

Cooperative Extension

Healthy Aging – The Need for More Protein



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Like most things in life, we can approach aging with a glass half full or half empty approach! Change is inevitable. Hopefully for most, the process of aging has been one that has focused on living a somewhat healthy life, eating fruits and vegetables, adequate protein and being physically active several times a week. Some aging changes like the added graying in our hair or those few extra wrinkles around our eyes are visible. Other aging changes are less visible yet quite important.

Researchers from the Jean Mayer USDA Human Nutrition Research Center on Aging at Tufts indicated that we need to look closely at how we fuel our bodies as we age since those older than 50 usually experience muscle mass decline at a rate of 1 to 2 percent annually.

Protein is a key nutrient in the elderly. Paul Jacques from The Center on Aging at Tufts estimated that 20 percent of people between the age of 51 and 70 have an inadequate protein intake. Consuming adequate protein is essential for making and maintaining muscles during aging. At a time when older adults need to consume more protein, they are often eating less. Protein intake is an important determinant of muscle mass and function in older years.

For the average adult, the recommended dietary allowance (RDA) for protein is 0.8 g protein/kg body weight/day for adults, regardless of their age. This amount of protein is the minimum amount necessary to avoid loss of lean muscle mass in individuals. Some evidence indicates that the protein RDA for older adults may be greater than the recommended 0.8/kg/day. Many elderly adults fall short on daily protein needs for a variety of reasons: illness, dental problems, and reduced appetite, and reduced food availability, side effects of medications, financial reasons and depression issues.



A diet that contains moderate amounts of protein rich foods such as meat, fish, eggs, dairy, beans, and nuts, may help to slow down the loss of muscle mass in the elderly. Reducing the decline in muscle mass among elderly adults is critical in assisting them to maintain their health and independence.

The recommended dietary allowance (RDA) for adult protein needs is 0.36 grams of protein per pound of body weight which is set by the Institute of Medicine. For a woman who weighs around 125 pounds, she needs approximately 46 g of protein/day and the average adult male who

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Holiday Portion Control Keeps Weight Off

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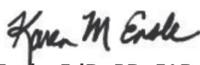
- **Get Food Portions Right** The top habit of slim people is to stick with modest food portions at every meal, five days a week or more. "Always slim" people do it and successful losers do it, too, according to a Consumer Reports survey. After measuring portions a few times, it can become automatic. Make it easier with small "snack" packs and by keeping serving dishes off the table at meal time.
- **Try the 80-20 Rule** Americans are conditioned to keep eating until they're stuffed, but residents of Okinawa eat until they're 80% full. They even have a name for this naturally slimming habit: *hara hachi bu*. We can adopt this healthy habit by dishing out 20% less food, according to researcher Brian Wansink, PhD. His Cornell studies show most people don't miss it. <http://mindlesseating.org/about.php>
- **Eat Out Your Way** Restaurant meals are high in calories, so consider these special orders that keep portions under control:
 - ◆ Split an entrée with a friend.
 - ◆ Order an appetizer as a meal.
 - ◆ Choose the child's plate.
 - ◆ Get half the meal in a doggie bag before it's brought to the table.
 - ◆ Complement a smaller entrée with extra salad for the right balance making half the plate filled with veggies.
- **Reach for the Red Sauce** Choose marinara sauce for pasta instead of Alfredo sauce. The tomato-based sauces tend to have fewer calories and much less fat than cream-based sauces. But remember, portion size still counts. A serving of pasta is one cup or roughly the size of a tennis ball.

VISIONS

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- **Go Meatless More Often** Eating vegetarian meals more often is a slimming habit. Vegetarians tend to weigh less than meat eaters. While there are several reasons for this, legumes may play an important role. Bean burgers, lentil soup, and other tasty legume-based foods are simply packed with fiber. Most Americans get only half of this important nutrient, which fills you up with fewer calories. Strive for 25 to 35 grams of fiber daily.
- **Burn 100 Calories More and Lose 10 pounds in a Year** Live without dieting and burn an extra 100 calories every day. Try one of these activities:

- ◆ Walk 1 mile for about 20 minutes.
- ◆ Pull weeds or plant flowers for 20 minutes.
- ◆ Mow the lawn for 20 minutes.
- ◆ Clean house for 30 minutes.
- ◆ Jog for 10 minutes.

