

**TERAPIE INTEGRATE
IN ONCOLOGIA**
1° Incontro
Terapie Integrate e carcinoma mammario

**Linee Guida ASCO 2022 su esercizio fisico,
dieta e gestione del peso corporeo**

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Exercise, Diet, and Weight Management During Cancer Treatment: ASCO Guideline

Ligibel et al. JCO 2022;40:2491-2498

Overview

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 - Target population and audience
2. Summary of recommendations
3. Special considerations
 - Advanced cancers
 - Health disparities
 - Biomarker endpoints
 - Patient and clinician communication

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Background & Methodology

Background

- Observational data and RCTs show the benefit of healthy lifestyle change **after cancer** diagnosis, leading guidelines recommending the incorporation of physical activity, weight management, and dietary modification as a part of **cancer prevention and control**.^{1,2,3}
- There has been limited guidance focused on patients **during** cancer treatment.
- This time period is critical given that cancer treatment often leads to declines in cardiorespiratory fitness and physical functioning, unfavorable changes in body composition, and side effects such as neuropathy and fatigue.
- This ASCO guideline seeks to provide evidence-based recommendations regarding exercise, diet, and weight management interventions in adults undergoing active cancer treatment.

1. World Cancer Research Fund/American Institute for Cancer Research: Diet, Nutrition, Physical Activity and Cancer: a Global Perspective. Available at dietandcancerreport.org, Continuous Update Project Report 2018.

2. Rock CL, Doyle C, Demark-Wahnefried W, et al: Nutrition and physical activity guidelines for cancer survivors. CA Cancer J Clin 62:243-74, 2012

3. Campbell KL, Winters-Stone KM, Wiskemann J, et al: Exercise Guidelines for Cancer Survivors: Consensus Statement from International Multidisciplinary Roundtable. Med Sci Sports Exerc 51:2375-2390, 2019

ASCO Guideline Development Methodology

- The ASCO Evidence Based Medicine Committee (EBMC) guideline
- 52 systematic reviews
 - 42 for exercise
 - 9 for diet
 - 1 for weight management

Name	Affiliation/Institution	Role/Area of Expertise
Jennifer A. Ligibel, MD, Co-chair	Dana-Farber Cancer Institute, Boston, MA	Medical oncology, breast cancer, exercise and weight management interventions
Catherine M. Alfano, PhD, Co-Chair	Northwell Health Cancer Institute and Feinstein Institutes for Medical Research, New York, NY	Behavioral science, symptom management, cancer care delivery research
Steven K. Clinton, MD, PhD	The Ohio State University, Columbus, OH	Prostate cancer, molecular carcinogenesis and chemoprevention
Wendy Demark-Wahnefried, PhD, RD	University of Alabama at Birmingham, Birmingham, AL	Diet and weight management in obesity-related cancers
Susan C. Gilchrist, MD, MS*	University of Texas MD Anderson Cancer Center, Houston, TX	Cardiorespiratory fitness and cancer
Melinda L. Irwin, PhD, MPH	Yale School of Public Health, New Haven, CT	Exercise and weight management trials in breast and ovarian cancer
Michele Late	Arlington, VA	Patient representative
Sami Mansfield, BA	Cancer Wellness for Life, Lenexa, KS	PGIN representative
Timothy F. Marshall, PhD, MS	Ivy Rehab Network, White Plains, NY	Clinical Exercise, rehabilitation and cancer
Anne M. May, PhD	University Medical Center Utrecht, Utrecht, Netherlands	Epidemiology, lifestyle interventions and cancer
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Cynthia A. Thomson, PhD, RD	University of Arizona, Tucson, AZ	Diet and cancer care
William A. Wood, MD, MPH	UNC School of Medicine, Chapel Hill, NC	Malignant hematology, stem cell transplant, outcomes research, exercise interventions
Kari Bohlke, ScD	American Society of Clinical Oncology (ASCO), Alexandria, VA	ASCO Practice Guideline Staff (Health Research Methods)

Clinical questions

This clinical practice guideline addresses three clinical questions:

1. Does **exercise** during cancer treatment safely improve outcomes related to quality of life, treatment toxicity, or cancer control?
2. Does consuming a **particular dietary pattern or food(s)** during cancer treatment safely improve outcomes related to quality of life, treatment toxicity, or cancer control?
3. Do interventions to promote **intentional weight loss or avoidance of weight gain** during cancer treatment safely improve outcomes related to quality of life, treatment toxicity, or cancer control?

Target Population and Audience

Target Population

- Adults with cancer receiving systemic antineoplastic therapy or radiotherapy, or who are in the peri-operative period.
- Not include recommendations for individuals with breast cancer being treated with endocrine therapy.

