



osteoporosis australia

## Know Your Bones

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# osteoblast

MEDICAL ISSUE SPRING 2018

# “Know Your Bones” Community Risk Report Released

Professor Peter R Ebeling AO, Medical Director, Osteoporosis Australia



Left to right: Greg Lyubomirsky (CEO, OA), Prof John Esiman (Garvan Institute of Medical Research), WOD ambassador Sally Pearson, Aged Care Minister Ken Wyatt, Health Minister Greg Hunt, WOD ambassador Michael Clarke, Prof Peter Ebeling (OA Medical Director).

The “Know Your Bones” consumer self-assessment website, developed conjointly by Osteoporosis Australia and the Garvan Institute of Medical Research, was launched in mid-2016. This online tool is based on key research findings from the Garvan Institute’s long-standing epidemiology study of osteoporosis in Australia.

The first report of de-identified data resulting from the “Know Your Bones” website was released at a special event at Parliament House in Canberra on October 18 in the lead-up to World Osteoporosis Day. Health Minister, the Hon Greg Hunt officially launched the report and announced funding to develop a National Osteoporosis Strategic Plan. Minister for Senior Australians and Aged Care, the Hon Ken Wyatt encouraged Australians to talk more about their bone health.

Special thanks to World Osteoporosis Day ambassadors, Olympic Gold Medallist, Sally Pearson OAM and Former Australian Cricket Captain, Michael Clarke for attending the launch and raising community awareness about the Know

Your Bones tool. Greg Lyubomirsky, CEO of Osteoporosis Australia, noted that “the data included over 41,000 self-assessment completions since the tool became available. Osteoporosis Australia considers the report an important benchmark highlighting key areas that need to be addressed to improve in the management of patients at risk for osteoporosis.”

## Results Summary

### Sex and age break-down of self-assessment usage

- 21% male and 79% female
- 86% were adults aged 50 years and over
- Overall age break-down of females and males completing self-assessment

Female		Male	
under 50 years	11%	under 50 years	3%
50-69 years	54%	50-69 years	11%
70 years+	14%	70 years+	7%



## DEAR COLLEAGUE

This issue of Osteoblast present you with brand new, hot off the press results from an analysis of the “Know Your Bones” consumer self-assessment website. A whopping 41,000 people (nearly 80% were women) completed the self-assessment tool since its inception in 2016, answering questions about their fracture status, bone density testing and risk factors for osteoporosis. The perhaps most striking result is summarised in Prof Ebeling’s lead article: “The data from this report suggest patients within these [osteoporosis] categories are not routinely being investigated with bone densitometry and this is something we can improve. For example, the vast majority of people (84%) who reported a previous fracture are also reporting not being on specific anti-osteoporosis medication, and only half of people reporting a fracture are reporting having had a bone density test.” This data confirms what we’ve known for all too long: Patients with osteoporosis are neither diagnosed nor treated, and as a consequence, they keep on fracturing.

Please, let’s work together to close this appalling care gap! Our older patients deserve better than that!

**Prof Markus Seibel**

## “Know Your Bones” Community Risk Report Released (Cont.)

### Fracture Status and Bone Density Testing Status

- Number of assessments completed that reported a minimal trauma fracture: 17%
- Number of assessments completed that reported a minimal trauma fracture and reported status of bone mineral density (BMD) testing as follows:
  - Reported ‘yes’ for BMD testing: 52%
  - Reported ‘no’ for BMD testing: 39%
  - Reported ‘don’t know’ for BMD testing: 9%
- Number of assessments completed that reported a minimal trauma fracture and reported specific anti-osteoporosis medication status as follows:
  - On medication: 16%
  - Not on medication: 84%
- People over age 70 years and Bone Mineral Density (BMD) testing status reported as follows:
  - Reported ‘yes’ for BMD testing: 54%
  - Reported ‘no’ for BMD testing: 34%
  - Reported ‘don’t know’ for BMD testing: 12%

### Clinical Risk Factors and Lifestyle Risk Factors

**Clinical risk factors included:** *Daily oral use glucocorticoids, early menopause or low testosterone, loss of height, coeliac disease, overactive parathyroid, overactive thyroid, rheumatoid arthritis, chronic liver or kidney disease, treatment for breast cancer or prostate cancer.*

**Lifestyle risk factors included:** *Smoking, alcohol intake, lack of adequate calcium/vitamin D/exercise.*

- Number of assessments completed and clinical risk or lifestyle risk factors reported:
  - Reported ‘yes’ to a clinical risk factor: 38%
  - Reported ‘no’ to a clinical risk factor: 62%

Based on those reporting ‘yes’ to a clinical risk factor, almost a third (31%) had  $\geq 2$  clinical risk factors

- The vast majority of assessments (98%) reported having a lifestyle risk factor for osteoporosis

### Comment on the Results

While we accept the limitations of self-reported data, these findings are generally consistent with studies that have previously reviewed osteoporosis investigation and management approaches and demonstrate a large evidence- gap in osteoporosis care in Australia.

