



## ***North Valley Animal Disaster Group Standard Operating Guidelines***

Title: ZOO NOTIC DISEASE

Objective: To provide guidelines to help lessen or eliminate the transmission of zoonotic disease

Description:

Zoonotic diseases are those diseases and infections that are naturally transmitted between vertebrate animals and people. There are over 1000 known viruses, bacteria, fungi, protozoa, parasites, and prions that can be transmitted to humans from animals. More than 50 of these are of concern in the United States. Some diseases can also be transmitted from humans to other animals, so precautions should also be taken to protect the animals you work with if you are ill.

Transmission of zoonotic disease needs an infectious source (the animal), a susceptible host (animal caretaker), a route of transmission (see below), and a portal of entry (mucus membrane or wound, etc).

Routes of transmission:

- Direct contact: Coming into contact with the saliva, blood, urine, mucous, feces, or other body fluids of an infected animal. Examples include petting or touching animals, and bites or scratches.
- Indirect contact: Coming into contact with areas where animals live and roam, or objects or surfaces that have been contaminated with germs. Examples include animal cages/pens, chicken coops, plants, and soil, as well as pet food and water dishes. Inhalation or aerosolization of infectious agents could be considered here as well. Fomites are objects that might be contaminated with organisms and can potentially transmit infectious disease (e.g. brushes, collars, stethoscopes).
- Vector-borne: Being bitten by an infected tick, or an insect like a mosquito or a flea.
- Foodborne: Eating or drinking something unsafe (such as unpasteurized milk, undercooked meat or eggs, or raw fruits and vegetables that are contaminated with feces from an infected animal).

SUSCEPTABILITY: Certain conditions predispose individuals to increased susceptibility to these diseases. Such individuals might become infected more readily by zoonotic diseases or might develop a worse form of a disease. These conditions include, but are not limited to:

- Immune suppressive conditions. HIV, chemotherapy, corticosteroid treatments, concurrent diseases or any condition that hampers immune function will lower the natural resistance to zoonotic disease
- Pregnancy. Pregnant workers are more susceptible to certain diseases, and the growing fetus is especially vulnerable to some diseases.
- Chronic smoking. Chronic smokers are at greater risk of diseases spread by inhalation because of lung damage.
- Chronic alcoholism. Alcohol consumption, acute or chronic, can decrease white blood cells that fight certain infections and it can decrease several trace minerals and vitamins that are necessary for normal immune function.

If a volunteer has any condition which would increase their susceptibility to a contagious disease, they should discuss with their doctor about handling animals during a disaster.

Any animal that has a fever, vomiting or diarrhea, coughing or sneezing, or has skin lesions should be considered to have a zoonotic disease so appropriate protective measures can be employed. This will also help avoid transmission of other contagious diseases among the animals. Report any ill appearing animal to a supervisor to determine if the animal needs veterinary attention or possible isolation.

General Means of Minimizing Zoonotic Disease Transmission Risk:

1. Do not drink, eat, or smoke near animal housing space
2. Wear appropriate personalized protective equipment (PPE). Training may be required for donning appropriate PPE
3. Wash hands after handling animals or animal specimens
4. Properly disinfect all non-disposable supplies following use (see sanitation training sheet)
5. Implementation of pest and vermin control program
6. Assure proper waste segregation, decontamination and disposal
7. Assure cages are washed properly (see sanitation training sheet))
8. Assure properly operating containment equipment as well as environmental support to minimize airborne hazard when applicable.
9. Reassign immune-compromised individuals to areas "out-of-risk" if applicable.
10. Remove contaminated clothing as appropriate to prevent infection or infestation
11. Shower after removing work clothes

Minimizing Specific Types of Transmission Risks

- Contact with Infectious Material (skin lesions, vomit, diarrhea, mucus, other bodily fluids)

