

# “I Don’t Feel Like Myself”

## *Treating Frailty in the Elderly With Diet*

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Attention to the role diet and nutrition play in frailty may help older adults better perform basic activities of daily living, have a better quality of life, and delay disability. While there are no well-accepted guidelines for the prevention and treatment of frailty, providing patients with strategies for improving their diets may help them prevent, delay, reduce, or reverse prefrailty and frailty. In this article, we present the case of an older adult who might benefit from frailty assessment and dietary counseling. *Nutr Today*. 2016;51(6):281–289

**F**railty is a syndrome involving reduced functional reserve, impaired mobility, decreased strength and endurance, increased feelings of exhaustion, inactivity, and decreased quality of life. It is strongly associated with unintentional weight loss, muscle wasting or sarcopenia, and malnutrition.<sup>1–4</sup> As the population ages, interest in frailty is increasing. The frail are at increased risk of functional limitations, disability, dependency, need for long-term care, and mortality.

Frailty involves dysfunction across various physiological systems, and although each dysfunction might be minor, the sum can affect quality of life, morbidity, and mortality. Frailty typically develops slowly with larger increments of decline often marked by acute events. Factors thought to contribute to the etiology of frailty include genetic, epigenetic, environmental (including but not limited to nutrition and physical activity), chronic inflammation, morbidity, and hormonal changes.<sup>1–4</sup> The role of nutrition in its development as well as potential delay or reversal has received only limited study, and most of the publications are from outside North America.

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### CASE

Mrs G.F. is 86 years old and lives independently in her home of more than 50 years. Until 2 years ago, she was very active and considered “spry” by everyone. She presents in clinic for lower abdominal pain and lots of gas. She also complains that some days she feels like her “old self” and some days is exhausted. Her current weight is 116 lbs and height is 59.5 inches, giving her a BMI of 22.7 kg/m<sup>2</sup>. Her highest weight was 135 lbs (body mass index = 26.4 kg/m<sup>2</sup>) approximately a decade ago. She states that her family says some days she looks pale, peaked, and “frail.”

Her problem list includes depression, radiculopathy (compressed nerve in the lower spine), spinal fusion, hypercholesterolemia, high blood pressure, constipation, and osteoporosis. Her medications include pregabalin (Lyrica) for nerve pain (100 mg twice a day), triamterene-hydrochlorothiazide (Dyazide) for high blood pressure (37.5/25 mg once per day), simvastatin (Zocor) for cholesterol lowering (20 mg once per day), oxycodone (Oxycontin) for pain (10 mg as needed for pain with a maximum 2 times a day), promethazine (Phenergan) for nausea (12.5 mg as needed), temazepam (Restoril) for sleep (15 mg as needed), and polyethylene glycol 3350 (MiraLax)

for constipation (1 tablespoon added to coffee most mornings). She is adherent to her prescription medications. When she remembers, she takes vitamin C (500 mg) and vitamin D<sub>3</sub> (2000 IU) recommended by her physician and registered dietitian nutritionist (RDN) for daily consumption. Her nutrition-related laboratory results, including hemoglobin (14.3 g/dL) and hematocrit (41%), are all in the reference range. Her 25(OH) vitamin D level has not been measured.

Several years prior, the onset of back pain led to surgery with some complications that have limited her activity. Although she lives in a mild climate, she does not get outside into the sunshine very often. She feels she was doing well until approximately 2 months ago when she started losing weight without trying. She has lost approximately 4 lbs.

She is less confident in her movement than she would like, and although she denies falling, she has become “nervous about falling.” When asked about a bruise on her arm, she says she “fell against the dresser” in her room. She has the resources to move into a progressive care retirement community but refuses to do so; she instead relies on her grown but busy children to assist with her instrumental activities of daily living, especially shopping. She drives short distances to doctor appointments, her hair dresser, and her church. On a **f**atigue, **r**esistance, **a**mbulation, **i**llnesses, and **l**oss of weight (FRAIL) screener,<sup>5</sup> she scores as “prefrail” (Figure 1).

