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Laboratory Services

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**NATIONWIDE
CHILDREN'S®**

When your child needs a hospital, everything matters.

It's Time to Watch for Tick and Mosquito Borne Diseases in Children



Although anyone can get tick- and mosquito-borne diseases, children spend a lot of time outdoors and are at particular risk. Two

primary concerns in the Midwest are Lyme disease and West Nile.

Lyme Disease

Lyme disease is caused by a spirochete-shaped bacterium called *Borrelia burgdorferi*. The bacteria is commonly found in mice and is transmitted to humans by the bite of an infected blacklegged tick, *Ixodes scapularis*, also known as the deer tick. Incidence of Lyme disease has increased steadily, with more than 160 reported cases in Ohio in 2016. The onset of most Lyme disease cases is in late spring and summer.

- **Early Signs and Symptoms**

Signs and symptoms of Lyme disease may begin to manifest 3 to 30 days after a tick bite. In addition to flu-like symptoms of fever, chills, headache, fatigue, swollen lymph nodes and muscle and joint aches, the classic erythema migrans (EM) rash may appear.



The rash occurs in approximately 70-80 percent of infections. It begins at the site of the tick bite an average of 7 days after the bite but may appear 3 to 30 days later. The rash expands gradually over a period of days, reaching up 12 inches across. Sometimes the inner ring begins to clear, resulting in the target or "bull's-eye" appearance. The rash may feel warm to the touch, but it is rarely itchy or painful.

- **Testing**

Lyme serology should be conducted if the epidemiology as well as signs and symptoms are consistent with possible Lyme disease. An enzyme-linked fluorescent immunoassay (ELFA) screens for antibodies to the *Borrelia burgdorferi* complex. The assay detects total antibody (IgG and IgM) to *Borrelia burgdorferi*

complex in human serum and is intended for use as an aid in diagnosis of Lyme disease.

Testing is not intended or indicated as a screening procedure for the general population, and it should be done only when exposure history or symptoms suggest Lyme disease.

La Crosse and West Nile, Arboviruses

The arboviruses are a group of viruses transmitted by arthropod vectors, particularly mosquitoes and ticks. The most commonly detected arboviruses in the United States belong to the following families: *Alphavirus* (Eastern equine encephalitis virus, Western equine encephalitis virus), *Flavivirus* (St. Louis encephalitis virus, West Nile Virus) and *Bunyavirus* (LaCrosse encephalitis virus). In the Midwest, most cases of arboviral infection occur from June through October, when arthropods are most active.

- **Symptoms**

The severity of symptoms of La Crosse virus and West Nile virus infection in humans ranges from asymptomatic to severe and requiring hospitalization. While both occur in people of all ages, La Crosse is more common than West Nile in children in the Midwest. Symptoms of La Crosse generally appear 5-15 days after infection and include fever, headache, nausea, vomiting, fatigue and lethargy. In severe cases, neurological symptoms, including seizures, hemiparesis and cognitive abnormalities may occur.

- **Testing**

La Crosse Virus or West Nile Virus Antibodies, IgG and IgM

These tests are intended to be used as a means detecting La Crosse virus or West Nile virus specific IgG and IgM in serum or spinal fluid specimens in which there is a clinical suspicion of infection. Because other members of the Flaviviridae family, such as St. Louis encephalitis virus, show extensive cross-reactivity with West Nile virus, serologic testing specific for all of these viruses should be considered.



Spotlight on Client Services:

Rikki graduated from Ohio Dominican University, receiving a BS in Biology and started at Nationwide Children's Hospital

in 2015 in Central Processing & Accessioning. She moved to Client Services in 2018. Rikki's absolute favorite weekend activities are hiking and creeking with her family made up of her husband, her two rambunctious toddlers, Silas (5) and Sunny (3), and their Pitbull pup, Luna. Rikki loves to work out, bake and do anything outdoors with her family. Rikki's top advice for clients is "to have someone else check your tubes before sending them to the lab to make sure they're appropriately labeled."

Did You Know?

No Age Cap for Nationwide Children's Laboratory Services!

1. **16 Convenient Locations** – There are 16 Nationwide Children's Laboratory Services Centers and Close To Home Laboratories throughout Ohio. In addition to normal weekday hours, the Close To Home Urgent Care facilities with laboratory services have Saturday and Sunday draw hours and extended hours during the week for anyone who needs a blood draw or to simply drop off a specimen for testing.
2. **Trained Pediatric Phlebotomists** – Like pediatric patients who have challenging blood draws or who are very anxious, adult patients can be challenging and anxious too. At our facilities, you can expect exceptionally trained pediatric phlebotomists and lab technicians that will always provide special care and attention to your patient, young or old.
3. **Micro-Sampling** – Because we use micro-sampling instrumentation to allow for more accurate results on small samples, many of our lab tests can be drawn by capillary fingerstick. i.e. lipid profile, vitamin D-25 hydroxy, thyroid profile, metabolic panels, and much more.
4. **Always use Butterfly Needles** – When a venipuncture collection is required, most hospitals and commercial laboratories use standard straight needles. Nationwide Children's phlebotomists and technicians know from experience that when patient's veins are small and fragile, butterfly needles are the best choice to use over straight needles.

5. **Covered by Most Insurance Plans** – Nationwide Children's Hospital and its outreach Laboratory Service Centers are a statewide, "in-network" provider for most insurance plans. Please see our website for current information.

Warm Weather Reminder

As summer approaches it is important that samples placed in a lockbox prior to transport be maintained at the appropriate temperature. If refrigerated samples are stored in the lockbox, then a refrigerated cold pack should also be placed in the lockbox to maintain the samples at the refrigerated temperature. The cold pack should not be frozen as this can cause whole blood samples to freeze.

By following this lockbox practice, you will help ensure the integrity of the samples and ultimately obtain reliable laboratory results.

Need Results Fast?

Nationwide Children's Hospital Laboratory Services continuously strives to be on the cutting edge of medical technology to deliver rapid and superior test results to you and your patients. Staff working at our Laboratory Service Centers are dedicated to patient care and performing laboratory testing. There are many tests that can be ran STAT at these facilities and several methods to obtain test results quickly:

- EMR – Electronic Medical Records
- ChildLink™ – Nationwide Children's Laboratory Services online access center for tests and services
- Client Services – our Client Services department provides services 24/7 by calling (800) 934-6575
- Faxing STAT Results – Document on your patient's test requisition/order that you would like to have STAT results faxed to the provided number

Note: All critical and alert test results will be called to your office.

If you would like to learn more about the above methods to obtain STAT test results, contact Client Services at (800) 934-6575.



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How can Nationwide Children's Laboratory Services help your practice?

If you would like to become a client or learn more information about Nationwide Children's Laboratory Services, contact us at (800) 934-6575 or visit our website at **NationwideChildrens.org/Lab**. Would you like to receive the Nationwide Children's Laboratory Services Newsletter electronically? Please e-mail us at **LaboratoryServices@NationwideChildrens.org** and let us know!

Lab Account Representatives are available via email to assist with any questions or concerns.

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