Prevent, treat, survive:

Eating well through the continuum of cancer

Nutrition is an important factor for older adults at every point of the disease sequence

by Lori S. Kiker, MS, RDN, LD, CSO

Research reflects progress in the fight against cancer over the past decades. In the United States, overall age-adjusted death rates declined 27% between 1991 and 2016, largely due to fewer people smoking and improved early detection and treatment, says a recent American Cancer Society report.[1] Most new cancer diagnoses occur in adults 50 and over; specifically, 80% of new diagnoses in the US[1] and about 90% in Canada[2] are in the 50+ age group. As a result, cancer cases will continue to rise in line with a growing older population.[1,2]

The second leading cause of death worldwide, according to the World Health Organization (WHO),[3] cancer is responsible for one in six deaths globally—"an estimated 9.6 million deaths in 2018"—70% of which happen in low- and middle-income countries.[3] In the US, cancer is second only to heart disease as a cause of death, while in Canada, it is number one.[1,2] Overall risk of diagnosis rises throughout life until it peaks in women in their early 80s (80–84 years) and men in their late 80s (85–89 years)[1,2] [**Ed.** See the box on page 61 for more about the oldest survivors].

By staying physically active and maintaining good nutrition, adults diagnosed with cancer in later life may better

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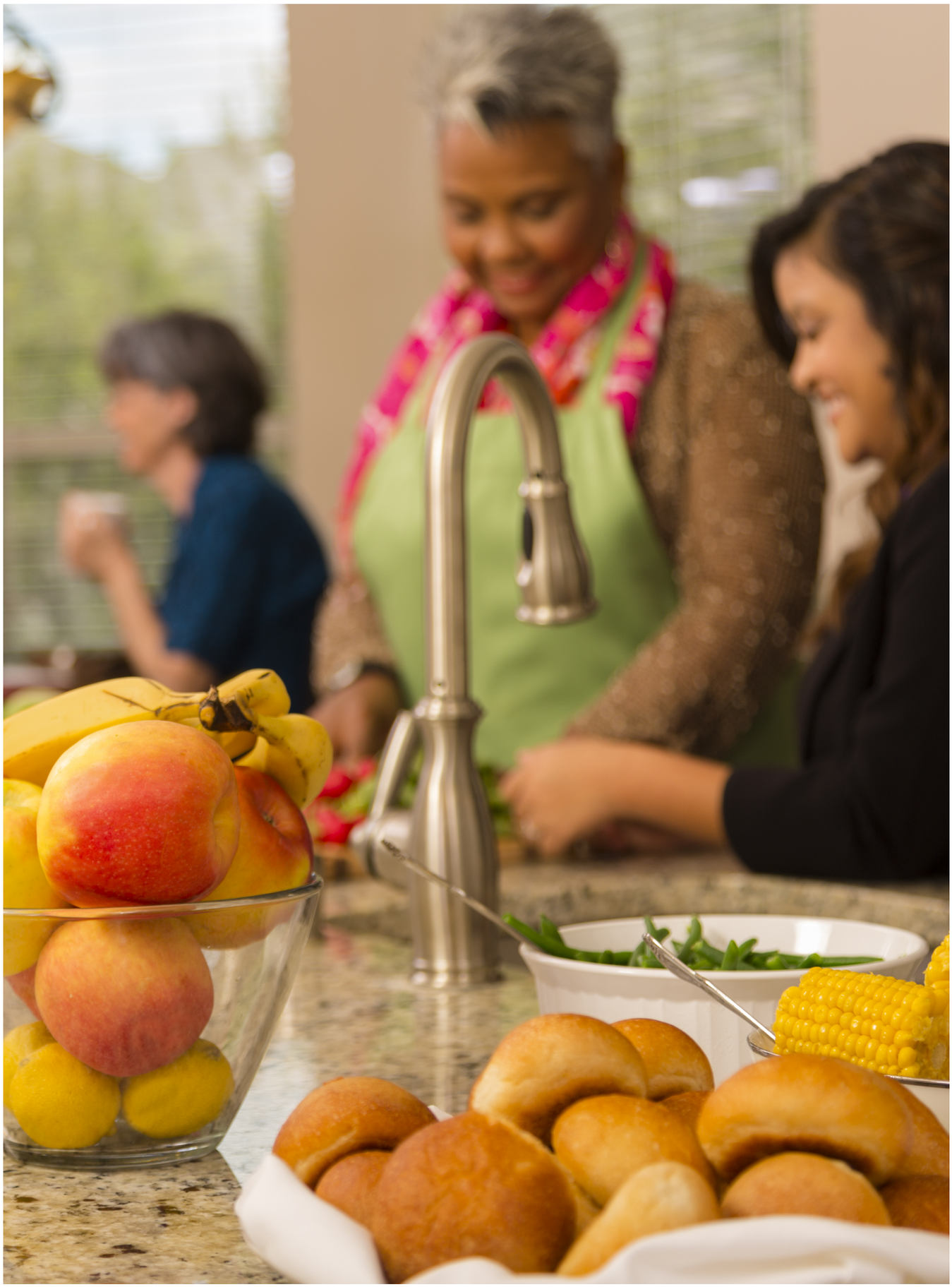

