

## Ensuring Optimum B12 Levels in LTC to improve quality of life

### Ontario Study Points to Concerns but Reinforces “It’s Treatable!”

Because Vitamin B12 deficiency typically rises with advancing age - **and there is no system to identify how common deficiencies are among those newly admitted to long-term care** - a group of researchers at the University of Waterloo recently set out to determine prevalence.

The results showed 14 per cent of residents were deficient upon admission and 38 per cent had only slightly better B12 status. In addition, the research team determined that deficiencies became worse over the first year in long-term care unless residents received supplementation.

The study, published in **Applied Physiology, Nutrition, and Metabolism in 2016**, involved eight long-term care residences in Ontario.

The findings are considered important because if left untreated, B12 deficiency can give rise to anaemia, can negatively affect gait, and can even lead to nerve damage and paralysis. Additionally, low levels of B12 are associated with fatigue, depression, dementia, mental confusion, lethargy and osteoporosis - all which negatively affect quality of life.

Thus, Kaylen Pfisterer (lead author of the study) suggests screening as a first step in identifying those who may benefit most from supplementation; pointing out that while B12 supplementation (for some) may have been in place prior to admission that care could lapse during the transition to LTC.

## Some B12 issues for the elderly

Vitamin B12 is one of the B complex vitamins and naturally available in meat and dairy products. However, as people age there are several factors that can **decrease absorption** of B12 including:

- **Insufficient gastric acid**, which is required to “free” B12 bound by food. Note: Some medications, such as omeprazole (PPIs) can also reduce gastric acid
- **Lack of intrinsic factor**, which is normally secreted by the stomach and binds to B12 to ensure it makes it through the stomach to be absorbed in the small intestine
- **Metformin**, which can prevent absorption of B12
- **Alcoholism and poor diet**
- **Surgeries of the stomach or colon**
- **Crohns disease**, etc.

In summary, Kaylen Pfisterer has said:

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*...Spending time in long-term care homes, you often see depression and loneliness. This is why we need to do everything in our power to enhance quality of life and quality of care in this setting,*

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## Medical Arts Pharmacy recommends the pre-admission importance of:

- **Medscheks** to avoid a possible transition-to-LTC “oversight” as the pharmacist reviews all prescription and non-prescription supplements, OTCs, herbal and “others”
- Determining the most appropriate form of B12 supplementation: tablet, sublingual, injection, and
- Treating the underlying cause i.e.) Can a medication such as omeperazole be stopped (?)

## Reference

Kaylen J. Pfisterer, Mike T. Sharratt, George G. Heckman, Heather H. Keller. **Vitamin B12 status in older adults living in Ontario long-term care homes: prevalence and incidence of deficiency with supplementation as a protective factor.** *Applied Physiology, Nutrition, and Metabolism*, 2016; 1 DOI: [10.1139/apnm-2015-0565](https://doi.org/10.1139/apnm-2015-0565)

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