Celebrate when you've kicked the soda habit or simply made it through the day without overeating. Small steps bring you closer to a slimming lifestyle that helps people lose weight without crazy or complicated diet plans.

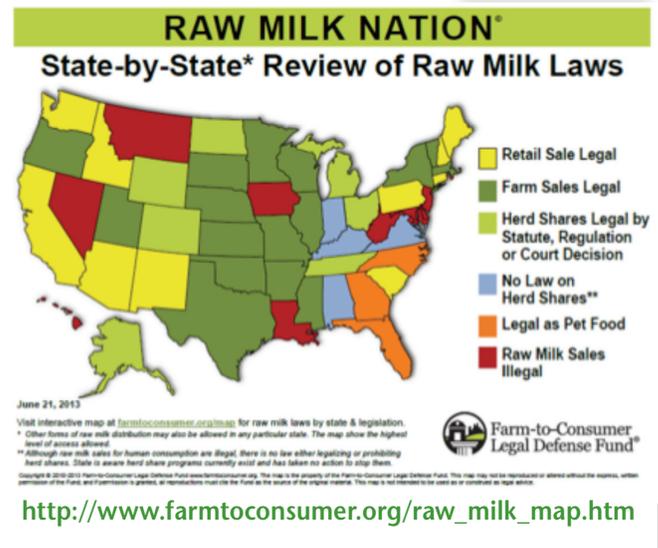
Raw and Pasteurized Milk Update

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Milk purchased from your local NJ supermarket has been pasteurized, meaning it has been heat treated to kill pathogenic bacteria. Store bought milk has also been homogenized so the fat in the milk does not separate. Raw milk comes straight from the animal (typically cows or in some cases goats) and does not undergo any further processing. Raw milk is allowed for sale in some states, and not in others. It is illegal to sell raw milk in New Jersey as well as the nearby states of Delaware, Maryland and West Virginia. Some states, such as North Carolina and Georgia, allow the sale of raw milk as pet food only. Other states including New York, Vermont, and Massachusetts, allow farms to sell raw milk. Ten states currently allow the sale of raw milk at a retail level including Pennsylvania, Connecticut, Maine, New Hampshire, South Carolina, and California.



Some people have decided to start drinking raw milk for a variety of reasons. Many raw milk drinkers believe that raw milk is healthier than its' pasteurized counterpart. Other reasons raw milk drinkers give for their choice include better taste, distrust in processed milk, "holistic" health benefits, immune-related disease prevention, and a desire to support local farms and farmers. Some raw milk drinkers have reported that their lactose-intolerance is cured with raw milk.

Milk contains the sugar lactose. The human body needs a sufficient amount of the enzyme lactase to break down the sugars galactose and glucose so the body can digest it. Humans that are lactose intolerant lack the enzyme lactase. Lactose sugar that is undigested in the small intestine passes to the large intestine where it is fermented by bacteria forming large quantities of gas and causing abdominal pain, bloating, and diarrhea. Raw milk does not contain the enzyme lactase, and one controlled scientific study has shown that raw milk does not appear to cure lactose intolerance.⁴

Some individuals chose to consume raw milk because they believe that it contains more nutrients. Studies have shown that pasteurization does not dramatically decrease the protein quality or mineral availability in milk.^{1,6} Another study has shown that calcium absorption is similar in rats fed raw milk versus those fed pasteurized milk, which suggests that raw milk is no more effective in preventing osteoporosis than pasteurized milk.⁵



Milk is pasteurized to lower the level of spoilage bacteria, giving it a longer shelf life. Milk is also pasteurized to significantly reduce the presence of pathogenic microorganisms and thus decrease the likelihood of a foodborne disease outbreak. Raw milk has been shown to contain pathogenic microorganisms like Brucella, Campylobacter, pathogenic Escherichia coli, Listeria monocytogenes, Mycobacterium tuberculosis, Salmonella, Shigella, Staphylococcus aureus, and Yersinia enterocolitica. In a Michigan survey of raw milk drinkers, only about 10% believed that drinking raw milk increased their risk of contracting a foodborne illness.² Between 1993 and 2006, there were at least 10 U.S. outbreaks due to pasteurized milk and 46 outbreaks due to raw milk.³ Although raw milk drinkers are in the minority, there are more outbreaks and hospitalizations due to outbreaks linked to raw milk compared to pasteurized milk.³ Because pasteurization is known to kill bacteria that can cause disease, its use has been promoted as one of public health's most effective food safety interventions according to the Center for Disease Control.

