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# Influence of anaerobic and aerobic exercise on age-related pathways in skeletal muscle

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Highlight

- Different types of exercise are potentially beneficial and translatable not only for the elderly, but also for people suffering chronic diseases associated with aging. Establishing a combination of personalized treatments and exercise programs could lead to effectively prevent or delay the onset of muscle dysfunction and wasting that occur with aging and subjects on bed rest.

## Introduction

The aging process is characterized by the progressive loss of physiological stability, lower physical and cognitive reserve, and increased vulnerability to death. This progressive deterioration in organismal homeostasis is considered the underlying trigger of most chronic diseases like diabetes, neurodegenerative diseases and cancer. Experimental challenges that increase the rate of biological and cognitive decline are linked to accelerated aging while interventions that slow the aging process are accompanied by an extension in healthy lifespan (Lopez-Otin et al., 2013; Kennedy et al., 2014).

Skeletal muscles perform several functions essential for locomotion and posture, and the loss of adequate mobility that occurs with aging causes the muscle to