

The following is general information for those involved in the care and use of laboratory sheep.  
Contact [occupational.health@cuanschutz.edu](mailto:occupational.health@cuanschutz.edu) if you have any questions.

## **POTENTIAL RISKS**



Sheep are large domestic animals that are normally docile. However, they can become dangerous especially when isolated from their flock. Jumping is common in sheep, and they can jump with enough force to break a handler's legs. Butting is another defensive activity of sheep, and the rule of handling is to never turn your back on the animal when in their pens. Ergonomic injuries such as back-strain occur from handling and restraining sheep due to their size and strength, therefore individuals with pre-existing back or joint problems may need assistance when working with sheep.

### **Potential sheep zoonoses**

#### **Rabies**

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

#### **Q Fever**

- Rickettsial disease caused by the bacterium *Coxiella burnetii*
  - Can reach high concentrations in animal tissues (placenta and other birthing materials)

- Most commonly associated with sheep, but other animals can be carriers
- Acute: 5 out of 10 people infected will get sick
  - Illness develops 2 to 3 weeks after exposure to the bacteria
- Chronic: develops months or years following initial Q fever infection
  - Can be deadly if not treated
  - Risk factors: heart valve disease, blood vessel abnormalities, weakened immune system, pregnancy
- Transmission
  - Airborne through direct contact
  - Ingesting contaminated food or breathing in contaminated dust
- Signs and symptoms of Q Fever
  - High fever
  - Sore throat
  - Chills, sweats
  - Non-productive cough
  - Muscle pain/body discomfort
  - Fatigue
  - Severe headache

#### **Contagious Ecthyma (Orf)**

- Poxviral disease also known as:
  - Sore mouth in sheep
  - Orf in people
- Transmission through direct contact with lesions or indirect by contaminated fomites (hair, clothes)
  - No person to person contact has been reported
- Symptoms in sheep
  - Exudative (oozing) lesions found on muzzle, eyelids, oral cavity, feet, or external genitalia
  - More common in younger animals
- Symptoms in people
  - Self-limiting infection found on hands with painful nodules and cutaneous ulcerative lesions
  - Usually lasts 1-2 months

**Several other diseases associated with contact with sheep:** Cryptosporidiosis, giardia, campylobacteriosis, brucellosis, anthrax, coccidiomycosis

## **ALLERGIC REACTIONS TO SHEEP**



- Sheep containment environments may have allergens present in hay and dust
- Contact dermatitis can also occur when handling sheep wool

## **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 sheep, 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 sheep**

- Whenever you are ill, mention to your physician that you work with sheep
- 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](mailto:occupational.health@cuanschutz.edu)