Since her husband died approximately 10 years ago, she has not kept a firmly scheduled routine and is poorly motivated to prepare food for herself. She does say she often feels sad. For many years, she followed a “traditional southern diet” but did stop frying everything and used less sugar when her husband received a diagnosis of type 2 diabetes. Her usual dietary intake is a breakfast of cereal with almond milk, instant decaf coffee, and a serving of

banana or peaches; a lunch of small salad or cold sandwich; and dinner of fried shrimp, biscuit, cabbage, and water or a cold meat sandwich. She has a “big dinner out” approximately once a week with her children. She picks up premade food at the grocery or a nearby “country kitchen” a couple of days a week.

She brings a 2-day record of her food and beverage intake. The dietary analysis finds that while she is meeting her caloric needs, her intake of other important nutrients is low: protein (45 g), dietary fiber (14 g), vitamin D (50 IU), calcium (400 mg), vitamin A (34 670 IU), potassium (1414 mg), and folate (312 μg). She meets her needs for whole grains, but reports only half of the recommended servings of vegetables and 75% of recommendations for fruit intake. Her usual intake is assessed using a Mediterranean diet checklist,<sup>6,7</sup> and she scores 24 out of 44 points, suggesting there are many changes she could make to align more closely with a Mediterranean-eating approach (Figure 2). She currently eats 1 portion of vegetables and 2 portions of fruit per day. While she is willing to try most foods, she is concerned that they may be too expensive.

She completes the Disease, Eating poorly, Tooth loss mouth pain, Economic hardship, Reduced social contact, Multiple medicines, Involuntary weight loss/gain, Needs assistance in self-care, Elder above age 80 (DETERMINE)<sup>8</sup> screening tool from the Nutrition Screening Initiative<sup>8</sup> and scores 4 points, putting her at “moderate risk” of malnutrition (Figure 3). She denies recent tobacco use or any alcohol consumption. She has all her natural teeth, and they are in good condition. Before retiring at age 55 years, Mrs G.F. was a teacher’s assistant in an elementary school. She likes doing crossword puzzles and plays along with the Wheel of Fortune game show on television.

BACKGROUND

Frailty

*Frailty Defined.* In 2013, a consensus group agreed that frailty (1) is an age-associated clinical syndrome, which increases vulnerability to stressors, leading to functional impairment and adverse health outcomes; (2) is potentially reversible or attenuated by interventions such as exercise, protein-calorie supplementation, vitamin D, and reduction of polypharmacy; (3) can be identified with simple, validated screening tests; and (4) should be screened in all adults older than 70 years and those with significant weight loss (≥5%) due to chronic disease.<sup>2</sup> And while there is great interest in the role of nutrition and pharmacotherapy for exercise for prevention and/or treatment of frailty, well-accepted guidelines do not exist. It has been assumed that interventions will improve quality of life.

An estimated 15% of US adults older than 65 years are frail, with a frailty prevalence of 9% for those aged 65 to 69 years and 38% for those 90 years or older.<sup>1</sup> Race, income, and

