



## September 2026 **Nutrition News**

Higher Protein Intake in Early Pregnancy Linked to Lower Risk of Small-for-Gestational-Age Births

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Living Arrangements May Influence Long-Term Protein Intake in Older Adults

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## Higher Protein Intake in Early Pregnancy Linked to Lower Risk of Small-for-Gestational-Age Births

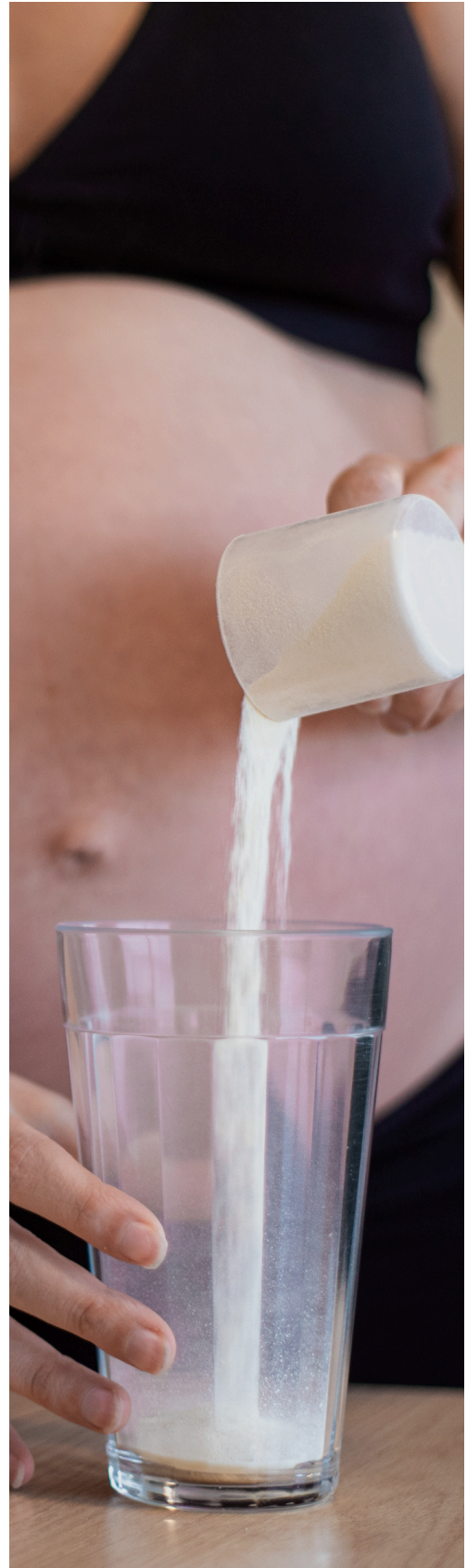
A secondary analysis of data from the Nulliparous Pregnancy Outcomes Study: Monitoring Mothers-to-Be (NuMoM2b) examined whether protein intake during early pregnancy was associated with key maternal and infant health outcomes, including small for gestational age (SGA), gestational diabetes mellitus (GDM), hypertensive disorders of pregnancy (HDP), and large for gestational age (LGA).

Researchers analyzed data from 7,067 first-time pregnant women, categorizing participants into quartiles based on protein intake expressed as grams per kilogram of body weight per day:  $<0.6$  g/kg, 0.6 to  $<0.8$  g/kg, 0.8 to  $<1.1$  g/kg, and  $\geq 1.1$  g/kg. Lower protein intake was more common among women with lower socioeconomic status indicators, including lower income, lower educational attainment, unemployment, and government insurance coverage.

After adjusting for factors such as age, income, education, insurance status, chronic hypertension, and total energy intake, women consuming 0.8 to  $<1.1$  g protein/kg body weight/day had a 22% lower likelihood of delivering an infant classified as SGA ( $<10$ th percentile for birth weight) compared with those in the lowest protein intake group (adjusted OR 0.78; 95% CI: 0.61-0.99). No significant associations were observed between protein intake and the risk of GDM, HDP, or LGA.

Moderate to higher protein intake during the first trimester may be associated with a lower risk of SGA births, although it was noted that these findings are exploratory and should be confirmed in future studies.

