















# Disease from Select Zoonotic Agents

Human	 Person-to-Person  Vector Transmitted	Routes of Transmission	System Affected					Incubation Period	Prominent Clinical Signs and Symptoms
			Septicemia	Respiratory	Intestinal	Cutaneous	Ocular		
<b>BACTERIA</b>									
<b>Campylobacteriosis</b> <i>Campylobacter jejuni</i> , <i>C. fetus</i> , <i>C. coli</i>		ingestion (contaminated food, fecal-oral)			●			1-10 days	Diarrhea with or without blood; fever; nausea; vomiting; abdominal pain; headache; muscle pain
<b>Cat Scratch Fever</b> <i>Bartonella henselae</i>		direct contact (scratch or bite of cat)				●		3-20 days	Self-limiting; mild to severe skin rash at site of inoculation; lymphadenopathy; fever; malaise; fatigue; complications and atypical presentation in 5-16% of patients
<b>Chlamydiosis (mammals)</b> <i>Chlamydia abortus</i> , <i>C. felis</i>		ingestion (fecal-oral); inhalation; direct contact (birthing tissues)	●					unknown	Headache; fever; vomiting; abortion; pelvic inflammatory disease; septicemia; hepatitis; kidney dysfunction; disseminated intravascular coagulation
<b>Ehrlichiosis</b> <i>Ehrlichia</i> , <i>Neorickettsia</i> , <i>Anaplasma</i>		ticks		●	●	●	●	7-10 days	Headache; fever; chills; myalgia; vomiting; diarrhea; conjunctivitis; cough; confusion; children may develop a rash; severe symptoms in immunosuppressed patients
<b>Leptospirosis</b> <i>Leptospira species</i>		ingestion (contaminated water); inhalation; direct contact (urine)		●			●	7-12 days	Biphasic illness; fever; headache; chills; severe leg myalgia; conjunctival injection; jaundice; aseptic meningitis; cough; dyspnea; acute renal failure; abortion
<b>Listeriosis</b> <i>Listeria monocytogenes</i>		ingestion (contaminated food); direct contact (mother to child in womb or during birth)	●	●	●	●		3-70 days	In-utero death, premature births; newborns may develop meningitis, septicemia, respiratory disease; adults may develop rash, papules after handling infected newborns, or placenta; fever; nausea; diarrhea
<b>Lyme Disease</b> <i>Borrelia burgdorferi</i>		ticks				●		7-14 days	"Bulls-eye" rash with central clearing; malaise; fatigue; fever; headache; stiff neck; myalgia; arthralgia; lymphadenopathy; chronic recurring arthritis
<b>Rocky Mountain Spotted Fever</b> <i>Rickettsia rickettsii</i>		ticks			●	●	●	2-14 days	Fever; chills; malaise; headache; myalgia; vomiting; diarrhea; edema of the face or extremities; conjunctivitis; non-pruritic macular rash, may involve palms of hands or soles of feet; coma
<b>Salmonellosis (reptiles)</b> <i>Salmonella species</i>		ingestion (fecal-oral)	●		●			12 hours to 18 days	Acute enterocolitis; headache; abdominal pain; diarrhea; nausea; fever; septicemia; meningitis. Disease may be severe in the very young, elderly, or immunosuppressed patients
<b>Streptococcosis</b> <i>Streptococcus canis</i> , <i>S. equi</i> <i>subsp. zooepidemicus</i> , <i>S. iniae</i> , <i>S. suis</i>		ingestion (contaminated food); inhalation; direct contact (infected animal)	●	●		●		hours to 3 days	Pharyngitis; pyoderma; abscesses; cellulitis; endocarditis; polyarthritis; pneumonia; septicemia; streptococcal toxic shock syndrome
<b>Tuberculosis (bovine)</b> <i>Mycobacterium bovis</i>		ingestion (unpasteurized milk or dairy products); inhalation		●			●	variable	May be asymptomatic; clinical signs depend upon route of infection; cervical adenitis; genitourinary infection; lesions in bones and joints; meningitis; pneumonia; may be severe in immunosuppressed patients
