

New technologies improving the odds for osteoporosis patients

August 23 2013, by Keri Janton

The older we get, the greater our risk of developing osteoporosis becomes. The fragile bone disease affects about 9 million Americans, and experts from the National Osteoporosis Foundation predict that it will be responsible for approximately 3 million fractures by 2025. The good news is that there are several innovative options aimed at improving the effects of osteoporosis, and one treatment that may someday prevent the disease.

INTEGRATED OUTCOMES NETWORK

After watching his grandmother struggle for years with osteoporosis, Dr. Christopher Recknor decided to dedicate his career to the disease. As medical director of the United Osteoporosis Centers in Gainesville, Ga., he has tracked patients' [fractures](#) since 2007 and, combining that information with other data, created the Integrated Outcomes Network, or ION, a [computer software program](#) that assesses each patient's risk of fracture.

"There are lots of [seniors](#) who are trying to be very functional and active," said Dr. Recknor. "The issue for the physician is to establish whether or not the patient is safe in being functional and active. We've shown that we can measure safety and predict fracture based upon that."

Since launching ION three years ago, Recknor said the refracture rate under his care has dropped from 14 percent to 3 percent, well below the national average.

CRYOTHERAPY

Cold therapy has gained popularity in recent years as a treatment to reduce the pain of athletes' sore muscles, among other uses.

According to Lauren Polivka, a licensed physical therapist and wellness coach at Icebox Cryotherapy Center, it's helpful to osteoporosis patients, too.

"Pain for most osteoporosis patients is due to compression in the [joints](#), lack of mobility and the [inflammation](#) that has resulted," she said.

"Cryotherapy is a safe, short, effective treatment that will affect the entire system."

The treatment involves applying [nitrogen gas](#) to the client's skin for 30 seconds or less, which dramatically reduces the body temperature for a few minutes. The theory is that the skin reacts by sending messages to the brain, which stimulates the regulatory functions of the body.

"Osteoporosis generally doesn't cause discomfort in just one area," said Polivka, "so with the cryotherapy being systemic, it's teaching the body how to combat pain and inflammation. The body goes into a healing state with the constant blood flow to the muscles, ligaments and tendons, and that is what is so beneficial with osteoporosis pain management."

NANOTECHNOLOGY

There are plenty of medications on the market that treat osteoporosis, such as Fosamax and Miacalcin.

Dr. M. Neale Weitzmann and Dr. George R. Beck, associate professors in the Emory University Department of Medicine, hope that in 10 years or so, they will have developed a nanotechnology treatment that changes

the way the disease is treated and could possibly prevent it entirely. It is in the patent stage now, and is and still being tested on lab mice.

"The hope is that this drug development could be useful in multiple forms of osteoporosis," said Dr. Weitzmann. "It could aid post-menopausal osteoporosis with women, age-related osteoporosis with men - it could even help with rarer causes of osteoporosis, like HIV and sickle cell disease in children."

This promising drug works on the molecular level by reducing bone breakdown and promoting bone formation. Most drugs, said Dr. Weitzmann, only focus on bone reabsorption.

"If everything goes as we plan, we could provide preventative measures, rather than just treatment after the fact," said Weitzmann. "The standard of care for [osteoporosis](#) could change completely."

OSTEOPOROSIS RESOURCES

United Osteoporosis Center for Gainesville.
www.uochs.org/UOC/home.html

Ice Box Cryotherapy. www.iceboxtherapy.com

National Osteoporosis Foundation. www.nof.org.

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