

Canada Beef releases a bi-monthly Nutrition Journal Tracker as a summary report of health/nutrition research published that is of significance for beef.

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| TOPIC | Bone health |
| ARTICLE | Vegetarian and vegan diets and risks of total and site-specific fractures: results from the prospective EPIC-Oxford study |
| CITATION | Tong, T.Y.N., Appleby, P.N., Armstrong, M.E.G. et al. Vegetarian and vegan diets and risks of total and site-specific fractures: results from the prospective EPIC-Oxford study. BMC Med 18, 353 (2020). https://doi.org/10.1186/s12916-020-01815-3 |
| LINK | https://bmcmmedicine.biomedcentral.com/articles/10.1186/s12916-020-01815-3 |
| SIGNIFICANCE | Vegans and vegetarians have higher bone fracture risk compared to meat eaters |

SUMMARY

- A new study from the EPIC-Oxford prospective cohort compared the incidence of bone fractures amongst individuals who consumed one of four dietary patterns:
 - meat eaters;
 - fish eaters (did not eat meat but ate fish);
 - vegetarians (did not eat meat or fish, but ate dairy and/or eggs);
 - vegans (did not eat meat, fish, dairy, and eggs).
- The study included about 55,000 adults who were followed for 18 years on average.
- Researchers found vegans had a higher risk of total and some site-specific fractures (especially hip but also leg and vertebra) compared to meat-eaters. Vegans, vegetarians and fish eaters had a higher risk of hip fractures compared to meat-eaters.
- Some plant-based diets were more problematic than others. Vegetarians were roughly 25% more likely to fracture a hip than non-vegetarians. Vegans, by comparison, were at considerably higher risk, experiencing 2.3 times as many hip fractures and twice the number of broken legs as omnivores.
- The researchers point out that vegans had substantially lower intakes of calcium than other diet groups since they don't consume dairy products and both vegetarians and vegans had lower protein intakes on average. Protein helps the body absorb calcium and aids in the bone-building process.
- The authors indicate that the increased fracture risk for non-meat eaters may be explained partially by lower average BMI and lower average intakes of calcium and protein. However, the higher risk of fractures in vegans remained significant after adjusting for BMI and dietary calcium and protein. This suggests that a lower BMI and lower intakes of calcium and protein may only partly explain the higher fracture risk in vegans.
- The authors speculate that other factors may also explain these results such as differences in vitamin D or vitamin B₁₂ status or other nutrients that are abundant in animal foods such as meat and dairy products.

COMMENTS

This study demonstrates plant-based diets may not be as beneficial for health as widely believe. The public should be encouraged to incorporate more plants into the diet without forgoing meat and dairy in order to maintain the health attributes associated with each food.

Like muscle protein, the skeleton and its constituent proteins are dynamic – constantly being broken down and synthesized. An appreciation for the parallel that exists between osteoporosis and sarcopenia is important when considering lifestyle interventions such as protein intake and routine physical activity for healthy aging. This study provides another compelling reason to include beef in the diet for healthy aging.

In the fall 2021, Osteoporosis Canada will be releasing new clinical practice guidelines which will include information on nutrition for bone health. It is anticipated the guidelines will highlight the importance of adequate protein intake for optimum bone health.

While this study was large in terms of both assessed population and timeframe, it primarily involved only white, European women, making a wide generalization of the study more difficult.