

Osteoporosis in Rehabilitation

Condition: Osteoporosis is a bone disease that results from a decrease in bone mineral density, resulting in weak and brittle bones.

Background: Bones are constantly being remodeled, and as we age, osteoporosis results when new bone is not laid down as fast as old bone is removed. While approximately 55% of the United States population older than 50 years has low bone density, this can also affect certain vulnerable individuals within the younger population as well.

Risk Factors: Women are at higher risk of developing osteoporosis. Increasing age, race (Caucasian or Asian), low body mass index, family history of hip fracture, and personal history of fractures are all risk factors for osteoporosis development. Other risk factors include smoking, excessive alcohol use, lack of exercise, low-calcium diet, vitamin D deficiency, low estrogen levels in women or low testosterone levels in men, endocrine diseases, and some medications. Those who have longstanding lower extremity paralysis and are wheelchair-bound are also at higher risk of developing osteoporosis.

History and Symptoms: Osteoporosis typically has no symptoms until a fracture occurs. Assessment of risk factors and other medical conditions is important. Young men and women thought to be in energy-deficient states should also have thorough pre-sports participation screening to rule out osteoporosis.

Physical Exam: A physical exam will be performed to assess the body frame, signs of anorexia, chronic liver disease, thyroid disease, and alcoholism. Skin will be evaluated to look for signs of endocrine disorders. Physicians will also assess the patient's mobility and the ability to take care of oneself as well as the patient's fall risk.

Diagnostic Process: A complete blood cell count as well as measurement of calcium, liver enzymes, vitamin D, and thyroid hormones in blood is useful. Calcium levels in urine samples and testosterone levels (in men) can be measured. Dual-energy X-ray absorptiometry (DXA), which is a technique for imaging of bone density, is recommended for diagnosis. Other imaging techniques (X-ray, CT, SXA, and ultrasound) may also be used. Other laboratory tests may be used to assess specific disease markers.

Rehab Management: A physical medicine and rehabilitation (PM&R) physician can perform more frequent assessment of mobility in those who are unable to ambulate, as well perform pre-participation screenings of bone health for athletes thought to be in an energy-deficient state. Osteoporosis is often undiagnosed until a fracture occurs, initial treatment involves relieving pain and stabilizing the fracture. Supplementation with calcium and vitamin D is recommended to prevent additional fractures. Several medications are available for treatment of postmenopausal women and older men who have osteoporosis and/or a high risk of fractures. Physical therapy and exercise are useful to reduce disability, improve movement, lower risk of falls, and increase bone density with weight-bearing activity.

Other Resources for Patients and Families: Because osteoporosis is preventable, adequate calcium and vitamin D intake and weight-bearing exercise are important throughout life. Patients should be educated about minimizing risk factors and fall hazards.

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.