

This information sheet is for the care and use of Sheep



Potential Injury and Zoonotic Diseases: 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 can 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.

Zoonotic diseases, as with other farm animals, can be a hazard when working with sheep. The following lists several of the diseases that are associated with the care and handling of sheep.

Rabies: Rabies virus (rhabdovirus) can infect almost any mammal. The source of infection to people 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.

Q-Fever: This rickettsial disease, caused by *Coxiella burnetti*, is most commonly associated with sheep, although goats, cattle, and other mammals can be sources of infection. Infected ruminants are usually asymptomatic. The rickettsia is 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 and can be sometimes misdiagnosed as the flu. However, it can be severe in those with other health issues and can lead to pulmonary and cardiac complications. Respiratory protection should be used during the lambing process. Employees can be screened for Q-Fever through Occupational Health Services for more information please contact the Occupational Health Coordinator at 949-824-3757.

Contagious Ecthyma: (Orf) This poxviral disease is known as contagious ecthyma or soremouth in sheep and goats, and orf in people. In ruminants, it is evidenced by exudative (oozing) lesions found on the muzzle, eyelids, oral cavity, feet or external genitalia. It is more common in younger animals. The disease in ruminants is contagious to humans and other animals. Infected sheep or goats are the source of infection to people. Transmission can be by direct contact with lesions or indirectly by contaminated fomites (hair, clothing). No person to person contact has been reported. This is a self-limiting infection, which is usually found on the hands and consists of painful nodules (bumps) and cutaneous ulcerative lesions, and usually lasts 1-2 months.

Brucellosis: Brucellosis is caused by several *Brucella* species. It is commonly transmitted through abrasions of the skin from handling infected mammals. Symptoms can be variable and may include flu like symptoms, fever, sweats, headaches, back pains, and physical weakness. Severe infections of

the central nervous system or lining of the heart may occur. Brucellosis can also cause long-lasting or chronic symptoms that include recurrent fevers, joint pain and fatigue. Brucellosis can be treated with antibiotics.

Other Diseases: There are other diseases that are associated with contact to sheep, such as, *campylobacteriosis*, *coccidiomycosis*, *cryptosporidiosis*, *giardiasis* and *anthrax*. Good personal hygiene and the wearing of the appropriate personal protection are effective measures for preventing illness.

Allergies: Animal related allergies are common. Although there are no known sheep allergens, the sheep containment environment may have allergens present in hay and dust. Contact dermatitis can also occur when handling sheep wool. If you have symptoms you are strongly advised to contact the Occupational Health Coordinator at 949-824-3757 to discuss this issue and arrange for follow-up with an occupational health physician.

Tell your physician you work with sheep. 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 sheep. 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.

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 animals and their housing materials. For more serious injuries seek medical services through Workers Compensation by calling (949) 824-9152 or visiting their website at <http://www.hr.uci.edu/>

For treatment locations <http://www.ehs.uci.edu/MedEmergPoster.pdf>

References:

[Safe handling of large animals \(cattle and horses\)](#) Occupational Medicine: State of the Art Reviews Vol.14, No.2, April-June 1999

Sheep and goats: <http://www.fass.org/docs/agguide3rd/Chapter10.pdf>

Hinch GN, Lynch JJ 1997. Comfortable quarters for sheep and goats. In [Comfortable Quarters for Laboratory Animals](#) Reinhardt V (ed), 94-100. Animal Welfare Institute, Washington, DC

Full Text: <http://www.awionline.org/pubs/cq/sheep.htm>

Acha, PN and B Szyfres. 1989. Zoonoses and Communicable Diseases Common to Man and Animals. Pan American Health Organization, Washington, D.C.

