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## **Supervised exercise improves strength and physical performance in patients with advanced breast cancer**

**Lisbon, Portugal:** Aerobic and resistance exercise can significantly improve physical performance in patients living with metastatic breast cancer according to new results presented at the Advanced Breast Cancer Eighth International Consensus Conference (ABC8) today (Friday).

Anne May, Professor of Clinical Epidemiology of Cancer Survivorship at the University Medical Center (UMC) Utrecht and the Netherlands Cancer Institute, The Netherlands, presented new results [1] from the PREFERABLE-EFFECT study [2] that showed a nine-month programme of supervised exercise improved muscle mass and muscle strength, particularly in the arms and legs, and physical performance in patients with breast cancer that had spread to other parts of the body (metastasised).

“Until now, there has been limited evidence that physical exercise can improve muscle mass and strength in patients with metastatic cancer, partly because they were often excluded from studies,” said Professor May. “Treatments for the disease can affect patients’ quality of life, with debilitating side effects such as fatigue, nausea and pain. Combined with the underlying disease itself, the treatment and physical inactivity, these factors often cause a decrease in skeletal muscle mass, which negatively affects body composition, muscle strength and functional performance.

“In patients who are having chemotherapy for localised or advanced breast cancer, low muscle mass has been associated with increased treatment-related toxicities, more frequent dose reductions, as well as poorer treatment outcomes and survival. In addition, hormonal therapy is associated with low muscle mass.

“Exercise has proven to be effective in patients with non-metastatic disease. The PREFERABLE-EFFECT study is the largest study to date to investigate whether physical exercise is a viable and effective option for patients with advanced breast cancer.”

The study is an international, randomised controlled trial involving centres from five European countries (Germany, Poland, Spain, Sweden and The Netherlands) and Australia. It enrolled 357 patients with stage IV metastatic breast cancer between 2019 and 2022. Most were receiving first or second line treatment and 74% had bone metastases.

Half of the patients were offered standard care and half were offered a nine-month exercise programme, consisting of aerobic, strength and balance training, supervised by a trainer twice a week for six months. In the remaining three months, the patients in the exercise arm of the trial replaced one supervised session a week with one unsupervised session. All participants received an activity tracker [3], and general advice to take part in a physical activity for 30 or more minutes a day.

“After six months, we found that exercise significantly improved physical performance, including balance and muscle strength at three and six months,” said Prof. May. “Whole body lean mass, which is an indicator of muscle mass, increased in the exercise group, while a decrease in the control group was seen. Compared to the control group, muscle mass was on average 0.79 kg higher after three months, which was significantly different, and 0.32 kg higher after six months in the exercise group.”

No significant differences between the exercise and the control group were observed for whole body fat percentage.

Muscle mass in arms and legs increased significantly in the supervised exercise group. At three months it had increased by an average of 0.6 kg and by 0.48 kg at six months, compared to the control group. The skeletal muscle mass index, which is like body mass index (BMI) for muscles, also increased by an average of 0.22 kg/m<sup>2</sup> after three months and 0.18 kg/m<sup>2</sup> after six months compared to the control group. These measurements for muscle mass in the arms and legs are important because they are responsible for movement and load bearing; therefore, deterioration is an important indicator of skeletal muscle loss resulting in frailty.

In the control group of patients, muscle mass and skeletal muscle mass index in the arms and legs declined at three and six months.

Prof. May said: “Importantly, balance improved in the exercise group. Low muscle mass and strength are associated with balance problems, which can be exacerbated further by therapy-induced damage to the nerves in hands and feet, and increases the risk of falls. Preventing falls is particularly important in patients with bone metastases as they have an increased risk of fractures. One patient, who had balance problems, was not able to get on and off a bus at the start of the study. After being included in the supervised exercise group, that problem was solved, and now she can use the bus again. This means for her that she can again visit the city centre and the library.

“The results from our study are important since lean body mass is linked to better treatment tolerance, prognosis and overall health, and increased muscle strength correlates with improved quality of life and lower mortality risk. This supports the call for exercise, and specifically supervised exercise with a resistance exercise component, to be integrated as a standard component of cancer care for patients with metastatic breast cancer.”

The ABC Global Alliance will be launching a Physical Activity Resource Hub in early 2026. It is designed for people with ABC, their caregivers and their exercise or healthcare professionals. It will contain videos, exercise guides and links to external resources that will be suitable for people with different sites of metastasis, different symptoms and different levels of fitness or enthusiasm for exercise.

Isabelle Aloï-Timeus is a cancer physiotherapist and founder and president of Salvati AC, a charity in Mexico City dedicated to improving the quality of life of cancer patients. She is coordinating the ABC Global Alliance working group developing the physical exercise hub.

“As a cancer physiotherapist, I have seen how physical exercise brings great benefits to patients. However, it is important that exercise is personalised, supervised and safe,” she said.

Ms Eva Schumacher-Wulf, who is a patient living with metastatic ABC, editor-in-chief of the German cancer magazine *Mamma Mia!* and a member of the working group developing the physical exercise hub, said: “We all know how important exercise is – for quality of life and perhaps even prognosis. However, people with advanced cancer have special needs, and not every exercise programme is feasible or suitable. That is why targeted exercise programmes are so important for these patients.”

Professor Fatima Cardoso, medical oncologist and President of the ABC Global Alliance, said: “In the management of advanced or metastatic breast cancer it is fundamental to find a good balance between quantity and quality of life. Research is needed not only on the development of new and better treatments but also on how to improve quality of life of those living with this disease. Professor Anne May’s research is an important step forward in the field and also contributes to empowering the patient. By learning how to best exercise, the patient can directly improve her or his quality of life and regain some control over the disease.”

(ends)

[1] **Invited presentation**, ‘Exercise and body composition’, by Anne May, in ‘Improving quality of life for patients living with ABC’ session, Auditorium 1, 09.35-10.40 hrs GMT, Friday 7 November.

[2] “PREFERABLE” is a Project on Exercise for Fatigue Eradication in Advanced Breast to improve quality of Life. “EFFECT” is Effects of exercise in patients with metastatic breast cancer.

[3] Fitbit.

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#### **About ABC8 and advanced breast cancer**

Around 1,300 participants from approximately 90 countries around the world will join the [Advanced Breast Cancer Eighth International Consensus Conference \(ABC8\)](#), including health professionals and patient advocates.

Advanced breast cancer is defined as cancer that has spread beyond the site of the first (primary) tumour to other sites either within the same breast such as the skin, chest wall and some lymph nodes (locally advanced) or other parts of the body (metastatic cancer). There are no reliable figures for the numbers of women and men living with advanced breast cancer. However, there are over two million new cases of breast cancer a year in the world and 0.7 million deaths. In high-income countries about 10-15% of cases are metastatic at diagnosis, but these figures can reach 80% in low-middle income countries. About 25-30% of breast cancer cases detected early will become metastatic even with the best care, and the average overall survival for these patients is around five years if access is available to the best treatments.