Medication: Rumours vs Truth Supplemental material (Rosemary M. Killeen, BScPhm, PGCert, RPh)

Frequently Asked questions (FAQ): November 2018

1. **Calcium and Vitamin D:**

- Review the information at https://osteoporosis.ca/ for current information on calcium and vitamin D, including the calcium calculator. These daily intake recommendations refer to **elemental calcium, so check labels when purchasing supplements.** They are also general recommendations and do not replace specific advice from your physician, nurse practitioner or pharmacist, especially if you have other medical conditions e.g., chronic kidney disease or a history of kidney stones.
- Vitamin D is critical for the absorption of calcium. It's also the "sunshine" vitamin. Sunlight activates a pro-vitamin in the skin (but it's very difficult to get enough sunlight from October to March in Canada – even in a solarium). The ultraviolet B (UVB) rays don't penetrate glass or sunscreen. So many Canadians may require a supplement, particularly in the winter.
- Magnesium is often combined with calcium in supplements. This may counteract some of the constipation effects of calcium. Note this difference between Rolaids and Tums (Rolaids has magnesium + calcium; Tums is calcium carbonate only).
- Calcium carbonate is the most concentrated form of supplemental calcium (**40% elemental calcium**). It should be taken with food (as it needs stomach acid to be absorbed). Chewable forms may speed up the disintegration process and aid absorption.
- Calcium citrate may be preferable for those taking acid-reducing or suppressing medications such as Zantac, Dexilant, Pantaloc, Losec, omeprazole etc. Note that **calcium citrate is only 21% elemental calcium** (but it is well absorbed and can be taken with or without food). Check labels carefully or ask your pharmacist!
- Calcium lactate and calcium gluconate may be easily absorbed, but they have very low percentage of elemental calcium per dose (13 or 9%, respectively). They are not widely used.
- Examples of calcium supplements: Rolaids (regular) 220 mg elemental calcium/tablet; Tums Ultra 1000 – 400 mg elemental calcium/tablet; Jamieson Calcium Citrate w Vat. D – 250 mg elemental calcium/tablet; Caltrate w Vit.D soft chews – 600 mg elemental calcium/tablet * N.B. as we can't readily absorb more than 500 mg elemental calcium from a supplement at any one time, there is little value to higher doses per tablet.

2. **Vitamin K2:**

- Vitamin K may have a role to play in bone health, but research is ongoing. There are no officially recognized recommendations for Vitamin K supplements for prevention or treatment of osteoporosis. [Not from Canada, U.S.A or U.K. osteoporosis organizations]
- Vitamin K deficiency is very rare (usually only found in those with chronic kidney disease). Taking Vitamin K could interfere with dialysis.
- Vitamin K does have a well established role to play in **other** medical conditions, e.g., blood clotting and perhaps prevention of colon cancer. Follow your prescriber's recommendation if you are being treated for these or other conditions.
- Consuming foods which are natural sources of Vitamin K is considered a safe strategy for those who may want to increase their intake of this vitamin. Vegetable sources include kale, broccoli, cauliflower, dark lettuces, and asparagus. Those also taking warfarin (a blood thinner) should

monitor and regulate their intake of Vitamin K-containing food to ensure they're keeping a stable amount in their diet.

3. **Boron:**

- There is **no** evidence to support recommendations for taking boron supplements for osteoporosis. Early research shows that boron does not improve bone density.