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tolerate cancer treatments and get the most from their therapies. Individuals often have questions about nutrition throughout the disease journey and may come to you—as an active-aging professional—for help. This article provides the answers to many common questions people have asked me as a Registered Dietitian Nutritionist specializing in oncology. It also tackles some widespread myths about nutrition and cancer.

Although your scope of practice may preclude nutritional counseling, you can help by recommending people seek personalized advice from a Registered Dietitian Nutritionist who specializes in this area. You may also want to create educational programs for your residents or members. Be sure to turn to authoritative sources, including those provided in this article, for information to share (see "Resources" on page 64 for more suggestions).

Common questions

So, what do people want to know about cancer, diet and nutrition? Let's explore some common concerns in this section, beginning with how to prevent the disease.

Q. *What can I do to avoid getting cancer?*

A. As Benjamin Franklin once said, "An ounce of prevention is worth a pound of cure." Between 30% and 50% of cancer cases today are believed to be preventable[4,5] and small changes in the diet can help decrease the risk of developing cancer.[5] Listed below are some key recommendations from the World Cancer Research Fund (WCRF) and American Institute for Cancer Research (AICR) that, adopted individually and together as a lifestyle, help reduce the risk of developing cancer[5] (see Figure 1 on page 57). Some additional research findings that support the recommendations appear as well.

1. **Maintain a healthy weight.** Research documents that obese and overweight individuals are more likely to develop cancer.[5,6] A research review notes that obesity is linked to a heightened risk of several cancer types and increased cancer-related mortality.[6]
2. **Stay active.** The World Health Organization recommends 150 minutes of moderate-intensity physical activity or 75 minutes of vigorous-intensity physical activity per week to reduce the risk of developing cancer.[5]
3. **Eat more plant-based foods.** This includes whole grains, fruits, vegetables, and beans and legumes.[5] To reduce cancer risk, the recommendation for fruits and vegetables is 5–9 servings per day; however, estimates suggest that in America's aging population (65+ years), approximately just 21–37% of men and 29–45% of women consume 5 servings of fruits and vegetables daily.[7]
4. **Limit fast food as well as other processed foods high in fat, starches and sugar.** Processed foods tend to be energy dense and therefore lead to weight gain and obesity.[5]
5. **Limit consumption of red meats, such as beef and pork, and avoid processed meats.** In 2015, the International Agency for Research on Cancer moved processed meats to a Class 1 carcinogen, the strongest level of evidence, in line with tobacco. This means that processed meats should be avoided. Additionally, red meat was moved to a Class 2 carcinogen, suggesting the need to limit intake of red meat.[8] The WCRF/AICR recommends limiting red meat to no more than 18 ounces per week.[5]
6. **Limit sugary drinks.** Sugar provides excess calories in the diet, and this excess intake can lead to weight gain.[5]
7. **Limit alcohol.** According to the WCRF/AICR, strong evidence points to consuming alcohol as a cause of head and neck cancers, squamous cell carcinoma [esophageal cancer], liver cancer, colorectal cancer, breast cancer and stomach cancer.[5]
8. **Don't rely on supplements for cancer prevention.** There is no strong evidence that dietary supplements reduce the risk of cancer.