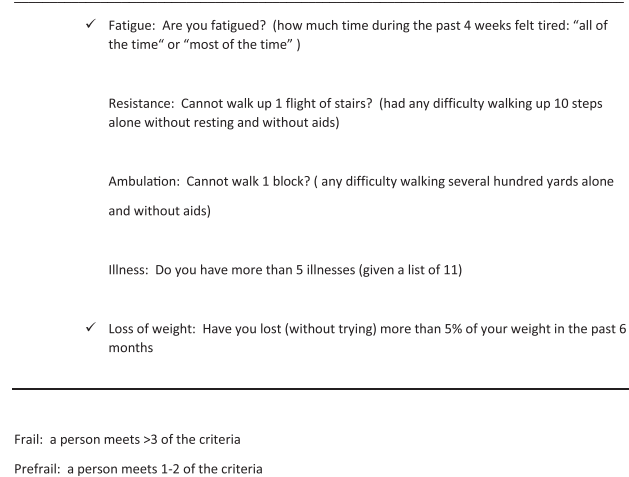


FIGURE 1. Mrs G.F.’s score on FRAIL Questionnaire.<sup>2,5</sup>

Food Group	Points					
	0	1	2	3	4	Points
Whole grain products	<1 portion /day	1-2 portions /day	3-4 portions /day	5-6 portions /day	≥ 7 portions /day	1
Vegetables	<1 portion /day	1 portion /day	2 portions /day	3 portions /day	≥ 4 portions /day	1
Fruits	<1 portion /day	1 portion /day	2 portions /day	3 portions /day	≥ 4 portions /day	2
Legumes, nuts and seeds	<0.5 portion /day	0.5 portion /day	1 portion /day	2 portions /day	> 2 portions /day	2
Olive oil, olives and margarine made of olive oil	<1 time /day	1 time /day	2 times /day	3 times /day	≥ 4 times /day	1
Milk and dairy product	<1 portion /day or >4 portions/day	4 portions /day		1 portion /day	2-3 portions /day	3
Fish and seafood (other than breaded)	Never	<1 portion /week	1 portion /week	2 portions /week	≥ 3 portions /week	1
Poultry (other than breaded)	Never	<1 portion /week or ≥ 4 portions /week	1 portion /week	2 portions /week	3 portions /week	3
Eggs	≥ 7/week		5-6 times/week		0-4/week	4
Sweets	≥ 7 portions /week	5-6 portions /week	3-4 portions /week	1-2 portions /week	<1 portion /week	3
Red meat / processed meat	≥ 7 portions /week	5-6 portions /week	3-4 portions /week	1-2 portion /week	<1 portion /week	3
					Total Points	24

Adapted with permission from Rumasas

**FIGURE 2.** Mrs G.F.'s score on *Mediterranean Diet Screener*.

regional variations exist. Another 45% of this population could be considered prefrail.

**Assessment.** Frailty assessment provides a means of identifying older adults most vulnerable to adverse outcomes. Frailty in community-dwelling individuals was first characterized by Fried<sup>9</sup> on the basis of weight loss, exhaustion, weakness, slow gait speed, and low levels of physical activity that predicted poor outcomes. A variety of assessment tools are available, with some easier to use for screening in the clinical setting than others.<sup>10,11</sup> For example, in the Fried checklist, grip strength is measured and compared with a standard (lowest 20%: <23 lb for women, <32 lb for men), walking speed is clocked and compared with a standard (in lowest 20% or 0.8 m/s), and activity is measured by kilocalories expended with a low level of activity considered the lowest 20% of the population (270 kcal/wk for women and 383 kcal/wk for men) or the equivalent to sitting quietly and/or lying down for vast majority of the day. The FRAIL questionnaire (Figure 1)

is based on interview.<sup>2,5</sup> Weight loss has been identified as a major component of the frailty syndrome.<sup>2</sup> Malnutrition and sarcopenia have both been identified as major causes of frailty.<sup>12</sup>

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### **Dietary Needs of Older Adults and Frailty**

In 2015, the National Academy of Sciences<sup>13</sup> held a workshop to examine factors in the physical, social, and cultural environment that affect the ability of older adults to meet their daily dietary needs. Among the topics addressed were the emerging insights into the changing physiology of aging and how that affects nutrient needs.

	I have an illness or condition that changes the kind or amount of food I eat
X	I eat fewer than 2 meals a day
	I eat few fruits, vegetables or meat products
	I have three or more drinks of beer, liquor or wine almost every day
	I have tooth or mouth problems that make it difficult to eat
	I don't always have enough money to buy the foods I need
X	I eat alone most of the time
X	I take three or more prescribed or over the counter drugs a day
	Without wanting to I have gained or lost 10 pounds in the last 6 months
X	I am not always physically able to shop, cook and/or feed myself

<2 nutrition status is good

3-5 nutrition status is at moderate risk

>6 nutrition status is at high risk

**FIGURE 3.** Mrs GLF's assessment on the Nutrition Screening Initiative DETERMINE.

Because frailty is strongly associated with muscle wasting, or sarcopenia, and also with malnutrition, it is reasonable to explore the role of nutrition in prevention and treating frailty. Although there is good evidence that sarcopenia is a major cause of frailty and can be reversed by physical exercise, protein/amino acid diet interventions, or combinations of exercise and diet, the current evidence is inadequate to determine if nutrition may postpone or reverse frailty.<sup>14,15</sup> The same could be said for malnutrition. However, the literature supports the observation that higher-quality diets are associated with higher functionality in older people.<sup>16</sup> The following discussion will be limited to what is known about nutrition and frailty and how it might inform our recommendations to our patient.

