DEPARTMENT OF MEDICINE

Lyme Arthritis Program

The Massachusetts General Hospital Lyme Arthritis Program is recognized internationally for its expertise in researching, diagnosing and treating the manifestations of Lyme disease, including Lyme arthritis.

Patient Gateway 617-726-7938

Lyme Arthritis Program

Phone: **617-726-7938**

Explore This Program

Overview › What to Expect › About ›

A Pioneer in Lyme Disease

Our program is led by Allen Steere, MD, one of the world's foremost experts on Lyme disease. Dr. Steere discovered the illness in 1976 and laid the foundation for understanding the many manifestations of the disease, including Lyme arthritis (a late-stage manifestation of Lyme disease).

Today, Dr. Steere is researching why some patients with Lyme arthritis have persistent joint inflammation after using antibiotic therapy to eliminate the Lyme disease bacterium. This research is leading to improved diagnostic and treatment capabilities for such patients.

What to Expect

Prior to your first appointment, one of our rheumatologists will review your records, particularly previous Lyme testing. Based on this evaluation, you will either be scheduled for a formal appointment, or referred to one of our colleagues in Neurology, Infectious Disease, or another appropriate specialist for the best care available for your specific case.

At your first appointment, one of our rheumatologists will review your history, perform a physical examination and decide which tests are necessary for diagnostic purposes.

Many symptoms of Lyme disease can be seen in other conditions. Our physicians' experience with Lyme disease—and the diagnostic tests we have developed—help us recognize that infection or differentiate it from other diseases, and if Lyme disease, determine what stage it is in. We treat patients according to the Infectious Disease Society of America guidelines.

Most patients with Lyme disease respond well to a three-to-four-week course of oral antibiotics (e.g. doxycycline or amoxicillin). Patients who do not have symptoms early in the infection or are not treated for early-stage Lyme disease may develop organ-system involvement of the infection.

Some patients who develop Lyme arthritis may require antibiotic therapy delivered intravenously. In these cases, a peripherally inserted central catheter (PICC line) will be placed in your arm and the initial infusion administered in the Rheumatology Unit's Infusion Center. Our experience in coordinating home infusion care will probably allow you to receive the remaining course of antibiotics in the comfort of your home rather than in the hospital.

In a small percentage of cases, Lyme arthritis persists after oral and intravenous antibiotics have apparently eliminated the bacterium. This complication is thought to result from the development of autoimmunity in affected joints. After appropriate antibiotic therapy, we treat these patients with anti-inflammatory medications or disease-modifying antirheumatic drugs.

Mass General's Multidisciplinary Approach

Multidisciplinary collaboration, a major strength at Mass General, is crucial in caring for patients with organ-system involvement of Lyme disease, particularly if there is neurologic or heart involvement. Whenever necessary, we involve other world-class specialists at the hospital to manage the various complications of the illness.

About this Program

Treating Lyme Disease, Primarily Lyme Arthritis

Lyme disease, a multistage bacterial infection, is caused by a spiral-shaped bacterium transmitted by a tick bite. The condition has a wide range of signs and symptoms that can affect many different body parts, particularly the skin, joints, nervous system or heart. Tests are required to diagnose Lyme disease by detecting the presence of a specific antibody or in some cases, the organism itself.

In most cases, we can effectively treat early-stage Lyme disease with a three-to-four-week course of oral antibiotics. However, if early-stage Lyme disease is asymptomatic or goes untreated, the patient may develop late-stage complications, most commonly Lyme arthritis.

Our program is highly skilled in treating Lyme arthritis and the many other manifestations of Lyme disease across all disease stages. We generally refer patients younger than 12 years of age to the pediatric rheumatologists at the MassGeneral Hospital for Children.

Leadership in Lyme Disease

Program director Allen Steere, MD, who discovered Lyme disease in 1976, also directed studies of a vaccine for the condition that was available from 1998 to 2002. He has won numerous awards for his work in Lyme disease over the past 30+ years.

Since coming to Mass General in 2002, Dr. Steere has directed our research and clinical efforts in Lyme disease. He works with all the physicians in the Rheumatology Unit and throughout the hospital to provide patients with state-of-the-art diagnostic and treatment services.

Promising Research into Lyme Arthritis

Dr. Steere's laboratory performs translational studies using samples from patients with Lyme arthritis or rheumatoid arthritis (two conditions with many similarities) to:

- Identify autoantigens that lead to the immune response that may cause antibiotic-refractory Lyme arthritis or rheumatoid arthritis
- Identify biomarkers (biological features) in both diseases that will help us determine disease stage and aggressiveness of treatment
- Develop better diagnostic tests for Lyme disease (in conjunction with the Mass General Microbiology Laboratory)

We are hopeful these research efforts will enhance our diagnostic and treatment capabilities, and lead to better patient outcomes.

