



Positive Quality Intervention: Exercise During Cancer Treatment

Description: Not only does exercise during cancer treatment decrease the number and/or severity of side effects, but it also assists in recovery from treatment and in some cases can lower the risk of cancer recurrence. Exercise is also vital for the maintenance and/or improvement of physical functioning, mental health, and quality of life during treatment. Per guidelines, it is recommended that all individuals diagnosed with cancer avoid inactivity, improve general health, and aim to achieve the current physical activity guidelines for healthy populations (≥ 150 min/week aerobic exercise and ≥ 2 days/week strength training as well as incorporating balance and flexibility exercise).^{1,2,3} This is why it is vital that these individuals are working with proper exercise professionals to ensure that they are getting the appropriate modes and intensities of exercise to best help them meet those recommendations. If individuals are unable to meet recommended targets upon starting exercise, the appropriately qualified exercise professionals would assist them to meet these recommendations.

Background: For many years, exercise was believed to do more harm than good for cancer patients. In 2009, the American College of Sports Medicine (ACSM) brought together a group of experts to discuss the need for guidelines on exercise for cancer survivors. They concluded that exercise is safe and offers a variety of benefits for survivors including improvements in physical function, strength, fatigue, quality of life, and recurrence/survival.⁴ This group was among some of the first to report this conclusion. Later, in 2018, a group of international multidisciplinary experts came together to move the guidelines toward more prescriptive programs specific to cancer type, treatments, and outcomes. “Overall findings retained the conclusions that exercise training and testing was generally safe for cancer survivors and that every survivor should “avoid inactivity.” Sufficient evidence was available to conclude that specific doses of aerobic, resistance, or a combined aerobic plus resistance training could improve common cancer-related health outcomes. This includes anxiety, depressive symptoms, fatigue, physical functioning, and health-related quality of life.¹ Since then, many more organizations have created or endorsed guidelines and recommendations for exercise. In 2022, the American Society of Clinical Oncology published guidelines specifically looking at exercise during active cancer treatment. They found that regular aerobic and resistance exercise should be recommended by oncology healthcare teams during active treatment with curative intent. These guidelines also discussed special exercise considerations for those with advanced cancers, noting a critical need for more research.⁵ Despite this evidence, exercise regimens are rarely recommended. Thus, there is opportunity for collaboration and multidisciplinary interventions from exercised focused healthcare providers.

PQI Process: In the event the patient has not received counseling on exercise throughout their treatment process:

- Utilize screening questions to assess patients’ physical function and activity level
 1. Are you having any difficulty accomplishing your daily life activities (self-care, getting out of a chair, stairs, etc.)?
 2. Are you currently active and if so, do you feel that you can maintain a regular exercise routine through treatment?
 3. How much of the day do you spend sitting or lying in bed (hours per day)?
- Responses and Recommendations: This section will help you to decide what level of support are necessary based on the results of your screening
 - No limitations, regular exercise, minimally sedentary
 - Continue current exercise routine (provide medical/physical contraindications if needed)
 - Regularly follow up with patient and track status of exercise routine
 - Provide additional support and resources if necessary

IMPORTANT NOTICE: NCODA has developed this Positive Quality Intervention platform. This platform is intended as an educational aid, does not provide individual medical advice, and does not substitute for the advice of a qualified healthcare professional. This platform does not cover all existing information related to the possible uses, directions, doses, precautions, warning, interactions, adverse effects, or risks associated with the medication. The materials contained in this platform do not constitute or imply endorsement, recommendation, or favoring of this medication by NCODA. NCODA does not ensure the accuracy of the information presented and assumes no liability relating to its accuracy. All decisions related to taking this medication should be made with the guidance and under the direction of a qualified healthcare professional. It is the individual’s sole responsibility to seek guidance from a qualified healthcare professional. *Updated 2.9.24*

- No limitations, no exercise, sedentary/non-sedentary
 - Provide education on the importance of exercise during cancer treatment
 - Determine if the individual feels comfortable enough to accomplish exercise goals on their own with proper tools or if they require guidance from a qualified exercise professional
- Physical limitations, exercise, sedentary/non-sedentary
 - Support in their routine, but ask if patient would like to connect with a qualified exercise professional to assist with their limitations
- Physical limitations, no exercise, sedentary/non-sedentary
 - Provide education on the importance of exercise during cancer treatment and connect patient with a qualified exercise professional

Patient-Centered Activities:

- Utilize the supplemental information included with this document for patient education.
 - Importance of decreasing sedentary time and being physically active: “the combination of prolonged sitting with lack of physical activity was highly prevalent and was associated with the highest risks of death from all causes and cancer”⁶
 - Discuss building up or maintaining exercise recommendations of 150-300 min per week with at least 2 days of strength training^{1,2,3,8,9}
- Exercise professionals best suited for the cancer population, especially those with special considerations, are clinical exercise physiologists and physical therapists with additional cancer exercise training⁷
- For those without special considerations but need assistance meeting exercise recommendations, utilize personal trainers with a cancer exercise specialists’ certification

References:

1. Campbell, K. L., Winters-Stone, K., Wiskemann, J., May, A. M., Schwartz, A. L., Courneya, K. S., ... & Schmitz, K. H. (2019). Exercise guidelines for cancer survivors: consensus statement from international multidisciplinary roundtable. *Medicine and science in sports and exercise*, 51(11), 2375.
2. Liguori, G., & American College of Sports Medicine. (2020). *ACSM's guidelines for exercise testing and prescription*. Lippincott Williams & Wilkins.
3. Piercy KL, Troiano RP, Ballard RM, et al. The physical activity guidelines for Americans. *JAMA*. 2018;320(19):2020–8.
4. Wolin, K. Y., Schwartz, A. L., Matthews, C. E., Courneya, K. S., & Schmitz, K. H. (2012). Implementing the exercise guidelines for cancer survivors. *The journal of supportive oncology*, 10(5), 171.
5. Ligibel, J. A., Bohlke, K., May, A. M., Clinton, S. K., Demark-Wahnefried, W., Gilchrist, S. C., ... & Alfano, C. M. (2022). Exercise, diet, and weight management during cancer treatment: ASCO guideline. *Journal of Clinical Oncology*, 40(22), 2491-2507.
6. Cao, C., Friedenreich, C. M., & Yang, L. (2022). Association of daily sitting time and leisure-time physical activity with survival among US cancer survivors. *JAMA oncology*, 8(3), 395-403.
7. Campbell, K. L., Cormie, P., Weller, S., Alibhai, S. M., Bolam, K. A., Campbell, A., ... & Goulart, J. (2022). Exercise recommendation for people with bone metastases: expert consensus for health care providers and exercise professionals. *JCO oncology practice*, 18(5), e697-e709.
8. *New Infographic Available | Exercise Guidelines for Cancer Patients and Survivors*. American College of Sports Medicine. (2019, November 27). <https://www.acsm.org/news-detail/2019/11/27/new-infographic-available-exercise-guidelines-cancer-patients-survivors>.
9. American College of Sports Medicine. (2023, January 20). *Moving through cancer - exercise is medicine*. Exercise is Medicine – Exercise is Medicine. <https://www.exerciseismedicine.org/eim-in-action/moving-through-cancer/>.

Supplemental Information:

- Supportive infographic “[Effects of Exercise on Health-Related Outcomes in Those with Cancer](#)” from the American College of Sports Medicine in partnership with their Exercise is Medicine and Moving Through Cancer Initiatives⁸
- ACSM Moving Through Cancer Guide to Getting and Staying Active During Cancer Treatment⁹
- [FITT Recommendations](#) for Cancer Survivors²