

# Nutritional Recommendation For Cancer Survivors

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## ABSTRACT

*After cancer diagnosis, diet and nutritional factors are important in controlling both quality and quantity of life. The oncologists should take care of the nutritional requirements for newly diagnosed patients and patients already undergoing active treatment. Physicians should also refer patients with more exhaustive nutritional requirements to dietitians and to advance the necessity of weight management and healthy diet which is low in saturated fat and simple sugars and high in fruits and vegetables and unrefined whole grains.*

*Key words: Diet plan, Weight management, Health behaviour change*

## INTRODUCTION

Around 1.44 million people in 2008 were diagnosed with cancer, <sup>1</sup> and hence they were named as “cancer survivors.” 65% were newly diagnosed, this diagnosis prolongs to long-term survivorship and maintenance of health.<sup>2</sup>Cancer survivorship is a new concept. In olden days, population had reduced survival rate due to disease, where longer survival rates are a victory but the disadvantage is that survivors will experience recurrence or second cancers. Moreover certain diseases develop such as cardiovascular disease (CVD), diabetes, or osteoporosis, which usually causes death or attenuate survivors at increased rates than cancer.<sup>3,4</sup> Diet and physical exercises produces variation in primary cancer risk prevention and life quality improvement.<sup>3</sup>It has been proven that nutritional status is important not only in duration of disease but also in cancer progression.<sup>5,6</sup>Nutrition guidelines for cancer survivors were given by American Cancer Society (ACS) in 2003, and after three years it was updated.<sup>7</sup>American Institute for Cancer Research (AICR) along with World Cancer Research Fund (WCRF) gave dietary guidelines in 2007 for preventing cancer and also established to cancer patients.<sup>8</sup> ACS and WCRF/AICR guidelines were based on primary cancer prevention. They gave similarities with the guidelines of prevention and treatment of other prevalent chronic diseases, such as CVD and diabetes. Tables 1 and 2 gives guideline summaries from each organization. This article explains nutrition associated conditions of cancer patients starting from diagnosis till long-term survivorship, such as loss of appetite and less amount of food intake which is commonly present in some cancer treatments and lasting up to weight-related problems.

**TABLE 1: Guidelines on Nutrition and Physical Activity for Cancer Prevention By American Cancer Society.**

For healthy weight	<ul style="list-style-type: none"><li>• Caloric intake should be balanced along with physical exercise.</li><li>• Excessive weight gain must be avoided throughout life.</li><li>• In case of obesity, maintain a healthy weight</li></ul>
Choose healthy physical activities.	<ul style="list-style-type: none"><li>• ADULTS: Practise moderate-to-vigorous physical activity, above usual activities for at least 30 minutes for 5 days in a week. Intentional physical activity for 45 to 60 minutes are favoured.</li></ul>

	<ul style="list-style-type: none"> <li>• CHILDREN AND ADOLESCENTS: Practise moderate-to- vigorous physical activity for at least 1 hour per day for 5 days in a week.</li> </ul>
Consumption of balanced diet majorly vegetables.	<ul style="list-style-type: none"> <li>• Foods and beverages in balanced amounts for maintaining healthy weight should be chosen.</li> <li>• Consume five or more variety of vegetables and fruits per day.</li> <li>• Consume refined grains and processed and red meats should be limited.</li> </ul>
Habit of alcoholic beverages	Drink one time per day for women and two times per day for men

**TABLE 2: Recommendations of Nutrition, Physical Activity And Cancer Prevention by World Cancer Research Fund/American Institute of Cancer Research**

Body Weight	Maintain normal body weight.
Physical activeness	Be physically active
Diet promoting body weight	Energy-dense foods should be consumed in lesser quantity. Sugary drinks must be avoided.
Vegetables	Eat more vegetables
Meat	Consumption of red and processed meat should be limited
Alcohol	Reduce alcoholic drinks.
Salt intake	Consumption of salt must be limited.
Diet	Nutritional requirements should be achieved through diet alone
Cancer Patients	Guidelines for preventing cancer must be followed

