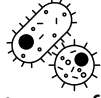


The following is general information for those involved in the care and use of laboratory cows.
Contact occupational.health@cuanschutz.edu if you have any questions.

POTENTIAL RISKS



Cows are herd animals and creatures of habit with strong territorial instincts. They hesitate to move into unknown areas, they are sensitive to noise, and are frightened or spooked easily. Cows have poor depth perception but good panoramic vision. They can see to their sides but not their hind quarters, so do not approach from the back. Cows kick forward and out. Safety precautions should include long trousers, gloves, and shin guards. Ergonomic injuries, such as back strain, can occur from handling and restraining cows due to their size and strength. Therefore, individuals with pre-existing back or joint problems may need assistance.

Potential cow zoonoses

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

Rabies

- 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)
- 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

Anthrax

- Acute bacterial infection- may be rapidly fatal
- 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)

Milker's nodules

- Infection of the skin caused by parapoxvirus that infects teats of cows
- Transmission
 - Contact with infected lesions
- After incubation of 5-14 days symptoms include
 - Small, red, raised, flat-topped spots develop
 - Within a week, appear red-blue, firm, slightly tender bumps- usually on hands and fingers
 - May be secondary bacterial infection
 - Many develop red streaks up the lymph channels on arms
 - Enlargement of lymph glands
- Several weeks after appearance of nodules some may develop eruption of small raised spots or blisters on hands, arms, legs, and neck
 - Usually fades in 1-2 weeks and resolves fully

Other diseases associated with contact with cows:

- Cryptosporidiosis, giardiasis, campylobacteriosis, brucellosis

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 cows, 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 cows

- Whenever you are ill, mention to your physician that you work with cows
- 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