

# Infection Control Guidelines: Equine and Livestock

## Transmissions and Precautions Key

## Clean Up Key

## Other Symbols

Standard Precautions - Use gloves; Wash hands and/or use waterless hand sanitizer (if hands are not visibly soiled) afterward.

IDC/ICU Protocol: Gloves, lab coats or disposable gown covers, booties or boots, disinfectant foot bath, (and hair cover if airborne). Wash hands after contact. Keep patient in stall with limited personnel except for critical diagnostics/therapeutics.

Strict isolation - . Generally, the patient will be in an isolation barn with limited personnel. Wash hands after contact with patient.

Separate air space- may include C barn, G barn or Isolation unit as per IDC committee

**A** Clean, scrub with detergent or soap, and then disinfect with bleach (4 oz per gallon) for minimum 10 min or leave on to dry

**B** Clean, scrub with detergent, and disinfect with peroxygen based compound (e.g.-Trifectant or Virkon)

**C** Clean, scrub with detergent, and disinfect with accelerated hydrogen peroxide (e.g.-Accel)

**CDFA:(916)900-5002**  
**CDC: (800)232-4636**

| Infectious Agent   | Disease Manifestations   | Transmission & Precautions   | Clean-up               | Within Hospital  | Additional Information   |
|--|--|--|------------------------|--|--|
| <b>Anthrax</b> ( <i>Bacillus Anthracis</i> ) (Z)                     | Sudden death, bleeding, failure to clot, fever, edema; Cutaneous, Resp and GI forms  | Body fluids, blood   | <b>A</b>               | Do not move carcass without notifying IDC officer or Director/Associate Director   | PPE including eye and respiratory protection= <b>N95 mask</b> ; <b>Contact CDFA within 24 h</b>                                      |
| <b>Bovine Herpes (IBR)</b>   | Fever, depression, nasal discharge, nasal plaques, cough   | Direct contact, Aerosol  | <b>A or C</b>          | Move patient directly to isolation   |  |
| <b>Bovine Viral Diarrhea</b>   | Fever, depression, anorexia, nasal discharge, tachypnea, diarrhea,   | Direct contact, Body fluid contact, Inhalation or ingestion, Fecal-oral  | <b>A or C</b>          | Move patient directly to isolation   |  |
| <b>Brucellosis (Z)</b>   | Abortion; also Fistulous withers in horses   | Ingestion, respiratory tract, mucous membrane direct contact; Body and repro fluids of affected animals  | <b>A B or C</b>        | Move patient to isolation; contact State   | Wear N95 and eye protection also; <b>Contact CDFA within 2 days</b>  |
| <b>Clostridium difficile</b> (Z)(P)(I)                               | Diarrhea, abdominal pain, reflux, and fever.   | Fecal-oral, contaminated hands, or fomites.  | <b>B</b>               | Move patient directly to isolation   | Risk of disease may increase with antibiotic exposure, immunocompromise, advanced age, or gastrointestinal manipulation/surgery.     |
| <b>Coccidioidomycosis</b> ( <i>Coccidioides immitis</i> ) (Z*)       | Cough, fever, lethargy, skin lesions, neurologic signs, osteomyelitis, pericarditis.                                       | Inhalation of airborne spores forming on aging bandage materials, bedding, or necropsy specimens. Tissue form not transmissible between animals. | <b>A or C</b>          | IDC protocol precautions. Avoid bandaging skin lesions. Avoid use of culture for diagnosis if possible (laboratory hazard).; <b>N95 mask</b> if exposed to infected fluids or tissues/bandages/necropsy specimens  |  |
| <b>Coronavirus</b>   | Pneumonia, Diarrhea  | Fecal-oral, hands, fomites   | <b>A or C</b>          | Move patient directly to isolation   |  |
| <b>Corynebacterium pseudotuberculosis for Horses (Pigeon Fever)</b>  | Abscesses; also internal forms   | Indirect spread (fly vector)   | <b>A or C</b>          | IDC/ICU protocol (barrier precautions) if open abscesses. Pus should be contained (do not contaminate environment), flush any draining abscesses with dilute antiseptic, and apply fly ointment around any open abscesses  |  |
| <b>Corynebacterium pseudotuberculosis for Ruminants</b>              | Abscesses; internal forms  | Contact with pus; abrasions in skin as with clipping   | <b>A or C</b>          | IDC protocol (barrier precautions) if open abscesses. Pus should be contained (do not contaminate environment), flush any draining abscesses with dilute antiseptic, and apply fly ointment around any open abscesses  |  |