1. Wear appropriate PPE when working with animals and cleaning cages, pens and environment. Thick nitrile or polyvinyl chloride gloves offer some protection from contact with infected material. Masks and goggles may be needed in some conditions. Gloves must be changed (and disposed of properly) between every animal or cage/pen that they are used on.
  2. Hand hygiene. A surgical scrub or soap that contains a medical grade disinfectant should be used to wash the hands after handling animals. Label directions should be followed, including observing appropriate contact times. Alcohol based hand rubs can also be used
  3. Protective outerwear (e.g. gowns, coveralls, boots, shoe covers) may be needed for some conditions
- Animal Bites and Scratches
    1. Be alert of signs of fear or aggression
    2. DO NOT HANDLE AN ANIMAL YOU DO NOT FEEL COMFORTABLE HANDLING
    3. Use specialized gloves and other gear when needed to handle fractious animals
    4. Employ appropriate animal handling and restraint techniques for animal/species. Get appropriate assistance when required in handling an uncontrollable animal
    5. Assure appropriate animal restraint aids are on hand and in good working order including making sure cages and carriers are secure
    6. A surgical scrub or soap that contains a medical grade disinfectant should be used to wash the hands after handling animals and to cleanse scratches and bites. Label directions should be followed, including observing appropriate contact times
    7. Report any bites and scratches to your supervisor and seek medical attention
  - Minimizing Risk of Transmission from Sharp Objects/Needles
    1. Maintain a current tetanus vaccine
    2. Make use of sharps disposal containers
    3. Surgical Scrub. A surgical scrub or soap that contains a medical grade disinfectant should be used to wash the hands after a puncture wound
    4. In case of puncture wound report to supervisor for further action
  - Airborne Illnesses
    1. Respirators - The CDC recommends that workers protect themselves from diseases airborne agents (such as viruses, tuberculosis, and psittacosis) by wearing a fit tested respirator at least as protective as a NIOSH-approved N-95 respirator. The "95" indicates that it will remove 95% of the particles in the air. If the mask does not have the letters "NIOSH" on it, it is not approved for these standards. If respirators are required for the work performed, a Respiratory Protection Program must be established through the Office of Environmental and Occupational Safety. The required elements of a respirator program include medical evaluation, fit testing, training, and equipment maintenance.

2. Eye Protection. Protective glasses should be worn to prevent contaminated materials from making contact with the eyes
- Vector Borne Disease and Vermin Control
    1. Treat infested animals with a Flea/Tick prevention if indicated and advised by the animal caretaker in charge
    2. Keep rodents excluded, seal openings to outside, use traps as needed

#### Special Notes on Hand Hygiene:

Thorough hand hygiene is the single most important measure to reduce the risk of zoonotic disease transmission. Most pathogens are transmitted (unintentionally!) by hand to mouth contact. Many zoonoses are transmitted through a fecal-oral cycle. This means that fecal material from an animal is accidentally placed in a person's mouth, most commonly because of a lack of hand washing. Proper hand washing technique is outlined in the Sanitation SOG.

#### Adapted from:

- The Compendium of Veterinary Standard Precautions of Zoonotic Disease Prevention in Veterinary Personnel 2015 edition (National Association of State Public Health Veterinarians Veterinary Infection Control Committee)
- The Center for Disease Control- CDC.gov Zoonotic Disease
- NASAAEP Disaster Veterinary Care: Best Practices 2012

Selected Examples of Zoonotic Diseases and Routes of Transmission (NOT an exhaustive list!)

Disease	Agent/Organism	Mode of Transmission	Species Associated with Transmission to Human
Scabies (mites)	<i>Sarcoptes scabiei</i> , <i>Notoedres cati</i> , others;	Contact	Dogs, cats horses goats, sheep, swine, birds
Bartonellosis –“Cat scratch disease” and other syndromes	<i>Bartonella henselae</i> , others; (bacteria)	Vector (flea bites), scratches	Cats, other
Bordetella bronchiseptica inf. (“kennel cough”)	<i>Bordetella bronchiseptica</i> (bacteria)	Aerosol	Dogs, cats, rabbits, guinea pigs
Brucellosis	<i>Brucella spp</i> (bacteria)	Contact, aerosol	Goats, cattle, swine, dogs, horses
Campylobacteriosis- (diarrhea syndrome)	<i>Campylobacter jejuni</i> , others; (bacteria)	Contact with infected feces	Poultry, cattle, sheep goats, swine, dogs cats, ferrets, others
Cryptococcus-“Valley Fever”	<i>Cryptococcus neoformans</i> (fungus)	Aerosol	Birds, soil
Ringworm	Multiple species (fungi)	Contact	Cats, dogs, cattle, goats, sheep, horses, rabbits, rodents
Plague- “Black death”	<i>Yersinia pestis</i> (bacteria)	Vector (fleas), contact, aerosol	Rodents, cats, rabbits
Sporotrichosis -“rose pickers disease”	<i>Sporotrichosis schenckii</i> (fungus)	Contact	Cats, dogs, horses
Staphylococcus- can include MRSA-like	<i>Staphylococcus spp</i> (bacteria)	Contact	Reptiles, amphibians, livestock, many others
Rabies	<i>Lyssavirus</i> (virus)	Contact via bite or saliva in wound	Cats, dogs, wildlife, horses, cattle, others
Leptospirosis- multiple syndromes	<i>Leptospira spp</i> (bacteria)	Contact (via urine), aerosol, mucus membranes	Dogs, rodents, cattle, goats, sheep, swine, horses
Ehrlichia, Anaplasma - multiple syndromes	<i>Ehrlichia spp</i> <i>Anaplasma spp</i>	Vector- multiple tick species	Deer, rodents, horses, dogs
E. Coli -various syndromes	<i>Escherichia coli</i> various strains	Contact /feces	Cattle, goats, swine, horses