<b>FUNGI</b>									
<b>Cryptococcosis</b> <i>Cryptococcus neoformans</i>		inhalation (infected pigeon droppings)		●				unknown	Most asymptomatic; fever; malaise; coughing; chest pain; dyspnea; headache; weight loss; may cause meningoencephalitis in immunosuppressed patients; death
<b>Dermatophytosis</b> <i>Microsporium species</i> , <i>Trichophyton species</i>		direct contact (infected animal)			●			7-14 days	"Ringworm", raised, inflamed, pruritic, circular lesion with central clearing; alopecia; thick, discolored nails; may disseminate in immunosuppressed patients

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			Septicemia	Respiratory	Intestinal	Cutaneous	Ocular		
<b>PARASITES</b>									
<b>Ascariasis (Mange)</b> <i>Numerous species of mites</i>		direct contact (infected animal)				●		1-4 days	Severe pruritis on arms, chest, abdomen, thighs; macules, papules, pustules; possible severe painful dermatitis with allergic reactions and chronic lesions
<b>Baylisascariasis</b> <i>Baylisascaris procyonis</i>		ingestion (fecal-oral)	●				● ●	7-30 days	Symptoms vary with number and location of larvae: fever; nausea; lethargy; hepatomegaly; pneumonitis; neurological signs; brain damage; blindness; death
<b>Cysticercosis</b> <i>Taenia species</i>		ingestion (fecal-oral)					● ●	10 days to years	Symptoms vary with number and location of larvae; chronic headaches, seizures most common; stroke; focal neurological signs; blurred vision; death
<b>Echinococcosis (hydatid disease)</b> <i>Echinococcus granulosus, E. multilocularis</i>		ingestion (fecal-oral)	● ●				● ●	months to years	Asymptomatic; signs associated with mass lesion; liver and lungs most common; abdominal pain; vomiting; jaundice; liver failure; cough; chest pain; blindness; seizures
<b>Giardiasis</b> <i>Giardia intestinalis</i>		ingestion (contaminated water, fecal-oral)		●				1-25 days	Sudden onset of diarrhea with foul-smelling stools; abdominal cramps; bloating; flatulence; nausea; fatigue; dehydration; chronic infections may occur
<b>Larva Migrans (cutaneous)</b> <i>Ancylostoma species</i>		direct contact (larvae)				●		7-14 days	Pruritus; winding threadlike cutaneous lesion with erythema and swelling
<b>Larva Migrans (visceral, ocular)</b> <i>Toxocara species</i>		Ingestion (fecal-oral)	● ●				● ●	weeks to months	Severe in young children; fever; cough; hepatomegaly; pneumonia; ocular invasion; vomiting; weakness; anorexia; arthralgia; myalgia; lymphadenopathy
<b>Leishmaniasis</b> <i>Leishmania species</i>		sand flies				●		7 days to years	Cutaneous: papule; ulcer; may be chronic; Visceral: prolonged undulant fever; splenomegaly; hepatomegaly; fatal if untreated
<b>Sarcocystosis</b> <i>Sarcocystis species</i>		ingestion (fecal-oral, undercooked meat)		●				3 hours to 18 days	Asymptomatic to chronic; painful myositis; erythema; muscle weakness; intestinal form usually self-limiting; fever; diarrhea; vomiting
<b>Taeniasis</b> <i>Taenia species.</i>		Ingestion (undercooked beef or pork)		●				10 days to years	May be asymptomatic; symptoms more common in children; abdominal pain; diarrhea or constipation; nausea; decreased or increased appetite; weight loss
<b>Toxoplasmosis</b> <i>Toxoplasma gondii</i>		ingestion (fecal-oral, undercooked meat)					●	5-23 days	Flu-like signs; fetal death; congenital abnormalities, (hydrocephaly, microcephaly); severe in immunocompromised patients; encephalitis
