

MEDICATION: RUMOURS VS TRUTH

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BOLD START
BRIGHT FUTURE



Osteoporosis: Drugs and Natural Health Products

- In the news
- Ongoing controversies
- What your pharmacist thinks is important
- What's still to be determined

Disclosures

- Opinions are my own
- Advocate for science-based medicine and public health
- Natural ≠ better
- Skeptical of “miracle cures”

“Exercise is the one evidence-based health ‘miracle.’ Improves essentially every health condition. Pick an exercise regimen that you can do consistently.”

– Dr. Jen Gunter, MD, FRCS(C), FACOG, DABPM, ABPMR (pain)

AUDIENCE PARTICIPATION

Your chance to contribute to the discussion



Rumour or Truth?

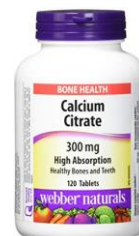
All calcium supplements are the same



IMAGE CREDIT: <http://www.myhousecallmd.com/wp-content/uploads/2010/12/Calcium-Supplements.jpg>

Rumour

- All calcium supplements are NOT the same
- Those who don't like swallowing big tablets →
- Difference in % elemental calcium
(carbonate > citrate > the rest)
- Those taking acid-reducing medications →



Calcium Reminders

- Osteoporosis Canada recommends Canadians take in 1000 to 1200 mg calcium daily **from food sources**. If this isn't possible, then supplements may be needed. Use calcium calculator at Osteoporosis.ca.
- Total daily calcium intake should not exceed 2,000 mg day for those 51 yrs + (2,500 mg daily 19-50 years). Excessive doses can be associated with kidney stones and possible ↑ risk of cardiovascular disease (heart attack).
- Difficult to absorb more than 500 mg elemental calcium (from a supplement) at a time, so no need to take larger doses per tablet.

Rumour or Truth?

Patients with osteoporosis or low bone density should take strontium supplements



IMAGE CREDIT: <https://www.amazon.com/Strontium-Boost-Scientifically-Easy-Swallow/dp/B0056JGJ32?th=1>

Rumour

- Amazon reviews are not evidence!
- Strontium is a naturally occurring mineral found in bones & teeth
- NO reliable evidence of safety or effectiveness of strontium citrate supplements in preventing or treating osteoporosis
- NO products currently approved by Health Canada for human use
- Possibly unsafe when used in high doses (blood clots, cardiac events, stomach upset)
- Strontium ranelate WAS approved as Rx by European Medicines Agency in 2004, but status was reviewed in 2014 (due to side effects), production has been discontinued in some countries as of 2017

Rumour or Truth?

Vitamin K is important
for bone health



Vitamin K – what we know

- Vitamin K is actually a group of similar compounds – K1, K2, K3, K4, K5
- Vitamin K1 – found in leafy green veggies and vegetable oils
- Vitamin K2 – made in the gut (by bacteria) or found in liver, some cheeses
- Vitamin K is important for blood clotting
- Vitamin K1 used as an injection to treat clotting disorders
- Warfarin (aka Coumadin) an anticoagulant drug (used to prevent blood clots) works by inhibiting (stopping) the vitamin K-dependent clotting factors.

Vitamin K – bone health?

- What does the research say?
 - Vitamin K deficiency **may** be associated with bone abnormalities *
 - People who take warfarin **may** be at higher risk for fractures (difference between men & women)
 - Seems to be a role for Vitamin K in maintaining bone strength (although some pathways evaluated in animal studies only)
 - No conclusion yet that there is a cause and effect relationship between Vitamin K deficiency (or excess) and osteoporosis

*most studies done in Asia, only a few with Caucasian populations, little research done with men, used different doses and types of supplements (no consistency)

Vitamin K – Maybe Truth (with conditions!)



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Rumour or Truth?

Based on recent news reports, you should stop taking Vitamin D

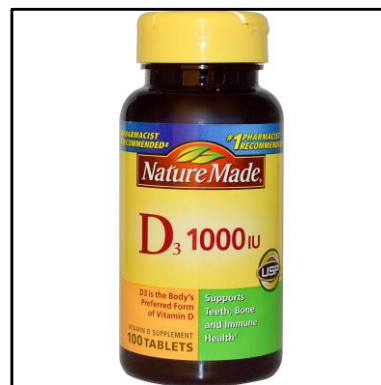


IMAGE CREDIT: <https://images.iherb.com/I/NDM-01870-7.jpg>

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Rumour

- Recent news stories are based on a paper in the medical journal, *Lancet Diabetes & Endocrinology*, where 81 previously published studies were analyzed together
- Found that Vitamin D alone (at either low or higher doses) doesn't help prevent fractures, increase BMD or prevent falls in adults
- NOTE: this is not really new news ☺
- High dose Vitamin D may not be of value to healthy individuals in the general population, but these findings don't necessarily apply to those with osteoporosis or those with or at risk for Vitamin D deficiency

Vitamin D

- Osteoporosis Canada released an updated statement on Vitamin D on October 16, 2018
- Recommends:
 - Individuals 50+ (osteoporosis or risk factors for fractures): 800-2000 IU Vit. D/day
 - Higher doses should be avoided, due to potential for harm
 - Further research is ongoing regarding role of Vitamin D in other areas of health
 - Most osteoporosis drug therapies include adequate Vitamin D + calcium intake as part of the treatment regimen
 - Food sources include salmon, egg yolks, fortified soy beverage

Rumour or Truth?

When you have a medication review, the pharmacist will look at all your drugs regarding fracture risk (not just osteoporosis therapies).



IMAGE CREDIT: <http://i.huffpost.com/gen/1200133/images/o-PRESCRIPTION-DRUGS-facebook.jpg>

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10
years

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Truth!

- 2016 U.S. study: 76% patients hospitalized for osteoporotic fracture had been exposed to drugs that increased their fracture risk in the previous 4 months
- Rx drugs that seem to increase fracture risk include:

Affect bone	Increase fall risk (CNS)	Unclear mechanism
Anti-seizure drugs	Opioid pain meds *	Antipsychotics *
Oral glucocorticoids (e.g. prednisone) *	Sleeping pills/sedatives *	
Some diabetes drugs	Some antidepressants *	
Stomach acid-suppressants (e.g. pantoprazole)	Some diuretics/blood pressure drugs	
Chemotherapy/sex hormone suppressants *	Some antihistamines	

* - strongly supported by current research evidence

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years

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Drugs that may increase fracture risk – what to do

- Don't panic!
- Discuss contributors to bone health and falls risk with your pharmacist and other health professionals (annually + after hospital admission or medication changes)
- Follow advice about diet, exercise, preventive therapies, falls prevention
- Consider “deprescribing” (reducing dose or tapering use of certain medications, when appropriate and recommended by your healthcare team)
- Remember – one size does not fit all 😊

What's next?

- Ongoing research – new drugs on the horizon
- Further investigation into existing medications e.g., zoledronic acid
- More work into role of Vitamins D and K

References

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