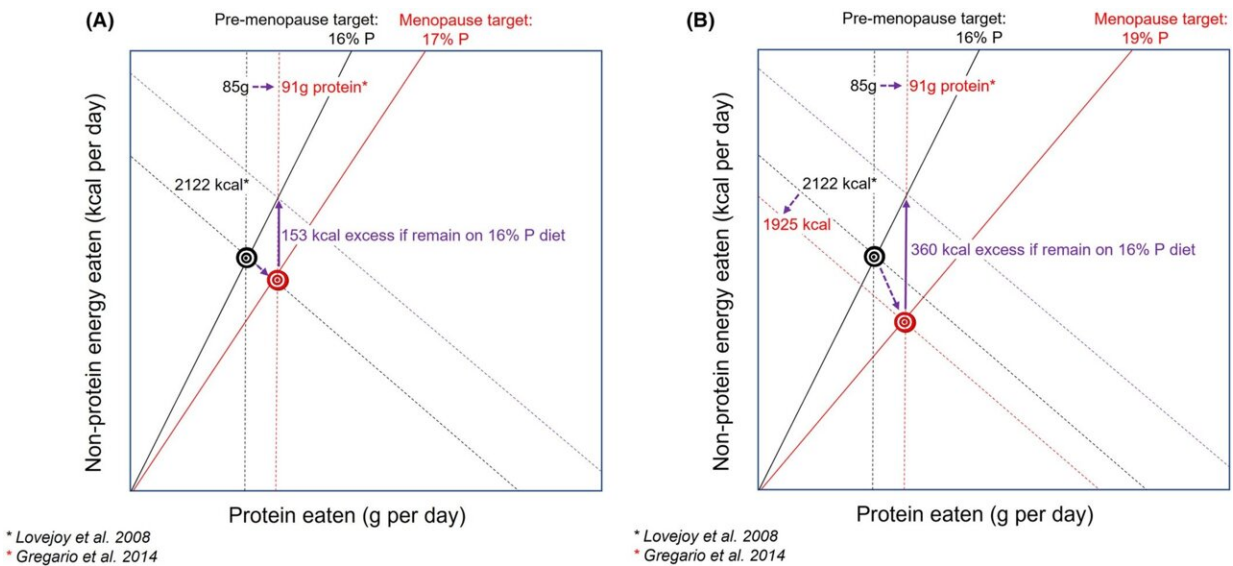


# Prioritizing protein during perimenopause may ward off weight gain

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Graphical model describing the implications of the shift in protein and energy requirements during the menopause transition. See main text for a detailed explanation of the model. In brief, in (A) the black bullseye illustrates daily target intakes for protein and non-protein energy prior to menopause. The red bullseye indicates an increased need for protein during the menopausal transition at the same total energy requirement. Simultaneously meeting the higher protein target while remaining in energy balance requires shifting to a higher percent protein diet (red radial). Remaining on the lower-protein premenopausal diet requires increased energy intake to attain the higher protein target (purple arrow). (B) How this Protein Leverage Effect is exacerbated when the increased protein target is accompanied by reduced energy requirements due to a reduction in physical activity. Credit: *BJOG: An International Journal of Obstetrics & Gynaecology* (2022). DOI: 10.1111/1471-0528.17290

Minor adjustments to the balance of macronutrients in a woman's daily diet during the transition to menopause could lessen or even prevent weight gain and lean tissue loss, according to researchers from the University of Sydney's Charles Perkins Center.

While it's a well-known fact that women are more susceptible to weight gain and obesity as they approach menopause, little is known about the mechanisms driving this.

In a new concept paper, researchers from the University of Sydney's Charles Perkins Center propose that such problems develop when no changes to food intake or levels of activity are made to counteract the natural biological changes that occur at menopause.

The researchers suggest that the body's appetite for protein increases during perimenopause (due to hormonally-induced tissue protein breakdown) but if protein requirements aren't met, women overconsume other forms of energy.

This is due to the "protein leverage effect," previously discovered by Charles Perkins Center professors David Raubenheimer and Stephen Simpson and applied here to the menopause transition for the first time. This essentially means that without increasing the proportion of protein in the diet, the body's drive to reach its target protein intake will make us continue to eat unnecessary calories until we do so.

To make matters worse, levels of energy expenditure tend to fall during menopause, so the researchers hypothesize that women need to eat both less energy (in the form of carbohydrates and fats) and more protein to compensate for the biological changes at menopause.

"The evidence suggests that staying on the typical highly-processed Western diet during the transition to menopause at around age 40 to 50 will result in excess energy intake, leading to weight gain and increased risk of obesity and cardiometabolic diseases," said Professor Stephen Simpson, lead author and academic director of the Charles Perkins Center.

"However, the good news is that it appears very small changes to the diet in terms of prioritizing protein, reducing fats and carbohydrates and being physically active could make a big difference in the long-term," said Professor David Raubenheimer, co-author and head of the Nutrition Theme at the Charles Perkins Center.

Professor Kirsten Black, co-author and academic gynecologist from Central Clinical School in the University's Faculty of Medicine and Health, noted the problem of weight gain in perimenopause was now more widely recognized in the community.

"Women are interested to learn more about the macronutrient compositions of foods and the impact they can have on their health. Our discussions with consumers have also identified a gap in knowledge around what constitutes high or low protein foods, which needs targeted education," said Professor Black, who is also Head of the Menopause Clinic at Concord Hospital.

Senior author and endocrinologist Professor Emeritus Arthur Conigrave said the research has reached an interesting point whereby a substantial prospective study of about 1,000 women aged 40–45 is needed to formally test this hypothesis.

"If proven correct, this would allow us to develop new preventative strategies for the significant proportion of women who report [weight gain](#), and associated health problems, during the transition to menopause

despite no changes to their [food intake](#) or levels of physical activity," said Professor Emeritus Conigrave from the Charles Perkins Center and Faculty of Science.

So, if the [hypothesis](#) is proven correct, what would the ideal diet look like during the transition to menopause?

The researchers suggest that increasing the proportion of protein in the diet by around 3% of daily energy intake and lowering total energy intake by 5% to 10% a day may be the key.

"For many, cutting out a bag of crisps, a glass of sugar sweetened beverage, or equivalent and ensuring that high-quality animal or plant protein is in the daily diet will do the trick," said Professor Simpson.

The paper, published in *BJOG: An International Journal of Obstetrics & Gynaecology*, synthesizes the latest scientific evidence on hormonal, physiological and physical activity changes during the [menopause](#) transition, with the concept of the "[protein](#) leverage effect."

**More information:** Stephen J. Simpson et al, Weight gain during the menopause transition: Evidence for a mechanism dependent on protein leverage, *BJOG: An International Journal of Obstetrics & Gynaecology* (2022). [DOI: 10.1111/1471-0528.17290](https://doi.org/10.1111/1471-0528.17290)

Provided by University of Sydney

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