Target Audience

- Clinicians who provide care to adults with cancer, as well as patients and caregivers.
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Summary of Recommendations

Summary of Recommendations

Clinical Question 1

- Does **exercise** during cancer treatment safely improve outcomes related to quality of life, treatment toxicity, or cancer control?

Recommendation 1.1

- Oncology providers should recommend aerobic and resistance exercise during active treatment with curative intent to mitigate side effects of cancer treatment.

Evidence-based benefits outweigh harms	
Evidence Quality	Strength of Recommendation
Moderate - Low	Strong

Note: Exercise interventions during active treatment reduce fatigue; preserve cardiorespiratory fitness, physical functioning, and strength; and in some populations, improve quality of life and reduce anxiety and depression. In addition, exercise interventions during treatment have low risk of adverse events. Evidence was not sufficient to recommend for or against exercise during treatment to improve cancer control outcomes (recurrence or survival) or treatment completion rates

Summary of Recommendations

Recommendation 1.2

- Oncology providers may recommend preoperative exercise for patients undergoing surgery for lung cancer to reduce length of hospital stay and post-operative complications.

Evidence-based benefits outweigh harms	
Evidence Quality	Strength of Recommendation
Low	Weak

Summary of Recommendations

Clinical Question 2

- Does consuming a **particular dietary pattern or food(s)** during cancer treatment safely improve outcomes related to quality of life, treatment toxicity, or cancer control?

Recommendation 2.1

- There is currently insufficient evidence to recommend for or against dietary interventions such as ketogenic or low carbohydrate diets, low fat diets, functional foods, or fasting to improve outcomes related to quality of life, treatment toxicity, or cancer control.

No recommendation	
Evidence Quality	Strength of Recommendation
Insufficient	N/A

Summary of Recommendations

Recommendation 2.2

- Neutropenic diets (specifically diets that exclude raw fruits and vegetables with the intent of decreasing exposure to microbes and bacteria) are not recommended to prevent infection in cancer patients during active treatment.

Evidence-based
harms likely to outweigh benefits

Evidence Quality
Low

Strength of Recommendation
Weak



Summary of Recommendations

Clinical Question 3

- Do interventions to promote intentional **weight** loss or avoidance of weight gain during cancer treatment safely improve outcomes related to quality of life, treatment toxicity, or cancer control?

Recommendation 3.

- There is currently insufficient evidence to recommend for or against intentional weight loss or prevention of weight gain interventions during active treatment to improve outcomes related to quality of life, treatment toxicity, or cancer control.

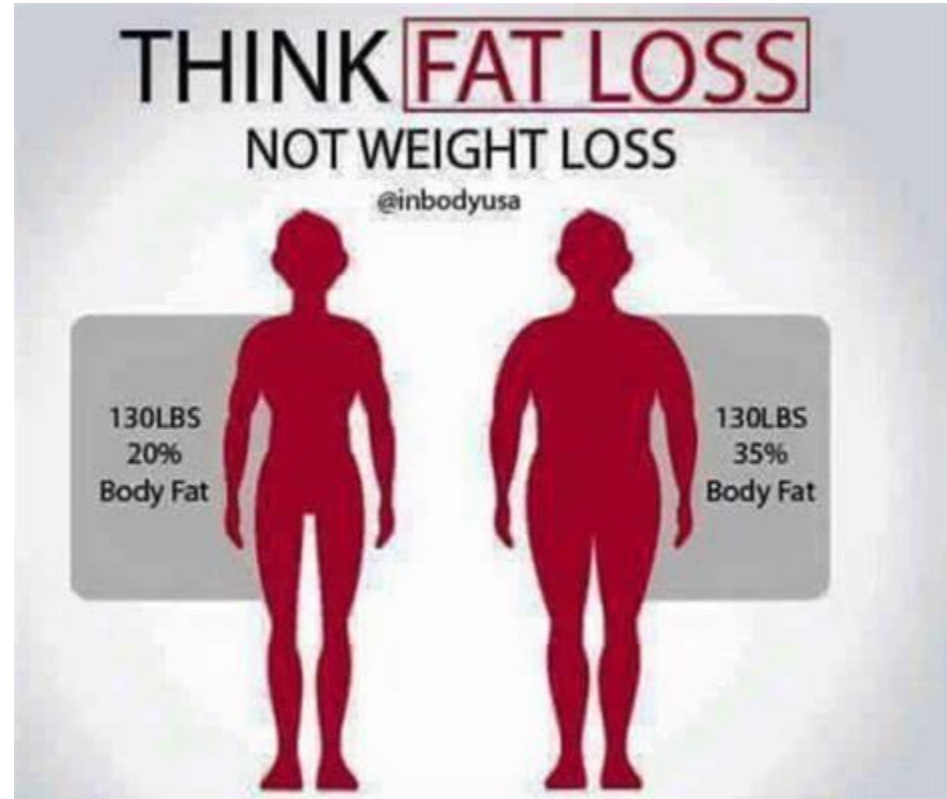
- *Note:* The Expert Panel felt strongly that the current lack of evidence regarding diet and weight management interventions during cancer treatment should be a call to conduct more research in these critical areas. Diet and weight management strategies that provide health benefits to the general population could also provide important benefits to people who are undergoing cancer treatment. The Expert Panel is not discouraging clinicians from discussing healthy diet and weight with their patients, but did refrain from making specific recommendations, given gaps in the evidence.

