Camelid Anthrax

JUNE 2015

Cause	*Bacillus anthracis* bacteria
Risk of Exposure in Illinois	Low
Risk of Transmission to exposed people	High
Mode of Transmission	Ingestion or inhalation of spores; handling contaminated carcass
Incubation Period	Human: Cutaneous form: 3-10 days Inhalation form: 1-5 days Gastrointestinal form: 2-5 days Animal: 3-7 days (can range from 1-20 days)
Clinical Signs-Human	***Cutaneous form*** accounts for most human cases-red, raised lesion; blister ***Pulmonary form***- fever; general ill-being; muscle pain; cough; respiratory distress; sweating; shock; death ***Gastrointestinal form***- fever; vomiting; bloody diarrhea; general ill-being
Clinical Signs-Animal	***Acute form***- sudden fever; incoordination; tremors; colic; respiratory distress; blood-tinged diarrhea; blood in urine; convulsions and *death ***Peracute form***- *sudden death *Failure to achieve rigor mortis after death
Control and Prevention	Vaccinate livestock in endemic areas; vaccinate individuals in high risk occupations; deep burial/burn infected carcass
Comments	Reportable disease in Illinois If anthrax is suspected, do ***NOT*** perform a necropsy; potential bioterrorist agent
Additional Information	http://emergency.cdc.gov/agent/anthrax/index.asp http://www.cfsph.iastate.edu/Factsheets/pdfs/anthrax.pdf

Camelid Brucellosis

JUNE 2015

BANGS DISEASE

Cause	*Brucella melitensis* bacteria
Risk of Exposure in Illinois	Rare (Illinois is currently Brucellosis free)
Risk of Transmission to exposed people	High
Mode of Transmission	Contact with infected animals especially aborted fetuses, uterine fluids or membranes, and urine; inhalation or ingestion; contact with objects capable of harboring bacteria
Incubation Period	Human: 1 week- several months after infection Animal: Abortion and stillbirths 2 weeks- 5 months after infection.
Clinical Signs- Human	Fever; headache; chills; generalized weakness; nausea; weight loss; enlarged lymph nodes and spleen. Asymptomatic infections can occur. Symptoms may persist for years either intermittently or continuously.
Clinical Signs- Animal	Abortion or birth of weak crias; possibly decreased fertility
Control and Prevention	Wear protective clothing around suspect animals
Comments	Reportable disease in Illinois; potential bioterrorist agent
Additional Information	http://www.health.state.ny.us/nysdoh/communicable_diseases/en/brucello.htm http://www.cdc.gov/brucellosis/ http://www.cfsph.iastate.edu/FastFacts/pdfs/brucellosis_F.pdf

Camelid Coccidioidomycosis

JUNE 2015

Cause	*Coccidioides immitis* fungus
Risk of Exposure in Illinois	Rare unless animal is imported from the southwest United States
Risk of Transmission to exposed people	Not directly transmitted from animals to humans
Mode of Transmission	Inhalation of spores from contaminated environment
Incubation Period	Human: 1-4 weeks for primary form; weeks to years for disseminated form Animal: 1-3 weeks
Clinical Signs-Human	**Primary form**: respiratory illness; flu-like symptoms; asymptomatic infections can occur **Disseminated form:** fever, anorexia, weight loss, muscle pain, excessive sweating, skin lesions, enlarged lymph nodes, respiratory, bone or joint disease
Clinical Signs-Animal	Depends on location of lesion; paresis; difficulty breathing; coughing; dermal lesions; can cross placenta in llama; asymptomatic infections can occur
Control and Prevention	Avoid acquiring animals from endemic areas
Comments	None
Additional Information	http://www.cfsph.iastate.edu/Factsheets/pdfs/coccidioidomycosis.pdf http://www.cdc.gov/fungal/diseases/coccidioidomycosis/index.html

Camelid Ringworm

JUNE 2015

CAMELID DERMATOPHYTOSIS

Cause	*Trichophyton* spp fungi
Risk of Exposure in Illinois	Rare
Risk of Transmission to exposed people	High
Mode of Transmission	Direct contact with infected animal or indirect contact with contaminated objects capable of harboring fungi.
Incubation Period	Human: 7-14 days (can last from several days to few weeks) Animal: 2-4 weeks
Clinical Signs-Human	Fungi generally grow in keratinized tissue such as hair, nails and outer layer of skin; mucous membranes not affected. Itching; "ringworm" lesion; hair loss; inflammation
Clinical Signs-Animal	Raised, crusty, circular plaques around the poll and face.
Control and Prevention	Sanitation; good personal hygiene; wear gloves when handling suspect animals or contaminated objects capable of harboring fungi.
Comments	Person to person transmission has been observed.
Additional Information	http://www.cfsph.iastate.edu/FastFacts/pdfs/dermatophytosis_F.pdf http://www.health.state.ny.us/nysdoh/communicable_diseases/en/ring.html