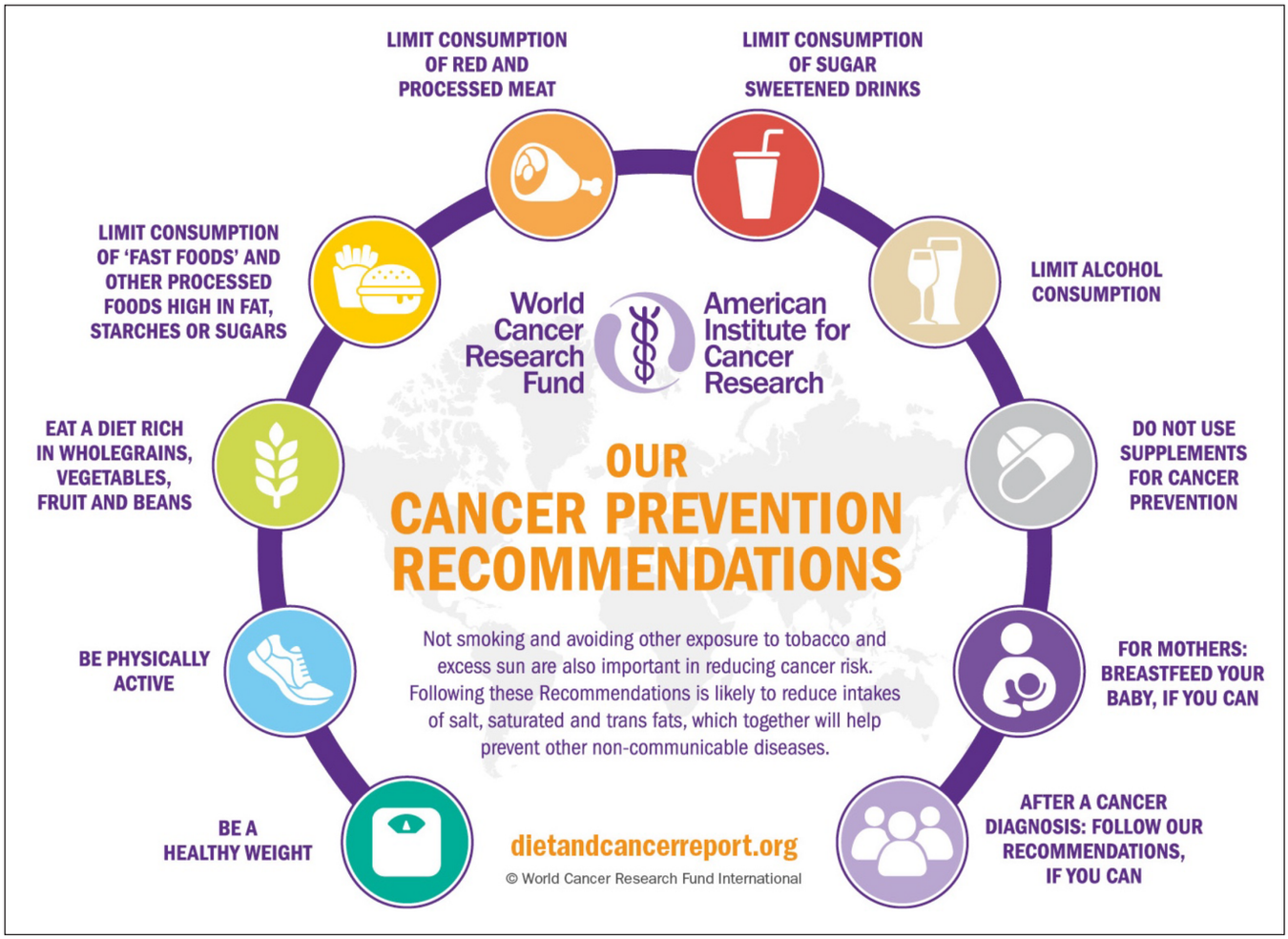

Figure 1. Recent recommendations outline a total lifestyle approach for cancer prevention. Source: World Cancer Research Fund/American Institute for Cancer Research, "Diet, Nutrition, Physical Activity and Cancer: A Global Perspective." Continuous Update Project Expert Report 2018. Available at www.dietandcancerreport.org

This material has been reproduced from the World Cancer Research Fund/American Institute for Cancer Research. "Diet, Nutrition, Physical Activity and Cancer: a Global Perspective." Continuous Update Project Expert Report 2018. Available at dietandcancerreport.org.