No recommendation

Evidence Quality
Insufficient

Strength of Recommendation
N/A

Weight, BMI and different body composition

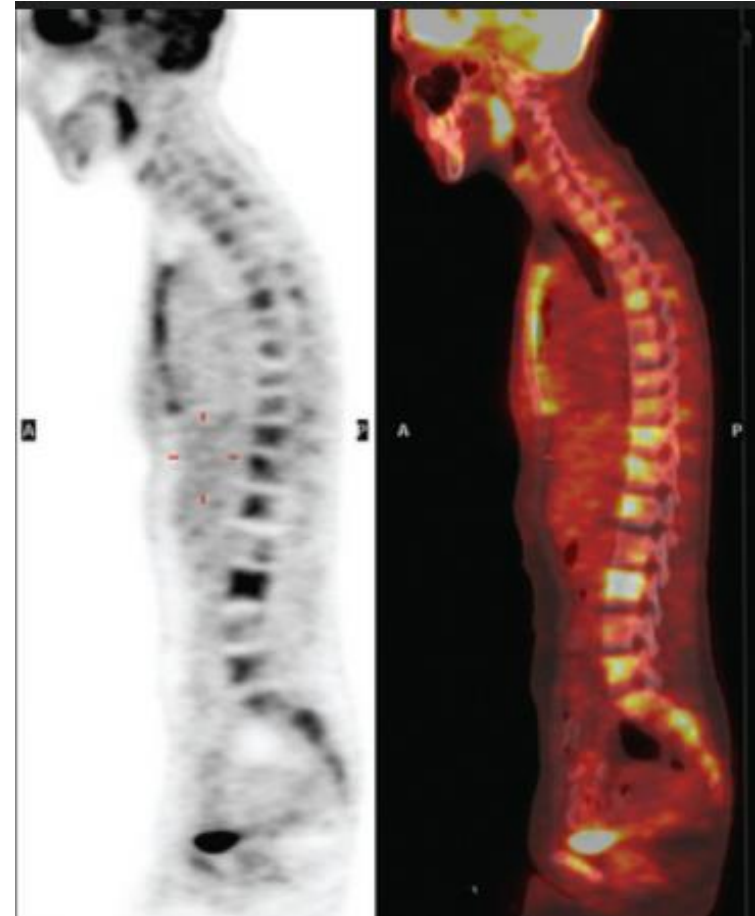


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Special considerations

Advanced cancers

- The literature evaluating the feasibility, safety, and potential benefits of exercise in patients with advanced cancer is relatively limited.
- A few systematic reviews have largely reported mixed results
 - A 2021 systematic review evaluated the safety and potential benefits of exercise interventions in patients with **bone metastases**.¹⁻³. Some of the individual studies reported benefits in outcomes such as physical function. Serious adverse events were rare, even in patients with bone metastases.
 - A meta-analysis involving patients with advanced **lung cancer** reported an improvement in the 6MWT and disease-specific global health-related quality of life with exercise.⁴
 - No RCTs reported a statistically significant impact of exercise on **survival** but duration of the exercise intervention was brief (6-12 weeks), the population was heterogeneous, and survival was an exploratory outcome.⁵



1. Weller S, Hart NH, Bolam KA, et al: Exercise for individuals with bone metastases: A systematic review. Crit Rev Oncol Hematol 166:103433, 2021

2. De Lazzari N, Niels T, Tewes M, et al: A Systematic Review of the Safety, Feasibility and Benefits of Exercise for Patients with Advanced Cancer. Cancers (Basel) 13, 2021

3. Campbell KL, Cormie P, Weller S, et al: Exercise Recommendation for People With Bone Metastases: Expert Consensus for Health Care Providers and Exercise Professionals. JCO Oncol Pract:Op2100454, 2022

4. Peddle-McIntyre CJ, Singh F, Thomas R, et al: Exercise training for advanced lung cancer. Cochrane Database Syst Rev 2:Cd012685, 2019

5. Takemura N, Chan SL, Smith R, et al: The effects of physical activity on overall survival among advanced cancer patients: a systematic review and meta-analysis. BMC Cancer 21:242, 2021

