Rabies virus (rhabdovirus) can infect almost any mammal. Rare in research environments. Virus sheds in saliva 1-14 days before clinical symptoms develop. Any random-source or wild animal exhibiting central nervous system signs that are progressive should be considered suspected for rabies transmission. Contact with saliva, mucus membranes, or blood (e.g. bite or saliva on an open wound) can lead to infection.

**Symptoms**
- Pain at the site of bite
  - Followed by numbness
- Skin becomes sensitive to temperatures changes
- Laryngeal (throat) spasms
- Muscle spasms
- Extreme excitability and convulsions
- Rabies in unvaccinated people is almost invariably fatal

**Brucellosis**
- Found in dogs & swine breeding colonies
  - Manifested by abortions and reproductive organ infections
- Transmission to humans not clear but likely through oral or skin contact with organism-infected blood or other tissues

**Anthrax**
- Acute bacterial infection - may be rapidly fatal
- All domestic, zoo, and wild animals at risk of infection
- Anthrax bacilli are released from infected carcasses and form resistant spores on exposure to air
  - Spores contaminate soil for many years
- Transmission
  - Inoculation from direct contact with infected animals, carcasses or animal products and contaminated soil
- Cutaneous anthrax symptoms
  - Localized ulceration (sore) and scab
  - Fever
  - Headache
  - Rarely - septicemia and meningitis
- Inhalation anthrax symptoms
  - Fulminating pneumonia
- Intestinal anthrax symptoms
  - Acute gastroenteritis (nausea, vomiting, diarrhea)

**Leptospirosis**
- Bacteria found in many animals
- Found in the urine of infected animals
- Disease is multi-systemic with chronic sequelae
- Transmission
  - Direct contact with urine or tissues via skin abrasions or contact with mucous membranes
  - Inhalation of infectious droplet aerosols and by ingestion
• Symptoms
  ○ Annular rash
  ○ Flu-like symptoms
  ○ Cardiac and neurological disorders may follow
  ○ Arthritis a common result

Other diseases associated with contact with swine:
• Cryptosporidiosis, Salmonellosis, yersinia enterocolitica, Ascaris suum, influenza

ALLERGIC REACTIONS TO SWINE
• Swine are one of the least likely animals to cause human allergies
  ○ However, respiratory protection may be necessary when working around feed and bedding for those who already have allergies
• 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 swine, 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
  ○ Immediately call or email Occupational Health (303) 724-9145 during business hours
    ▪ Outside of normal hours seek medical attention at emergency department or other healthcare provider
  ○ Fill out incident report for exposure to biological hazards
  ○ File a claim with University Risk Management
    ▪ 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 swine
• Whenever you are ill, mention to your physician that you work with swine
• 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

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

Updated: 6/8/2023