

Obesity has negative impact on metabolic quality of muscle

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(HealthDay)—Among older men, obesity has a negative effect on the metabolic quality of skeletal muscle, according to a study published online May 26 in *Diabetes*.

Andrew J. Murton, Ph.D., from the University of Nottingham Medical School in the United Kingdom, and colleagues examined the effect of obesity on muscle protein turnover in [older adults](#). Data were included for 11 obese and 15 healthy-weight [older men](#). Muscle protein synthesis (MPS) and leg protein breakdown (LPB) were assessed under post-absorptive and postprandial conditions.

The researchers found that obesity correlated with systemic inflammation, greater leg fat mass, and mRNA expression patterns consistent with muscle deconditioning; no difference was seen in leg lean mass, strength, and work done during maximal exercise. MPS and LPB

were equivalent between the groups under post-absorptive conditions. In healthy-weight individuals only, insulin and amino acid administration increased MPS, while in obese there was a correlation with lower leg glucose disposal (LGD). Among obese participants, blunting of MPS was offset by an apparent decrease in LPB, which was not seen in healthy-weight individuals.

"Obesity in older men is aligned with systemic, but not muscle, inflammation. We found no evidence that obese, non-frail, older men are at increased risk of accelerated muscle mass loss or impaired contractile function (strength and fatigability) compared to their healthy-weight counterparts," the authors write. "However, our results highlight the negative effect that [obesity](#) has on the metabolic quality of [skeletal muscle](#) in older adults."

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