



ASAP Publications

The American Journal of Clinical Nutrition Media Alerts

The following articles have been published in the December 2018 issue of *The American Journal of Clinical Nutrition* (AJCN), a publication of the American Society for Nutrition. Summaries of the selected articles appear below; the full text of each article is available by clicking on the links listed. Manuscripts published in AJCN are embargoed until the article appears online either as in press ([Articles in Press](#)) or as a final version. The embargoes for the following articles have expired:

- Precision nutrition: a new approach to optimizing nutrient intervention
- Vitamin D and kidney function: is there a connection?
- Screening tools for malnutrition, sarcopenia, and cachexia: casting a wide net
- Increasing intake of whole-grain wheat may help reduce liver fat

Precision nutrition: a new approach to optimizing nutrient intervention

Magnesium supplementation optimizes vitamin D status.

Although nutrition guidelines often focus on single nutrients, it is important to recognize that nutrients do not function in isolation. In a recent study published in the December 2018 issue of *The American Journal of Clinical Nutrition*, Qi Dai (Vanderbilt University) and colleagues test the hypothesis that magnesium supplementation differentially affects vitamin D metabolism dependent on baseline vitamin D concentration. Subjects between 40 and 85 years old took part in the randomized controlled trial. Doses for both magnesium and placebo were customized based on baseline dietary intakes of calcium and magnesium as well as their calcium-to-magnesium intake ratio. After measuring changes in plasma vitamin D metabolite concentrations over the course of the study, the authors found that magnesium supplementation increased vitamin D concentration when baseline concentrations were close to 30 ng/mL, but decreased when baseline levels were approximately 30–50 ng/mL. This study provides the first evidence that adequate magnesium status could potentially prevent vitamin D-related adverse events, and is important for optimizing vitamin D status.

References: Dai Q, Zhu X, Manson JE, Song Y, Li X, Franke AA, Costello RB, Rosanoff A, Nian H, Fan L, et al. [Magnesium status and supplementation influence vitamin D status and metabolism: results from a randomized trial.](#) *Am J Clin Nutr* 2018;108(6):1249–58. *Editorial by Liu S and Liu Q.* [Personalized magnesium intervention to improve vitamin D metabolism: applying a systems approach for precision nutrition in large randomized trials of diverse populations.](#) *Am J Clin Nutr* 2018;108(6):1159–60.

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Vitamin D and kidney function: is there a connection?

Important Dates

Jan 8-13, 2019. [2019 ILSI Annual Meeting & Science Symposium](#) (Clearwater, FL)

Jan 12, 2019. [CNS Thematic Conference - Healthy Diets and Weight: Sorting Fact from Fiction](#) (Toronto, ON, Canada)

Feb 27-Mar 2, 2019. [4th International Congress Hidden Hunger](#) (Stuttgart, Germany)

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accumulation of fat in the liver. In a recent study published in the December 2018 issue of *The American Journal of Clinical Nutrition*, Lydia Afman (Wageningen University, The Netherlands) and colleagues investigated the potential benefits of whole-grain wheat consumption compared with refined-wheat consumption on liver health and associated metabolic parameters. After a 4-week run-in period to reduce variation of whole-grain wheat intake, subjects consumed either 98 g of whole-grain or refined flour per day. Products included bread and ready-to-eat-cereals. At the end of the intervention period, data showed the refined wheat intervention increased liver fat, whereas whole-grain wheat had a protective effect against lipid accumulation in the liver.

Reference: Schutte S, Esser D, Hoevenaars FPM, Hooiveld GJEJ, Priebe MG, Vonk RJ, Wopereis S, and Afman LA. [A 12-wk whole-grain wheat intervention protects against hepatic fat: the Graandioos study, a randomized trial in overweight subjects](#). *Am J Clin Nutr* 2018;108(6):1264–74. Editorial by Manne V and Kowdley KV. [You are what you wheat: effects of a whole-wheat diet compared with a refined-wheat diet on hepatic steatosis](#). *Am J Clin Nutr* 2018;108(6):1162–3.

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