

Menopause contributes to a decline in muscle strength - a crucial factor of functional independence in old age

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Menopause occurs on average at 51 years of age and leads to the gradual dysregulation of the reproductive endocrine system. The menopausal transition can be divided roughly into three different stages. During premenopause, the menstrual cycle gradually becomes irregular. This stage begins 5-10 years before menopause. Perimenopause is the transition period prior to menopause, when the function of the ovaries noticeably fades away leading to cessation of menstruation. Postmenopause is the time after the last menstruation.

"Our research showed that postmenopausal [women](#) had lower [muscle strength](#) and muscle power than peri- or premenopausal women. These results suggest that menopause accelerates decline in muscle strength and power in women already at middle-age," says doctoral student Dmitriy Bondarev.

Muscle strength affects everyday life

In our everyday activities, such as standing from a chair, climbing stairs or walking, [muscle performance](#) is an essential factor. With ageing, muscle performance declines and thus maintenance of everyday functional capacity and quality of life may be compromised. Good functional capacity enables active participation in many social activities and services provided by the society.

The research also showed that [physical activity](#) can prevent the decline in muscle performance despite of the menopausal status.

"Physically active women had greater muscle performance and they had better mobility than women with low physical activity level. Thus, being physically active during the menopausal transition can give more capacity to withstand the potential negative influence of [menopause](#) on muscle performance and mobility," Dmitriy Bondarev says.

The study is a part of a wider ERMA study involving over 1,000 women aged 47 to 55 living in Jyväskylä. In this study, the menopausal stage was determined by the serum hormone concentrations and menstrual diaries. More than 900 women participated in measurements of muscular strength, power output, and walking speed at the University of Jyväskylä Sports and Health Laboratory in 2015–2017.

More information: Dmitriy Bondarev et al. Physical performance in relation to menopause status and physical activity, *Menopause* (2018).

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