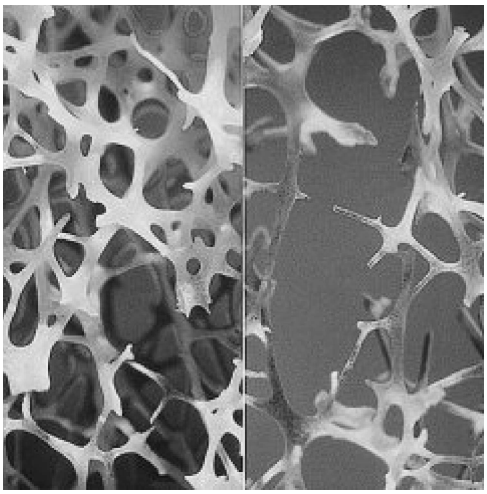
Cryotherapy Applications in Preventing and Treating Osteoporosis

The Size of the Problem

Osteoporosis, which literally means porous bone, is a disease in which the density and quality of bone are reduced. For people with osteoporosis, bone loss outpaces the growth of new bone. As a result, bones become porous, brittle and prone to fracture.



This picture depicts healthy bone vs bone affected by osteoporosis

Osteoporosis is VERY COMMON, more than 3 million cases per year in the US alone, and it is often seen as a "normal" side-effect of ageing. By the age of 60, 50% of women and up to 30% of men have it.

At the same time, osteoporosis which is so prevalent now was virtually unheard of a hundred years ago. Genetics take thousands of years to adapt. The only thing that has changed during the last century is our environment, diet and lifestyle - the causes of the osteoporosis epidemic and most other "modern" health conditions.

Symptoms

Osteoporosis is often referred to as a "silent condition". In many cases, bone fracture is the first symptom that leads to investigation and diagnosis. In the absence of fractures, pain is NOT a symptom of osteoporosis, but it is very common after it has occurred.

In most cases, fractures associated with osteoporosis happen at the hip, spine and wrist. Due to these risk zones, especially spine, **the fractures are not only painful but also dangerous and can result in loss of mobility**.

The fractured bones tend to heal within six to eight weeks but pain and other physical problems, such as tiredness or fatigue, may continue, particularly in conjunction with carrying weight, heavy manual work, lifting and bending, standing up and/or sitting in the same position.

Contributors and Prevention

Prevention of osteoporosis begins in childhood and continues into young adulthood.

Up to 90 percent of peak bone mass is acquired by age 18 in girls and by age 20 in boys, and it keeps growing until the late 20-s. The higher the peak bone mass, the lower the risk of osteoporosis later in life.

It's estimated that **a 10% increase of bone mass in children reduces the risk of an osteoporotic fracture during adult life by as much as 50%**.

So, the most important preventive measure of osteoporosis is nutrition and lifestyle during the first 20 years of our lives and beyond:

- Healthy diet and adequate calcium intake
- Sufficient supply of vitamin D
- Regular physical activity, including weight-bearing
- Avoiding the effects of smoking, including second-hand smoking

The factors that increase osteoporosis risk include:

- Heavy drinking
- Severe weight loss diets and eating disorders
- Autoimmune conditions, such as rheumatoid arthritis and ankylosing spondylitis
- Hormonal imbalances
- Problems with mineral absorption, such as celiac disease
- Certain medications, including antacids, antidepressants, immunosuppressants, blood thinners, and steroids

Treatment

Treating osteoporosis means **stopping the bone loss and rebuilding bone to prevent fractures**. The best results are achieved through a complex approach that include nutrition and supplements, treatments (like cryotherapy in combination with kinesitherapy), and certain medications.

Clinical studies now prove that **our bones CAN rebuild themselves**; so, osteoporosis can not only be slowed but also reversed.

The anti-osteoporosis **diet must include**:

- The right amount of the right protein,
- Calcium
- Vitamins C, D3 and K2
- 12 minerals essential for the vitamin absorption: magnesium, boron, copper, manganese, potassium, phosphorous, nickel, vanadium, zinc, silica, selenium, and strontium

Doctor should be consulted to receive the right medications and to identify the most effective supplements, as many commercial brands have proven to absorb poorly.

Whole body cryotherapy in combination with kinesitherapy has shown better results than kinesitherapy alone.

A 1998 study demonstrated that the most efficient regimen was using cryotherapy twice a day, with at least 3-hour interval, followed by kinesitherapy after each cryotherapy session. Whole treatment would take 2 to 6 weeks, depending on patient's needs.

It was observed that cryotherapy reduced pain and swelling, caused relaxation of skeletal muscles and increased their force, as well as the motion range in treated joints. Among other advantages of cryotherapy, short treatment time and being well tolerated by patients were mentioned. "All this makes cryotherapy a method for a broad use in prophylactics and treatment of osteoporosis", the study concluded.

It should also be mentioned that **whole body cryotherapy** helps improve conditions like rheumatoid arthritis and ankylosing spondylitis that are among contributors to developing osteoporosis; thus, it **is a preventive treatment, as much as a treatment of an already developed disease**.

Kinesitherapy is best performed AFTER a cryotherapy session. It is a therapy by movements, the objective of which is to gain back the normal mobility of a joint and reduce or stop pain around it. The treatment often includes a therapeutic massage, essential oils, rubefacient cream and heat, and some advice for at-home muscular reinforcement, stretching, and dietary adjustments.

Sources:

Cryotherapy in osteoporosis
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