[Rosas-Rogers et al. Nutrients. 2026 Aug 4;18\(15\):2543.](#)



## Integrated Lifestyle Program Improves Muscle Health in Postmenopausal Women

Maintaining muscle strength and function becomes increasingly important after menopause, yet most interventions have focused on exercise alone. A recent randomized controlled trial evaluated whether combining exercise with dietary strategies could provide additional benefits for muscle health in postmenopausal women.



The 12-week study included 100 postmenopausal women who were randomly assigned to one of three groups: Nordic walking combined with high-protein intake and time-restricted eating (NW+HP+TRE), Nordic walking combined with time-restricted eating (NW+TRE), or a control group. Researchers assessed handgrip strength as the primary outcome, along with physical performance measures such as gait speed, chair-stand time, and lean mass-related outcomes.

Of the 100 participants enrolled, 96 completed the study and were included in the final analysis. Both intervention groups experienced improvements in handgrip strength, with the greatest gains observed in the group combining Nordic walking, higher protein intake, and time-restricted eating. Similar improvements were seen in measures of physical performance, including walking speed and chair-stand performance.

Differences emerged when lean mass-related outcomes were evaluated. The Nordic walking plus time-restricted eating group showed less favorable changes in lean mass measures, while the group that also incorporated higher protein intake demonstrated a more positive overall pattern of results. The control group experienced minimal changes across outcomes. Adherence to the exercise, eating-window, and protein intake recommendations was reported to be high throughout the study.

The paper highlighted that an integrated lifestyle approach combining Nordic walking, higher protein intake, and time-restricted eating was associated with favorable improvements in muscle strength, physical performance, and lean mass-related measures in postmenopausal women. However, the findings reflect the combined intervention package and do not isolate the effects of any single component.

[Yang et al. Nutrients. 2026 Jul 29;18\(15\):2470.](#)

## Living Arrangements May Influence Long-Term Protein Intake in Older Adults

While previous research has linked living arrangements with dietary habits, less is known about how household composition in early older adulthood affects protein intake over time. A longitudinal study using data from the China Health and Nutrition Survey (CHNS) explored whether living arrangements between the ages of 65 and 79 were associated with long-term patterns of protein consumption.

The analysis included 1,162 older adults followed between 1997 and 2011. Researchers identified three distinct protein intake trajectories over time: low, medium, and high protein intake. They also classified participants into one of three living arrangement patterns in early old age: living independently, living with a spouse, or living in a multigenerational household.

After accounting for potential confounding factors, the study found that living with others was associated with a greater likelihood of maintaining higher protein intakes over time. Compared with individuals living alone, those living with a spouse were nearly twice as likely to follow a high-protein intake trajectory rather than a low-protein trajectory. Similarly, individuals living in multigenerational households had a 1.62-fold greater likelihood of following a high-protein intake trajectory. No significant associations were observed between living arrangements and the medium protein intake trajectory.

Among the living arrangement patterns examined, spousal co-residence showed the strongest and most consistent association with higher and more stable protein intake over time.

The authors concluded that living arrangements in early old age may play an important role in shaping long-term dietary behaviors. In particular, living with a spouse was associated with a greater likelihood of maintaining a higher protein intake as individuals aged.

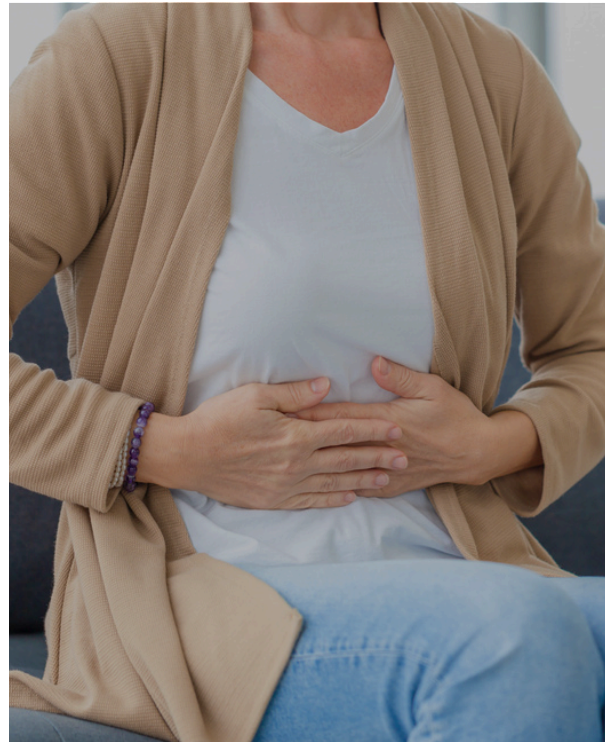
[Sun et al. J Nutr Health Aging. 2026 Aug;30\(8\):100920.](#)



