ACUTE TICK-BORNE DISEASES

TESTING FOR LYME DISEASE, ANAPLASMOSIS, BABESIOSIS, EHRLICHIOSIS, AND ROCKY MOUNTAIN SPOTTED FEVER.
LYME DISEASE
Lyme disease is the most common tick-borne illness in North America and is caused by the bacterium *Borrelia burgdorferi*. Patients treated with appropriate antibiotics in the early stages of the disease are likely to recover completely. In later stages, response to treatment may be slower, but the majority of patients with Lyme disease recover completely with appropriate treatment.

**INFECTION ACQUIRED FROM**
Blacklegged or deer tick (*Ixodes scapularis*) and the western blacklegged tick (*Ixodes pacificus*).

**GEOGRAPHIC PREVALENCE**
Lyme disease is most prevalent in the northeastern, mid-Atlantic, northcentral and Pacific Coast of the United States.

**SYMPTOMS**
Fever, headache, fatigue, and a characteristic bull’s-eye pattern skin rash called erythema migrans. If left untreated, infection can spread to joints, the heart, and the nervous system.

BABESIOSIS
Babesiosis is caused primarily by the protozoan parasite *Babesia microti*. Most cases of babesiosis are probably subclinical or mild, but the infection can be severe and life threatening, especially in older or asplenic patients.

**INFECTION ACQUIRED FROM**
Blacklegged or deer tick (*Ixodes scapularis*).

**GEOGRAPHIC PREVALENCE**
Babesiosis is most prevalent in the northeastern, Upper Midwest, and Pacific Coast of the United States.

**SYMPTOMS**
Fever, fatigue, malaise, headache, and other flu-like symptoms. Patients may have hepatomegaly and splenomegaly. In severe cases: hemolysis, acute respiratory distress syndrome, and shock.
ANAPLASMOSIS
Human granulocytic anaplasmosis (HA) is caused by the tick-borne bacterium, Anaplasma phagocytophilum. Anaplasmosis can be a serious illness that can be fatal if not treated correctly, even in previously healthy people.

INFECTION ACQUIRED FROM
Blacklegged or deer tick (Ixodes scapularis) and the western black-legged tick (Ixodes pacificus).

GEOGRAPHIC PREVALENCE
HA is most prevalent in the Upper Midwest and in other areas of the United States that are endemic for Lyme disease.

SYMPTOMS
Fever, headache, muscle pain, malaise, chills, nausea and abdominal pain, cough, confusion.

EHRlichiosis
Ehrlichiosis in the U.S. is caused primarily by Ehrlichia chaffeensis, but E. ewingii and Ehrlichia sp. Wisconsin (E. muris-like) are also known to cause infection in humans. Most cases of ehrlichiosis are probably subclinical or mild, but the infection can be severe and life-threatening in some individuals.

INFECTION ACQUIRED FROM
Lone Star tick (Amblyomma americanum) (for E. chaffeensis and E. ewingii).

GEOGRAPHIC PREVALENCE
Ehrlichiosis is most prevalent in the southeastern, and southcentral regions of the United States.

SYMPTOMS
Fever, fatigue, malaise, headache, and other “flu-like” symptoms, including myalgias, arthralgias, and nausea. Central nervous system involvement can result in seizures and coma.

ROCKY MOUNTAIN SPOTTED FEVER
In addition to Rickettsia rickettsii, the agent of Rocky Mountain spotted fever (RMSF), several other tick-borne species of Rickettsia, broadly grouped under the heading “Spotted Fever group Rickettsia (SFGR)” have been shown to cause human infections. Tick-borne SFGR may cause similar signs and symptoms to those observed for RMSF and can potentially be fatal in humans.

INFECTION ACQUIRED FROM
American dog tick (Dermacentor variabilis), Rocky Mountain wood tick (Dermacentor andersoni), and brown dog tick (Rhipicephalus sanguineus).

GEOGRAPHIC PREVALENCE
RMSF is most prevalent in the southeastern United States.

SYMPTOMS
High fever, chills, severe headache, muscle aches, nausea, vomiting, and fatigue.

AVAILABLE TESTS FROM MAYO MEDICAL LABORATORIES

- Anaplasma phagocytophilum (Human Granulocytic Ehrlichiosis) Antibody, Serum (Test ID: ANAP)
- Babesia microti IgG Antibodies, Serum (Test ID: BABG)
- Babesia species, Molecular Detection, PCR, Blood (Test ID: LBAB)
- Ehrlichia/Anaplasma, Molecular Detection, PCR, Blood (Test ID: EHRL)
- Ehrlichia Antibody Panel, Serum (Test ID: EHRCP)
- Lyme Disease (Borrelia burgdorferi), Molecular Detection, PCR (Test ID: PBORR)
- Lyme Disease (Borrelia burgdorferi), Molecular Detection, PCR, Blood (Test ID: PBORB)
- Lyme Disease Antibodies, Immunoblot, Serum (Test ID: LYWB)
- Lyme Disease Serology, Serum (Test ID: LYME)
- Lyme Disease Serology, Spinal Fluid (Test ID: CLYME)
- Tick-Borne Antibody Panel, Blood (Test ID: TICKP)
- Tick-Borne Antibody Panel, Serum (Test ID: TICKS)
- Spotted Fever Group Antibody, IgG and IgM, Serum (Test ID: SFGP)

FOR MORE INFORMATION ABOUT ACUTE TICK-BORNE DISEASE LABORATORY TESTING VISIT
MayoMedicalLaboratories.com/tickborne