<b>Trichuriasis</b> <i>Trichuris suis, T. trichiura, T. vulpis</i>		ingestion (fecal-oral)		●				variable	Often asymptomatic; may develop chronic diarrhea; abdominal pain; nausea; vomiting; flatulence; headache; weight loss; anemia; children may develop rectal prolapse
<b>VIRUSES</b>									
<b>Contagious Ecthyma (Orf)</b> <i>Parapoxvirus</i>		direct contact (infected animal)				●		3-7 days	Small, firm papule at site of inoculation progressing to a weeping nodule that develops a thick crust; low-grade fever; mild lymphadenopathy
<b>Influenza</b> <i>Influenzavirus</i>		inhalation; direct contact (nasal secretions)	● ●					1-4 days	Fever; chills; anorexia; headache; myalgia; weakness; sneezing; rhinitis; sore throat; non-productive cough; pneumonia; nausea, vomiting, otitis media in children; death
<b>Rabies</b> <i>Lyssavirus</i>		direct contact (infective saliva into break in skin, on mucous membranes); organ transplant					●	1-3 months	Headache; fever; malaise; abnormal behavior; paresis or paralysis; difficulty swallowing; delirium; convulsions; death

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Animal	Severity of disease in potentially affected species								Incubation Period	Prominent Clinical Signs	
	<span style="color: green;">■</span> Mild <span style="color: blue;">▲</span> Moderate <span style="color: red;">●</span> Severe										
Disease	Cattle	Sheep	Goats	Pigs	Horses	Dogs	Cats	Birds	Other		
<b>BACTERIA</b>											
<b>Campylobacteriosis</b> <i>Campylobacter jejuni</i> , <i>C. fetus</i> , <i>C. coli</i>	●	●	●	■		■	■		ferrets, hamsters, mink, non-human primates	3-25 days	Mucoid, watery, or blood-flecked diarrhea in many species; Cattle, Goats, Sheep: abortion; Hamsters: "wet tail"; may be fatal in newly hatched chicks; asymptomatic carriers common
<b>Cat Scratch Fever</b> <i>Bartonella henselae</i>							■		bobcats, cheetahs, cougars, Florida panthers	2-16 days	No natural occurring disease reported; research studies have produced fever; lethargy; anorexia; myalgia; lymphadenopathy; transient behavioral and neurological dysfunction
<b>Chlamydiosis (mammals)</b> <i>Chlamydia abortus</i> , <i>C. felis</i>	■	●	●				▲		deer, llamas	3-10 days in cats; others vary	Goats, Sheep: late term abortion; stillbirths; low birth weight or premature offspring; Cats: fever; conjunctivitis; ocular discharge; corneal ulcers; rhinitis; Cattle: sporadic abortions
<b>Ehrlichiosis</b> <i>Ehrlichia</i> , <i>Neorickettsia</i> , <i>Anaplasma</i>	▲	▲			▲	●			coyotes, llamas, non-human primates, red foxes, rodents, wild ruminants	1-20 days	Dogs, Horses: fever; lethargy; anorexia; petechiae; lameness; edema in hind legs; Dogs: may develop bleeding disorders; Cattle, Sheep: abortions
<b>Leptospirosis</b> <i>Leptospira species</i>	●	▲	▲	●	▲	●			rodents, sea lions, seals	4-12 days	Cattle, Goats, Pigs Sheep: abortions; decreased fertility; Calves, Piglets: fever; diarrhea; meningitis; Dogs: variable; hemorrhagic syndromes; kidney disease; Horses: ocular lesions
<b>Listeriosis</b> <i>Listeria monocytogenes</i>	●	●	●	●		▲	▲	●	guinea pigs, rabbits	10 days to 3 weeks	Depression; anorexia; facial paralysis with profuse salivation; torticollis; strabismus; circling; incoordination; head pressing; abortions; death
