
- Disposable gowns are required to be worn in the vivarium
- Consider changing clothing before leaving work. Place dirty clothing in a bag and launder clothes at home before wearing again.

**Follow proper exposure reporting protocols**
- If you are injured on the job, promptly report the incident to your supervisor
  - Go to the nearest emergency department
  - Call or email Occupational Health (303) 724-9145 on your way to notify of exposure
  - Take the NHP Exposure Document and the NHP Exposure Medical Alert Card (included in exposure kit) with you to the emergency department
- Fill out incident report for exposure to biological hazards
- File a claim with University Risk Management
  - [https://www.cu.edu/risk/file-claim](https://www.cu.edu/risk/file-claim)
- Minor cuts and abrasions should be immediately cleansed with antibacterial soap
  - Protect injuries from exposure

**Tell your physician you work with non-human primates**
- Whenever you are ill, mention to your physician that you work with non-human primates
- Many zoonotic diseases have flu-like symptoms

For more information, refer to the Occupational Health website
[https://research.cuanschutz.edu/ehs/home/divisions/occupational-health](https://research.cuanschutz.edu/ehs/home/divisions/occupational-health)

or contact Occupational Health at occupational.health@cuanschutz.edu

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