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3. Langer, A. J., T. Ayers, J. Grass, M. Lynch, F. J. Angulo, and B. E. Mahon. 2012. Nonpasteurized dairy products, disease outbreaks, and state laws—United States, 1993-2006. *Emerg. Infect. Dis.* 18:385-391.

4. Mummah, S., B. Oelrich, J. Hope, Q. Vu, and C. D. Gardner. 2014. Effect of raw milk on lactose intolerance: a randomized controlled pilot study. *Ann. Fam. Med.* 12:134-141.

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6. Zurera-Cosano, G., R. Moreno-Rojas, and M. Amaro-Lopez. 1994. Effect of processing on contents and relationships of mineral elements of milk. *Food. Chemistry*. 51:75-78.

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weighs approximately 190 pounds needs 70 g of protein/day. A specific amount of protein can be calculated on an individual basis, based on weight. You need to convert the weight from pounds to kilograms. There are 2.2 lb. per 1 kg. If a person weighs 150 lb. – then divide 150 by 2.2 to get 68 kg. Then take the 68 kg. and multiply by 0.8g which gives you a daily protein need of 54 g. By this measure, a sedentary elderly adult weighing approximately 150 pounds needs 54 g of protein a day.



Recent evidence from the University of Arkansas Research in Aging and Longevity (Wolfe 2008) found additional improved factors related to increased protein such as immune status, wound healing, blood pressure and bone health. Their research indicated that an intake of 1.5 g protein/kg/day, more than the RDA, is a practical goal for elderly adults who have a goal to increase their protein intake to optimize their health and functioning.

Recent studies have shown that consuming proteins that contain all of the 9 essential amino acids optimize the effect of protein intake on muscle protein synthesis, e.g., foods with all 9 essential amino acids are meat, fish, eggs, milk, cheese, soybeans, quinoa or whey. The goal of consuming the quantity and quality of adequate protein is to reduce the effect of the condition sarcopenia, which is a decline in lean body muscle mass.



While research shows that older adults can lose lean muscle mass at a rate of 1-2 % per year, promising research has shown that even elderly adults can build muscle mass again by engaging in vigorous physical activity, e.g., walking, and through strength training resistance exercises, e.g., using small hand weights, and consuming increased quality dietary protein. Optimal protein intake for elderly adults is higher than the level currently recommended for adults of all ages.

All decisions to increase protein, exercise and/or resistance exercise should be guided by a doctor's recommendation.

MEAT, POULTRY AND FISH		
FOOD	SERVING SIZE	PROTEIN GRAMS
Beef (ground, lean)	3 ounces	21
Chicken Breast (cooked)	3 ounces	26
Cod (Atlantic)	3 ounces	19
Haddock (smoked)	3 ounces	21
Ham (meat only, roasted)	3 ounces	21
Pork (ground)	3 ounces	22
Salmon (Atlantic)	3 ounces	22
Shrimp (fresh)	3 ounces	17
Tuna (canned, light)	3 ounces	22
Turkey (ground)	3 ounces	23



DAIRY PRODUCTS		
FOOD	SERVING SIZE	PROTEIN GRAMS
Cheddar Cheese	1½ ounces	11
Cottage Cheese	½ cup	13
Ice Cream (Vanilla)	1½ cups	7
Milkshake	1½ cups	12
Milk (2 percent)	1 cup	8
Milk (skim)	1 cup	8
Mozzarella Cheese	1½ ounces	10
Yogurt (low fat)	1 cup	10
Greek Yogurt	1 cup	17