<b>Lyme Disease</b> <i>Borrelia burgdorferi</i>					▲	▲			deer, opossums, raccoons, rodents	2-5 months	Dogs: lameness; arthritis; Horses: lameness; arthritis; encephalitis; uveitis; dermatitis; edema of the limbs; abortion
<b>Rocky Mountain Spotted Fever</b> <i>Rickettsia rickettsii</i>					▲				opossums, rabbits, rodents	2-14 days	Fever; anorexia; depression; lymphadenopathy; dyspnea; diarrhea; vomiting; joint or muscle pain; edema of the face or extremities; petechiae of oral or ocular membranes; ataxia; paraparesis; seizures; renal failure; coma
<b>Salmonellosis (reptiles)</b> <i>Salmonella species</i>									lizards, snakes, tortoises, turtles	variable	Clinical disease uncommon; can develop septicemia; anorexia; listlessness; osteomyelitis; osteoarthritis; subcutaneous abscesses; death
<b>Streptococcosis</b> <i>Streptococcus canis</i> , <i>S. equi subsp. zooepidemicus</i> , <i>S. iniae</i> , <i>S. suis</i>	▲	▲	▲	●	●	●	●		bison, ferrets, fish, foxes, guinea pigs, non-human primates	varies with form	Mastitis; metritis; placentitis; abortion; septicemia; wound infection; polyarthritis; pleuritis; endocarditis; abscesses; pneumonia; meningitis; pyoderma; toxic shock; death; Guinea Pigs: cervical lymphadenitis
<b>Tuberculosis (bovine)</b> <i>Mycobacterium bovis</i>	●	●	●	●		●	●		badgers, cervids, non-human primates, zoo animals	variable	Chronic condition; may be asymptomatic; weakness; anorexia; weight loss; lymphadenopathy; bronchopneumonia; dyspnea; Calves: ingestion of infected milk may cause retropharyngeal lymphadenopathy
<b>FUNGI</b>											
<b>Cryptococcosis</b> <i>Cryptococcus neoformans</i>	■	■	■		▲	●	●		ferrets, foxes, guinea pigs, llamas, mink, non-human primates	unknown	Cats: chronic rhinitis; sinusitis; lymphadenopathy; non-pruritic nodules on face; CNS disease; ocular lesions; osteomyelitis; Cattle, Goats, Sheep: mastitis; Dogs: neurologic disease; Horses: obstructive growths in the nasal cavity
<b>Dermatophytosis</b> <i>Microsporum species</i> , <i>Trichophyton species</i>	■	■	■	■	■	■	■	■	rabbits, rodents	2-4 weeks	Young animals most susceptible; adults may be asymptomatic; small circular areas of alopecia; flakey skin; most species non-pruritic; Pigs: wrinkled lesion with thin brown, easily removed scab

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Animal Disease	Severity of disease in potentially affected species								Incubation Period	Prominent Clinical Signs	
	Cattle	Sheep	Goats	Pigs	Horses	Dogs	Cats	Birds			Other
<b>PARASITES</b>											
<b>Acariasis (Mange)</b> <i>Numerous species of mites</i>	■	■	■	▲	■	▲	▲	▲	bats, felids, fox, guinea pigs, rabbits, raccoons, rodents	10-60 days	Pruritic; secondary pyoderma; depression; anorexia; chronic infection may lead to hyperkeratotic lesions; fatal infestations may be seen in wild animals
<b>Baylascariasis</b> <i>Baylisascaris procyonis</i>						■			rabbits, raccoons, rodents	10-20 days	Dogs, Raccoons: usually asymptomatic; Rodents, Rabbits: neurological signs; circling; torticollis; ataxia; head tremors; progressive weakness; dysphagia; death
<b>Cysticercosis</b> <i>Taenia species</i>	▲	●	▲	▲		▲	▲		bears, llamas, rabbits, rodents, non-human primates, wild ruminants	10 days to 6 months	Severity of clinical signs depend upon number and location of larvae; Goats, Sheep: fever; head tilt; circling; meningoencephalitis; ataxia; blindness; paralysis; convulsions; death; Cattle, Pigs: fever; muscle weakness; Dogs, Cats: neurological signs