Some evidence suggests supplementing the diet with calcium may lower risk for colorectal cancer, but whole foods alone are the best way to reduce the risk of developing cancer.[5]

For cancer survivors, the WCRF/AICR encourages following these recommendations after completing treatment to reduce the risk of reoccurrence.

This material has been adapted from the World Cancer Research Fund/American Institute for Cancer Research. "Diet, Nutrition, Physical Activity and Cancer: a Global Perspective." Continuous Update Project Expert Report 2018. Available at dietandcancerreport.org.

Q. *Has my diet caused my cancer?*

A. This is a very difficult question to answer. Individuals with cancer often want to know why they developed cancer in the first place. Occasionally, with the help of a genetic counselor, it is possible to determine if a cancer has a genetic component, but to date only a very small percentage of cancers—just 5–10%—are identified as caused by genetic factors.[9] While obesity and certain types of foods are known to contribute to cancer development, placing blame is of little use. After a diagnosis, it is better for individuals to focus on successful treatment.

Q. *Can I eat in a particular way to beat the cancer and improve my chances for a good recovery?*

A. Absolutely! Diet can impact an older adult's tolerance of cancer treatment and overall quality of life. Good nutrition during treatment can help individuals stay active, improve strength and energy, fight fatigue, feel better, protect lean

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body mass, decrease risk of infection, and reduce treatment side effects.[10] One guide to eating well during cancer treatment is MyPlate, a US Department of Agriculture resource that supports a balanced diet with a wide variety of foods.[11] For specific cancer-related nutrition problems and solutions, refer to the sidebar on page 63.

Q. *My friend found eating _____ helped cure her cancer. Should I try it too?*

A. *"Everyone is unique, and each experience is different."* **– Gloria Steinem**
Although Gloria Steinem wasn't talking about cancer in the above quote, her sentiment describes the experience of individuals with cancer. You can have two individuals with similar types of cancer receiving similar treatments, yet they may have two different experiences and outcomes. For example, older adults often react more severely to cancer treatments than their younger counterparts. While cancer treatments frequently result in complications and side effects, cancer treatments can be even more challenging for older adults because of underlying health conditions such as diabetes and heart disease. In short, more comorbidities can complicate the cancer treatment process.

In addition, older adults typically have a more severe response to treatments, even if they are free from other conditions before starting therapy. "Cancer is a complex disease that must be analyzed from several points of view, and special aspects need to be emphasized for the elderly,"[12] states clinical psychologist Tania Estapé, PhD, of Spain's FEFOC Foundation. Unfortunately, the side effects of cancer treatment can often have such a negative impact on older adults' quality of life that they may choose to limit treatment or end the treatment cycle early. The suggestions in the following answer may help in reducing and treating some side effects of cancer and its therapies.

Q. *What can I do to help my _____?*

A. Many people undergoing cancer treatment report one or more symptoms that impact nutrition, such as nausea, fatigue, constipation, diarrhea, appetite loss, mucositis (inflammation of mucous membranes in the mouth/throat), and/or taste and smell changes. Symptoms associated with cancer treatment can negatively affect quality of life. Below are tips to help manage a few of the most common side-effects of cancer treatments.

Nausea. Nausea is among the most frequent side effects of cancer treatments. Individuals should talk to the oncologist or treatment center staff if prescribed nausea medication does not seem to work. Some other steps to help manage nausea include:[13]

- Avoid foods with strong smells.
- Eat cool, light foods with little smell, as they may be better tolerated.
- Eat 5–6 small meals daily to prevent an overfilled stomach. Other ways to avoid feeling too full include consuming liquids between meals and not consuming high-fat, greasy foods.
- Use ginger (teas, candies, capsules) to help control nausea.
- Take pain medications with food to minimize nausea.

Acupuncture and relaxation techniques may also help with controlling nausea.

