

# [Rickettsia can be used as a weapon because](https://assignbuster.com/rickettsia-can-be-used-as-a-weapon-because/)

Rickettsiaprowazekii is gram-negative coccobacillus bacteria belonging to theGenus Rickettsia. It is the agent causing epidemic typhus, or louse bornetyphus. Lice are the vectors of the bacteria, and are strictly human parasites (3).

Epidemic typhus is spread through contact with body lice infected with rickettsia prowazekii. Within two weeksof contact with infected body lice, individuals typically begin exhibitingsymptoms. Symptoms include: fever, chills, headache, rapid breathing, muscleaches, rash, cough, nausea, vomiting, and/or confusion. Certain individuals canremain infected, without any symptoms, for up to years after they first exhibitinitial symptoms. Occasionally, these individuals can relapse in disease, up tomonths or years following their first bout of illness.

This relapse is calledBrill-Zinsser disease. It normally occurs because the body’s immune system hasbeen weakened due to medication, advanced age, or other illness. Brill-Zinsserdisease exhibits symptoms much like the original disease, but typically muchmilder (4). Epidemic typhus isdiagnosed based on clinical features and symptoms present, a biopsy of anypresent rashes with fluorescent antibody staining (which detects the organism), serologic testing, and a polymerase chain reaction. The treatment for epidemictyphus primarily involves administering doxycycline, or in some caseschloramphenicol. These antibiotics are most effective when given shortly aftersymptoms appear (2). If treated early, most individuals recover quickly.

There is novaccine to prevent epidemic typhus. However, improved sanitary conditions, insecticides, and antibiotics have been extremely effective in decreasing theincidence of the disease (2). Furthermore, leading health organizationsrecommend several hygienic and preventative practices to prevent the spread of epidemictyphus. Individuals should avoid overcrowded areas and areas where peoplecannot change clothes or bathe on a regular basis.

Lice may be prevalent inthese areas. If lice are suspected on bedding or clothing, they should betreated with permethrin which kills lice and offer long-lasting protection fromlice infestation (4). Additionally, because of the presence of lice around the globe, rickettsia prowazekii is considered anagent of bioterrorism.

It can be used as a weapon because of many key traits. Itis environmentally stable, small in size, uses aerosol transmission, has a low infectiousdose, and high morbidity and mortality if not treated quickly or correctly (1).