| <b>Cryptococcosis</b> ( <i>Cryptococcus spp.</i> )                   | Cough, fever, lethargy, skin lesions, neurologic signs, ocular signs, systemic involvement.                                | Inhalation of airborne spores from the environment. Tissue form not transmissible between animals.   | <b>A or C</b>          | Normal precautions. Culture not considered a laboratory hazard.  |  |
| <b>Cryptosporidiosis</b> ( <i>Cryptosporidium spp.</i> ) (Z)(P)(I)   | Diarrhea, abdominal cramps and pain, vomiting, fever.  | Fecal-oral, contaminated hands, or fomites.  | <b>B or C</b>          | If patient has diarrhea move directly to isolation. Consider use of face shields when working with animals with diarrhea.  |  |
| <b>Ebola (Z)</b>   | Hemorrhagic fever; fever, bleeding, GI signs- vomit, diarrhea, cramps  | Direct contact   | <b>A</b>               | Avoid direct contact; Face, respiratory protection, gloves, and hazmat suit with PAPR  | <b>Contact CDC and CDFA immediately</b>  |
| <b>Equine Herpes</b>   | Fever, Nasal discharge, Cough, Lethargy Neurological signs (EHV-1),Edema   | Aerosol, nasal secretions, hands or fomites  | <b>B or C</b>          | EHV-4 cases to be housed in separate air space and under IDC barrier precautions (hair covers in addition to standard barriers)  | EHV-1 cases to be moved directly to isolation (hair covers must be used in addition to standard barriers). <b>*Report to CDFA</b>    |
| <b>Equine Infectious Anemia</b>                                      | Fever, weight loss, lethargy, edema  | Blood contact  | <b>A or C</b>          | <b>*Contact CDFA within 48h</b>  | Move directly to isolation   |
| <b>Equine Influenza</b>  | Fever, cough, nasal discharge  | Aerosol, direct contact, nasal secretions, hands, fomites  | <b>A or C</b>          | Cases to be housed in separate air space (respiratory isolation) under barrier precaution and hair covers  |  |
| <b>Equine Viral Arteritis</b>  | Fever, edema, nasal discharge, cough, hemorrhages, abortion  | Respiratory secretion, direct contact, aerosol, fomites, and venereal  | <b>A or C</b>          | Move directly to isolation   |  |
| <b>Erysipelas (Erysipelothrix rhusiopathiae)</b> (Z)                 | Septicemia, vasculitis, raised red lesions on skin, pruritus, arthritis, flu-like  | Direct contact, contamination of wounds or mucous membranes,   | <b>A or C</b>          | Move directly to isolation   |  |
| <b>Giardiasis</b> ( <i>Giardia intestinalis</i> ) (Z*)               | Diarrhea, Cramps   | Fecal-oral, contaminated hands, or fomites. Strains vary in zoonotic potential.  | <b>A or C</b>          | If patient has diarrhea move directly to isolation. .  |  |
| <b>Johnes (Mycobacterium avium ss paratuberculosis)</b> (Z*)         | Diarrhea, weight loss, low protein   | Fecal-oral; through milk to calves; rarely inhalational  | <b>C for &gt;5 min</b> | Move to isolation  | Zoonotic potential unknown- low but may be associated with Crohn's disease   |
| <b>Lawsonia intracellularis</b>                                      | Diarrhea, lethargy, edema, poor doer   | Fecal-oral   | <b>A or C</b>          | IDC/ICU Protocol: Barrier precautions. If diarrhea present, move to isolation  |  |
| <b>Leptospirosis (Leptospira spp.)</b> (Z)(P)(I)                     | Fever, kidney failure with or without liver disease, abortion  | Shed in urine, organism penetrates intact mucous membranes or abrasions.   | <b>A or C</b>          | Minimize movement around the hospital; Minimize contact with urine, especially prior to doxycycline therapy. Face shields required along with barrier precautions and appropriate face mask when cleaning stall*. May be moved to isolation at discretion of IDC officer; Report monthly to CDFA |  |
| <b>Methicillin Resistant Staph aureus (MRSA)</b>                     | Skin infections, pneumonia, incisional infections, other   | Nasal secretions, hand or fomite   | <b>A or C</b>          | IDC/ICU precautions; limit movement. May be moved to isolation at discretion of IDC officer. Keep wounds or incisions bandaged or covered.   |  |
| <b>Multiple Drug Resistant Infections (Z*)</b>                       | Pyoderma, surgery site infections, diarrhea, urinary tract infection, respiratory infection, septicemia, other.            | Contact with infected body fluids, direct contact with contaminated fomites, hands or clothing. .  | <b>A or C</b>          | IDC/ICU protocol (barrier precautions); limit movement. May be moved to isolation at discretion of IDC officer.  |  |
