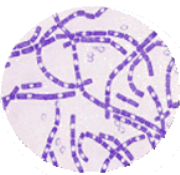
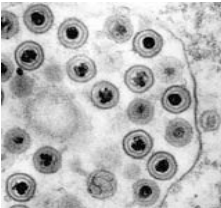




## SELECT AGENTS FACT SHEET

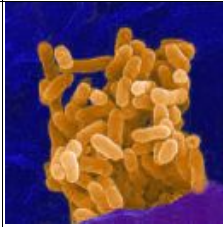

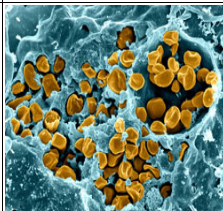
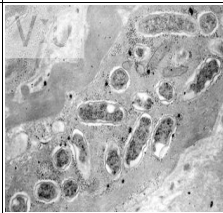
Disease	Pathogen	Genus species	Host Range	Transmission	Symptoms	Incubation	Fact	Treatment	Photo
Anthrax	Bacteria	<i>Bacillus anthracis</i>	Humans, cattle, sheep, goats, horses, pigs	Direct contact with infected animal tissue, skin, wool hides or their products. Inhalation of spores in soil or hides and wool. Ingestion of contaminated meat.	<i>Cutaneous</i> anthrax - skin lesion developing into a depressed eschar (5-20% case fatality); <i>Inhalation</i> - respiratory distress, fever and shock with death; <i>Intestinal</i> - abdominal distress followed by fever and septicemia	2-5 days	Fatality rate of 5-20% if untreated	Antibiotics: penicillin, ciprofloxacin, doxycycline, tetracyclines, erythromycin, chloramphenicol, neomycin, ampicillin.	
Brucellosis*	Bacteria	<i>Brucella (B. melitensis, B. abortus)</i>	Humans, swine, cattle, goats, sheep, dogs	Skin or mucous membrane contact with infected animals, their blood, tissue, and other body fluids.	High and protracted (extended) fever. Infection affects bone, heart, gallbladder, kidney, spleen, and causes highly disseminated lesions and abscess	1-15 weeks	Most commonly reported laboratory-associated bacterial infection in man.	Antibiotic combination: streptomycin, tetracycline, and sulfonamides.	
Bubonic Plague	Bacteria	<i>Yersinia pestis</i>	Human; greater than 200 mammalian species	Bite of infected fleas carried on rodents; airborne droplets from humans or pets with plague pneumonia; person-to-person transmission by fleas	Lymphadenitis in nodes with drainage from site of flea bite, in lymph nodes and inguinal areas, fever, 50% case fatality untreated; septicemic plague with dissemination by blood to meninges; secondary pneumonic plague	2-6 days	Untreated pneumonic and septicemic plague are fatal; Fleas may remain infective for months	Streptomycin, tetracycline, chloramphenicol (for cases of plague meningitis), kanamycin	
Glanders	Bacteria	<i>Burkholderia mallei</i>	Equines, especially horses and mules; humans are accidental hosts	Direct contact with nasal secretion of equines; inhalation of aerosols	1. Chronic pulmonary form with cough, mucopurulent discharge; Farcy. 2. A form with multiple abscesses in the skin, subcutaneous tissues and lymphatics. 3. An acute septicemic form with fever, chills and death in 7 days	1-14 days.	Survives in water at room temperature up to 30 days	Sensitive to ceftazidime, imipenem, doxycycline, minocycline, ciprofloxacin, gentamicin	



Through OSHA's Alliance Program,  
this fact sheet was developed as a product of the OSHA and ABSA Alliance for informational purposes only.  
It does not necessarily reflect the official views of OSHA or the Dept. of Labor



