

This information sheet is for the care and use of Goats

Potential Injury & Zoonotic Diseases: Goats are more difficult to handle than cattle or sheep. They do not flow through handling systems with ease. When they are frightened, they may lie down and sulk and pack in a corner, risking injury to other goats. They can also become aggressive towards each other. They move in family groups with the older females moving first. Their defense mechanisms are to ram or bite. They may need higher gates than sheep and will find escape spots in most handling systems if they exist. Ergonomic injuries, such as back strain, can occur from handling and restraining sheep due to their size, strength and agility. Therefore individuals with pre-existing back or joint problems may need assistance when working with sheep. The following is a list of zoonotic diseases associated with goats:



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 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 birthing 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 sore mouth in sheep and goats and orf in people. In ruminants, it is evidenced by exudative (draining) lesions found on the muzzle, eyelids, oral cavity, feet or external genitalia. It is more common in younger animals. In ruminants, the disease is highly 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 from contaminated objects such as hair or clothing. This is a self-limiting infection that is usually found on the hands. It consists of painful nodules (bumps), cutaneous ulcerative lesions (open sores), and usually lasts 1-2 months.

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, possibly longer. Symptoms are pain at the site of the bite, followed by numbness. The skin becomes quite sensitive to temperature changes and laryngeal spasms are present. Muscle spasms, extreme excitability, and convulsions occur. Rabies in unvaccinated people is almost invariably fatal.

Other Diseases: *Brucellosis, salmonellosis, giardiasis* are other diseases that can be transmitted through contact with goats. In humans, these diseases initially exhibit as an acute gastrointestinal illness (nausea, vomiting, and diarrhea).

Allergic Reactions

The hair and dander of the goats can be a source of allergies. Proteins secreted by oil glands in an animal's skin, as well as the proteins present in an animal's saliva, can cause allergic reactions in some people. Allergies to animals can take two or more years to develop, and symptoms may not subside until months after ending contact with the animal. Symptoms may include sneezing, congestion, and itchy, watery eyes. Skin rash and itching may also occur. 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.

Wash your hands. The single most effective preventative measure that can be taken is thorough, regular hand washing. Wash hands and arms after handling goats. Never smoke, drink or eat in the animal areas or before washing your hands.

Wear protective clothing. When working with goats, wear appropriate coveralls and foot wear, and remove them after completing your work. Dust masks should be worn during grooming or if you already have allergies and you are outside in dusty areas.

Tell your physician you work with goats. 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 goats. 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>

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

Revised 07/2014 information taken from UC Davis.