

Elite athletes offering bone building tips for fracture prevention on World Osteoporosis Day 2008

Federal Minister for Ageing releasing Exercise and Fracture Prevention Guides

Representatives from Australia's sporting and medical arenas will join forces with the Federal Minister for Ageing, The Hon. Justine Elliott MP today (World Osteoporosis Day) to release two new *Exercise and Fracture Prevention Guides* designed to build strong, healthy bones. The elite athletes – Jane Saville, Craig Foster, Wally Masur and Tatiana Grigorieva – will also reveal their individual secrets for building powerful bones in order to help prevent fractures.

The *Exercise and Fracture Prevention Guides*, developed by Osteoporosis Australia in conjunction with Geriatrician and John Sutton Chair of Exercise and Sport Science, University of Sydney, Professor Maria Fiatarone Singh, are designed to inform Australians about preventing fractures through a combination of exercise, a healthy diet and medication when required.

"Exercises should target the main muscle groups, such as the arm muscles (biceps and triceps), upper torso muscles, lower abdomen muscles, muscles around the hip, thigh muscles (quadriceps and hamstrings) and calf muscles. The most effective activities progress in difficulty and always challenge different muscle groups.

"The best activities for great bone health are those done in rapid, short bursts of high intensity such as brisk walking, jogging and weight training," said Prof Fiatarone Singh.

Olympic bronze medal race walker, Jane Saville says there are many different exercises that improve bone and muscle strength.

"As an elite athlete, I understand the importance of building strong muscle and bone. My message for World Osteoporosis Day is that it doesn't matter how old or fit you are, you need to start exercising, at least three times a week, to help prevent osteoporosis."

The Exercise and Fracture Prevention Guides feature the four principles of exercise for increasing bone health and preventing fractures (which most often occur in the hip, spine, wrist, pelvis and upper arm), while showcasing beneficial exercises in a simple step-by-step format.

The four principles are:

1. **Weight bearing** – these exercises are performed upright and target the large muscle groups e.g. brisk walking, hiking, stair climbing, jogging and aerobic dance
2. **Resistance training** – also known as strength training or weight lifting, these exercises are performed with free weights or are machine-based
3. **High impact** – these exercises encourage the spine and legs to carry the majority of one's body weight e.g. skipping with a rope
4. **Balance training** – these exercises are designed to increase the body's sense of balance, reducing the risk of falling e.g. standing on one leg with eyes closed, sitting on an exercise ball or performing Tai Chi.

Officially endorsing *The Exercise and Fracture Prevention Guides*, Minister for Ageing, Mrs Justine Elliot MP said osteoporosis often goes undiagnosed until a fracture occurs.

“Targeted exercise is one way of helping to reduce the risk of osteoporotic fracture. On World Osteoporosis Day I encourage both men and women over 50 to start using these new guidelines to improve their bone health.

“I am delighted the Australian Government has been able to fund these resources that will benefit many Australians,” Mrs Elliot said.

“Activities like football and other ball sports are great for balance and coordination, and they have weight-bearing benefits as well,” said Craig Foster, former National Socceros Captain who has represented Australia 29 times.

National Coach for the Australian Tennis Junior Development Program and former Australian Davis Cup Coach who spent 13 years playing on the ATP Tour, Wally Masur echoes Craig’s sentiments.

“Many people are probably unaware that professional tennis players have around 30 per cent higher bone density in their playing arm than their non-playing arm.¹ This demonstrates the beneficial effect of high impact exercise on bone.

“You have high impact, weight bearing exercise, and balance and coordination all rolled into one with tennis,” said Wally.

Evidence demonstrates that regular exercise helps reduce osteoporotic fracture risk by 50 per cent in men and women aged over 65.² It is estimated that one in two women and one in three men over the age of 60 in Australia will experience an osteoporotic fracture.³

According to Judy Stenmark, CEO of Osteoporosis Australia, Sydney, once a fracture occurs there is an 86 per cent increased risk of another fracture⁴ – a follow-on effect known as the ‘fracture cascade’.

Alarming, more than 25 per cent of people who suffer a hip fracture die within 12 months.³ Another 50 per cent require long-term assistance with daily, routine activities or are unable to walk unaided.³ The remaining 25 per cent require full-time nursing-home care³,” said Ms Stenmark.

“Osteoporosis places a huge burden, both physically and financially, on the individual and the general community, and research shows that the rate of osteoporotic fractures is significantly increasing, particularly with our ageing population.”

The cost burden of osteoporosis is extremely high, with more than \$1.9 billion spent per year on direct costs such as hospital treatment, rehabilitation, additional therapy and home care.³ The personal cost of osteoporosis is also very high for many people living with this chronic condition.

The *Exercise and Fracture Prevention Guides* are available from Osteoporosis Australia (national office) and its state offices or call 1800 242 141 or visit www.osteoporosis.org.au.

References:

1. Jones HH, Priest JD, Hayes WC, Tichenor CC, Nagel DA. Humeral hypertrophy in response to exercise. *J Bone Joint Surg Am.* 1977 Mar; 59 (2): 204-8.
2. Exercise & Fracture Prevention – A guide for GPs & health professionals. Based on two articles by Professor Maria A. Fiatarone Singh (*Medicine Today* 2006;7(12): 30-39 & *Medicine Today* 2007; 8(1): 31-41).
3. The burden of brittle bones – epidemiology, costs & burden of osteoporosis in Australia. Prepared by Department of Medicine, The University of Melbourne, Western Hospital, Footscray, Victoria, for Osteoporosis Australia. 2007.
4. Kanis JA, Johnell O, De Laet C et al., 2004 . A meta-analysis of previous fracture and subsequent fracture risk. *Bone* 35:375.