## SELECT AGENTS FACT SHEET

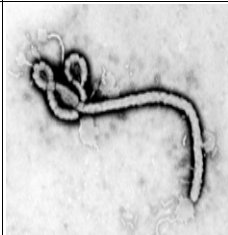

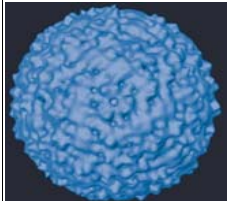
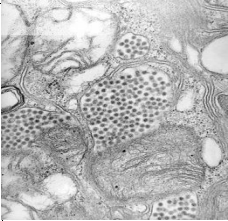
Disease	Pathogen	Genus species	Host Range	Transmission	Symptoms	Incubation	Fact	Treatment	Photo
Melioidosis*	Bacteria	<i>Burkholderia pseudomallei</i>	Humans and various animals (animals include sheep, goats, horses, swine, monkey and rodents)	Acquired by ingestion, inhalation or contact of abraded, wounded or burned skin with contaminated water or soil	A glanders-like disease; symptoms vary from inapparent infection to chronic infection to fatal septicemia; may simulate typhoid fever or tuberculosis, with empyema, chronic abscesses and osteomyelitis	2 days (several months may elapse between exposure and clinical disease)	Found primarily in tropical or subtropical regions, especially in Southeast Asia and Northern Australia	Trimethoprim-Sulfamethoxazole; susceptible to ceftazidime, imipenem, doxycycline, ciprofloxacin, sulphas, chloramphenicol, tetracycline.	
Q Fever	Bacteria	<i>Coxiella burnetii</i> (morphologically similar to the rickettsia)	Humans, cattle, sheep, goats	By Airborne dissemination of rickettsiae in dust from contaminated premises; by direct contact with infected animals and their birth products, wool from sheep	Acute febrile disease; sudden onset, chills, headache, weakness, malaise, severe sweats; pneumonitis, pericarditis, hepatitis, generalized infections; chronic infection mainly involves endocarditis.	2-3 weeks	Up to half of infections are asymptomatic; <1% case fatality rate, self-limiting infection	Resistant to many antibiotics; tetracycline, chloramphenicol and rifampin may be effective	
Tularemia* (Rabbit fever)	Bacteria	<i>Francisella tularensis</i>	Wild animals (rabbits) and birds; some domestic animals; humans	Inoculation of skin, conjunctiva or mucosa with blood or tissue when handling infected animals; fluids from infected flies or other animals; arthropod bites	Presents as an indolent ulcer at site of infection, with swelling of the regional lymph nodes and sudden onset of pain and fever, fever that lasts 3-6 weeks without treatment; inhalation may be followed by a pneumonic disease	1-14 days (usually 2-5 days)	Type B strains have a 5-15% fatality rate; type A strains approximately 35% mortality from pulmonary tularemia	Aminoglycosides, streptomycin, gentamycin, tobramycin and kanamycin, tetracyclines, and chloramphenicol	
Rocky Mountain Spotted Fever	Bacteria (Order Rickettsiales)	<i>Rickettsia rickettsii</i>	Humans, dogs, rodents, various other small animals	Bite of an infected tick; by contamination of skin with crushed tissues or feces of tick; Not directly transmitted from person-to-person	High fever lasting 2 to 3 weeks, malaise, muscle pain, severe headache, chills and conjunctival injection; maculopapular rash on extremities on 3rd day; hemorrhages are common; 20% case fatality rate in absence of therapy	3-14 days	Occurs throughout the USA during spring, summer and fall; many cases along eastern seaboard and the Rocky Mountain region	Sensitive to tetracyclines and chloramphenicol	



Through OSHA's Alliance Program,  
this fact sheet was developed as a product of the OSHA and ABSA Alliance for informational purposes only.  
It does not necessarily reflect the official views of OSHA or the Dept. of Labor



## SELECT AGENTS FACT SHEET

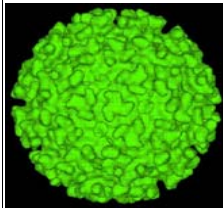
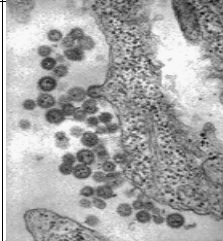
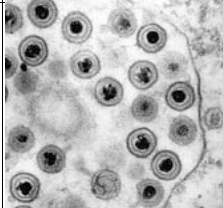

