

Physical Activity in Oncology

Freerk T. Baumann · Wilhelm Bloch

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Although cancer is not a typical aging disease, increasing age is paralleled by an increase in cancer morbidity as a part of different comorbidities. Improved treatment regimes are associated with longer survival in cancer patients. Therefore, strategies are necessary to improve patients' physical performance, quality of life, and health status. The past years have proven that physical activity has a positive influence on people with oncological diseases. The effects include a variety of physiological, psychological, and social factors. Although many new insights were gained in the last decade, evidence-based guidelines for both exercise-oriented prevention and the (early) rehabilitation and aftercare are still missing. This is certainly also due to the fact that oncological diseases, their medical treatment as well as their treatment-related side effects are very complex. Therefore, the aims of therapeutic exercising have to be set very individually and differentiated.

The associated implementation of exercise programs in the medical treatment setting for oncologic diseases requires a high degree of interdisciplinary cooperation. The development of oncological care centers in the last few years has created useful structures to facilitate an effective interdisciplinary understanding. In the future, it will therefore be easier to carry out clinical trials in order to study the mechanistic effects of physical activity in various cancer entities and in relation to defined therapeutic standards.

The high complexity of oncological treatment, as well as the rapid change in well-being that is commonly observed in oncological patients, pose a challenge when indicating and monitoring physical exercise programs in oncology. The scientific elaboration of the mechanisms underlying the positive influence of exercise therapy seems essential to

allow more appropriate recommendations for therapeutic exercise interventions in the future.

The development of many new and effective medical therapies in oncology enables a medium- to long-term control of the common cancers types even in advanced stages. Thus, living a life with a good quality of life and maintaining physical performance is possible. The therapeutic effects of physical activity have repeatedly been proven. The immediate objective is to make controlled therapeutic exercise programs accessible to as many cancer patients as possible.

Aside from the treatment and rehabilitation of oncological diseases, the topic prevention will be more in the focus of scientific interest. Exercising may effectively counteract cancer-promoting lifestyle factors and therefore exert a direct preventive effect.

The Symposium "Physical Activity in Oncology" was held at the German Sport University Cologne from the 11th to the 12th of May 2012, in cooperation with the Centre for Integrated Oncology of the University Hospital of Cologne. Our third international, interdisciplinary symposium's main concern was the presentation and the exchange of latest scientific findings from the wide field of "Physical Activity in Oncology" by international and national global experts. In addition to current study results and issues, patient care projects were presented and discussed. Many scientists, practicing physicians, therapists, nursing scientists, and trainers in the field of oncology came to Cologne. We compiled all accepted abstracts and the overview articles of the invited speakers outlining their presentations for this special edition of the "European review of aging and physical activity".

F. T. Baumann (✉) · W. Bloch
Institute of Cardiovascular Research and Sport Medicine,
Department of Molecular and Cellular Sport Medicine, German
Sport University Cologne, Am Sportpark Müngersdorf 6,
Cologne 50933, Germany
e-mail: f.baumann@dshs-koeln.de

Conflict of interest We declare that we have no conflict of interests.