The 2017 RACGP Osteoporosis Management Guidelines also set out clear steps for investigation of patients with bone densitometry, using dual-energy x-ray absorptiometry (DXA), focussing on:

- Adults over age 50 years with specific clinical and lifestyle risk factors for osteoporosis
- Men and women over age 50 years with minimal trauma fractures
- Adults aged 70 years and older based on age alone

The data from this report suggest patients within these categories are not routinely being investigated with bone densitometry and this is something we can improve. For example, the vast majority of people (84%) who reported a previous fracture are also reporting not being on specific anti-osteoporosis medication, and only half of people reporting a fracture are reporting having had a bone density test. In addition, over one third of people completing the self-assessment have a clinical risk factor for osteoporosis (with lifestyle risks factors being even higher again). In Australia, reimbursement is available for bone density testing in women and men aged over 70 years, yet only about half (54%) of this population reported having had a bone density test.

The real focus of osteoporosis management is on fracture prevention. Previous economic reports commissioned by Osteoporosis Australia have demonstrated that up to 70% of the overall cost of the disease relates to direct fracture costs. In 2018, it is estimated 165,000 fractures will occur nationwide due to poor bone health with a cost to governments of over \$3 billion.

In general practice, there is a real opportunity to investigate bone health in our patients that sit before us who demonstrate clear signs that their bone health may be compromised. As a start, this can include initiating bone density testing in patients with:

- Clinical and lifestyle risk factors
- Minimal trauma fractures (if aged  $>50$  years)
- All women and men aged 70 years and over

The end game is to prevent the second fracture and in keeping patients out of the hospital system by avoiding re-admission for those who have sustained a first fracture. While hip fracture remains the costly type of fracture, and has the biggest impact on patients, fractures at other sites are more common.

An improvement in osteoporosis diagnosis and, most importantly, osteoporosis treatment rates in Australia can help curb fracture numbers and health-care costs, and that is well worth our combined efforts.

# researchbites

Research Review by Dr Weiwen Chen (Clinical and Scientific Lead for the OA Medical and Scientific Committee)

## Fracture prevention with Zoledronate in older women with osteopenia<sup>1</sup>

Whilst bone density in the osteoporotic range is associated with higher fracture risk, more fractures occur in the osteopenic range. Studies to date have mostly been done in women with osteoporosis on bone density criteria, or a previous fracture. In a double blind randomised controlled trial of 2000 women over the age of 65 with osteopenia, but not osteoporosis, on bone density, fracture risk was reduced by 30% over the period of 6 years in those who received zoledronic acid at 18 monthly intervals, compared to those who received placebo. More importantly, mortality was reduced by 30% in the study period in subjects who received zoledronic acid. This study has important implications as the prevalence of osteopenia or osteoporosis in subjects over 65 is of the order of 80%. Thus this study suggests the great majority of women over the age of 65 would benefit from zoledronate therapy. The price of zoledronate is also likely to fall in the medium term as patents in different countries expire. The likely cost efficacy of therapy may subsequently justify widespread use of this medication.

## Exercise for bone health<sup>2</sup>

Postmenopausal women with low bone mass (T-score < -1.0) were recruited and randomised to either 8 months of twice-weekly, 30-minute, supervised intensity resistance and impact training (HiRIT) or a home-based, low-intensity exercise program.

The supervised exercise was shown to improve bone mass and functional performance. The trial is however small with only 101 relatively young participants (65+/- 5SD years), and does not address the issue of application/compliance in a wider, or older population. This study needs to be replicated in older and more diverse groups before reliable conclusions of efficacy can be drawn.



## Comparing Fracture Liaison Service Strategies Targeting Osteoporosis<sup>3</sup>

A low-intensity Fracture Liaison Service (FLS - active-control) which identified patients and notified primary care providers, was compared to a high intensity FLS where a specially-trained nurse (case manager) identified patients, investigated bone health, and initiated appropriate treatment. The direct cost per participant was \$18 CAD for the active-control intervention compared to \$66 CAD for the case-manager intervention. High intensity FLS management led to substantially greater improvements in bisphosphonate treatment and appropriate care within 6 months of fracture than the active control FLS at a relatively modest cost increment per patient. Further studies are warranted to quantify the cost per QALY of the two approaches.

*References available upon request.*

# Secondary Osteoporosis

Professor Mark Cooper Head of the Discipline of Medicine, Concord Hospital

Although osteoporosis can occur in people who are otherwise perfectly healthy some individuals develop osteoporosis due to a chronic medical condition. This is referred to as 'secondary osteoporosis'. The list of medical conditions that negatively impact bone is long but several are particularly important or common.