## BODY WEIGHT MANAGEMENT

### Accidental Weight Loss

- Nutritional care goals for underweight patients: To prevent nutritional deficiencies, to maintain body mass, to decrease nutrition-related adverse effects (like loss of appetite, modified taste and smell, discomfort in swallowing and nausea or vomiting), and to promote life quality.<sup>7</sup>
- Cancer Therapy: Patients with normal body mass index have substantial weight loss. Also with relation to poorer treatment resistance, consequences and low quality of life.<sup>9</sup>
- Head and neck, Lung, and gastro-intestinal cancers: Patients have higher complication for weight loss and side effects from under nutrition<sup>7</sup>. In order to improve outcome for these patients, dietary counselling is necessary during treatment .<sup>7,9</sup> To obtain additional calories, intake of more energy- and nutrient-dense foods including peanut butter, yogurt, dried fruit, avocados, cheese, granola, legumes, and eggs is suggested.
- Mouth sores obstructs food consumption which are neither chemically nor physically abrasive e.g., citrus or tomato-based foods, tortilla chips, soft, bland foods and casseroles are often resisted.
- Patients who are unable to eat solid food: More liquid supplements are given which provides enough nutritional support.<sup>7</sup>
- ACS guidelines suggest to refer cancer patients to a dietitian, specifically for patients who could not eat and who have failed to gain weight.

### Weight Gain And Its Disorders

Overweight and obesity determines cancer patient's overall health and survival. They are more entrenched complicating factors for breast cancers (post-menopausal), colon, kidney, and endometrium, and obesity-related cancers population is infinite.<sup>8</sup>Based on the data , overweight and obesity (BMI >24.9) percentage increases beyond 70% in two segments of cancer patients (survivors of breast and prostate cancer).<sup>10</sup>Another study suggested that overweight during diagnosis is related to high mortality for all cancers types , especially for non-

Hodgkin's lymphoma and multiple myeloma, and breast cancers, oesophagus, colon and rectum, cervix, uterus, liver, gallbladder, stomach, pancreas, prostate, and kidney.<sup>11</sup> Overweight is usual during or after therapy for different types of cancers<sup>12</sup> and might be provoked by certain therapy (i.e., adjuvant chemotherapy). At present, guidelines support a moderate rate of weight loss during the course of treatment among obese patients considering oncologist approval.<sup>12</sup> Guidelines for weight management for cancer survivors must add caloric limitation, behaviour therapy and obtaining higher energy through exercise.<sup>13</sup> While moderate weight loss rates can be accomplished by replacing with low-energy foods such as water-rich vegetables, fruits, whole grains, and broth-based soups<sup>14</sup> Studies have proposed physical exercise to be a strong weight loss detector among cancer patients.<sup>15</sup>

## DIET PLANS & FOOD CHOICES

For cancer survivor food choice and proportion is an important factor.<sup>7</sup> Moreover cancer patients have higher complication for chronic diseases (mostly second cancers and CVD). Guidelines suggest cautious food which mainly comprised of fruits, vegetables and whole grains since they have restricted amounts of fat, simple sugars and red or processed meats.<sup>8</sup>

Colorectal-cancer survivors: Studies explain the advanced overall survival and decreased colorectal recurrence rate and mortality when compared between Western-type diet (increased consumption of meat, refined grains, high fat dairy products, and desserts) and prudent diet (increased consumption of fruits, vegetables, whole grains and low-fat dairy products)<sup>16</sup>

Breast and prostate cancer patients: Studies suggest that quality of diet during survivorship is connected to quality of life and physical functioning significantly.<sup>17,18</sup>

## RECOMMENDED DIET

- Frequent consumption of protein is mandatory in all stages of cancer treatment, recovery, and prolonged survival.<sup>7</sup>
- Protein foods containing low saturated fat such as lean meat and poultry, fish, low-fat dairy products, nuts, seeds, and legumes are taken to reduce calories and for cardio-protective benefits.
- Though fats and oils are energy-dense, potential benefit of lowfat diet is still controversial<sup>8</sup>. Hence fat rich diet are typically high in calories, resulting in obesity.
- Healthy fats such as monounsaturated and polyunsaturated fats (from plants and oils), saturated fats (from animal sources or solid fats) must be reduced and trans fats (formed while processing fats) should be limited.