BEANS		
FOOD	SERVING SIZE	PROTEIN GRAMS
Black Beans (cooked)	½ cup	8
Hummus (fresh)	½ cup	6
Kidney Beans (canned)	½ cup	7
Navy Beans (canned)	½ cup	10
Refried Beans	½ cup	8
Soybeans (boiled)	½ cup	14

NUTS		
FOOD	SERVING SIZE	PROTEIN GRAMS
Almonds (toasted)	½ cup	14
Cashews (dry roasted)	½ cup	10
Peanut Butter	2 tablespoons	8
Peanuts (dry roasted)	½ cup	17
Sunflower Seeds (dry roasted)	½ cup	12
Walnuts (English, dried)	½ cup	9

EGGS		
FOOD	SERVING SIZE	PROTEIN GRAMS
Scrambled	½ cup	12
Substitute	½ cup	15
Whole	1 egg	6

Reference:

Wolfe RR, Miller SL, Miller KB. Optimal protein intake in the elderly. *Clin Nutr.*2008;27:675-684.

Institute of Medicine. *Dietary Reference Intake: Macronutrients.* <http://www.iom.edu/Global/News%20Announcements/-/media/C5CD2DD7840544979A549EC47E56A02B.ashx> Accessed November 2014.

Healthy Habits Associated With Financial Success

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2014 is the 10-year anniversary of the Cooperative Extension *Small Steps to Health and Wealth*™ (SSHW) program. Conceived at Rutgers University in 2004, when educational programs and research related to health and personal finances were generally conducted on separate tracks, SSHW offered a unique integrative approach. Combining health and personal finance education within a research-based behavioral framework, SSHW is now a signature Cooperative Extension program that has been replicated in over a dozen states.

SSHW encourages people to make positive behavior changes to simultaneously improve their health and personal finances and focuses on small daily action steps that can achieve significant results over time. The program includes a Web site (<http://njaes.rutgers.edu/sshw/>) that includes monthly health and financial messages, classes for different target audiences, a blog, podcasts and animated videos, downloadable posters, online daily activity challenges, published research about health and personal finances, and a 132-page downloadable workbook that is available in print and for free downloading from the SSHW Web site.

Most recently, the *Personal Health and Finance Quiz* (<http://njaes.rutgers.edu/money/health-finance-quiz/>) was added to provide online users with an assessment of their daily health and financial practices as well as collect data for research about associations between health and personal finances. People who complete the Personal Health and Finance Quiz indicate one of four frequencies for their performance of ten daily health behaviors and ten daily financial behaviors. The responses are Never, Sometimes, Usually, and Always. Upon completion of the quiz, they receive a score for each section of the quiz (i.e., a Health Score and a Finance Score), a Total Score, and links to additional online resources for improved health and financial management.

During the past decade, increasing numbers of research studies and educational programs have followed the lead of *Small Steps to Health and Wealth*™ and integrated health and personal finance topics. A recent example is a study in the journal *Psychological Science* in June 2014. Researchers Timothy Gubler and Lamar Pierce from Washington University in St. Louis studied psychological factors underlying physical and financial health (http://www.science20.com/news_articles/paper_links_poor_physical_health_and_saving_for_retirement-139721). They found that the decision to contribute to a 401(k) retirement savings plan was associated with whether individuals acted to correct poor physical health indicators that were revealed during an employer-sponsored health examination. The 401(k) plan contributors showed improvements in health behaviors about 27% more often than non-contributors. One possible explanation is that they score high on the personality trait of conscientiousness. The take-away messages for consumers are to save for retirement, eat right, and exercise. It should be noted, however, that the relationship between savings and health was correlational, not causal. In other words, saving for retirement will not automatically improve your health. Good health habits take work and, even then, there are no guarantees.

Another way that health and finances have increasingly been connected is through workplace programs that integrate both aspects of employees' lives. Human Resources departments of large companies typically contract with specialized companies that provide holistic "workplace wellness" programs for their employees. Examples of these companies are Two Medicine Health and Financial Fitness and Simplicity Health Plans, both of which provide customized workplace wellness programs for employers that incorporate health and financial education. Simplicity Health Plans has also developed a proprietary Health Index Calculator to forecast the financial impact of employees poor health habits and the potential savings of improved health habits.



