

“A Whole Lot of Shakin’ Goin’ On.”

By: Floyd Spencer

Last month I left you with the question, “What does a NASA astronaut have in common with a 66 year old osteoporotic grandma?” Of course the hint was in the word osteoporosis. One of the problems with prolonged exposure to microgravity conditions as experienced in outer space is a lessening of bone mineral density. That result coupled with specific muscle weakening leaves an astronaut unable to support their own body weight on returning to earth. It puts a whole new meaning to the term “being grounded.”

Speaking of being grounded, quite often a person’s first inkling that there is a problem with their bones is when they hit the ground. Often a minor slip and fall results in a visit to the Emergency Department. An X-ray reveals a broken bone that really should not have occurred after such an innocuous event. It is at this point that the Doctor, with a concerned look on their face, informs you that you have indeed broken your arm and the pictures also reveal the presence of osteoporosis.

Osteoporosis should not be confused with Osteoarthritis. Osteoporosis is a disease of the bones and osteoarthritis is a disease of the joints. About 1.4 million Canadians suffer from osteoporosis. One quarter of women and one eighth of men over 50 years of age have osteoporosis. Canada is estimated to spend 1.9 billion dollars treating osteoporosis related problems each year. That equates to about 1000 Cranbrookians and 350 from Kimberley currently with the disease at a cost of millions of dollars to the Kootenays.

So what does space travel and grandma have in common? Before you sons’ in law get yourselves in trouble, let me explain. Researchers in a number of places around the world have been looking into the effects of whole body vibration on the human body. As it turns out, vibration of a certain amplitude and frequency can trigger an increase in bone mineral density. Space programs in Europe and North America have been using special machines to train their astronauts to negate the effects of prolonged periods in space. These machines recently became commercially available in Canada. Cranbrook Physiotherapy Clinic was the first rehabilitation centre in Canada to utilize whole body vibration exercise. We currently use PowerPlate equipment to produce the whole body vibration in our treatment programs.

A little over a year ago Mrs. P. (pictured below) came into our clinic and after some arm twisting, (as a component of treatment for frozen shoulder of course) she consented to become the first test pilot for our Osteoporosis Prevention Program. Given that the exercises occurred on the PowerPlate, we decided to call it “PowerUp Your Posture.” She has since become a minor celebrity in the clinic showing up people half her age with a handstand on the Pilates Chair. The beauty of the PowerPlate is the effects are due mostly to the body’s natural reflexes. You stand. The platform shakes. Nature does the rest. Even people who are unable to do the usual exercises recommended for osteoporosis can gain a training effect from standing in different positions on the plate. It goes to show that age is no barrier and the effects of osteoporosis can be negated by a scientific approach to exercise.

For more information on PowerPlate, go to www.powerplate.com or call and make an appointment at Cranbrook Physiotherapy Clinic. Next month find out why your head is spinning.