Disease	Pathogen	Genus species	Host Range	Transmission	Symptoms	Incubation	Fact	Treatment	Photo
African Hemorrhagic Fever	Virus - <i>Filoviridae</i>	Ebola virus	Humans, monkeys, Chimpanzees, domestic guinea pigs	direct contact with infected blood, secretions, organs or semen; contaminated syringes and needles facilitates virus transmission nosocomially in outbreaks	Sudden onset with high fever, malaise, abdominal pain, myalgias, vomiting, diarrhea; maculopapular rash, renal and hepatic involvement and hemorrhagic diathesis; 50%-90% case fatality rate	2-21 days	Communicable as long as blood and secretions contain virus (isolated 61 days after onset of illness);	No vaccines; Treatment directed at maintaining renal function, electrolyte balance and combating hemorrhage and shock	
Marburg Disease	Virus - <i>Filoviridae</i>	Marburg virus	Humans, monkeys	direct contact with infected blood, secretions, organs or semen; contaminated syringes and needles facilitates virus transmission nosocomially in outbreaks	Sudden onset with high fever, malaise, abdominal pain, myalgias, vomiting, diarrhea; maculopapular rash, renal and hepatic involvement and hemorrhagic diathesis; 25% case fatality rate	3-7 days	Communicable as long as blood and secretions contain virus (isolated in semen 7 weeks after clinical recovery);	No vaccines; Treatment directed at maintaining renal function, electrolyte balance and combating hemorrhage and shock	
Japanese Encephalitis	Virus - <i>Flaviviridae</i>	Japanese Encephalitis virus, Arbovirus B, Mosquito-borne encephalitis virus	Humans, birds, pigs, cattle, horses, bats and reptiles	via bite of infected mosquitoes	Acute inflammatory viral diseases involving parts of the brain, spinal cord and meninges; ranges from febrile headache syndrome to acute encephalitis; headache, high fever, chills, nausea, vomiting and coma	5-15 days	Not directly transmitted from person-to-person; not usually demonstrable in the blood of human after onset of disease	Formalin inactivated vaccine (JE-VAX) is available (3 doses at 0, 7 and 30 days); no specific treatment available	
Eastern Equine Encephalitis	Virus - <i>Togaviridae</i>	Eastern equine encephalomyelitis (EEE), Venezuelan equine fever, arbovirus	Humans, horses	Bite of infected mosquito; laboratory infections by aerosols are common; no evidence of transmission from horses to humans; or human to human	Fever, vomiting, mental confusion, headache, muscle aches and extreme tiredness. CNS involvement, encephalitis with convulsions, paralysis, coma and death	7-10 days	Up to 70% of humans infected with EEE may die. People that recover can have significant side effects such as seizures, mental retardation and paralysis	Investigational attenuated virus vaccine and inactivated vaccine are available; no specific treatment	



Through OSHA's Alliance Program,  
this fact sheet was developed as a product of the OSHA and ABSA Alliance for informational purposes only.  
It does not necessarily reflect the official views of OSHA or the Dept. of Labor