## Bovine Lactoferrin Blocks La Crosse Virus Attachment

La Crosse virus (LACV) is a mosquito-borne virus and a leading cause of pediatric viral encephalitis in parts of the United States, particularly in the Midwest, mid-Atlantic, and southeastern regions. Despite its public health impact, there are currently no approved vaccines or antiviral therapies available to prevent or treat infection.

In a recent laboratory study, researchers investigated how LACV attaches to and infects host cells, focusing on the role of heparan sulfate proteoglycans (HSPGs), molecules found on the surface of many cells. The findings showed that HSPGs facilitate viral attachment and entry, suggesting they play an important role in the early stages of infection.



The researchers also evaluated the antiviral potential of bovine lactoferrin (bLf), a milk-derived protein known to interact with both cell-surface molecules and HSPGs. In cell culture experiments, bovine lactoferrin inhibited LACV infection in a dose-dependent manner, with greater inhibition observed at higher concentrations.

The results suggest that bovine lactoferrin may interfere with viral attachment by competing for HSPG binding sites on the cell surface, limiting the virus's ability to attach to and infect host cells. This mechanism is consistent with lactoferrin's previously reported antiviral activity against a range of other viruses.

HSPGs are involved in LACV infection and bovine lactoferrin has potential antiviral activity against the virus in vitro. Further research will be needed to determine whether these findings translate to animal models or human disease.

[Satoh et al. J Infect Chemother. 2026 Sep;32\(9\):103046.](#)

## Lactoferrin and *L. plantarum* Combination Improves Psoriasis-Like Skin Inflammation in Mice



Psoriasis is a chronic inflammatory skin condition characterized by excessive immune activation and skin cell turnover. A recent preclinical study evaluated the effects of topical bovine lactoferrin (bLF), *Lactobacillus plantarum* (LP), and their combination in a mouse model of psoriasis-like dermatitis, with the corticosteroid clobetasol propionate included as a reference treatment.

Thirty mice were assigned to one of five groups: disease control, clobetasol, bLF, LP, or a combination of bLF and LP. Psoriasis-like skin inflammation was induced using imiquimod, and treatments were applied for six days. Researchers assessed disease severity through modified Psoriasis Area and Severity Index (PASI) scores, skin and ear thickness, tissue histology, and levels of inflammatory cytokines including TNF- $\alpha$ , IL-17, and IL-23.

As expected, untreated mice developed marked psoriasis-like symptoms, including increased skin thickness, elevated PASI scores, and higher inflammatory cytokine levels. While bLF and LP alone produced modest reductions in inflammatory markers, these improvements did not translate into significant clinical benefits. In contrast, the combination of bLF and LP significantly improved skin appearance, reduced tissue thickness, and improved histological outcomes. Reductions in inflammatory cytokines were comparable to those observed with clobetasol treatment.

The paper highlights that the combination of bovine lactoferrin and *L. plantarum* demonstrated synergistic anti-inflammatory and skin-restorative effects in this model of psoriasis-like dermatitis. Further research is needed to determine optimal dosing and evaluate whether these findings translate to humans.

[Gudadappanavar et al. Indian J Physiol Pharmacol. doi:10.25259/IJPP\\_547\\_2025](#)

## IN THE NEWS



### **FDA issues GRAS proposed rule**

The FDA has proposed a major update to the GRAS (Generally Recognized as Safe) process that would require companies to notify the agency and submit supporting information when marketing food ingredients under a GRAS determination, replacing the current voluntary notification system. The proposal also includes a one-year streamlined pathway for certain existing self-GRAS ingredients, establishes a public database of submissions, and is open for public comment through December 9, 2026.

*This content is provided for informational and educational purposes only and does not constitute medical advice, diagnosis, or treatment. Readers should consult a qualified healthcare professional for individual guidance.*

*We support the World Health Organization's recommendation that breastfeeding is the optimal source of nutrition for infants. When breastfeeding is not possible or not sufficient, infant formula can provide an appropriate alternative.*