

## Infectious Encephalopathies and Leukoencephalopathies

**Condition:** Infectious encephalopathy means there is damage to and inflammation of the brain caused by an infection (infectious encephalitis). Leukoencephalopathy is a group of diseases that damage the white matter of the brain. The white matter allows different parts of the brain to communicate with each other.

**Background:** Infectious encephalopathies are usually caused by viruses or bacteria, and the specific causes will vary depending on the state of your immune system. They typically may be passed to people from insect bites. Occasionally, brain damage can occur as the body's immune reaction to the original infection. There are about 20,000 new cases of infectious encephalitis each year in the United States, with 3-to-7 new cases occurring per year for every 100,000 people. Certain types of infectious encephalopathy are found only in select parts of the country. People who have certain health problems are more at risk to get these infections.

**History and Symptoms:** Patients at risk of getting infectious encephalopathy will have had exposure to mosquito or tick bites, and potentially have a decreased immune system. The symptoms will vary depending on the organism that caused the infection. These may include seizures, as well as problems with movement, balance, vision, thinking, mood, or behavior. Some of these problems may last a long time, even after the infection has been adequately treated.

**Physical Exam:** The physical medicine and rehabilitation (PM&R) physician will perform a physical exam to check for any evidence of brain damage, as well as look for a skin rash.

**Diagnostic Process:** Blood tests and tests of the spinal fluid are used to determine what organism(s) caused the infection and how the body is responding. CT of the head and MRI of the brain are used to evaluate what parts of the brain are affected. A procedure called an EEG will be done to rule out seizures.

**Rehab Management:** Medicines are given to fight the infection and treat associated problems like fatigue, depression, and memory. Appropriate rehabilitation of these patients will require a multi-disciplinary approach, with the PM&R physician working closely with the individual therapy services such as physical, occupational, and speech therapists. Further, coordination with the patient's infectious disease and neurology doctors, as well as the patient's primary care provider, are essential for rehabilitation. The patient may require some assistive devices or physical assistance with activities during rehabilitation.

**Other Resources for Patients and Families:** Because of the potential long-term effects of encephalopathy, patients and their families should be made aware of long-term assistance that may be needed. For children that are affected, changes may need to be made for them at home and in school. For adults who had been working before the infection, adjustments may need to be made for work.

## Frequently Asked Questions

### **What is PM&R?**

Physical medicine and rehabilitation (PM&R), also known as physiatry, is a primary medical specialty that aims to enhance and restore functional ability and improve quality of life to those with injuries, physical impairments or disabilities affecting the brain, spinal cord, nerves, bones, joints, ligaments, muscles and tendons. PM&R physicians, known as physiatrists, evaluate and treat the whole body, maximize patients' independence in their daily life and are experts in designing comprehensive, patient-centered treatment plans to empower patients to achieve their goals. By taking the whole body into account, they can accurately pin-point problems, decrease pain, assist in recovery from devastating injuries and maximize overall outcomes and performance with non-surgical and peri-surgical options. To learn more, visit [www.aapmr.org/aboutpmr](http://www.aapmr.org/aboutpmr).

### **What makes PM&R physicians unique?**

PM&R physicians' training focuses not just on treating medical conditions, but on enhancing the patient's performance and quality of life in the context of those medical conditions. They focus not only on one part of the body, but instead on the development of a comprehensive program for putting the pieces of a person's life back together – medically, socially, emotionally and vocationally – after injury or disease. PM&R physicians make and manage medical diagnoses, design a treatment plan and prescribe the therapies that physical therapists or other allied therapists perform or that are carried out by the patients themselves. By providing an appropriate treatment plan, PM&R physicians help patients stay as active as possible at any age. Their broad medical expertise allows them to treat disabling conditions throughout a person's lifetime.

### **Why see a PM&R physician?**

A PM&R physician will thoroughly assess your condition, needs, and expectations and rule out any serious medical illnesses to develop a treatment plan. By understanding your condition and goals, you and your PM&R physician can develop a treatment plan suited to your unique needs.

### **How do I find a PM&R physician near me?**

Visit [www.aapmr.org/findapmrphysician](http://www.aapmr.org/findapmrphysician) or contact your primary care physician for a referral.