Camelid Johne's Disease

JUNE 2015

PARATUBERCULOSIS

Cause	*Mycobacterium avium (paratuberculosis) bacteria*
Risk of Exposure in Illinois	Moderate
Risk of Transmission to exposed people	Low (uncertain if zoonotic transmission occurs)
Mode of Transmission	Direct contact; ingestion; (routes of transmission not proven)
Incubation Period	Human: Uncertain Animal: Less than 2 years or longer
Clinical Signs-Human	It has been suggested that Johne's disease is linked to Crohn's disease in humans, which causes chronic inflammatory intestinal disease and diarrhea
Clinical Signs-Animal	Weight loss despite good appetite; rough hair coat
Control and Prevention	Good personal hygiene
Comments	Reportable disease in Illinois
Additional Information	http://www.cfsph.iastate.edu/Factsheets/pdfs/paratuberculosis.pdf http://www.aphis.usda.gov/wps/portal/footer/topicsofinterest/applyingforpermit?1dmy&urile=wcm%3apath%3a%2Faphis_content_library%2Fsa_our_focus%2Fsa_animal_health%2Fsa_animal_disease_information%2Fsa_cattle_health%2Fsa_johnes%2Fct_johnes_disease

Camelid Leptospirosis

JUNE 2015 | LEPTO

Cause	*Leptospira* spp. bacterial spirochete
Risk of Exposure in Illinois	Low
Risk of Transmission to exposed people	High
Mode of Transmission	Ingestion of contaminated water; inhalation; direct contact with urine or through skin lesions; walking barefoot
Incubation Period	Human: 2 days-4 weeks Animal: 3-7 days (variable)
Clinical Signs-Human	Fever; headache; chills; cough; difficult breathing; severe muscle pain or tenderness; reddening of the eyes; jaundice; meningitis; acute kidney failure; abortion
Clinical Signs-Animal	Usually asymptomatic; weakness; anorexia; fever; abortion; stillbirth; weak crias; infertility; weight loss; blood in urine; jaundice; death
Control and Prevention	Good pasture drainage; protect water supply from animal contamination; wear protective clothing.
Comments	Person to person transmission has been observed.
Additional Information	http://www.cfsph.iastate.edu/FastFacts/pdfs/leptospirosis_F.pdf http://www.cdc.gov/leptospirosis/index.html

Camelid Listeriosis

JUNE 2015 | CIRCLING DISEASE

Cause	*Listeria monocytogenes* bacteria
Risk of Exposure in Illinois	Moderate
Risk of Transmission to exposed people	Low
Mode of Transmission	Ingestion; direct contact; aerosol
Incubation Period	Human: Uncertain but considered to range from 3-70 days Animal: 10 days-3 weeks
Clinical Signs-Human	Flu-like symptoms: fever; diarrhea; headache; muscle aches; stiff neck; abortion, premature birth or sick newborn; meningitis; asymptomatic fecal carriers common; pregnant women, elderly and immunosuppressed individuals at increased risk
Clinical Signs-Animal	Encephalitis (circling, head tilt, ear droop, excessive salivation, incoordination, depression, etc); blood poisoning; abortion may occur
Control and Prevention	Use only good quality silage; control rodents; good sanitation
Comments	Person to person transmission has been observed.
Additional Information	http://www.cdc.gov/listeria/index.html http://www.cfsph.iastate.edu/FastFacts/pdfs/listeriosis_F.PDF

Camelid Soremouth

JUNE 2015

CAMELID CONTAGIOUS ECTHYMA

Cause	Pox virus
Risk of Exposure in Illinois	Low
Risk of Transmission to exposed people	Unknown
Mode of Transmission	Direct contact with lesion or mucous membranes of infected animals; contact with contaminated objects capable of harboring the virus
Incubation Period	Human: 3-7 days Animal: 2-3 days
Clinical Signs-Human	Small, firm papule at site of inoculation progressing to a weeping (can be painful) nodule that develops into a thick crust; low-grade fever; mild lymphadenopathy (any disease process affecting a lymph node or lymph nodes)
Clinical Signs-Animal	Papules, pustules, vesicles that develop into thick crusts on lips, nose, ears, eyelids; occasionally feet, perineal region and inside mouth; dam nursing infected cria may develop lesions on teats and udder.
Control and Prevention	Good personal hygiene; wear gloves if lesions are seen or when handling the mouth of susceptible crias.
Comments	Person to person transmission has been observed.
Additional Information	http://www.cfsph.iastate.edu/FastFacts/pdfs/contagious_ecthyma_F.pdf http://www.ahc.umn.edu/rar/safety.html#orf

Camelid Rabies

JUNE 2015

Cause	Rhabdovirus
Risk of Exposure in Illinois	Low
Risk of Transmission to exposed people	High
Mode of Transmission	Direct contact with infected saliva into break in skin or mucous membranes; animal bite
Incubation Period	Human: 10 days-3 months (up to years; depends on location of bite/exposure) Animal: 10 days-6 months
Clinical Signs-Human	Headache; fever; general ill-being; abnormal behavior; weakness or paralysis; difficulty swallowing; delirium; convulsions; death
Clinical Signs-Animal	Early signs in lamoids include lameness, ataxia, and posterior paresis followed by an aggressive syndrome or paralytic syndrome.
Control and Prevention	Wear gloves when handling suspect animals; vaccination program for animals and individuals at high risk.
Comments	Reportable disease in Illinois; seek medical attention immediately if exposure is suspected; person to person transmission has been observed.
Additional Information	http://www.cfsph.iastate.edu/FastFacts/pdfs/rabies_F.pdf http://www.health.state.ny.us/nysdoh/communicable_diseases/en/rabies.htm