## Other Food Related Guidelines

- Depending on the recommendations, red and processed meats and salty foods are avoided in order to prevent colorectal and aerodigestive cancers,<sup>8</sup>
- Though sugars such as honey, brown- and raw-sugar, molasses, and highfructose corn sweeteners does not increase cancer progression directly,<sup>7</sup> they can increase an ample of nutrient-poor calories thus substituting more nutritious food choices.

## Alcoholics

Among cancer patients (i.e., survivors of head, neck, lung and prostate cancers) moderate-to-heavy drinking is often observed. Alcoholics among cancer survivors is same as that of general population.<sup>19</sup> ACS proposes reduction of alcohol consumption to less than two drinks per day for men and one drink/day in women but WCRF/AICR suggests "the evidence on cancer substantiate a recommendation not to consume alcohol."<sup>7,8</sup> Though alcohol produces cardio-protective benefits it also supplies ample amount of calories of poor nutrition. Regular alcohol intake is strictly prohibited for head and neck cancer survivors due to higher co-morbidity rates and poorer treatment outcomes.<sup>4</sup>

## HEALTH BEHAVIOUR MODIFICATION

Cancer patients start to adopt healthier lifestyle practices by their own.<sup>3</sup> They might have important needs (e.g., fatigue, incontinence, lymphedema, food intolerances or digestive disorders, long-term tobacco or alcohol addictions) which should be acknowledged if attempts to cultivate healthy lifestyle.<sup>20</sup> Gender differences is present in psychological distress levels after diagnosis (males describes decreased initial levels which lowers significantly over time while females have increased initial levels which lowers), presenting the truth that optimal intervention timing might be sewn.<sup>21</sup> Simultaneous requirements of treatment and rehabilitation, difficult level for adopting a specific behaviour, patients' self-potency in adopting behaviour change and other unique patient characteristics are likely to promote victory.<sup>4,20</sup> Distance-medicine based approaches produces an alternative measures for targeting worldwide survivor populations (e.g., childhood cancer patients ) or for patients who are in need of long-term follow-up. Telephone counselling helps in addressing distance barriers and for different levels of success among cancer survivors.<sup>4,20</sup> Health care providers recommends a critical first step in encouraging patients for changing their lifestyle.<sup>3</sup> But data shows only some oncologist guides healthful lifestyle change. Health care practitioners announces barriers such as challenging treatment or health concerns, time pressure or confused health behaviour messages.<sup>22</sup> Nurses should take initiative to provide healthful dietary change and frequent follow-up.

#### Supplementary diet

Cancer patients use high amount of diet supplements. Though they are beneficial for health, some studies report that they are harmful.<sup>7,8</sup> Use of supplement may interrupt with certain cancer therapies such as chemo- and radiation treatment, but the proof for those effects is limited. Multiple vitamin/mineral supplements comprising 100% of the Dietary Reference Intake are suggested during suboptimal intake time.<sup>7</sup> Both ACS and WCRF/AICR motivate cancer patients to gain dietary requirements only from foods but not from supplements.

#### CONCLUSION

Cancer survivor mostly undergo an agonizing journey right from diagnosis, treatment to recovery. Health care practitioners and nurses should take responsibility to supply sound nutritional guidance. Health behaviour change in cancer survivors reduces the risk of recurrence and the danger for other co-morbid conditions. Pivotal determinants for long-term health after diagnosing cancer comprises of managing weight by balance calorie intake with frequent exercises and energy -dense diet consumption to produce necessary healing elements and defence against cancer recurrence and other forms of comorbidity. Thus we must consider patient's requirements, appreciate unique obstructions to change and further study must be conducted to find a profitable mediation that improves disease-free survival and overall health.

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