

Occupational Health for Animal Handling

Care and Use of Cattle

The Occupational Health Program is designed to inform individuals who work with animals about potential zoonoses (diseases of animals transmissible to humans), personal hygiene and other potential hazards associated with animal exposure. This information sheet is directed toward those involved in the care and use of cattle.

Injury and Potential Zoonotic Diseases

Cattle are herd animals and creatures of habit with strong territorial instincts. They hesitate to move into unknown areas and they are sensitive to noise and are frightened or spooked easily. Cattle 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. Cattle 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 cattle due to their size and strength. Therefore, individuals with pre-existing back or joint problems may need assistance. Zoonotic diseases, as with other farm animals, can be a hazard when working with cattle. The following lists several of the diseases that are associated with the care and handling of cattle:

Milker's nodules (Pseudocowpox): Milker's nodule is an infection of the skin caused by a virus that infects the teats of cows. It produces mild infections of the teats of cows, i.e. ring sores, as well as ulcers in the mouths of calves. Human infection is from contact with infected lesions on the animals. After an incubation period of 5-14 days small, red, raised, flat-topped spots develop. Within a week they appear as red-blue, firm, slightly tender lumps that are usually on the hands, particularly the fingers, but occasionally the face. There may be secondary bacterial infection. Many develop red streaks up the lymph channels on the arms and some enlargement of the lymph glands. It is difficult to reliably distinguish milker's nodules from orf, the related condition in sheep, but the appearance of the nodules, number of lesions and whether cows or sheep are being contacted is a guide. Several weeks after the appearance of the nodules some may develop an eruption of small raised spots or blisters on the hands, arms, legs and neck and usually fades in 1-2 weeks and usually resolves fully.

Q-Fever: This rickettsial disease, caused by *Coxiella burnetii*, is most commonly associated with sheep, although goats, cattle, and other mammals can be sources of infection. Infected ruminants are usually asymptomatic. The rickettsia are shed in the urine, feces, milk and, most importantly, birth products (placenta, amniotic fluid, blood and soiled bedding) of infected animals. Q-fever is spread by aerosolization of infected body fluids. Disease transmission can be reduced by careful disposal of birth products. In most cases Q -fever is manifested by flu-like symptoms that usually resolve within 2 weeks. Sometimes it can be misdiagnosed as the flu and it can be severe in those with other health problems and can lead to pulmonary and cardiac complications.

Anthrax: This is an acute bacterial infection of humans and animals which may be rapidly fatal. The disease occurs worldwide and is an occupational hazard of persons such as wool-sorters, farm workers and veterinarians in contact with infected animals or their by-products. All domestic, zoo and wild animals are potentially at risk of infection. Anthrax bacilli spores contaminate soil for many years. Humans are usually infected by inoculation from direct contact with infected animals, carcasses or animal products and contaminated soil. Inhalation or ingestion of spores may occur. Animals are infected from contaminated feed, forage, water or carcasses. Cutaneous anthrax causes localized ulceration (sores) and scab with fever and headache which may be followed within a few days by severe illness such as septicemia and meningitis. Inhalation anthrax causes fulminating pneumonia. Intestinal anthrax is associated with acute gastroenteritis (nausea, vomiting, and bloody diarrhea).

Rabies: Rabies virus (rhabdovirus) can infect almost any mammal. The source of infection is an infected animal. The virus is shed in saliva 1-14 days before clinical symptoms develop. Any random-source (animal with an unknown clinical history) or wild animal exhibiting central nervous system signs that are progressive should be considered suspect for rabies. Transmission is through direct contact with saliva, mucus membranes, or blood, e.g. bite, or saliva on an open wound. The incubation period is from 2 to 8 weeks or even longer. Symptoms are pain at the site of the bite followed by numbness. The skin becomes quite sensitive to temperature changes and there are laryngeal spasms. Muscle spasms and extreme excitability are present and convulsions occur. Rabies in unvaccinated people is almost invariably fatal. Rabies vaccine is available through Occupational Health at Student Health Services.

Other Diseases: A few of the other diseases that can possibly be spread through working with cattle include brucellosis, campylobacteriosis, cryptosporidiosis, giardiasis, and salmonellosis. These are transmitted via the fecal/oral route. These diseases are exhibited by acute gastrointestinal illness.

How to Protect Yourself

- Wash your hands. The single most effective preventative measure that can be taken is thorough, regular hand washing. Wash hands and arms after handling cattle. Never smoke, drink, or eat in the animal areas or before washing your hands.
- Wear protective clothing. When working with cattle wear appropriate coveralls and foot wear, and other equipment based on the work at hand, and remove them after completing the work.
- Wear respiratory protection. Dust masks should be worn if you already have allergies and are outside in dusty areas or while attending the cattle in their enclosures.
- Seek medical attention promptly. If you are injured on the job, promptly report the accident to your supervisor, even if it seems relatively minor. Minor cuts and abrasions should be immediately cleansed with antibacterial soap and then protected from exposure to dirt and animal by-products. For more serious injuries or if there is any question, students should report to OSU Student Health Services, employees (faculty and staff) to the Corvallis Clinic Occupational Health department.
- Tell your physician you work with cattle. Whenever you are ill, even if you're not certain that the illness is work-related, always mention to your physician that you work with cattle. Many zoonotic diseases have flu-like symptoms and would not normally be suspected. Your physician needs this information to make an accurate diagnosis. Questions regarding personal human health should be answered by your physician.