powered by

dkfz.
GERMAN
CANCER RESEARCH CENTER
IN THE HELMHOLTZ ASSOCIATION

Contribution ID: **78** Type: **1 - Scientific Poster**

Low-Load Blood-Flow Restriction Training –Initial findings and potentials in Exercise Oncology

Thursday 23 July 2026 14:20 (20 minutes)

Background: Oncological patients experience numerous side effects resulting from disease and treatment. Although exercise is recommended, many side effects and patients'concerns hamper its regular implementation. Especially patients with reduced physical function are often not able to exercise with the necessary intensity to increase muscle mass. An innovative training approach uses lower loads (20-40% of maximal strength) in combination with blood-flow-restriction to the trained limbs (LL-BFR). It has been shown to induce relevant changes in muscle mass in various healthy but also clinical populations.

Methods: A literature search was performed in PUBMED to identify studies using LL-BFR in oncological patients.

Results: Only five studies used LL-BFR in the oncological setting, two studies in the preoperative setting without neoadjuvant therapy, two studies in aftercare (only available in Arabic) and one case study with a patient during palliative treatment. Concerning ongoing research, there are two registered RCTs with published study protocols. The PREV-Ex trial form Sweden/Norway and the PRESIONA trial from Spain evaluate the effects of LL-BFR training on muscle mass in a perioperative setting and on the onset of chemotherapy induced peripheral neuropathy, respectively. Overall, the quality of published studies is limited, but data shows a good feasibility with no side effects of LL-BFR in this clinical population.

Discussion: The capability to produce muscular growth despite lower training intensities could make LL-BRF a suitable option for cancer patients who are not able to perform a classical hypertrophy-oriented resistance training. Especially patients suffering from cancer-associated cachexia could benefit from this novel training modality.

Conclusion: LL-BFR Training seems to be a promising approach for oncological patients with limited physical function. Further, high quality RCTs are necessary to evaluate safety and effects of LL-BFR in patients with cancer during active therapy.

Keywords

Blood-Flow-Restriction Training; Cachexia; CIPN; Innovative Exercise Intervention

Conflict of Interest & Ethical Approval

yes

Abstract submitters declaration

yes

Author: Dr KRAUSE, Frieder (Krankenhaus Nordwest)

Co-authors: Prof. BEHRINGER, Michael (Goethe-Universität Frankfurt); Prof. JÄGER, Elke (Krankenhaus Nordwest); Dr GRAF, Katharina (Krankenhaus Nordwest)

Presenter: Dr KRAUSE, Frieder (Krankenhaus Nordwest)

Session Classification: Poster Session