Vital D-fence
An update for general practice teams – August 2012

Vitamin D reduces falls in residential care facilities

Introduction
Evidence shows that vitamin D supplementation can have a key role in preventing falls among older adults living in residential care.
As many as 18,000 people in this group fall each year. They’re reported to have a considerably higher fall frequency than those living in their own homes and are more likely to sustain fall-related injuries such as fractures.
The D-fence programme aims to address this problem by promoting the role that vitamin D can play, and it is good to report that the rate of vitamin D prescribing continues to increase.
Across New Zealand, 70% of residents are receiving D-Fence against falls, up from 17% in 2007.

Why vitamin D?
The appropriate prescription of vitamin D supplements can prevent falls, through improved muscle strength and gait. At least 700IU (international units) per day of vitamin D is needed to reduce falls; monthly cholecalciferol 50,000IU (Cal-d-Forte®) or weekly alendronate with cholecalciferol (Fosamax Plus®) provides this amount.

Prescribing criteria
Prescribing inclusion criteria: Living in a long-term residential care facility.
Prescribing exclusion criteria: Those currently on vitamin D preparations, those with known hypercalcaemia.
Dosage: Loading dose of 2 x 50,000IU vitamin D3 in first month. Maintenance
dose of 50,000IU vitamin D3 per month thereafter for life.

‘Never too late’
Residents who are bedbound or receiving hospital-level care still benefit
from vitamin D.

Professor John Campbell, Dean of Dunedin School of Medicine, comments
that it is “never too late“ to start vitamin D.

“People in residential care are still transferred and at risk of falls. In many
cases the falls may be more severe than in their mobile counterparts, as their
vitamin D levels may be extremely low.

“Furthermore, because of a lack of sunlight exposure, they may suffer from
osteomalacia, with symptoms of bone pain that may not be complained of and
not diagnosed,” Professor Campbell says.

Sunshine is not enough
Aging is associated with decreased concentrations of 7-dehydrocholesterol,
the precursor of vitamin D3 in the skin. A 70-year-old has approximately 25% of
the 7-dehydrocholesterol that a young adult does and thus has a 75% reduced
capacity to make vitamin D3 in the skin.

“Even if your residents are exposed to the sun, their ability to make vitamin
D is reduced – meaning a supplement is important alongside sensible sun
exposure.“

For more information on fall prevention, see an interview of Professor John
Campbell at http://www.youtube.com/watch?v=Y5n4RPxkJy&

Progress
Vitamin D is now prescribed to 70% of the residential care population.

What can you do?
At each resident’s three-monthly medication review, be sure to include in
your assessment the resident’s need for vitamin D.

References
Cameron ID, Murray GR, Gillespie LD, et al. Cochrane Database of Systematic

Holick MF, Matsuoka LY, Wortsman J. Age, vitamin D, and solar ultraviolet.