



## **Boomer Nutrition: Strong-arm Tactics**

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The loss in bone mineral density that baby boomers face gets a lot of press—and for good reason. Less buzzed about, but no less serious, is sarcopenia, the progressive loss of muscle mass and strength that comes with age. According to Matt Pikosky, director of research transfer, Dairy Management Inc.<sup>TM</sup> (DMI), Rosemont, IL, this inevitable decline generally begins at about age 40, after which adults will lose an average of 10% lean muscle mass with each decade. “That muscle mass is far more important to older adults’ health and wellness than is recognized by most Americans,” he says.

Just why we lose muscle as we age is still an open question, with theories about relative protein breakdown and synthesis, as well as the effects of inflammation, being posed. It’s also possible that at reduced levels of protein consumption, aging muscles exhibit “amino-acid insensitivity”—resistance of muscle cells to take up the nutrients for use in protein synthesis.

Whatever sarcopenia’s cause, weight-bearing resistance exercise and proper nutrition can halt it’s progress. Nutritionally, “protein is one of the primary aspects within total calories that older adults want to be cognizant of,” Pikosky says. “Dietary protein, once it’s digested and broken down into amino acids for use within the body, provides that structural framework for the continuous building and repair of body tissues that takes place on a daily basis. Sufficient protein intake is very important to minimize that muscle loss that’s going to happen as we age.”

Adequate protein intake for an aging adult may be higher than the current minimum recommendation of 0.8 grams per kg of body weight per day—a minimum originally established to prevent deficiency. Boomers, for whom “maximize” is a mantra, aren’t particularly impressed by minimums, and Pikosky contends that “minimum protein requirements to prevent deficiency do not necessarily translate to optimal amounts to promote health.” A protein recommendation that goes beyond solely preventing deficiency, Pikosky suggests, is the Institute of Medicine’s Acceptable Macronutrient Distribution Range (AMDR), which targets obtaining 10% to 35% of total calories from protein. For a person who is consuming 2,000 calories per day, this recommendation works out to be between 50 and 175 grams of protein per day. For a 70 kg person, this would be about 0.7 grams protein per kg of body weight per day (just below the RDA) to 2.5 grams protein per kg of body weight per day (about three times the RDA).

As for where to get that extra protein, a high-quality source rich in essential amino acids is ideal. Dairy foods fit the bill, Pikosky says. “They contain high-quality proteins, casein and whey, and together provide nine essential nutrients, including calcium and vitamin D, which are important for bone health throughout the lifespan,” he says. Whey protein is also rich in the essential amino acid leucine, which he singles out as a “key amino acid initiator” of protein synthesis, as evidence indicates that it plays a “unique role” in turning on the metabolic machinery that leads to protein synthesis.

As a branched-chain amino acid, leucine offers advantages for muscle health. “The branched chains are metabolized a bit differently than the other amino acids,” Pikosky explains. “Where the branched chains are unique is in that they primarily bypass the first-pass liver uptake and are shuttled directly to the muscles. So, in looking for protein sources that could be deemed high-quality, in addition to having all the essential amino acids and being easily digestible, one other factor to look at is the amount of branched-chain amino acids, especially leucine, that they have. And in terms of protein options, whey protein is one of the best sources, gram per gram, of essential amino acids, branched chains and leucine, specifically.”

As both diet and exercise combat sarcopenia, boomers will take to the gym to drop pounds and build strength. But the weight loss that physical activity brings may, in fact, compound age-related sarcopenia. “Many times, when people start a diet or exercise program, they first lose water weight, but at some point start burning muscle versus fat,” says Sharrann Simmons, senior marketing manager, Cognis Corporation, La Grange, IL. Conjugated linoleic acid (CLA), a fatty acid found naturally in meat and dairy products, can shift this balance. “CLA helps you ensure that you’re not storing fat, but are burning fat and preserving lean muscle,” she says. CLA does this by decreasing the amount of fat our bodies store after eating; increasing the rate of fat breakdown and metabolism; helping the body use extant fat for energy; and lowering the total number of fat cells. “It actually affects the way your body metabolizes fats and lipids,” she notes.

CLA received FDA GRAS status in Aug. 2008, extending its approved use to milk and flavored milks, yogurts, fruit juices, soymilks, and meal-replacement bars and beverages; self-affirmed GRAS status covers its use in coffee creamers and chocolate. Clinical studies indicate 3 grams per day as effective in maximizing body-fat reductions as high as 10%, Simmons says, also citing findings of effective body-fat reduction at doses as low as 1.7 grams per day. The recommended value for functional foods is 3 grams.

Apportioning that dose into a typical serving size poses little challenge, Simmons adds, noting that her company sells its CLA in an encapsulated water-dispersible powder and emulsions at several concentrations. “We can match very closely the right form for whatever the application,” she says. “If someone is putting it into bread, we have a powder that works very nicely.” A dairy beverage or drinkable yogurt calls for an oil format, which she suggests incorporating into the liquid mass. “To be strong, to have a healthy lifestyle, to be able to lift your groceries out of your trunk or climb a set of stairs with your suitcase as you’re traveling—those daily activities and strengths are what CLA can bring to boomers as they age,” she says.