Bone health is an important issue for women with a history of breast cancer that require treatment with drugs which reduce the level of estrogen. These drugs are called aromatase inhibitors and they are effective at reducing the risk of breast cancer recurrence. However, they also decrease bone density and substantially increase the risk of bone fracture. Women treated with aromatase inhibitors should have their bone health monitored regularly. Those with reductions in bone density or the occurrence of fractures benefit from treatment with osteoporosis medications.

A similar negative effect on bone is seen in men with prostate cancer treated with drugs that dramatically decrease the level of testosterone. These men also benefit from treatment with osteoporosis drugs although many are not screened for the development of osteoporosis.

Another common condition increasingly associated with osteoporosis is diabetes. Both type 1 and type 2 diabetes are linked to an increase in fracture risk. This increase is partly independent of changes in bone mineral density levels. As such, a normal bone density might be falsely reassuring. How this increased risk should be managed is currently unclear but the threshold for assessing fracture risk in people with diabetes should be low.

Celiac disease (gluten sensitivity) can be associated with reduced bone density and increased risk of fracture. The adverse effects on bone appear due to inflammation of the intestine and reduced absorption of calcium and vitamin D. The most important component of treatment is a gluten free diet. Bone health should be considered as part of the routine assessment of people with celiac disease.

The last group of conditions commonly associated with bone loss are chronic inflammatory diseases such as rheumatoid arthritis. Any condition associated with systemic inflammation appears to have bad effects on bone and rheumatoid arthritis can further increase



the risk of fracture through reduced mobility and an increased risk of falls. These conditions are commonly treated with anti-inflammatory steroids (glucocorticoids) which also have a negative effect on bone. On the positive side, newer 'biological' agents for these conditions appear to also give protection against bone loss and these drugs are slowly reducing the need for glucocorticoids. People with a history of chronic inflammatory disease such as rheumatoid arthritis need to have their bone health monitored regularly. Osteoporosis medications reduce the risk of fracture in patients with these inflammatory conditions or people treated with glucocorticoids for other reasons.

Consumer fact sheets are available for all these conditions on the Osteoporosis Australia website.

## NEWS UPDATE

### New Training for Exercise Professionals

Osteoporosis Australia has aligned with a national exercise training program for physiotherapists and exercise physiologists. ONERO is an evidence-based exercise program targeting people with osteoporosis and osteopenia. Exercise professionals who complete ONERO Academy Training will be certified to deliver ONERO to the public. The ONERO program is accredited by Exercise and Sport Science Australia (ESSA).

The program was developed by Professor Belinda Beck (Griffith University) and Lisa Weis (The Bone Clinic). Professor Beck says “in the past we have received a lot of interest from exercise professionals wanting to help people with poor bone health. The ONERO Academy educates these exercise professionals in how to deliver bone-targeted exercises to the public. When it comes to our bones the research tells us not all exercise is equal. In fact exercise that is targeted, supervised and focuses on resistance and impact training is best.”

#### Do your patients need information?

Direct patients to the Osteoporosis Australia website or tollfree patient helpline

[www.osteoporosis.org.au](http://www.osteoporosis.org.au)

1800 242 141

### Research Grants Announced

Congratulations to the following recipients of the 2018 research grants.

#### Amgen OA ANZBMS Clinical Grant Program 2018

- **Dr Vinicius Cavalheri** PhD, Senior Lecturer, School of Physiotherapy and Exercise Science, Curtin University  
*Low bone mineral density in people with chronic obstructive pulmonary disease: a novel intervention to tackle this highly prevalent comorbid condition*
- **Professor Christopher White** Area Director of Research SESLHD, Prince of Wales Hospital  
*Validation of XRAIT functionality using a retrospective epidemiological data set*
- **A/Professor Nigel Toussaint** Deputy Director of Nephrology, Department of Nephrology, The Royal Melbourne Hospital  
*NAB-CKD study – Non-invasive Assessment of Bone Health in Chronic Kidney Disease*

#### Sambrook Young Investigator Travel Award 2018

- **Feitong Wu** University of Tasmania  
*Associations of measured sedentary time and physical activities with muscle strength, balance and falls in Australian middle-aged women*

The grants were announced at the annual Australia and New Zealand Bone and Mineral Society Conference dinner on 4 September in Queenstown NZ.

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ABN 45 098 570 515

PO Box 550 Broadway NSW 2007

National office 02 9518 8140

National helpline 1800 242 141

[www.osteoporosis.org.au](http://www.osteoporosis.org.au)

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#### Resources for General Practice

Information and resources for general practice can be accessed online under the Healthcare Professional section of the Osteoporosis Australia website:

[www.osteoporosis.org.au](http://www.osteoporosis.org.au)