Observational studies have identified several nutrients including protein; carotenoids;  $\alpha$  tocopherol; vitamins D, E, and C; and folate, as well consumption of fruits, vegetables, and whole grains, as having roles in the development of frailty. However, a better-quality diet has been associated with lower risk of being frail, and therefore, it may be that dietary pattern is more important than specific nutrients or foods.

### *It may be that dietary pattern is more important than specific nutrients or foods.*

**Mediterranean and Prudent Diets.** In a 6-year study of 60 Italian community-living persons older than 65 years, those with higher adherence to a Mediterranean-style diet had a lower risk of developing frailty and were at lower risk of low physical activity and low walking speed. There was no association with feeling of exhaustion or poor muscle

strength.<sup>17</sup> Those with the greatest adherence differed in their daily consumption of the following: 9 oz vegetables, 1 oz legumes, 13 oz fruit and nuts, 8 oz cereal, 1 oz fish and seafood, 5 oz dairy products, 4 oz meat, and 1 oz alcohol and taking in  $2140 \pm 547$  calories,  $281 \pm 81$  g carbohydrates,  $80 \pm 21$  g protein, and  $72 \pm 21$  g fat. It is important to note there were wide variations in intake of some vitamins but no difference in vitamin D. While there may have been many other differences that account for the findings, it deserves more study.

The assessment tools do vary among studies; however, 1 study did focus on the American diet. In 2009, Rumawas et al<sup>7</sup> developed a Mediterranean-Style Dietary Pattern Score and applied it to the American diet in the Framingham offspring cohort.<sup>6,7</sup> With their permission, we developed a tool that is used in our family medicine clinic and local heart hospital (Figure 2).

In a variety of studies, diets rich in vegetables, whole grains, and fish have been shown to be associated (although not always statistically significantly) with higher grip strength, as well as decreased rates of slow walking speed, unintentional weight loss, low physical activity, exhaustion, and/or muscle weakness. In a prospective cohort study in Spain that followed 1872 noninstitutionalized adults older than 60 years from 2008 until 2012, a prudent dietary pattern showed an inverse dose-response relationship with frailty.<sup>18</sup> The so-called prudent pattern was characterized by high intake of olive oil, potatoes, and vegetables and included some white, red, and processed meats. This prudent pattern differed from the typical Mediterranean diet in several ways including, among other things, a lack of alcohol intake. Of the adults in that study following a Westernized dietary pattern, an increased risk of slow walking speed and weight loss was observed. The Westernized pattern was characterized by high intake of refined cereals, whole dairy, and red and processed meats.<sup>18</sup> Again, these observational studies cannot establish causation but give useful clues to explore further.

**Fruit and Vegetable Intake.** A few researchers have provided evidence that fruit and vegetable consumption is inversely associated with frailty. In a British prospective cohort study,<sup>19</sup> individuals who did not consume fruits and vegetables during their middle age had an increased risk of developing prefrailty and frailty. In a cross-sectional analysis of dietary intake of older Japanese women, an inverse dose response was observed between consuming fruits and vegetables and prevalence of frailty.<sup>20</sup> In a 2016 report of fruit and vegetable consumption of community-dwelling elderly in Spain, fruit and vegetable consumption was associated with a lower short-term risk of frailty in a dose-response manner, and the strongest association was obtained with 3 portions of fruits per day and 2 portions of vegetables per day. Those with higher intakes of fruits and vegetables had reduced risk of exhaustion.



Increased fruits were associated with lower risk of low physical activity and slow walking speed, whereas increased vegetables were associated with lower risk of unintentional weight loss. There were no associations with muscle strength.<sup>21</sup> Dietary measures may help prevent or treat frailty, but they are not magic bullets.

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**Protein.** Some experts suggest that older adults may require 1.0 to 1.2 g/kg body weight per day of protein to maintain nitrogen balance and promote muscle protein synthesis and prevent frailty and perhaps even more during illness.<sup>3,22,23</sup> There is also some indication, although less conclusive, that timing and distribution of protein intake throughout the day are important to ensure maximal utilization of available protein.<sup>4,24,25</sup> Not all agree with each of these assessments and conclude that high-quality longitudinal research, not only theories or extrapolations from short-term studies, is needed.<sup>26</sup> In the meantime, some experts now recommend that older adults aim to consume between 25 and 30 g of high-quality protein at each meal.<sup>3</sup> The Table lists some examples.