SPECIES	BIOLOGICAL HAZARD/PATHOGEN	ROUTE OF TRANSMISSION	CLINICAL SYMPTOMS	PREVENTION/ PROPHYLAXIS	MEDICAL SURVEILLANCE REQUIRED	RISKS FOR EXPOSURE AT UCI
Sheep and Goats	Anthrax	Contact with contaminated animal, contaminated wool, hides, fur, inhalation of spores	Cutaneous skin lesions. Upper respiratory tract infection, fever, pneumonia, shock	Avoid contact with infected animal and environment. Personal hygiene, medical care for cutaneous lesions, disinfection of fur and wool with hot formaldehyde. Vaccine limited outside of military use.	No	Yes
Sheep and Goats	Brucellosis	Contact with animal and newborn animals, ingestion of animal products, inhalation of airborne agents, contaminated food and water	Fever, chills, profuse sweating, weakness, insomnia, sexual impotence, constipation, anorexia, headache, arthralgia, general malaise, irritation, nervousness, depression	Personal hygiene, PPE	No	Yes
Sheep and Goats	Campylobacteriosis	Fecal, contaminated food and water	Diarrhea, vomiting, fever, abdominal pain, visible or occult blood, headache, muscle and joint pain	Personal hygiene and PPE	No	Yes
Sheep and Goats	Chlamydia trachomatis (ovine)	Airborne; humans and wild animals contract infection through birds	Mild forms of psittacosis, fever, chills, sweating, myalgia, loss of appetite, headaches, weakness, coughing, vomiting, enlargement of liver and spleen, diarrhea, constipation, insomnia, disorientation, mental depression, delirium	Personal hygiene, PPE. Monitor flock for disease	No	Yes
Sheep and Goats	Cryptosporidiosis	Fecal, contaminated food and water	Watery diarrhea, abdominal pain, nausea, vomiting, low-grade fever, weight loss	Personal hygiene, PPE	No	Yes
Sheep and Goats	European tick-borne encephalitis	Tick bite	Mild febrile influenza-like illness, cephalalgia, stiffness of the neck, vomiting, meningitis	Wear protective clothing, use of repellents, Vaccine not available in USA.	No	No
Sheep and Goats	Francisella tularensis	Ingestion of contaminated water and food, aerosols, scratch, bite, tick	Rising and falling fever, chills, asthenia, joint and muscle pain, cephalalgia, vomiting, ulceroglandular	Medical care for all bites from field animals. Wear protective clothing, protect of food and water. Vaccine available for lab workers	No	Yes
Sheep and Goats	Giardiasis	Fecal, contaminated food and water	Diarrhea and flatulence, bloating, abdominal pain, nausea, vomiting, urticaria, intolerance of certain foods	Personal hygiene, PPE	No	Yes
Sheep and Goats	Leptospirosis	Skin abrasions and the nasal, oral, and conjunctival mucosa, contaminated water and foods	Fever, headache, myalgias, conjunctivitis, nausea, vomiting, diarrhea or constipation, prostration, petechiae on the skin, hemorrhages in the gastrointestinal tract, proteinuria, hepatomegaly and jaundice, renal insufficiency with marked oliguria or anuri	Personal hygiene, use of protective clothes	No	Yes

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Sheep and Goats	Orf	Contact with lesions, wool, leather	Papular lesion develops at virus penetration site	Protect skin wounds, use gloves when vaccinating sheep	No	No
Sheep and Goats	Q-fever	Aerosols, dust, leather, wool, tick bite. Birthing by products	Fever, chills, profuse sweating, malaise, anorexia, myalgia, nausea, vomiting, cephalalgia, retroorbital pain, slight cough, mild expectoration, chest pain	Respiratory protection during lambing, other PPE, personal hygiene. Vaccine - not available in U.S.	Annual titer	Yes
Sheep and Goats	Rabies	Bite, contact with infected tissue or body fluids	Fever, headache, agitation, confusion, excessive salivation	Avoid contact with wild animal, use appropriate PPE. Medical care for all bites.	Rabies vaccine	None in Lab animals/Yes field
Sheep and Goats	Salmonellosis	Fecal/Oral, contaminated food and water	Diarrhea, vomiting, low grade fever	Personal hygiene, PPE	No	Yes
Sheep and Goats	Yersinia enterocolitica	Fecal/Oral, contaminated food and water	Fever, hypotension, abdominal pain, diarrhea, vomiting, sore throat, bloody stool, cutaneous eruptions, joint pain	Personal hygiene, PPE	No	Yes

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