Camelid Salmonellosis

JUNE 2015

Cause	*Salmonella* spp. bacteria
Risk of Exposure in Illinois	Low
Risk of Transmission to exposed people	Moderate
Mode of Transmission	Ingestion (fecal-oral); contaminated food and water; direct contact
Incubation Period	Human: 12 hours-3 days Animal: Highly variable; often symptoms do not appear until the animal is stressed; commonly 1-5 days
Clinical Signs-Human	Varies from self-limiting gastroenteritis to generalized illness; vomiting; watery diarrhea; low grade fever; abdominal pain
Clinical Signs-Animal	Enteritis and septicemia (“blood poisoning”); inflammation of the lining of the thoracic cavity; inflammation of the lining of the heart; peritonitis; weakness; listless; dehydration
Control and Prevention	Wash hands after contact with animal feces; wear protective clothing when working with sick crias
Comments	Person to person transmission has been observed.
Additional Information	http://www.cfsph.iastate.edu/Factsheets/pdfs/nontyphoidal_salmonellosis.pdf http://www.health.state.ny.us/nysdoh/communicable_diseases/en/salmon.htm http://www.cdc.gov/salmonella/

Camelid Tetanus

JUNE 2015

Cause	*Clostridium tetani* bacteria
Risk of Exposure in Illinois	Low
Risk of Transmission to exposed people	High if open wounds on skin
Mode of Transmission	Direct contact; penetrating wound
Incubation Period	Human: 8 days; (ranges from 3 days 21 days) Animal: Variable (ranges from 3 days-3 weeks)
Clinical Signs-Human	Headache; muscle stiffness in jaw (lock jaw) followed by stiffness in neck; difficulty swallowing; rigidity of abdominal muscles; spasms; sweating; fever; death
Clinical Signs-Animal	Sawhorse stance; muscle stiffness in jaw (lock jaw); difficult breathing; erect ears; elevated and rigid tail; protruding nictitating membrane; unable to kush
Control and Prevention	Immunization; appropriate treatment of wounds; wear gloves when working with affected animals.
Comments	Tetanus vaccination recommended for farm workers
Additional Information	http://www.health.state.ny.us/nysdoh/communicable_diseases/en/tetanus.htm http://www.cdc.gov/vaccines/pubs/pinkbook/downloads/tetanus.pdf http://wwwnc.cdc.gov/travel/yellowbook/2012/chapter-3-infectious-diseases-related-to-travel/tetanus.htm

Camelid Toxoplasmosis

JUNE 2015 | CAMELID TOXO

Cause	*Toxoplasma gondii* protozoa parasite
Risk of Exposure in Illinois	Not transmitted from Camelids to humans except in meat; exposure to feces of definitive hosts is high on livestock farms
Risk of Transmission to exposed people	Unknown
Mode of Transmission	Ingestion of undercooked meat; fecal-oral transmission from cats on farm
Incubation Period	Human: 5-23 days Animal: Suspect similar to human
Clinical Signs-Human	Infection is common but clinical illness is low; flu-like symptoms: fever, headache, weakness; also fetal death; congenital abnormalities; encephalitis; immunocompromised patients are at high risk.
Clinical Signs-Animal	Most infections asymptomatic; abortions; stillbirths
Control and Prevention	Good personal hygiene; avoid contact with cat feces, esp. if pregnant
Comments	Person to person transmission only *in utero.*
Additional Information	http://www.cfsph.iastate.edu/FastFacts/pdfs/toxoplasmosis_F.pdf http://www.cdc.gov/toxoplasmosis/

Camelid Tuberculosis

JUNE 2015 | TB

Cause	*Mycobacterium spp.* bacteria
Risk of Exposure in Illinois	Low (Illinois is currently TB free)
Risk of Transmission to exposed people	High
Mode of Transmission	Ingestion; inhalation; aerosol; direct injury to skin/mucous membranes
Incubation Period	Human: 4-6 weeks Animal: Variable
Clinical Signs-Human	Clinical signs depend on route of infection and may be asymptomatic; cough; cervical adenitis (inflammation of lymph node or gland in neck); genitourinary infection (organs of reproduction and urination); lesions in bones and joints; meningitis; pneumonia; may be severe in immunosuppressed patients
Clinical Signs-Animal	Chronic condition; may be asymptomatic; weakness; anorexia; weight loss; diarrhea; lymphadenopathy (any disease process affecting a lymph node or lymph nodes); bronchopneumonia; difficulty breathing; death
Control and Prevention	Depopulate positive herds; test/treat human cases
Comments	Reportable disease in Illinois
Additional Information	http://www.cdc.gov/tb/ http://www.niaid.nih.gov/topics/tuberculosis/Pages/default.aspx