| <b>Piroplasmiasis (Babesia caballi and Theileria equi)</b>           | Fever, lethargy, anemia, edema   | Blood contact (needle sticks, ticks)   | <b>A or C</b>          | IDC/ICU Protocol; Avoid blood spills; Spray daily with pyrethrin tick repellent  | <b>*Report to CDFA within 48 h</b> May be moved to isolation at discretion of IDC officer  |
| <b>Pseudorabies</b>  | Mad itch- pruritus, fever, neuro signs, aggression. Affects pigs and ruminants, and rarely horses. Pigs may be subclinical | Nose to nose; fecal-oral, venereal   | <b>A, but 10%</b>      | Move to isolation  | <b>Report to CDFA within 48 h</b>  |
| <b>Q fever (Coxiella burnetii)</b> (Z)(I)(P)                         | Abortion, Still birth, Dystocia; Fetus and reproductive fluids are primary source, less in feces and urine                 | Inhalation, mucous membrane contact secondary  | <b>A or C</b>          | N95 mask required in addition to IDC protocol  | <b>*Report to CDFA and CDC</b>   |
| <b>Rabies (Z)(P)</b>   | Fever, rapidly progressive neurologic signs, especially change in behavior, paralysis.                                     | Transmitted by biting or contact with saliva or tissues at necropsy.   | <b>A or C</b>          | Move patient directly to isolation. Handle with extreme care by dedicated personnel to avoid bites/contact with saliva. Face shield required.  | <b>Communicate bites to Yolo county public health. Positive cases reported to CDFA within 24 h*</b> . Virus unstable in environment. |
| <b>Rhodococcus equi</b> (Z*)(I)                                      | Pneumonia, Fever in foals  | Fecal-oral, aerosol  | <b>A or C</b>          | Housed in air space separated from other foals   | *Not allowed in foal pasture*  |
| <b>Ringworm (dermatophytosis) (Microsporum /Trichophyton)</b> (Z)(I) | Red lesion with a ring of scale, alopecia.   | Direct contact with infected hair or contaminated fomites.   | <b>A or C</b>          | IDC/ICU precautions. *Use Accel as labeled for ringworm  | Ringworm can live in environment for extended periods of time.   |
| <b>Rotavirus</b>   | Diarrhea, fever in young animals   | Fecal-oral. Fomites and hands.   | <b>B</b>               | Move directly to isolation   |  |
| <b>Salmonellosis (Salmonella sp.)</b> (Z)(P)(I)                      | Fever, abdominal pain, diarrhea, systemic organ involvement, reflux, leukopenia  | Fecal-oral, contaminated hands or fomites.   | <b>A or C</b>          | Move directly to isolation; contact IDC officer  |  |
| <b>Scrapie (prion)</b> (Z*)  | Pruritus, behavior changes, tremors, bruxism, neuro signs weight loss  | Placenta and birthing fluids through oral uptake of lambs/kids   | <b>A</b>               | Barrier precautions  | Zoonotic potential not completely known- felt to be low risk, although atypical scrapie is a potential                               |
| <b>Strangles (Streptococcus equi subspp equi)</b>                    | Fever, lymphadenopathy, nasal discharge  | Direct contact, fomites, hands, nasal secretions, pus  | <b>A or C</b>          | Move directly to isolation   |  |
| <b>Streptococcus suis</b>  | Respiratory signs; sepsis; generalized malaise; neuro signs  | Direct contact   | <b>A or C</b>          | Wear face shield or goggles plus mask. Avoid contact with mucous membranes or wounds   | Contact IDC officer  |
| <b>Tuberculosis (Mycobacterium bovis, M. avium complex)</b>          | Respiratory signs, cough, hemoptysis, fever, weight loss, skin signs-papules, ulcers, pustules                             | Inhalation and oral; aerosol; oral or cutaneous exposure from infected tissues; ingestion of raw milk  | <b>C &gt; 5min</b>     | <b>N95 mask</b> , barrier precautions, gloves, eye protection  | Contact IDC; <b>Contact CDFA within 48 h</b>   |
| <b>Venezuelan Equine Encephalitis</b>                                | Neurologic signs   | Mosquito transmission  | <b>A or C</b>          | Isolation  | <b>*Report to CDFA within 24 h</b>   |
| <b>Vesicular Stomatitis</b>  | Vesicles/ulcers in oral cavity, teats and coronary bands; Fever  | Direct contact, fomites, hands   | <b>A or C</b>          | Move directly to isolation; Infection in humans is rare  | <b>*Report to CDFA within 24 h</b>   |