

From the Authors:



We thank Cavalheri *et al.* for their interest in our findings¹ and for raising a constructive and important discussion on the indication for resistance training in patients treated for lung cancer. Cavalheri *et al.* challenge our statement that assessment of quadriceps function in patients with non-small cell lung cancer (NSCLC) allows the identification of patients who would benefit from targeted resistance training interventions. This statement was based on the observation that muscle strength and exercise tolerance are closely linked in patients with lung cancer after thoracic surgery. Cavalheri *et al.* suggest that the current literature indicates that resistance training should be provided to all patients with NSCLC, as it has not been shown that resistance training is more beneficial in patients with more profound muscle weakness.

We clearly agree that resistance training is potentially beneficial in all patients with NSCLC. In fact, the American College of Sports Medicine and the American Heart Association advocate that resistance training, performed at least twice weekly, is an integral component of a physically active lifestyle that promotes health and prevents disease in healthy elderly.² Resistance training has a role in maintenance of muscle function and prevention of sarcopenia on the long term. It makes sense that these guidelines also apply to patients at risk of developing muscle weakness due to the cancer and its treatment.

However, it is important to realize that patients with marked lower limb weakness are likely to have a worse performance status.^{3,4} As worldwide access to rehabilitation interventions is limited, it is important that at least those patients with a direct indication is offered optimal care. In patients with severe muscle weakness/atrophy, an intervention that has been shown to effectively tackle this dysfunction (e.g. traditional resistance training, neuromuscular electrical stimulation, whole body vibration exercises, etc.) is warranted. In light of that, muscle function assessment is used among other measures as a screening tool to detect optimal candidates for pulmonary rehabilitation programmes.⁵

In other words, we agree with Cavalheri *et al.* that scientific evidence guiding optimal patient selection for

resistance training strategies in NSCLC would be very useful. In the meantime, we strongly believe that making these interventions available for at least those patients with most profound impairment of muscle function is an adequate pragmatic approach.

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