

Prehabilitation in Cancer Care: A Vital Component for Improved Outcomes

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Prehabilitation is emerging as a vital component of cancer care, aimed at improving patients' physical and psychological well-being in preparation for, and during, cancer treatment. Its benefits extend beyond merely enhancing the physical fitness of patients; prehabilitation also plays a significant role in reducing the risks of complications, shortening hospital stays, lowering stress levels, and minimizing the likelihood of depression. These benefits contribute to an overall improved quality of life for patients undergoing cancer surgery and treatments.

A key principle of prehabilitation is its individualized approach, which tailors interventions to meet the specific needs of each patient. Multimodal prehabilitation—combining general conditioning exercises, targeted exercises, nutritional interventions, psychosocial support, and educational programs—has gained wide recognition as the most effective strategy. This comprehensive approach addresses the diverse physical and emotional challenges cancer patients face, offering support that extends across various aspects of their health.

Evidence-Based Benefits and the Need for Standardization

Despite the growing use of prehabilitation, and patients' own initiatives to seek supportive modalities, more work is needed to establish standardized protocols across different types of cancer and clinical scenarios. Current research highlights its effectiveness in improving patient outcomes, yet a lack of clinical trials limits our ability to fully quantify its benefits. There is an urgent need for further research to validate the efficacy of different prehabilitation programs and to tailor them more precisely for specific cancer types.

Prehabilitation is an integral part of the rehabilitation continuum, beginning with pre-assessment and extending through a series of interventions and follow-up activities. It is designed to alleviate and reduce the physical and psychological impacts of cancer and its treatments, thereby enabling patients to recover more quickly and experience better long-term outcomes.

Addressing the Realities of Cancer Care

The importance of prehabilitation is underscored by the considerations and realities affecting patients' lives and their whole ecosystems - family, friends, community, healthcare team, workplace. As noted by Helander, E.M. et al. (2019) 'Surgery involving a major body cavity provokes a global neuroendocrine inflammatory response, placing significant physiological strain upon the patient.' Furthermore, 'Postoperative complications affect 15–40% of patients' (Hughes, M.J. et al. 2019). 'The immediate impact is stark, including a 2–4 fold increase in hospital length of stay (HLOS) and increased re-admissions.' (Couwenberg A.M., et al., 2018).

Many patients fail to regain their preoperative functional status and independence (Lawrence, V.A., et al, 2004).

These factors undermine health related quality of life (HRQOL) (Couwenberg A.M., et al.,2018). Following adjustment, a postoperative complication reduces life expectancy for years following discharge (Moonesinghe S.R., et al, 2014).

‘Prehabilitation prepares individuals to ‘weather the storm’ of their operation and to avoid or overcome complications. The preoperative period is considered a ‘teachable moment’ in healthcare’ (Flocke, S.A., et al., (2014). ‘During this window, individuals may be more receptive to structured behavioral intervention. Our recent research has highlighted a high degree of patient motivation to change behavior for perioperative benefits, however a comparative lack of confidence identified a need for structured support.’ (MacDonald, S. et al., 2019).

A Multidisciplinary and Person-Centered Approach

The wider public health opportunity offered by surgery to embed lasting lifestyle change should not be ignored. Effective prehabilitation is person-centered, placing the patient in charge of their perioperative journey. Patients can regain some control over their own outcomes.

‘Prehabilitation support should be multidisciplinary and cross healthcare sectors, requiring expertise and input from a range of professionals’ (Durrand, J. et al., 2019).

‘Patients approaching major cancer surgery face particular challenges. All of the risk behaviors discussed including inactivity, poor diet, smoking and alcohol contribute to carcinogenesis. Surgery remains a key intervention for solid-organ malignancies. Preoperatively, the diagnosis, disease process and therapeutic interventions take a toll upon physical and mental health’ (Macmillan Cancer Support, 2019). Neoadjuvant chemoradiotherapy specifically reduces physical fitness potentially transitioning a patient from lower to higher risk (Jack, S. et al., 2014). Short preoperative timeframes available compound this problem. However, fitness improvements can be made in as little as 2 weeks (Faithfull, S., 2019). Recognition of the clear challenges and potential benefits of prehabilitation is detailed in recent national guidance (Macmillan Cancer Support).

Community Support and Resources

In my experience working with cancer patients since 2000, I have learned and consistently encouraged them to take an active role in their care. Whether through physical training, nutritional adjustments, self-expression, and relaxation / stress management, this proactive approach can empower patients to not only prioritize their well-being, invest in their resilience, but also support others. Holistic preparation fosters greater confidence, resilience, and a smoother, more successful recovery process.

Some of the key areas of prehabilitation practice are:

- Nutrition: Ensuring balanced and cancer-specific dietary support.
- Multimodal Physical Activity: Practicing activities such as yoga, cardiovascular exercise (walking, swimming, low impact Zumba), and weight / resistance training.
- Mind-Body Connection: Utilizing mindfulness, expressive arts, and guided visualization for stress management.
- Community and Relationships: Building support networks through family, friends, colleagues, and volunteer work.
- Education: Providing patients with the knowledge they need to make informed decisions about their care.

Nurses and social workers play a critical role in the delivery of prehabilitation resources and programs. They are often at the forefront of conducting pre-assessment, implementing interventions, and encouraging positive behavior changes among their patients. As such, their involvement is crucial in ensuring that patients receive comprehensive care and support throughout their cancer treatment journey.

The groundbreaking pioneer in offering a comprehensive and highly effective program of complementary modalities and education to support patients at any and all stages of their cancer journeys has been the San Diego Cancer Research Institute. Under the visionary, wise guidance and unshakable commitment of Dr. Daniel Vicario, Dr. Paul Brenner, Mary Hollander, and a large team of qualified, caring, and compassionate practitioners in all modalities - from Acupuncture to Zumba - SDCRI has provided the higher standard of care being fully integrated in standard medical care. SDCRI has set very high expectations for what prehabilitation, rehabilitation care and everything in between should look and feel like.

Fortunately, many community-based resources, both available locally and/or online, are offering complementary modalities to support cancer patients through the healing journey.

At your fingertips, Mary's Reality-based Nutrition: <https://sdcri.org/edu-art/reality-nut/>

North County Cancer Fitness / NCCF is an excellent resource with daily classes led by cancer exercise certified practitioners in a wide variety of fitness specialties – www.NorthCountyCancerFitness.org

Alessandra Colfi offers Expressive Arts Therapy, Yoga for Cancer Recovery and Back Care, Low-impact Zumba, and education / training: <https://sdcri.org/edu-art/hmv/>

And here is a full section of available, highly qualified Resources: <https://sdcri.org/educational-links/>

Conclusion

Prehabilitation is a vital component of modern cancer care, offering patients the opportunity to improve their physical and mental resilience before treatment. The support of healthcare professionals, particularly nurses and social workers, is crucial in supporting patients to find effective prehabilitation programs. As research continues to evolve, the hope is that standardized prehabilitation protocols will become standard cancer care models, ensuring that patients can face treatment with greater confidence and improved long-term outcomes.

For additional information please refer to articles such as the one in *Cancer Nursing Practice*, which explores prehabilitation in cancer care and discusses the role of nurses, as well as an article in the *Nowotwory Journal of Oncology*, which provides more insights into the potential of prehabilitation in oncology. These resources can offer valuable perspectives on prehabilitation's impact and the ongoing efforts to refine and standardize its protocols.

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