## SELECT AGENTS FACT SHEET

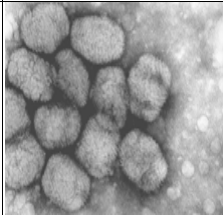
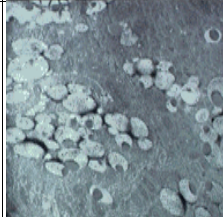
Disease	Pathogen	Genus species	Host Range	Transmission	Symptoms	Incubation	Fact	Treatment	Photo
Venezuelan Encephalitis	Virus - <i>Togaviridae</i>	Venezuelan equine encephalomyelitis (VEE), Venezuelan equine fever, arbovirus	Humans, horses	Bite of infected mosquito; laboratory infections by aerosols are common; no evidence of transmission from horses to humans	abrupt onset of severe headache, chills, fever, myalgia, retro-orbital pain, nausea and vomiting; some cases have diphasic fever, CNS involvement, encephalitis with convulsions, paralysis, coma and death	2-6 days, can be as short as 1 day	Human cases are infectious for mosquitoes for 72 hrs; mosquitoes are infectious for life; person-to-person transmission may occur	Investigational attenuated virus vaccine and inactivated vaccine are available; no specific treatment	
South American Hemorrhagic Fever*	Virus - <i>Arenaviridae</i>	Junin virus, Machupo virus, Sabia virus, Guanarito virus	Humans, rodents	Aerosol transmission via dust contaminated with rodent excreta; direct personal contact through abraded skin	High fever, fatigue, headache and muscular pain; petechia (regions of hemorrhage in the skin or mucosa) may appear on trunk or oral mucosa; bleeding from the nose, gums, stomach, intestine; shock and death	7-16 days	Junin virus found mainly in Argentina; Machupo virus found in Bolivia; Mortality rate is between 5-30%	Maintain renal function and electrolyte balance and combat hemorrhage and shock; live attenuated vaccine available	
Vesicular Stomatitis*	Virus - <i>Rhabdoviridae</i>	Multiple strains of Vesicular Stomatitis Virus (VSV)	Bovine, equine, porcine animals.	Probably arthropod-borne via the bite of an infective sandfly, mosquito or blackfly; by direct contact with infected animals (vesicular fluid, saliva)	Infuenza-like illness, malaise, fever, headache, nausea and vomiting.	24-48 hours	Documented hazard to personnel (45 lab acquired infections before 1980) handling infected live-stock, tissues and virulent isolates	Disease is self-limiting and illness is short in duration. (3-6 days)	
Simian B disease	Virus - <i>Herpesviridae</i>	Cercopithicine virus, Monkey B virus, Herpes simiae B virus; Cercopithicine herpesvirus 1	Naturally occurring in Macaque and Old World monkeys, can be latent in healthy animals; humans, rabbits, guinea pigs, mice	via monkey bites or scratches, direct personal contact with blood, secretions, cell cultures or excreta of non-human primates (NHP), needlesticks, exposures to aerosols	Acute usually fatal, ascending myelitis and encephalitis; fever; headache; vesicular skin lesion at site of infection; variable neurological symptoms (headache, dizziness, nausea) 1-3 weeks after onset of symptoms	up to 3 weeks	virus remains viable in saliva, excreta and cell cultures; 100% fatal if left untreated	No vaccines; treatment is with acyclovir or valcyclovir within 1 week after exposure	



Through OSHA's Alliance Program,  
this fact sheet was developed as a product of the OSHA and ABSA Alliance for informational purposes only.  
It does not necessarily reflect the official vies of OSHA or the Dept. of Labor



## SELECT AGENTS FACT SHEET

<i>Disease</i>	<i>Pathogen</i>	<i>Genus species</i>	<i>Host Range</i>	<i>Transmission</i>	<i>Symptoms</i>	<i>Incubation</i>	<i>Fact</i>	<i>Treatment</i>	<i>Photo</i>
Smallpox	Virus - <i>Poxviridae</i>	Variola major virus	Humans	Requires direct contact to spread. Transmitted in air droplets when an infected person coughs or sneezes. Also spread through contact with contaminated clothing	Initially fever, fatigue and headache. Later, severe pus-filled blisters appear on the skin that eventually leave deep, pitted scars.	7-17 days	Once symptoms develop, there's no effective treatment for smallpox and no known cure. The mortality rate is 30%	Vaccination with Smallpox vaccine (vaccinia virus) is recommended for personnel considered at-risk; no cases reported since 1977	
Sub-Viral Related Diseases (i.e., Mad Cow Disease)	Prion: non-RNA/DNA Infectious Protein Virus-like particle	Transmissible Bovine Spongiform Encephalopathy (BSE), Creutzfeldt Jacob Disease (CJD) and variant CJD (vCJD)	Adult sheep and goats; cows and can infect humans	Ingestion or handling of brain tissue or unfixed brain cells from infected animals.	Degeneration of the nervous system, severe variable alteration of the grey matter of the brain	2-5 years	The agent responsible for the TSE's is smaller than the smallest known virus and has not been completely characterized	There are no known treatments or vaccines for these TSE's	

\*Images were obtained from the U.S. Centers for Disease Control & Prevention Public Health Image Library (PHIL). 08/2008



Through OSHA's Alliance Program,  
this fact sheet was developed as a product of the OSHA and ABSA Alliance for informational purposes only.  
It does not necessarily reflect the official views of OSHA or the Dept. of Labor

