

## Cerebral Neoplasms

**Condition:** Cerebral neoplasms, commonly called brain tumors, are abnormal masses of tissue that grow in the brain due to excessive overgrowth of brain cells.

**Background:** Cerebral neoplasms can be classified as non-cancerous (benign) or cancerous (malignant). These tumors can also be classified as originating in the brain (primary) or originating in another tissue type (metastatic), and metastatic tumors occur more frequently than primary brain tumors. No single underlying cause of brain tumors has been identified. Exposure to ionizing radiation, a suppressed immune system, and environmental toxins have been suggested as potential causes. Cell phone usage is apparently not associated with development of brain tumors.

**Risk Factors:** Rates of brain tumors are higher in industrialized countries, and men have slightly higher rates than women. Patients with human immunodeficiency virus (HIV), autoimmune conditions, or organ transplants are at increased risk for certain brain cancers (cerebral lymphoma).

**History and Symptoms:** Symptoms vary and may include increased pressure, headache, nausea or vomiting, personality changes, impaired walking, weakness on one side of the body, visual defects, speech impairment, and seizures. A detailed history will reveal onset, symptoms, and risk factors.

**Physical Exam:** A physical exam may help determine localization of the brain tumor or other sites of tumors. Neurological examination of mental ability, speech, eye movements, vision, hearing, smell, and balance is essential. Functional analysis is also important to gauge the patient's mental, physical, pain, and emotional state.

**Diagnostic Process:** Laboratory tests may offer information about the origin of metastatic brain tumors. MRI is the standard for tumor characterization, which is used for determination of treatment and potential outcomes. PET scans, magnetic resonance spectroscopy (MRS), CT angiography, and electroencephalogram (EEG) may aid in diagnosis.

**Rehab Management:** The physical medicine rehabilitation (PM&R) physician collaborates with the patient's oncologist and other team members to manage complications related to cancer and its related interventions. Treatment addresses both the effects of the tumor and the side effects of cancer therapies (surgery, chemotherapy, and radiation). A variety of medications are available to improve neurologic function, limit nausea, manage pain, prevent blood clots, and minimize seizures. Rehabilitation focuses on mental challenges such as memory, concentration, and processing speed; communication strategies; emotional issues such as anxiety and depression; quality of life issues; and physical challenges, such as strength, balance, coordination, walking, and fatigue.

PM&R physicians prescribe adaptive equipment and energy conservation strategies to optimize patient's independence and quality of life.

**Other Resources for Patients and Families:** Local and national organizations are available to provide counseling, support, and education for the patient and family. Hospice programs are available to help with end-of-life palliative care.

## 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.