

Nutritional considerations for dietitians

Zinc

A more sustainable diet does not necessarily have to exclude red meat or dairy altogether – therefore meat and dairy nutrient intakes need not be compromised.

This information sheet provides some additional information on nutritional considerations which dietitians may take into account. References and information sources are available as a separate download from www.bda.uk.com/onebluedot.

Zinc is involved in many physiological and metabolic processes in the body including immunity, fertility and reproduction, macronutrient metabolism, cognitive development, DNA synthesis, wound healing and bone metabolism.¹

Intakes

Zinc intakes are low in the UK for 4-10 year old girls, teenage boys and girls, and women aged over 75 years.² Like iron, zinc absorption is affected by zinc status and anti-nutrients like phytates.³⁻⁷ Food processes such as soaking, canning, sprouting and fermenting can reduce the inhibitory effects of phytates whilst low stores and, at times of higher demand, zinc absorption is upregulated.^{6,7} Additionally, incidence of overt zinc deficiency have not been reported in Westernised countries and vegetarians have been shown to have similar zinc status as omnivours.^{3,5,6}

Fully understanding the impact of reduced zinc bioavailability and intake has been somewhat hindered by the lack of sensitive clinical measures for zinc status.⁵ A sustainable diet that contains small quantities of meat and plenty of zinc containing foods should be adequate to meet requirements. As with iron, for vulnerable groups consuming red meat below the SACN recommendations, supplements may need to be considered.

Food sources of Zinc

Red meat and animal foods more generally are a significant source of zinc in the UK diet and SACN modelling estimates that red and processed meat contributes 32% of men's total zinc intake and 27% of women's.⁸

The One Blue Dot 'Practical guide for dietitians: other source of zinc' sheet gives information on DRV for zinc and key sources.



References

1. EFSA. EU Register on Nutrition and Health Claims [Internet]. 2016 [cited 9/14/2018]. Available from: http://ec.europa.eu/food/safety/labelling_nutrition/claims/register/public/?event=search
2. PHE. Results of the National Diet and Nutrition Survey (NDNS) rolling programme for 2014 to 2015 and 2015 to 2016 [Internet]. 2018 [cited 5/11/2018]. Available from: <https://www.gov.uk/government/statistics/ndns-results-from-years-7-and-8-combined>
3. Craig W, Mangels A. Position of the American Dietetic Association: vegetarian diets. *J Am Diet Assoc.* 2009;109(7):1266-82.
4. Gibson R, Donovan U, Heath A. Dietary strategies to improve the iron and zinc nutriture of young women following a vegetarian diet. *Plant Foods Hum Nutr.* 1997;51(1):1-6.
5. Hunt J. Bioavailability of iron, zinc, and other trace minerals from vegetarian diets. *Am J Clin Nutr.* 2003;78(3 Suppl):633S-9S.
6. Saunders A, Craig W, Baines S. Zinc and vegetarian diets. *Med J Aust.* 2013;199(4 Suppl):S17-21.
7. Hambidge K, Miller L, Mazariegos M *et al.* Upregulation of Zinc Absorption Matches Increases in Physiologic Requirements for Zinc in Women Consuming High- or Moderate-Phytate Diets during Late Pregnancy and Early Lactation. *J Nutr.* 2017;147(6):1079-85.
8. SACN. Iron and Health Report - GOV.UK [Internet]. 2011 [cited 8/31/2018]. Available from: <https://www.gov.uk/government/publications/sacn-iron-and-health-report>

