

Heterotopic Ossification

Condition: Heterotopic ossification (HO) occurs when bone grows abnormally outside of the bones (skeletal system).

Background: HO can occur after a spinal cord injury, traumatic brain injury, stroke, severe burns, fractures, and joint replacement surgery. A physical medicine and rehabilitation (PM&R) physician, also known as a physiatrist, is often involved in the care of people with these conditions and is skilled in identifying signs and symptoms of HO as well as providing treatment.

Risk Factors: The likelihood of developing HO is higher with fractures of long bones (tibia, fibula, femur, humerus, radius, ulna), prolonged immobility, extremity swelling, trauma, pressure ulcers, and being in a coma for more than two weeks. Common locations where HO can develop include the hip, knee, elbow, and shoulder.

History and Symptoms: Symptoms of HO can include difficulty moving the joint, pain, swelling, warmth, and redness. These symptoms can start two weeks to 12 months after the initial injury or event.

Physical Exam: Sometimes there are no symptoms, but there can be pain or tenderness on movement of the joint, difficulty moving the joint, swelling, redness, warmth, and low-grade fever during the examination.

Diagnostic Process: Several laboratory studies are available to look for evidence of HO, but these cannot confirm a diagnosis. A triple-phase bone scan is the main study used for confirmation of HO. A radiograph or x-ray can detect HO but only after three weeks to two months.

Rehab Management: A PM&R physician will work together with a physical and/or occupational therapist to control muscle spasticity, decrease pain and improve the mobility of the affected joint to prevent further growth of HO. Treatment may include indomethacin and alendronate. In cases in where mobility and self-care activities have been affected, referral to a surgeon for removal might be appropriate.

Other Resources for Patients and Families: Patients, family, and caregivers will be educated on what to expect when diagnosed with HO, what additional complications are possible, and what treatment options are available at each stage of HO.

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.

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 or contact your primary care physician for a referral.