<b>Echinococcosis (hydatid disease)</b> <i>Echinococcus granulosus, E. multilocularis</i>	■	▲	■	■	■	■	■		canids, felids, herbivores, non-human primates, rodents	unknown	Carnivores: asymptomatic; incidental finding of cysts at necropsy; Herbivores: may affect liver, abdominal cavity; ascites; hepatomegaly; dyspnea; diarrhea; vomiting; weight loss; Rodents: fatal within weeks
<b>Giardia</b> <i>Giardia intestinalis</i>	■	■				■	■		beavers	5-14 days	Adults: may be asymptomatic; Young animals: diarrhea or soft stools; poor hair coat; flatulence; weight loss or failure to gain weight
<b>Hookworms</b> <i>Ancylostoma species</i>						●	▲			7-20 days	Disease varies with parasite burden and age of the animal; severe in puppies; diarrhea; anorexia; emaciation; weakness; poor hair coat; anemia; interdigital dermatitis, death
<b>Roundworms</b> <i>Toxocara species</i>						●	●			30 days	Severe in puppies and kittens; lack of growth; loss of condition; "potbellied" appearance; parasites in vomit and feces; pneumonia; diarrhea
<b>Leishmaniasis</b> <i>Leishmania species</i>					■	▲	■		canids, marsupials, non-human primates, rodents	3 months to years	Cats, Horses: cutaneous form; non-pruritic exfoliative dermatitis around eyes, ears; Dogs: Foxhounds most commonly affected; cutaneous lesions; fever; anemia; lymphadenopathy; weight loss; anorexia; ocular lesions; splenomegaly
<b>Sarcocystosis</b> <i>Sarcocystis species</i>	●	●		▲	▲				non-human primates, opossums, rodents, rabbits	10 days to years	May be asymptomatic; fever; anorexia; diarrhea; muscle spasms; weakness; hyperexcitability; pneumonia; hemorrhages; anemia; icterus; prostration; hind limb paresis; ataxia; death
<b>Taeniasis</b> <i>Taenia species</i>						■	■		coyotes, fox, lynx, non-human primates, wolves	5-12 weeks	Visible passage of proglottids from anus; other signs are rare but may include unthriftiness; malaise; irritability; decreased appetite; mild diarrhea or colic
<b>Toxoplasmosis</b> <i>Toxoplasma gondii</i>		●	●	●	▲		●		non-human primates, rabbits, rodents	unknown	Most infections asymptomatic. Goats, Sheep, Pigs: abortions; stillbirths; Lambs: weak; high mortality rate; Cats: lethargy; persistent fever; anorexia; incoordination; paralysis; retinal detachment; death; Dogs: most asymptomatic
<b>Trichuriasis</b> <i>Trichuris suis, T. trichiura, T. vulpis</i>				▲	●	▲			non-human primates	10-12 days	Most cases asymptomatic; mucoid or hemorrhagic diarrhea; weight loss; unthriftiness; anemia; death may occur in piglets
<b>VIRUSES</b>											
<b>Contagious Ecthyma (Orf)</b> <i>Parapoxvirus</i>		▲	▲						alpaca, camels, wild ruminants	2-3 days	Papules, pustules, vesicles develop into thick crusts on lips, nose, ears, eyelids, occasionally feet, perineal region, inside mouth; ewes nursing infected lambs may develop lesions on teats and udder
<b>Influenza*</b> <i>Influenzavirus</i>				▲	▲	●	●	●	ferrets, mink, seals, whales	1-7 days	Horses, Pigs: fever; anorexia; dry cough; labored breathing; Pigs: may develop nasal discharge; Poultry: mild to severe; coughing; sneezing; decreased egg production; death
<b>Rabies</b> <i>Lyssavirus</i>	●	●	●	●	●	●	●	●	any mammal	10 days to 6 months	Restlessness; anorexia or increased appetite; vomiting; fever; ataxia; incoordination; ascending paralysis; increased aggression; death

\*Disease may not be transmissible to humans from all animal species

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