OSTEOPOROSIS REMEDY TREATMENT PROGRAM

By Mark Westaway
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Osteoporosis Overview

Osteoporosis is a bone disease in which the density and quality of bone are reduced. The prevalence of osteoporosis (bone loss) and sarcopenia (loss of muscle tissue) increases as the population ages. Osteoporosis and sarcopenia are commonly associated with genetics, mechanical factors, and hormonal factors and primarily associated with aging.

Using the WHO criteria, 30% of Caucasian postmenopausal women in the US have osteoporosis, and 54% have osteopenia

For every one standard deviation below peak bone mass the risk of vertebral fracture is two times that of normal bone mass, and for the hip, the risk is 2.5 times.
The clinical consequence of low bone mass is fracture. Pain and immobility result from fractures of the limbs and spine. Multiple vertebral fractures result in irreversible spinal deformity and chronic pain syndromes. However, hip fractures result in institutionalization and excess mortality. One year mortality according to age at hip fracture are estimated to be roughly 20% in individuals less than age 70 years; 30% for ages 70-79.9 years, and almost 40% ages 80-89.9.

Because bones and muscles closely interconnected by anatomy, metabolic profile, and chemical components, they can be treated with optimal therapeutic interventions such as hyperbaric oxygen therapy (HBOT). HBOT has been shown to stimulate and support the regeneration of tissues and treat bone damage.

Benefits of Hyperbaric Oxygen Therapy

Hyperbaric oxygen therapy has been shown in studies to increase the creation of collagen, a material that fills the space between broken bones. HBOT also increases the growth of capillaries in affected areas, which helps bring nutrients to the bones. Hyperbaric oxygen increases osteoblasts to create new bone growth and osteoclast to aid in the removal of old dead bone.

Benefits of Pulsed Electromagnetic Field Therapy

A treatment discussion about osteoporosis or osteopenia is not complete without considering electromagnetic stimulation of the bones. While nutrition, exercise, hormone balancing, and supplements are critical to adequate bone formation (particularly post-menopause), they are often not enough. There are many circumstances where these approaches are inadequate or not possible; even when these methods are suitable, adding electromagnetic stimulation enhances potential benefits and long-term results. This means that multiple approaches are necessary to deal with osteoporosis/osteopenia adequately.

Electromagnetic stimulation is a safe and effective way of enhancing bone formation. Pulsed electromagnetic field (PEMF) therapy can, on its own, be very effective for stimulating various repair processes in the body. Therapeutic magnetic fields can stimulate bone healing independent of other approaches. EMFs penetrate bones without any blockage, meaning they can stimulate the entire volume of the bone in ways that beat almost any other approach. Nutrition, hormones, and supplements saturate the bones and provide the “bricks and mortar” to build new bone. By themselves, these still require additional energy to effectively create new bone structures. PEMFs provide this energy to more effectively use these building blocks. This is why I routinely recommend PEMF stimulation to help with bone building in osteopenia/osteoporosis.

Evidence for the use of PEMFs in osteopenia/osteoporosis comes from a number of sources. This includes evidence from human and animal experimental effects that is specific for osteopenia/osteoporosis. On the other hand, there is an even greater amount of evidence on the effects of PEMFs on bone healing and bone formation (osteogenesis), less specific to osteoporosis itself.

Yale University School of Medicine studied the use of PEMFs in arthritis, but also found that they could be useful in the treatment of other bone disorders, including osteoporosis. One researcher who helped develop an FDA-approved bone healing device showed that PEMFs had a profound effect on a large variety of biological systems, especially bone.

An orthopedic research team at Brown University found many therapeutic effects of electric and magnetic fields in the repair of connective tissue. (Bone is considered a connective tissue.) The most widely studied applications are for bone repair and acceleration of the healing of fresh fractures, delayed and non-unions, incorporation of bone grafts, osteoporosis, and osteonecrosis. These fields even improve repair of cartilage and soft fibrous tissues. Basically, PEMFs accelerate extracellular matrix synthesis and tissue healing. PEMFs repair bone fracture non-union and enhances bone tissue formation, through enhancement of the formation of calcium phosphate crystal seeds in the bone.