



NEW SOLUTIONS FOR OSTEOPOROSIS

Many of us are familiar with the devastating effects of osteoporosis and the lesser form of bone demineralisation known as osteopaenia but recent studies currently underway offer new solutions to this age-old problem.

As a community we are facing greater demand for effective solutions as those born during times of austerity such as the great depression and the war years have reaped the benefits of improved medical interventions effectively extending longevity but many suffer impaired skeletal density due to poor nutrition and development during their formative years.

Also historically, women have only in recent years been exposed to sport contributing to lifelong benefits of improved skeletal density – our grandmothers generally had limited opportunity to participate in sport and fitness training.

Osteoporosis, of course is not limited to post-menopausal women although, in reality this demographic is represented to a far greater extent than any other due to the depletion of calcium binding Oestrogen in later life. What is of great concern for young, highly active women undertaking extreme levels of training is that intense training can result in pseudo- menopause [i.e. a reversible interruption of the normal cycle]. It appears that although a moderate level of exercise is integral to good bone density, extreme exercise can have the opposite effect by disrupting the normal oestrogen cycle and creating increased risk of stress fractures for these athletes.

A new age finding is the issue of osteoporosis in astronauts who spend considerable time at the international space station without the bone stimulating effects of gravity necessitating the use of new and innovative exercise systems using compression bands to mimic the effects of gravity.

As with all living tissue, load bearing and resistance leads to greater strength whereas the opposite is true for non weight bearing bone such as occurs in people who are bed ridden for considerable time or immobilised in a cast or brace because of surgery or a fracture. That is precisely why doctors and physios are keen to get patients moving as soon as possible.

68 Complete Health

Here are some interesting facts about Osteoporosis:

- Caused by a reduction in oestrogen in women and testosterone in men, a diet deficient in calcium or lack of vitamin D [created when we are exposed to the sun hence the need to spend some time outdoors on a regular basis]
- Increases the risk of fractures [strongly linked to increased mortality in the elderly following complications associated with serious fractures such as the hip joint]
- Results in a reduction in bone mass and height loss often with increased kyphosis [stooped posture as vertebrae collapse]
- Women are at greater risk than men noting a 2% bone loss per year.
- Osteoporosis and Osteopaenia are reversible if the underlying causes are addressed.

Solutions for preventing or reversing Osteoporosis and Osteopaenia.

- Undertake regular resistance exercise involving the entire body [walking and running are great for lower limbs but the upper body requires some resistance training such as body weight, machine weight or free weight training.
- A balanced diet including foods high in calcium such as fish, eggs and dairy products.
- Avoid smoking, drinking and a sedentary lifestyle.
- Spend some time outdoors daily.
- Seek the advice of your GP and undertake regular bone density tests if you are in a high risk group.

New solutions for reversing and preventing Osteoporosis.

New studies currently underway are evaluating the use of vibration platforms to stimulate bone density increases especially

in groups unaccustomed to exercise or unable to exercise for lengthy periods due to illness or disability. The theory is that the impact generated through the vibration platform mimics that of lengthier and more intense exercise programmes which stimulates bone regeneration. Early study results are encouraging and could hasten recovery times and open up more accessible treatment options for those at risk.



Peter Georgilopoulos
APA Titled Sports
Physiotherapist
Physiotherapist to the
Socceroos 1990-2000

Peter owns
Spine+Body Centre of
Allied Health in Bundall
on the Gold Coast. PH:
07 5531 6422

He has a long standing clinical interest in muscle flexibility in the sporting population particularly in relation to neural influences and, his association with Bond University over the last few years has enabled him to undertake research in this area resulting in two studies to date the first of which was published in "Manual Therapy".