

## WORKSHOP SUMMARY

# Nutrition and Aging Biology (2024)

The RCCN convened a workshop on June 25-26, 2024, bringing together basic, clinical, and translational scientists in the fields of nutrition and aging biology. This meeting included sessions on calorie and protein restriction, timing of food intake, the gut microbiome, and obesity treatment for older adults. Opportunities to address research gaps in nutrition and aging biology, identified through the workshop proceedings, are outlined below.

### • Nutritional influences on aging biology

- Conduct mechanistic studies to further elucidate the molecular mechanisms underlying the beneficial effects of caloric restriction and/or time-restricted eating and how dietary restriction influences specific organ systems, including brain health and cognitive function
- Identify the optimal diet or supplement strategies to promote ketosis in older adults and to understand the mechanisms by which different strategies that increase ketones in the body (i.e., endogenous compared with exogenous) influence healthy aging
- Elucidate the molecular mechanisms by which protein restriction and/or isoleucine restriction regulate metabolism and promote health
- Determine the optimal level of protein restriction that confers health benefits and minimizes unwanted consequences for older adults
- Conduct longitudinal studies to determine how the gut microbiome changes throughout older adulthood and to clarify how age-related microbiome changes influence age-related health outcomes
- Expand microbial biobanks and integrate multiomic approaches to more comprehensively evaluate microbiome composition and function
- Determine the optimal meal timing and eating duration for older adults, to inform the development of more precise dietary guidance regarding meal timing for healthy aging

### • Treating obesity in older adults

- Refine the diagnostic criteria for obesity in older adults, as current standards like BMI are increasingly considered outdated
- Verify the safety and efficacy of glucagon-like peptide 1 receptor agonists for older adults and develop strategies that minimize their unwanted side effects—for example, lean tissue loss
- Advance personalized approaches for weight loss by integrating machine learning and artificial intelligence to help predict high-risk individuals and treatment efficacy
- Incorporate individualized approaches that focus on the biological hallmarks of aging to maximize treatment response in clinical trials. Such trials should include larger sample sizes of older adults, especially those aged 75 and older, who are often underrepresented in clinical research.

**Workshop Publication**

<https://bit.ly/4nRYCP9>

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