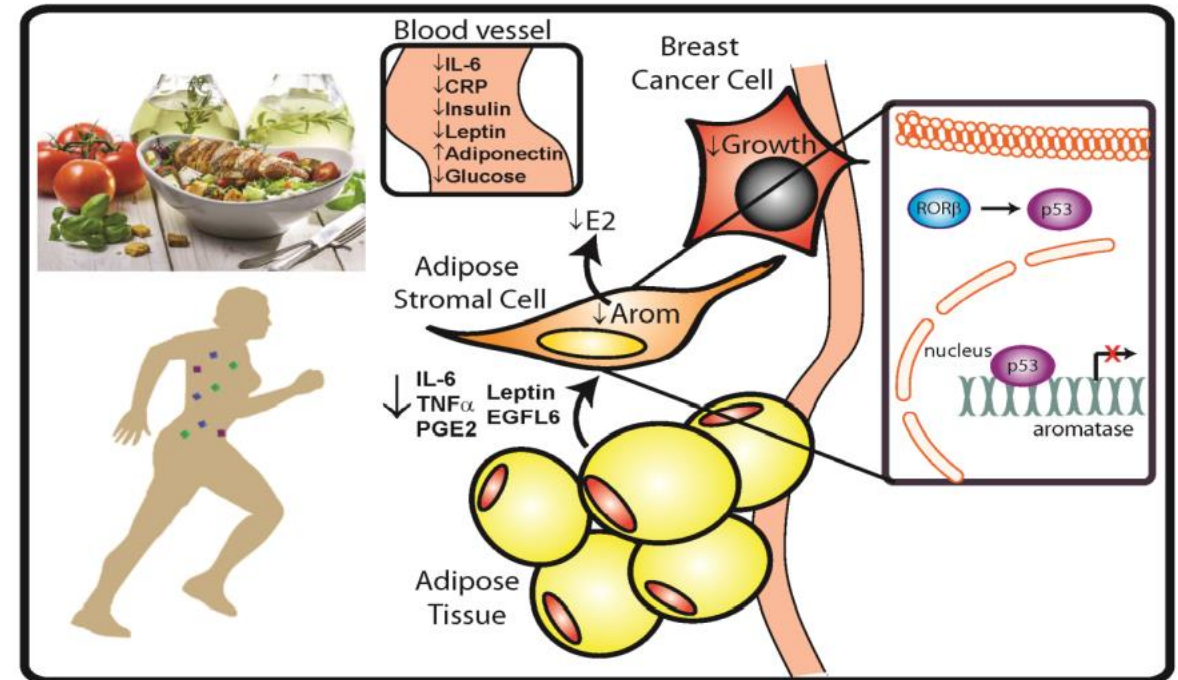
Health disparities

- Many patients have limited access to medical care or receive fragmented care.
- Factors such as race and ethnicity, age, socioeconomic status, sexual orientation and gender identity, geographic location, and insurance access are known to impact cancer care outcomes, as well as diet and exercise behavior.



Biomarker endpoints

- Various surrogate endpoints involved in glucose homeostasis and energy balance, sex hormones, immune function, and inflammatory markers.
- Exercise appears to favorably influence IGF-I & II, CD-4 cells, whereas calorically-restricted diets reduce leptin.
- Almost all these studies have been performed in longer-term cancer survivors.
- Studies, such as the Men's Eating and Living (MEAL) Study (CALGB 70807 [Alliance]) in which PSA doubling time or tumor upgrading based on tumor volume or grade serve as useful models that can inform future studies within the patient population.¹



1. Parsons JK, Zahrieh D, Mohler JL, et al: Effect of a Behavioral Intervention to Increase Vegetable Consumption on Cancer Progression Among Men With Early-Stage Prostate Cancer: The MEAL Randomized Clinical Trial. *Jama* 323:140-148, 2020

Patient and clinician communication

- Communication between patients and clinicians is a critical aspect in ensuring implementation of these recommendations.
- The goal of the clinician should be to introduce the importance of exercise during cancer treatment
- In a recent ASCO membership survey, **84% of oncologists**¹ report that while they recognize the benefits of diet, exercise, and weight management they feel that **another team member** should be delivering the interventions.
- A survey of 15,524 patients with CRC in the UK reported that only 31% of survey respondents stated hearing about exercise from their oncology team at any point during their cancer treatment.²



1.Ligibel JA, Jones LW, Brewster AM, et al: Oncologists' Attitudes and Practice of Addressing Diet, Physical Activity, and Weight Management With Patients With Cancer: Findings of an ASCO Survey of the Oncology Workforce. J Oncol Pract 15:e520-e528, 2019

2.Fisher A, Williams K, Beeken R, et al. Recall of physical activity advice was associated with higher levels of physical activity in colorectal cancer patients. BMJ Open. 2015;5:e006853.