

## Sleep Disorders in Diseases of the Central Nervous System

**Condition:** Difficulty falling asleep, difficulty maintaining sleep, too much sleep, and abnormal movements during sleep are examples of sleep disorders. Sleep disorders are common in people with diseases of the central nervous system (CNS).

**Background:** Sleep problems may be caused by damage to part of the brain, or other CNS-related diseases might affect sleep. Some CNS disorders cause sleep apnea, where a person stops breathing for a few seconds while asleep. Other disorders upset the body's internal clock, resulting in difficulty sleeping at night. Other factors that influence sleep include pain and depression.

**Risk Factors:** More than half of people who have had a traumatic brain injury or stroke will have sleep problems. People with brain diseases like Parkinson's and Alzheimer's disease also often have sleep problems. Obesity is a risk factor for sleep apnea and stroke. Sleep problems can also be found in people after a spinal cord injury.

**History and Symptoms:** The physical medicine and rehabilitation (PM&R) physician may take a detailed history of a patient's sleep patterns, including fatigue, napping, medications used and any other conditions that may impact sleep (such as pain or depression). Morning headaches, snoring or family reports of irregular breathing or apnea are important to note. Fatigue is the most common symptom of a sleep disorder and may lead to problems with thinking, mood, behavior, movement, balance, coordination, and self-care. Other symptoms include morning headaches, snoring and bad dreams. Sleep disorders can also affect a patient's memory. Fatigue though commonly seen with sleep disorders, can also independently exist.

**Physical Exam:** The PM&R physician will perform a thorough physical examination, with special attention to the neurological and breathing examination, as well as examination of the mouth and throat. Fatigue, which is the most common symptom of a sleep disorder, may result in problems with balance, coordination and thinking. The PM&R physician may check for the presence of these problems during the physical examination.

**Diagnostic Process:** Blood tests, magnetic resonance imaging (MRI), sleep studies and EEGs are tools that the physician may use to determine the cause of the sleep disorder. A "Sleep study" or Polysomnography is the test that gives definite diagnosis and classification of sleep disorders. Newer less expensive and easily available devices like actigraphs or smart wearable devices can also be used to some extent to diagnose sleep disorders. Early diagnosis and treatment is essential and your physical medicine and rehabilitation (PMR) physician can diagnose these disorders early on while a patient is admitted to inpatient rehabilitation unit after a neurological condition. After discharge from rehab, proper clinic followup with your PMR physician can ensure that late onset of such conditions can also be diagnosed and treated.

**Rehab Management:** The management of sleep disorders depends on the type of sleep disorder a person has. For most patients, following a good "sleep hygiene" and behavioral modifications are the mainstay of treatment. This consists of improving sleep related routines which may include avoiding day time napping, going to bed at the same time and waking up at the same time, using your bed only to sleep and for intimacy, exercising regularly (but not before bedtime), avoiding caffeine and alcohol after dinner. Depending on the type of sleep disorder one has, other treatments might be appropriate for use,

such as medications, cognitive behavioral therapy or counseling, or devices to improve breathing at night with or without supplemental oxygen. There are multiple medications both prescription and over the counter that are available to treat sleep disorders, but it is recommended to consult your doctor before using any such medications.

**Other Resources for Patients and Families:** Family support can help patients change their sleep-related habits. Counseling may be needed if sleep problems are affecting one's marital or work life. Discussing sleep problems with your PMR physician early in the course of a neurological condition is essential for prompt diagnosis and treatment.

## 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.