Neurofibromatosis Clinic

The Massachusetts General Hospital Neurofibromatosis Clinic provides comprehensive care for adults and children who have been diagnosed with, or are at risk for, neurofibromatosis (NF), including NF1, NF2 and schwannomatosis.

617-724-7856

Explore This Treatment Program

Overview

Physicians at the Neurofibromatosis Clinic use a family-centered approach to diagnosing, treating and managing care for individuals with neurofibromatosis (NF) at all stages of life. We host over 700 patient visits a year and serve as a national and international referral center for NF1, NF2 and schwannomatosis.

What to Expect

To make an appointment at the Neurofibromatosis Clinic, call 617-724-7856. Please see the New Patient Checklist for a list of items (e.g. MRI scans, pathology records) you must send us beforehand.

At your first visit, a neurologist reviews these materials and your medical history with you. He or she also performs a thorough physical and neurological examination.

Another important step in the evaluation process is a careful ophthalmic assessment for signs of NF by physicians at the nearby Massachusetts Eye & Ear. Other specialties may also be involved, including dermatology, audiology, otolaryngology, neurosurgery and endocrinology.

Once we have established a diagnosis, we work with you and family members to develop a personalized treatment or monitoring plan. One of the most valuable services we offer is to record your NF-related medical problems. If you choose to have follow-up care with your primary care physician, we will provide him or her with specific information for tracking and managing your symptoms going forward.

For patients continuing their care at Mass General, the NF team will coordinate your care among various specialists who are experienced in treating the different manifestations of NF. Individual treatment plans vary greatly, depending on a number of factors. If you have no major symptoms, we may only need to see you once a year for monitoring purposes. Patients with more acute symptoms may require medication and/or surgery.

Genetic Counseling for Neurofibromatosis Patients

Recognizing that NF1, NF2 and schwannomatosis are genetic disorders, we see genetic counseling as a key component of what we do. As new reproductive technologies and screening techniques become available, prospective parents have important decisions to make. Our clinic helps educate patients about these choices and works with families to make decisions that are consistent with their core values and wishes.

If appropriate, we can refer you to Mass General resources such as the Ultrasound and Prenatal Diagnostic Center, which offers screening and testing for genetic syndromes. In addition, we can refer you to the Reproductive Endocrinology Group or the Preimplantation Genetic Diagnosis Program for help in giving birth to an unaffected child.

About This Program

Physicians at the Neurofibromatosis Clinic manage the evaluation, diagnosis and treatment of:

- Neurofibromatosis 1 (NF1): previously known as von Recklinghausen disease or peripheral NF
- Neurofibromatosis 2 (NF2): previously known as central NF
- Schwannomatosis: a form of NF that has been recognized only recently

The Neurofibromatosis Clinic—one of the few clinics of its kind in the United States—was founded by Robert Martuza, MD, in 1982.

We have been pioneers in taking a multidisciplinary approach to caring for NF patients and their families. These conditions can impact many different organ systems, so patients benefit from the specialized expertise of our colleagues in neurosurgery, plastic surgery, surgical oncology and endocrinology, as well other clinical areas at Mass General.

Mass General's Neurofibromatosis Clinic is one of the few in the country that sees both adults and children. In addition, our ability to care for the entire family (including infants, children, adults and elders) sets us apart from most other clinics.

Research & Clinical Trials

Although clinical care is our first priority, we are also committed to developing new treatments with the support of the Cancer Center and Center for Genomic Medicine (CGM). In fact, many milestones in NF research have taken place at Mass General:

- CHGR director James Gusella, PhD, conducted much of the essential work to identify the NF1 gene
- Martuza and Gusella helped clone the NF2 gene
- Mia MacCollin, MD, then the director of our clinic, published an important paper that helped identify schwannomatosis as a disorder distinct from NF2
- Current clinic director Scott Plotkin, MD, PhD, has focused his research on identifying new medical treatments for NF

Ongoing Clinical Trials of NF1 & NF2

Mass General is one of the world's most active sites for clinical trials of NF1 and NF2. We hope to add schwannomatosis to this list soon.

The Neurology Department is now participating in exciting clinical trials exploring topics such as:

- Medical treatments (e.g. chemotherapy) for NF1 and NF2
- Whole-body magnetic resonance imaging (MRI) scanning to identify internal tumors

Our current efforts in basic research include studying the genetic basis of schwannomatosis as well as collecting blood samples from NF patients for analysis by the Mass General Center for Genomic Medicine.

For more information about NF research at Mass General, please call 617-724-7856.