Fatigue. Adequate hydration is vital to fight fatigue, another common side effect of cancer treatment. Aging can lead to a reduced sensation of thirst, meaning

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Amount of fiber in common food choices

Food	Serving size	Fiber (grams)
Beans, lentils	1 cup	16 grams
Whole wheat pasta	1 cup	6 grams
Cooked oatmeal	1 cup	5 grams
Pear, apple	1 medium	5 grams
Broccoli	1 cup	5 grams
Potato with skin	1 medium	4 grams
Orange	1 medium	3 grams
Strawberries	1 cup	3 grams
Nuts	1 ounce	3 grams
Whole wheat bread	1 slice	2 grams

Table 1. Amount of fiber in common food choices. Source: Mayo Clinic, https://www.mayoclinic.org/health-lifestyle/nutrition-and-healthy-eating/in-depth/high-fiber-foods/art-20050948 (accessed May 2019).

Malnutrition Screening Tool (MST)

STEP 1: Screen with the MST

1 Have you recently lost weight without trying?

No	0
Unsure	2

If yes, how much weight have you lost?

2-13 lb	1
14-23 lb	2
24-33 lb	3
34 lb or more	4
Unsure	2

Weight loss score: _____

2 Have you been eating poorly because of a decreased appetite?

No	0
Yes	1

Appetite score: _____

Add weight loss and appetite scores

MST SCORE: _____

STEP 2: Score to determine risk

MST = 0 OR 1
NOT AT RISK
Eating well with little or no weight loss

If length of stay exceeds 7 days, then rescreen, repeating weekly as needed.

MST = 2 OR MORE
AT RISK
Eating poorly and/or recent weight loss

Rapidly implement nutrition interventions. Perform nutrition consult within 24-72 hrs, depending on risk.

STEP 3: Intervene with nutritional support for your patients at risk of malnutrition.

Notes: _____

Ferguson, M et al. *Nutrition* 1999 15:458-464

Abbott Nutrition

Figure 2. Malnutrition Screening Tool (MST). Source: Abbott Nutrition

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older adults often drink less fluid than their bodies need.[14] It is important to encourage individuals to drink fluids regularly.

Fatigue may interfere with meal preparation. Encourage individuals to keep ingredients for easy-to-prepare meals readily available, along with energy and nutrient dense foods or snacks. Oral nutrition supplements are another option to increase energy and protein in the diet. These products can be consumed with meals or as a snack.

Constipation. Many factors can cause constipation during cancer treatments, including chemotherapy, pain medications and some drugs for nausea.[15] Dietary factors can also lead to this problem—lack of fluids or not enough food contribute, for example. Although medications can relieve constipation, dietary changes can help as well. Encourage individuals to:

- Remember that a high-fiber diet of 25–35 grams per day with adequate fluid intake can help relieve constipation. To assure fiber intake falls within this recommended range, consume 3 servings of vegetables, 2 servings of fruit, 3 servings of whole grains, and ½ cup beans/lentils per day. It is essential to note that eating more fiber *without* consuming adequate water can worsen constipation.
- Drink a hot beverage in a relaxed environment to help stimulate a bowel movement.
- Consider using probiotics, but check with a physician first. Many individuals with cancer have compromised immune systems, so the bacteria in a probiotic may be a concern.

A lower-back massage along the spine may encourage a bowel movement, as well.

Diarrhea. Medications can help individuals gain control of bowel movements if diarrhea is an issue, yet there are also dietary factors that they can prioritize:

- Stay hydrated during periods of diarrhea. For older adults who experience diarrhea during cancer treatments, recommendations suggest drinking at least the typical recommended 8 cups per day, plus a cup of water for each loose stool.
- Consume soluble fibers found in bananas, rice, applesauce, peaches and white bread, which absorb fluids in the gut and may help reduce the number of loose stools.

Appetite loss. Encourage individuals who have no appetite due to cancer treatments to eat small, frequent meals, and also recommend they try calorie-dense foods and drinks such as peanut butter, milkshakes or oral nutrition supplements.[13] People may find it easier to eat "by the clock" or at set times rather than waiting for hunger cues. It's important that they view eating as a part of their overall treatment plan. Again, oral nutrition supplements are beneficial for providing extra calories and protein, especially when eating feels too tiring.