**Vitamin D.** The Institute of Medicine, in 2010, updated the Dietary Reference Intakes for vitamin D, setting the Recommended Daily Allowance at 800 IU (20 µg) per day for adults 70 years or older.<sup>26</sup> Reasons for vitamin D insufficiency in older adults include low exposure to sunlight, decreased capacity of the skin to produce vitamin D, and inadequate dietary intake. Studies have shown that older adults with lower 25(OH) D concentrations (usually <20 mg/mL) had lower walk speeds, weaker grip strengths, and lower physical performance scores.<sup>13,27</sup> Although it is well accepted that vitamin D and calcium are critical to protecting older adults from bone loss, the exact role vitamin D plays in muscle function and preventing falls in frail and deficient individuals is not clear.

**Interventions**

In 2013, a consensus group consisting of delegates from 6 major international, European, and US societies stated that “physical frailty can potentially be prevented or treated with specific modalities, such as exercise, protein-calorie supplementation, vitamin D, and reduction of polypharmacy.”<sup>2</sup> Frailty and nutrition studies have explored the use of omega-3 fatty acids, nutritional advice with and without exercise, nutritional supplement drinks with and without exercise, additional meal(s), food fortifi-

TABLE	Examples of Portion Sizes of Foods With 25 g of Protein
Turkey (3 oz)	
Chicken breast (3 oz)	
Pork chop (3 oz)	
Flank steak (3.3 oz)	
Tuna, canned (2/3 can)	
Salmon (4.4 oz)	
Shrimp (17–20 medium)	
Cottage cheese (1 cup)	
Greek yogurt (1 cup)	
Yogurt, plain (3 cups)	
Soy milk (3 cups)	
Eggs (4 large)	
Lentils (1 cup)	
Peanut butter, smooth (6 tbsp)	
Cashews (5 oz)	
Whey protein, various brands (1–2 scoops)	

cation, use of Meals on Wheels, and vitamin D supplementation.<sup>4,28</sup> We will briefly describe the dietary strategies that have been studied and might apply to this case.

**Mixed Interventions.** While many studies have focused on the relationship between dietary intake and frailty, it is still unclear if dietary intervention can make a difference. Short-term studies have included supplementing with protein, calories, omega-3 fatty acids, vitamin D, or other micronutrients. The interventions have included providing meals and supplements, as well as delivering nutrition education and nutrition counseling by various means. Manal et al<sup>28</sup> reviewed 24 interventions and found most of the studies indicated that modification of nutritional quality, either by giving supplements or by improving dietary intake, could improve strength, walking speed, and nutritional status in a majority of frail or prefrail older adults. Those who appeared to benefit the most were those at risk of malnutrition at the outset of a study. And generally, mixed interventions of nutrition and exercise appeared more effective than nutrition alone. The limited studies of using nutrition counseling to improve diet of an older adult have mixed results as well.

In some other reports, not cited by Manal et al,<sup>28</sup> 2 nutritional interventions appeared to have some efficacy—caloric and protein support and vitamin D. Researchers

in Australia suggest that weakness, slowness, and low-energy expenditure of frailty are potentially reversible.<sup>10</sup> In a 12-month multifactorial, interdisciplinary intervention, participants reduced frailty and improved mobility. Participants who had inadequate nutrient intake received home-delivered meals and nutritional supplementation, and all had 10 visits from a physiotherapist and a home exercise program. The more adherent the participants were to the protocol, the better the outcome.<sup>10</sup> In their practical guide for treating frailty, referral to a dietitian is indicated for nutritional support, defined as including education about foods rich in energy and protein, nutrition advice about general healthy eating and benefits of regular exercise to improve health and overall well-being, and nutrition support.<sup>29</sup>

**Increasing Protein Intake.** There have been studies to determine if dietary protein intake can halt or reverse the age-related loss of lean body mass. A few researchers have examined the quality of the proteins in relation to health outcomes, but it is not clear if animal and plant proteins are equally effective.<sup>23</sup> Clinicians have been reluctant to recommend weight loss in obese elderly individuals for fear of producing loss of lean mass. With the growing number of elderly who have limited mobility because they are both frail and obese, however, at least 1 research group has conducted a pilot study with participants consuming 30 g of protein from lean beef or other lean meats, low-fat dairy, fish, or eggs at each meal during a 6-month weight loss intervention. The researchers concluded that it is feasible and safe to do so.<sup>30</sup> In addition, they believe it has the potential to be more effective at improving physical function in obese and frail older adults than using a traditional weight loss diet.

