

CKD linked to greater neuromuscular fatigability

December 19 2022, by Elana Gotkine HealthDay Reporter



Chronic kidney disease (CKD) is associated with greater neuromuscular

fatigability, which increases with fatigue severity, according to a study published online Dec. 9 in *Medicine & Science in Sports & Exercise*.

Antoine Chatrenet, Ph.D., from Le Mans Université in France, and colleagues examined the etiology of neuromuscular fatigability in a study involving 45 CKD patients and 57 controls. Two questionnaires were used to assess fatigue. During explosive contractions, the peak rate of force development (RFD_{peak} , normalized: $NRFD_{peak}$) and rate of electromyography rise (RER) were measured. During maximum voluntary contractions, peak force and mean surface electromyography were measured.

The researchers found that the main impact of CKD was on the Mental and the Reduced Motivation subscales of fatigue. CKD was associated with greater neuromuscular fatigability measured using $NRFD_{peak}$, which increased with the severity of fatigue and with a higher rate of RER decrease compared with controls. An association was seen between the Reduced Motivation subscale and the RER in these patients. Peak force fatigability, but not RFD_{peak} , contributed to fatigue variance.

"The association between neuromuscular fatigability and self-reported fatigue suggests that [exercise](#) interventions such as adapted [physical activity](#) might mitigate [fatigue](#) and improve quality of life in CKD patients," the authors write.

More information: Antoine Chatrenet et al, Neural Drive Impairment in Chronic Kidney Disease Patients is Associated with Neuromuscular Fatigability and Fatigue, *Medicine & Science in Sports & Exercise* (2022). [DOI: 10.1249/MSS.0000000000003090](https://doi.org/10.1249/MSS.0000000000003090)

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Citation: CKD linked to greater neuromuscular fatigability (2022, December 19) retrieved 27 April 2024 from

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