Mucositis. Cancer or cancer treatment can lead to mucositis, which is a painful, irritated mouth or throat. A physician can prescribe techniques and therapies that people can use to try and prevent mouth sores. Soft, bland, room-temperature foods will probably be easier to eat and swallow if sores occur. Individuals also should:[13]

- Choose foods low in acid. As high-acid foods can irritate the mouth, avoid foods such as tomatoes, oranges, sodas and pickled foods as well as foods containing alcohol.
- Avoid spicy foods and serve foods cool or at room temperature.
- Eat ice chips or frozen fruit.

It's advantageous for people with mucositis to maintain good oral care. You can recommend they swish the mouth with a mixture of salt (1 tsp) and soda (1/2 tsp) mixed in 4 cups of water to relieve discomfort.

Taste and smell changes. Individuals may experience sensory changes with cancer treatment. These changes may range from having little or no sense of taste and smell to experiencing these senses as heighted or altered. Once cancer treatment ends, normal taste sensations can take up to a year to return. To help manage these changes in the meantime, individuals can:[13]

- Add more flavor to food through lemon, herbs, spices and pepper if the person experiences little or no sense of taste.
- Eat with plastic silverware or add sweetener, such as sugar or honey, to food if the person has a bitter or metallic sense of taste.
- Use low-sodium products and choose naturally sweet foods if foods taste too salty.
- Marinate meat in a sweet and sour sauce if it tastes "off."
- Avoid cooking areas during mealtime preparation, and select cold or room-temperature foods such as sandwiches, salads and smoothies, if food smells are bothersome.

For more information about these common side effects, visit the American Cancer Society,[16] National Cancer Institute[15] (one of the US National Institutes of Health), and World Cancer Research Fund UK[13] websites (refer to "Resources" on page 64).

Nutrition and cancer myths

A lack of knowledge can hamper understanding of how eating well contributes to older adults' health and quality of life at every stage in the cancer continuum—prevention, treatment and survivorship. By providing educational programming on nutrition and cancer, you can help meet the need for information. Pro-

grams should also address widespread myths on this topic, including those below, to ensure a foundation of facts.

"Sugar feeds cancer." Please do not suggest individuals search the Internet on this subject; so much misinformation exists that it is hard to know what to believe. The idea that "sugar feeds cancer" came from an imaging test known as the positron emission tomography (PET) scan.[17] This scan uses iodized sugar injected into the vein to locate cancer cells. The iodized sugar quickly shows up in areas of the body with high metabolic activity, like cancer cells. So, the simple answer to the question is, yes, sugar feeds cancer: Cancer cells have a high replication rate and use carbohydrate or sugar in the diet very quickly.[17,18]

However, carbohydrate is also the primary fuel for every other cell in the body. And there is no way to "pick and choose" which cells receive what nutrients. Cancer cells will find the nutrients needed to grow and multiply—whether it means taking the nutrients from the body's own stores or breaking down healthy cells—even if the individual with cancer stops eating altogether. Because healthy cells need carbohydrate too, avoiding carbohydrate will *not* slow cancer growth but rather leave healthy cells low on energy.[17,18]

This reality does not give anyone a license to eat a lot of sugar. A high intake of carbohydrate can cause higher insulin levels, which can lead to inflammation, insulin resistance and other health issues such as obesity.[17,18] Avoiding sugar completely is not necessary. Food with excess sugar should simply be limited and replaced with more healthful fruits and vegetables.

"Organic foods are a much better choice." Eating organic foods is a personal choice. These foods are grown and processed in a way that enhances soil and water quality, reduces pollution, provides safe and healthy livestock habitats, and promotes a self-sustaining cycle of resources on a farm.[19] When compared with conventionally grown produce, organic foods have a lower detectable level of pesticide residue. The difference in health outcomes remains unclear, however.

The US Department of Agriculture regulates pesticide levels of all produce—organic or conventionally grown—and the levels of pesticides considered safe for human consumption.[19] Contrary to popular belief, organic food does not seem to be more nutritious or higher in vitamins, minerals or phytonutrients. A Stanford University School of Medicine study reviewed over 200 studies that examined the difference between organic and conventional foods. According to Crystal Smith Spangler, MD, there is a "definite lack of evidence" that organic foods are more nutritious than standard fruits and vegetables.[20]

One drawback to organic foods is the cost. If older adults and families/caregivers can manage the higher price and they like the idea of a more environmentally-friendly food production system, organic food may be their choice. They should not skimp on healthy conventional foods, however, if they are unable to afford organic. What is most important is to eat a variety of whole grains, fruits and vegetables.

