



**Danbury Hospital**  
**Department of Pathology & Laboratory Medicine**  
***Technically Speaking***

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## **TICK BORNE DISEASE LABORATORY TESTING**

In Connecticut, three tick borne diseases increase in incidence during the summer months. The most commonly known offenders include Lyme disease, Ehrlichiosis and Babesiosis. It is important to differentiate between the various tick-borne diseases and the possibility of co-infection. There are many similarities between all three conditions. They have the same vector, as well as similar geographic and seasonal distributions.

It has been demonstrated that about 10% of patients with Lyme disease have evidence of Ehrlichia and about 10% of patients with Ehrlichiosis have either Lyme disease or Babesia. Another complicating factor is that in patients with co-infection, Lyme disease may be the only organism producing discernable symptoms. Co-infected patients have a more severe disease with more pronounced symptoms and persistent fatigue. In patients co-infected with Babesia, the symptomatology centers around nausea and/or vomiting, chills, sweats, severe malaise and a significantly delayed response to antibiotic therapy initiated for the treatment of Lyme disease. Whereas in Ehrlichia co-infection, the symptoms are more commonly fever, chills, myalgias and severe headaches.

Accurate diagnosis is important when it comes to the selection of antibiotic therapy, particularly in those patients who fail to respond to traditional treatments for Lyme disease. Due to the inherent difficulties in diagnosing these diseases, we are pleased to announce the testing protocols available at Danbury Hospital Laboratory and its reference lab partners that will be available for use during this summer season.

### **Lyme disease testing:**

Lyme serology reflex to Western Blot (Lyme Reflex) (Results in 24 hours; Western Blot 3- 4 days)\* Lyme C6 peptide reflex to Western Blot (Results for Lyme C6 reflex 7 days)\*

Lyme by PCR (7 days).

### **Ehrlichiosis:**

1. Ehrlichia detection by blood smear examination (Results within 24hrs)\*
2. Ehrlichia serologic testing – (3-4 days)
3. Ehrlichia Reflex to PCR (within 48hrs) (If the smear is negative then reflexes to PCR)\*
4. Ehrlichia by PCR (within 24 hrs)\*

**Babesia:**

1. Babesia microti detection by blood smear examination (within 24 hrs )\*
2. Babesia Titers (3 – 4 days)
3. Babesia detection by PCR (7 days)

\*Testing performed at the Danbury Hospital Laboratory.

Serologic testing requires a yellow stoppered blood (SST) collection tube. PCR and smear examinations require a purple stoppered blood (EDTA) collection tube.

To further assist in the selection of tests, please refer to the **tick borne disease panel**. The panel consists of Lyme Reflex, and detection of Erhlichia and Babesia by blood smear examination.

The Danbury Hospital Laboratory is certified by CLIA, CAP, NYS and CT State.

*Issues of Technically Speaking are now available for review on the internet at <http://www.danburyhospital.org/laboratory/technic1.htm>  
All test results are available for viewing on Outreach Express.*

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