The *Small Steps to Health and Wealth*™(SSHW) program and efforts by employers and others to address Americans' health and personal finances holistically will undoubtedly expand in years to come. Each aspect of a person's life affects the other. Perhaps the Ancient Roman Poet Virgil said it best: "The greatest wealth is health."

Amp Up Your Latin Flavor!

Colleen Delaney, *Nutritional Sciences Doctoral Student*

Carol Byrd-Bredbenner, PhD, RD, FAND, *Professor/Nutrition Specialist*

Grocery stores have a wider variety of exotic fruits and vegetables than ever before. These colorful, fragrant choices tempt shoppers to try something new and exciting! Many of these produce items are from our Caribbean and Latino neighbors.

Like other fruits and vegetables, these newcomers are packed with many beneficial nutrients, such as vitamins A and C, iron, folate, calcium, and fiber. Trying a new fruit or vegetable can boost your diet to new levels of health.

Some of these “south of the border” fruits and veggies are familiar, but many offer completely new flavors and textures! The huge variety makes it a challenge to know which to try first! Use this guide to help you choose a new fruit or vegetable to serve tonight!

What is it?	Taste and Tips
 <p data-bbox="435 789 586 825">Cherimoya</p>	<ul data-bbox="649 688 1507 926" style="list-style-type: none"> • Also known as the custard apple, this creamy fruit tastes like a dessert! Just imagine the flavors of all your favorite tropical fruits combined into one. • Choose medium size cherimoyas that are firm with some give. They are sweetest when the skin turns from green to brown. • To serve, slice it open and spoon out the velvety flesh. Try blending it with a frozen banana for a frosty treat!
 <p data-bbox="423 1026 597 1098">Tuna (Prickly Pear)</p>	<ul data-bbox="649 961 1507 1163" style="list-style-type: none"> • This rosy red fruit is from the prickly pear cactus. The edible seeds give it a nice crunch! • Be careful when handling this fruit—they may still have some prickly spines! • Choose fruits that are firm and evenly colored. • Just peel and eat! Or, use it to make a delicious granita.
 <p data-bbox="423 1251 597 1323">Soursop (Guanábana)</p>	<ul data-bbox="649 1203 1442 1367" style="list-style-type: none"> • This tangy fruit is usually found in the frozen food section of supermarkets. It has a creamy texture and a strawberry-pineapple taste. • Soursop is a great addition to juices, smoothies, ice creams, and sorbets.
 <p data-bbox="451 1499 573 1535">Plantains</p>	<ul data-bbox="649 1400 1498 1633" style="list-style-type: none"> • Plantains can be eaten unripe or ripe, but both need to be cooked. Ripe yellow plantains have a mild sweet flavor. Unripe green plantains have a mild, fresh taste ideal for savory dishes. • For a traditional savory Puerto Rican dish, just boil peeled plantains until soft, drain, add sautéed garlic, and mash! • For a sweet treat, top sliced yellow plantains with coconut milk, cinnamon, shredded coconut and bake at 350° for 20 minutes.
 <p data-bbox="456 1766 568 1801">Nopales</p>	<ul data-bbox="649 1665 1507 1898" style="list-style-type: none"> • Nopales are pads from the prickly pear cactus. Their mild flavor tastes like green beans. • The best quality nopales have an even, bright green color. • Be sure to remove all the thorns before cooking. (Save time in the kitchen by buying peeled nopales.) • Often, nopales are steamed or boiled. Combine with a squeeze of lime juice, onion, and tomato for an authentic Mexican side dish!

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What is it?		Taste and Tips
	Tomatillos	<ul style="list-style-type: none">• Tomatillos look like tomatoes in husks. They brighten up many dishes.• Choose tomatillos that are firm and have tight husks. Don't forget to remove the husks before you start!• They are great served raw, roasted, or boiled. For an easy salsa—just roast them with onion, garlic, and pepper until blistered, then add a squeeze of lime and enjoy!
	Choclo	<ul style="list-style-type: none">• Choclo is a corn cousin that has king-size kernels.• Purple choclo is used in sweets and beverages. Yellow choclo is a popular ingredient used in the Peruvian fish dish called ceviche.• Look for choclo in the freezer aisle. Try adding choclo to a soup, or even a salad!