**Increasing Vitamin D Intake.** Results from trials to determine whether vitamin D supplements improve physical function are inconsistent.<sup>13</sup> In the “Frailty Call to Action,” it was stated that frail persons who are vitamin D deficient might benefit from supplementation.<sup>2</sup> We found 1 study that assessed the effect of supplementing with vitamin D and calcium and its interaction with protein intake.<sup>23</sup> Their results suggest a synergy among the nutrients as women with higher protein intakes who supplemented with calcium and vitamin D had greater positive change in lean mass than did those who did not supplement.

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**Caloric Supplements.** Gammack and Sanford<sup>31</sup> reviewed the use of caloric supplementation in the elderly. They concluded at this time that providing oral nutritional supplementation to the general elderly population may result in a small increase in body weight but no functional or mortality benefits. An earlier Cochrane review concluded, however, that there may be a beneficial effect on mortality for undernourished elderly. Additional study is needed to determine if use of caloric supplements can improve morbidity and functional status in frail older people.<sup>32</sup> The Cochrane review noted that oral supplements are recommended to many elderly who are unwilling to consume them or use them effectively.<sup>32</sup> One study of 87 frail older Koreans with low socioeconomic status comparing participants provided with two 200-mL cans of commercial liquid formula (additional 400 kcal of energy, 25 g of protein, 9.4 g of essential amino acids, 400 mL of water) per day for 12 weeks with those receiving no supplementation did find those who were supplemented had a slowing of functional decline.<sup>33</sup>

**Increasing Fruit and Vegetable Intake.** Hopefully, an intervention trial will soon support the recent observations that high consumption of fruits and vegetables reduces risks for frailty.<sup>19–21</sup> The Dietary Guidelines for Americans (US Department of Agriculture) and MyPlate for Older Adults (Tufts) emphasize the importance of consuming fruits and vegetables. Pomerleau et al<sup>34</sup> found that through face-to-face education and counseling, as well as community-based interventions and telephone and computer-tailored information, generally healthy adults could achieve small increases in fruit and vegetable intake.

Smoothies have become popular drinks in the United States—available for purchase in a wide variety of places as well as made at home. Although easy to make—toss some fruit and/or vegetables in milk, yogurt, or juice in a blender then blend and drink—they vary dramatically in calories (90–500), total sugar (1–16 teaspoons), protein (7–20 g), calcium (0–30 g), and vitamin D (0–100 IU) in 8 oz. Some smoothie cafes let the customers customize their drinks by offering to add (for a price) a boost of a range of products such as amino acids, protein powders, vitamin mixes, antioxidant blends, fiber, and more. Affordable and easy-to-make recipes are available from Cooperative Extension Service Programs, and WebMD has videos demonstrating how to make them (<http://www.webmd.com/food-recipes/video/how-to-make-smoothie>). We found no literature describing the acceptance of smoothies by older Americans.

## CASE REVISITED

**Nutrition Diagnosis.** The RDN on the clinical team placed 2 Nutrition Diagnosis or PES (problem, etiology, signs/symptoms) statements<sup>35</sup> in Mrs G.F.’s chart to indicate

that while her caloric intake was appropriate her intake of several nutrients known to be associated with pre-frailty and frailty was low (Figure 2). The Academy of Nutrition and Dietetics uses PES as shorthand for problem, etiology, and signs/symptoms. With Mrs G.F.'s permission, we discussed her interest and ability to improve her protein, vegetable, and fruit intake, as well as how to adhere to her physician's recommendations for vitamin D and calcium supplementation, in hopes of preventing frailty. *Assess.* We shared with Mrs G.F. her scores on the nutrition screening tool (Figure 3), the FRAIL questionnaire (Figure 1), and the Mediterranean diet screener (Figure 2) and our assessment of her diet record, which showed she was meeting her estimated calorie needs of approximately 1500 kcal/d but that the overall quality of her diet was only fair.

