

# Heavy lifting for cancer research

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Many patients with advanced cancer suffer from cachexia, a condition also called body-wasting or wasting syndrome, which causes significant weight loss, extreme fatigue and reduces quality of life.

New research from Concordia University and the McGill University Health Centre (MUHC) has found that [patients](#) with severe cancer-related fatigue have less [muscle mass](#) and strength versus patients who are less impaired. Published in the *Journal of Cachexia, Sarcopenia and Muscle*, the findings open the door for future interventions that may improve the lives of these patients.

"It is surprising that a strong relationship between cancer-related fatigue and muscle mass and strength hasn't been previously studied," says first author Robert Kilgour, professor and chair of Concordia's Department of Exercise Science. "Ours is the first study to identify the relationship between [chronic fatigue](#) and muscle mass and strength in this special patient population."

As part of the study, the fatigue levels, muscle mass and strength of 84 patients with newly diagnosed and inoperable gastrointestinal or lung cancer were assessed. Handgrip and quadricep strength were determined using muscle strength tests, and skeletal muscle mass was calculated using X-rays. These measures were then compared to a "brief fatigue inventory," which was found to be positively associated with body mass, weight loss, anemia, activity level, pain and depression.

The results suggest that higher levels of cancer-related fatigue coincided

with lower levels of muscle mass.

"All advanced [cancer patients](#) suffer from this type of fatigue," says Kilgour. "That's why this specific group of patients, those with gastrointestinal or lung cancer, was chosen."

Kilgour hopes these findings will encourage hospitals and health centres to launch specialized strength or aerobics training programs that can improve muscle mass among cancer patients. "We could then look for changes in cancer-related [fatigue](#) and if those changes parallel alterations in muscle mass and strength," he says.

"Although many cancer patients are in a palliative care situation, we want to maintain their quality of life as much as possible," says co-author Antonio Vigano, a palliative care physician at the MUHC. "Participation would be high because activity gives patients control over their situation — control they feel they've lost. In addition we know there are other positive benefits to exercise, such as increased appetite."

**More information:**

[www.springer.com/medicine/internal/journal/13539](http://www.springer.com/medicine/internal/journal/13539)

Provided by Concordia University

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