

The Children of Lyme Disease

By Charles Ray Jones, M.D.

Current research indicates that the Lyme disease bacterium, the *Borrelia burgdorferi* spirochete, can be transmitted within hours after an infected tick attachment.

Failure of parents and teachers to recognize Lyme disease early in its course can result in a child developing a chronic, difficult-to-treat infection in the brain, eyes, joints, heart and/or elsewhere in the body. In my experience in treating over 6,000 children with Lyme disease between the ages of one day to 18 years old, 50% have no known history of *Ixodes scapularis* (deer tick) attachments and fewer than 10% have a history of an erythema migrans Lyme rash (bull's-eye). However, all of these children with Lyme disease have a history of living in or having visited a Lyme endemic area. All have a decline in the way they play and perform in school. They are tired and wilt easily. They have dark circles under their eyes. They are sick.

Lyme disease has a profound negative impact on a child's life, cognitive function, and ability to perform maximally in school. A child with Lyme disease can have one or more of the following symptoms:

- severe fatigue unrelieved by rest
- insomnia
- headaches
- nausea, abdominal pain
- impaired concentration
- poor short-term memory
- inability to sustain attention
- difficulty thinking and expressing thoughts
- difficulty reading and writing
- being overwhelmed by schoolwork
- difficulty making decisions
- confusion
- uncharacteristic behavior
- outbursts and mood swings
- fevers/chills
- joint pain
- dizziness
- noise and light sensitivity

Fatigue results in decreased stamina and a decreased ability to play and do schoolwork. Pain and impaired cognitive function make it difficult for the child to sustain attention and learn and recall new material.

Although Lyme disease is usually transmitted by *Ixodes scapularis* and lone star ticks, Lyme disease can also be transmitted *in utero* and through breast milk. The children with gestational and breast milk Lyme disease are ill early in their lives. They have

- frequent fevers
- increased incidence of ear and throat infections
- increased incidence of pneumonia
- irritability
- joint and body pain
- poor muscle tone
- gastroesophageal reflux
- small windpipes (tracheomalacia)
- cataracts and other eye problems
- developmental delay
- learning disabilities
- psychiatric problems

All respond to months or years of continuous antibiotic therapy.

When Lyme disease is a possible diagnosis, the child should be evaluated by a Lyme-knowledgeable physician who will continue antibiotic therapy until all Lyme symptoms resolve. In most circumstances, *Ixodes scapularis* tick attachments should be treated with one month of antibiotic therapy. It is important to consider the possibility that the child with Lyme disease can concurrently have other tick-borne infections by *Babesia microti*, *Bartonella henselae*, *Mycoplasma fermentans* and *Ehrlichia* organisms, which might be treated with different antibiotics.

Reviewed 10/02

Charles Ray Jones, M.D., has treated over 6000 children ranging from 1 day to 18 years of age for Lyme Disease and other tick-borne diseases. These children come from 48 states as well as Europe, Asia and Israel. Dr. Jones has more experience in treating children with tick-borne diseases than any other pediatrician.

The Charles Ray Jones, M.D., Endowed Student Fellowship at Columbia University School of Medicine provides a stipend that allows Dr. Jones to train one medical intern in his practice each summer.

Dr. Jones is the recent recipient of the Lyme Disease Resource Center Distinguished Physician Award for clinical excellence, leadership, compassion and dedication to the treatment of Lyme Disease in children. He is a member of International Lyme and Associated Diseases Society (ILADS).

Dr. Jones graduated from New York Medical College where he was president of his medical school class and recipient of an Arthritis Foundation scholarship and prestigious awards from Merck and Hoffman LaRoche. Upon graduation he became resident, and eventually, chief resident, at St. Luke's Hospital in Manhattan. He did research in oncology at Memorial Sloane Kettering Cancer Center, in New York. Jones' treatment for Langerhans cell granulomatosis today forms the standard of care in peer-reviewed journals.

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