*Advise.* We advised her that there were things she could do to improve her dietary intake that may help prevent or delay the development of frailty. If she follows this eating pattern, she also may have fewer days that she feels exhausted, but of course, there are no guarantees. We told her that the dietary behaviors that might help the most would be to improve her intake of protein, fruits, and vegetables, but without increasing her calories. Although her stage of readiness to change is "precontemplation," we suggested she strive to consume at least 67 g of protein (based on 1.2 g/kg body weight) each day (up from 45 g) and spread it over 3 meals. We told her many older adults use an oral nutrition supplement as a snack or even as a meal replacement. As an alternative, we told her many of our patients are enjoying smoothies as a way to consume calcium, vitamin D, and protein. We told her that most of the studies about diet and preventing or reversing frailty were done outside the United States, with adults used to eating a Mediterranean diet, and that the 2015 Dietary Guidelines for Americans does endorse the Mediterranean-eating approach as a healthy one for Americans (US Department of Agriculture). We outlined that a goal for her might be to follow a Mediterranean-eating approach, although she should not try to make too many changes overnight. Instead, we recommended eating more fruits as a first step because most of our older patients respond well to the small-step approach. We explained that her physician's recommendations for dietary supplements were just as important as the prescription medicines in helping maintain her bone health, especially because her diet did not provide those nutrients, and her food preferences and avoidance of milk and milk products make it difficult to obtain those nutrients.

*Agree.* Mrs G.F. replied that she has tried but does not like drinks such as Ensure or Boost. She added that she avoids milk and milk products because of gastrointestinal symptoms. She has tried yogurt and thinks she might be willing to eat it but admits there is some in her refrigerator she

bought a long time ago. She wonders if it is still good because she has trouble reading the expiration date on the package. She recently had a smoothie with her granddaughter at the mall, and although she liked the taste, she thought they were too expensive. She does have a blender at home but has not used it in a long time. She will talk with her children about buying the ingredients for trying a few of the smoothie recipes we shared. She does not like eggs or fish but agreed she could eat meat or chicken more often. She agreed to set a SMART goal for fruit intake. SMART is a mnemonic representing **s**pecific (where? when? how?), **m**asurable (how much? how many?), **a**chievable (agreed upon and action oriented), **r**elevant (makes a difference), and **t**ime bound.<sup>36</sup> She agreed to increase her fruit consumption by 1 serving a day, every day of the week, and track it on the MyPlate for Older Adults handout posted on her refrigerator door for 1 week and mail it to our office.<sup>37</sup> On at least 1 day, she will prepare a fruit smoothie. She agreed to a second SMART goal: to take her calcium and vitamin D every day until her next visit and bring her pill bottles to the next visit. When asked on a scale of 1 to 10 how confident she was that she could accomplish these 2 SMART goals, she replied she would think about it, and she was willing to try if it would help her to be "more myself."

*Assist.* We provided Mrs G.F. copies of the assessment tools she completed, several handouts including simple and affordable recipes for high-protein smoothies that can be made without a blender ([www.foodhero.org/recipe-categories/drinks](http://www.foodhero.org/recipe-categories/drinks)), and a placemat size copy of MyPlate for Older Adults.<sup>37</sup>

*Arrange.* As she mentioned her children several times throughout this discussion, we asked if we could schedule her follow-up appointment at a time when at least one of them could be present, either in person or virtually via FaceTime or Skype. She agreed to that suggestion without hesitation.

## SUMMARY

Nutrition is an integral part of maintaining muscle mass, bone strength, and functionality, making it key to helping prevent and treat frailty in the older adult population. It is important for healthcare professionals, especially nurses because they may be in a position to first notice signs of frailty, to help empower older patients to maintain a healthy nutritional status that positively affects mobility, reduces risk of falls, and supports continued ability to perform instrumental activities of daily living. Nurses can encourage patients to meet with an RDN for an individualized diet plan. Registered dietitian nutritionists seeing patients for other chronic conditions might also observe signs of frailty and bring them to the attention of the entire healthcare team. While evidence for the role of nutrition in

prevention and treatment of frailty is inconclusive, none of the strategies described are likely to do harm.

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## Nurses can encourage patients to meet with an RDN for an individualized diet plan.

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