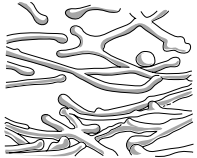


▶ MICROBIOLOGY AND IMMUNOLOGY—BACTERIOLOGY (*continued*)

Rickettsiae	Rickettsiae are obligate intracellular parasites and need CoA and NAD. All except <i>Coxiella</i> are transmitted by an arthropod vector and cause headache, fever, and rash; <i>Coxiella</i> is an atypical rickettsia because it is transmitted by aerosol and causes pneumonia. Tetracycline is the treatment of choice for most rickettsial infections.	Classic triad—headache, fever, rash (vasculitis).
Rickettsial diseases and vectors	Rocky Mountain spotted fever (tick)— <i>Rickettsia rickettsii</i> . Endemic typhus (fleas)— <i>R. typhi</i> . Epidemic typhus (human body louse)— <i>R. prowazekii</i> . Q fever (inhaled aerosols)— <i>Coxiella burnetii</i> . Treatment for all: tetracycline.	TyPHus has centriPHugal (outward) spread of rash; sPotted fever is centriPetal (inward). Q fever is Q ueer because it has no rash, has no vector, and has negative Weil-Felix, and its causative organism can survive outside for a long time and does not have <i>Rickettsia</i> as its genus name.
Rocky Mountain spotted fever	Caused by <i>Rickettsia rickettsii</i> . Symptoms: rash on palms and soles (migrating to wrists, ankles, then trunk), headache, fever. Endemic to East Coast (in spite of name).	Palm and sole rash is seen in Rocky Mountain spotted fever, syphilis, and coxsackievirus A infection (hand, foot, and mouth disease).
Weil-Felix reaction	Weil-Felix reaction assays for antirickettsial antibodies, which cross-react with <i>Proteus</i> antigen. Weil-Felix is usually positive for typhus and Rocky Mountain spotted fever but negative for Q fever.	
<i>Mycoplasma pneumoniae</i> 	Classic cause of atypical “walking” pneumonia (insidious onset, headache, nonproductive cough, diffuse interstitial infiltrate). X-ray looks worse than patient. High titer of cold agglutinins (IgM). Grown on Eaton’s agar. Treatment: tetracycline or erythromycin (bugs are penicillin resistant because they have no cell wall).	No cell wall. Only bacterial membrane containing cholesterol. <i>Mycoplasma pneumoniae</i> is more common in patients < 30 years of age. Frequent outbreaks in military recruits and prisons.