"I don't need to tell my doctor if I take a dietary supplement." Individuals with cancer and older adults in general may be more predisposed to taking dietary supplements but may not tell their healthcare professionals. A study[21] published in the journal *Supportive Care in Cancer* found that among 227 new patients ages 18+ at a cancer treatment center, 73% took dietary supplements in the 30 days prior to the study. Among 80 chemotherapy patients, 71% had used such supplements within the past 30 days, while 25% were taking herbal products suspected of causing *adverse reactions* with the drug treatment. More than half the patients (53%) had not consulted their doctors about dietary supplement use.

The research behind many dietary supplements is limited and sometimes controversial. Further, this evidence may not be applicable to older adults with cancer—in fact, it may even be detrimental. For example, antioxidants are an important part of a healthy diet.

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Supporting resilience in the oldest survivors

Among cancer survivors in the United States, roughly 1.9 million individuals were thought to be 85 years or older in 2019, reveals the American Cancer Society (ACS) "Cancer Facts & Figures 2019" report.[1] Cancer survivorship in adults 85+ is associated with increased depression, distress and anxiety, as well as accelerated aging due to reduced physical function, the publication says. Some age 85+ survivors "remain resilient," however. "Physical activity, maintaining a healthy weight, and subjective happiness serve as protective factors against physical functioning declines...," the report notes. It adds that oldest-old cancer survivors "can also benefit from programs that encourage smoking cessation, weight management and social support."

The ACS "Cancer Facts & Figures 2019" report includes a special section about "Cancer and the Oldest Old." It is available online at https://www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2019/cancer-facts-and-figures-2019.pdf.

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Yet some studies have shown that antioxidant supplements can interfere with chemotherapy.[22] Antioxidants such as omega-3 fatty acids, vitamin C and curcumin (a polyphenol found in the spice turmeric) can actually *protect* cancer cells against this treatment, this research suggests.

For these kinds of reasons, it is important for individuals with cancer to tell their oncologists about any dietary supplements they take. Their physicians can then review the products for possible adverse interactions.

A vital practice

All active-aging professionals benefit by knowing how a cancer diagnosis can affect the lives of residents or members. You can make a positive impact on the lives of those dealing with the disease by becoming better educated about common nutrition and cancer-related questions. You can also bolster your constituents' knowledge on the topic with educational programs.

Additionally, you may want to recommend that residents or members with cancer seek a Registered Dietitian Nutritionist for personalized counseling. Many cancer centers have a dietitian on staff. Encourage individuals to speak with a dietitian at their next appointment. You might also suggest they use the Academy of Nutrition and Dietetics "Find an Expert" website to locate a Registered Dietitian Nutritionist in the region who specializes in cancer/oncology nutrition.

Good nutrition is a vital part of cancer treatment. For individuals diagnosed with the disease, eating well can help reduce symptoms, improve treatment tolerance and enhance quality of life. Yet a nutritious diet has a positive impact throughout the cancer continuum—prevention, treatment and survivorship—which makes eating well a vital practice for a long, active life.

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Cancer-related nutrition problems and solutions

Malnutrition. Malnutrition, or undernutrition, is defined by several criteria including weight loss, poor food intake and loss of muscle mass. As many as 1 in every 2 older adults is at risk of malnutrition.[23] That risk becomes even greater during cancer treatment, as unintentional weight loss is more likely to occur. Additionally, cancer treatment can deplete muscle mass, and older adults typically have an overall lower muscle mass prior to starting treatment. The Malnutrition Screening Tool (MST) shown in Figure 2 (see page 59) identifies older adults at risk for malnutrition.

Anorexia. Defined as a loss of appetite, anorexia is a common side effect of either cancer itself or cancer treatment. This lack of appetite can result in malnutrition. Anorexia also leads to weight loss, which can increase the severity of treatment side effects, raise the risk of infection, reduce overall independence, and lower chance of survival. Eating small, more frequent meals can help with anorexia.

