

Connie W. Bales, PhD, RD:

Written Testimony before the

United States Senate Special Committee on Aging

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Good morning Chairman Collins, Ranking Member Casey, and members of the Aging Committee. Thank you for this opportunity to testify. My name is Dr. Connie Bales, and I am a Professor at the Duke University School of Medicine and an Associate Director of the Geriatrics Center at the Durham VA Medical Center. I have been working in nutrition and aging research for the past 30 years, focusing on older adults as a population at high risk for malnourishment. Leading reasons for this include physical changes that increase nutrient needs as well as social and economic limitations that reduce their access to food. Older adults commonly face multiple chronic health conditions; the medications they take and special diet restrictions further increase their nutritional risk (1).

I will bring to your attention two important trends that have dramatically altered the profile of malnutrition in older Americans. The first of these trends is the on-going epidemic of obesity occurring in the United States. Rather than gaining weight slowly over time, now over one third of Americans spend decades of their lives exposed to obesity, a situation that has never before been encountered in our society. As this committee is well aware, the second dramatic trend is that of population aging. With the convergence of these trends, geriatric obesity is now very common. Almost 40% of older Americans are obese, many with morbid levels of obesity (2).

Contrary to what people may believe, being overweight or obese does not correspond with over-nutrition. In fact, obesity is a marker of malnutrition. Many obese older adults are not getting the nutrients they need. With low metabolic rates and little energy being spent on activity, their food intakes may actually be quite low (3).

This state of chronic malnutrition creates major threats to health. Aging increases the risk of chronic conditions like diabetes, heart disease and arthritis. Aging muscles reduce in size and strength and fat accumulates around essential organs in the body core. Obesity leads to all of these same changes! This brings a double threat, hastening chronic disease progression and hindering the ability to move around and be functionally independent (4).

No longer is the typical picture of malnutrition in older adults one of a weak, thin elder subsisting on “tea and toast”. Soon the most common type of nutritional frailty will be the older adult who has excessive body fat masking weak muscles and limited ability to move around (5). This condition, which is called “sarcopenic obesity”, enhances a host of health problems, makes surgery and other medical treatments more risky, and hastens the need for institutionalization due to loss of functional independence (6, 7).

Obese older adults have a much greater likelihood of getting admitted to a nursing home than non-obese elders (8). Besides the increased cost to society of this early admission, nursing homes incur greater costs caring for the obese (9). Renovated facilities, larger equipment, and higher personnel costs are needed for their care. Some nursing homes are turning away those who are excessively obese.

Obesity is highly correlated with food insecurity, having uncertain or limited access to nutritious food. We know that poor health and food insecurity interfere with the intake of adequate amounts of protein, vitamins, and minerals.

Obesity treatment is challenging at any age, and, it can be especially challenging in older adults (9). But we know that reducing obesity and improving diet quality is achievable for seniors and that it lessens health problems like diabetes and hypertension, reduces risk of falls, and dramatically improves their function (4, 10, 11). My research focuses on older adults with distinct mobility limitations due to their excessive body fat. These individuals often have multiple chronic diseases. They also have a very limited ability to burn calories and strengthen their muscles through exercise. My research team developed and we are testing a special six-month diet intervention based on large servings of high quality protein from lean meats and low-fat dairy products at each meal (12). The goal is to achieve loss of body fat without the loss of muscle. We have shown that marked improvements in functional ability take place whenever these frail older adults reduce their obesity but our higher protein diet produces the best results for function (13). We have also discovered potential problems with diet adherence and treatment responses linked with race and lower education level (14). Our future studies will explore enhanced interventions for these especially vulnerable populations, which are also at higher risk for food insecurity.

In closing, I hope that I have raised your awareness regarding an important challenge facing many older Americans. Please realize that even though it is not shown outwardly, an overweight or obese elderly person may very well be under-nourished in ways that threaten their health and ability to live a life of quality. Our research has shown that dedicated efforts to improve the nutritional status of these individuals can literally transform them in terms of their abilities to live more independent and healthy lives.

Supporting References:

1. Porter Starr K, McDonald S, Bales C. Nutritional Vulnerability in Older Adults: A Continuum of Concerns. *Current Nutrition Reports*. 2015; 4(2): 176–184.
2. Flegal KM, Kruszon-Moran D, Carroll MD, Fryar CD, Ogden CL. Trends in Obesity Among Adults in the United States, 2005 to 2014. *JAMA*. 2016;315(21):2284-91.
3. Bernstein M, Munoz N. Position of the Academy of Nutrition and Dietetics: food and nutrition for older adults: promoting health and wellness. *J Acad Nutr Diet*. 2012;112(8):1255-77.
4. Porter Starr KN, McDonald SR, Bales CW. Obesity and Physical Frailty in Older Adults: A Scoping Review of Lifestyle Intervention Trials. *J Am Med Dir Assoc*. 2014;15(4):240-50.
5. Alley DE, Ferrucci L, Barbagallo M, Studenski SA, Harris TB. A research agenda: the changing relationship between body weight and health in aging. *J Gerontol A Biol Sci Med Sci*. 2008;63(11):1257-9.
6. Chung JY, Kang HT, Lee DC, Lee HR, Lee YJ. Body composition and its association with cardiometabolic risk factors in the elderly: a focus on sarcopenic obesity. *Arch Gerontol Geriatr*. 2013;56(1):270-8.
7. Lee J, Hong YP, Shin HJ, Lee W. Associations of Sarcopenia and Sarcopenic Obesity With Metabolic Syndrome Considering Both Muscle Mass and Muscle Strength. *J Prev Med Public Health*. 2016;49(1):35-44.
8. Marihart CL, Brunt AR, Geraci AA. The high price of obesity in nursing homes. *Care Manag J*. 2015;16(1):14-9.
9. Porter Starr K, McDonald S, Weidner J, Bales C. Challenges in the Management of Geriatric Obesity in High Risk Populations. *Nutrients*. 2016;8(5):262.

10. Villareal DT, Aguirre L, Gurney AB, Waters DL, Sinacore DR, Colombo E, et al. Aerobic or Resistance Exercise, or Both, in Dieting Obese Older Adults. *N Engl J Med*. 2017;376(20):1943-55.
11. Porter Starr KN, Bales CW. Excessive Body Weight in Older Adults. *Clinics in Geriatric Medicine*. 2015;31(3):311-26.
12. McDonald SR, Porter Starr KN, Mauceri L, Orenduff M, Granville E, Ocampo C, Payne ME, Pieper CF, Bales CW. Meal-based enhancement of protein quality and quantity during weight loss in obese older adults with mobility limitations: Rationale and design for the MEASUR-UP trial. *Contemp Clin Trials*. 2015;40:112-23.
13. Porter Starr KN, Pierper CR, Orenduff M, McDonald SR, McClure LB, Zhou R, Payne ME, Bales CW. Improved function with enhanced protein intake per meal: A pilot study of weight reduction in frail, obese older adults. *J Gerontol A Biol Sci Med Sci*. 2016;71(10):1369-75.
14. Bales C, Porter Starr K, Orenduff M, McDonald S, Molnar K, Jarman A, et al. Influence of protein intake, race, and age on responses to a weight reduction intervention in obese women. *Curr Dev Nutr*. 2017;1(5):1-10.