Cachexia. Malnutrition may also occur due to cancer cachexia, defined as an involuntary weight loss, muscle wasting, and abnormal metabolism of carbohydrates, proteins and fats.[24] While the exact mechanism that leads to cachexia is unclear, we know that individuals with advanced cancer have a much higher metabolism. These individuals can burn up to 150% more calories in a day than their healthy counterparts.

Additionally, older adults are already at higher risk for declining muscle mass and strength, even without a cancer diagnosis. Research has identified that older adults should consume 1.0–1.3 g/kg per day of dietary protein, which is higher than the typical recommendation of 0.8 g/kg per day.[25] Thus, even if older adults with cancer are not feeling well and find it difficult to eat, the most important thing is for them to consume enough calories to prevent weight loss. Oral nutrition supplements can be beneficial because the products provide a concentrated source of calories, protein and other nutrients in a limited volume. These supplements are also ready-to-drink and require no refrigeration.

Unintentional weight loss. If individuals undergoing cancer treatment are losing weight, it is important to determine if this weight loss is intentional or not. Sometimes those diagnosed with cancer lose weight simply through their attempts to make better food choices, such as substituting more fruits and vegetables for high-calorie chips and snacks. While healthier eating is good, older adults must also understand that they may need to increase their overall food intake to maintain their weight.

Failing to meet nutrition goals. Many older adults do not meet their nutrition needs—particularly for protein. In fact, a 2019 study identified that almost half (46%) of older adults are not meeting the recommended protein requirement.[26] For older adults going through cancer treatment, eating adequately can become even more of a challenge. Support from family or friends is of utmost importance to assure adequate food is readily available. Encouraging "social eating" can also improve intake—studies have shown that older adults who eat with others tend to consume more calories. [27]

One important thing for caregivers to note is that when individuals with cancer do not have an appetite, it is very difficult for them to eat.[27] And while most caregivers may not understand the medical processes involved in cancer treatment, they do recognize the importance of their loved ones eating. The result is often increased tension between the affected individual and his/her caregiver(s). To help resolve this tension, caregivers may want to discuss a compromise with their loved ones. For example, are there windows of time during the day when food will not be mentioned and other times when food intake can be encouraged?

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Resources

Abbott Nutrition Health Institute: Dehydration Infographic (includes tips on how to stay hydrated)
https://static.abbottnutrition.com/cms-prod/anhi-2017.org/img/3567%20-%20ANHIPN_18_03567_B_ANHI%20Dehydration%20Infographic_R03e_tcm1423-118033.pdf

American Cancer Society: Treatment & Support
www.cancer.org/treatment.html

American Institute for Cancer Research: iTHRIVE Plan
www.aicr.org/patients-survivors/ithrive/

Canadian Cancer Society
www.cancer.ca

Cancer Health Check (American Institute for Cancer Research)
www.cancerhealthcheck.org

ChooseMyPlate (US Department of Agriculture)
www.choosemyplate.gov/eathealthy/start-simple-myplate

Eat Right (Academy of Nutrition and Dietetics): Find an Expert
www.eatright.org/find-an-expert

International Agency for Research on Cancer (World Health Organization)
www.iarc.fr

National Cancer Institute (US National Institutes of Health): Side Effects of Cancer Treatment
www.cancer.gov/about-cancer/treatment/side-effects

World Cancer Research Fund/ American Institute for Cancer Research: Cancer Prevention Recommendations
www.dietandcancerreport.org (select "Cancer Prevention Recommendations")

World Cancer Research Fund/ American Institute for Cancer Research: Third Expert Report. Resources and toolkits
www.dietandcancerreport.org (select "Resources and toolkits")

World Cancer Research Fund UK: Coping with cancer side-effects
www.wcrf-uk.org/uk/here-help/eat-well-during-cancer/common-cancer-side-effects

Multimedia

Kiker, L. (2019, August 7). Nutrition and Cancer: From Prevention to Treatment. ICAA Webinar Series. Sponsored by Abbott Nutrition. Available on-demand at www.icaa.cc/store_detail.php?id=7320

Print

American Cancer Society (2019). Cancer Facts & Figures 2019. Atlanta, GA: American Cancer Society, Inc. Available at www.cancer.org/content/dam/cancer-org/research/cancer-facts-and-statistics/annual-cancer-facts-and-figures/2019/cancer-facts-and-figures-2019.pdf

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