

Exercise cuts atrophy, white matter lesion load in elderly

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(HealthDay)—In older adults, physical activity is associated with less brain atrophy and white matter lesion (WML) load, according to a study published in the Oct. 23 issue of *Neurology*.

Alan J. Gow, Ph.D., from the University of Edinburgh in the United Kingdom, and colleagues analyzed data from 691 participants from the Lothian [Birth Cohort](#) 1936 for associations between self-reported leisure and physical activity at age 70 years and structural brain biomarkers at 73 years. Principal components analysis of 12 major tracts produced general factors for fractional anisotropy and mean diffusivity for [white matter](#) integrity. Computational image processing methods were used for assessment of atrophy, gray and normal-appearing white matter (NAWM) volumes, and WML load.

The researchers found an association between higher level of physical activity with higher fractional anisotropy, larger gray and NAWM volumes, less atrophy, and lower WML load. After adjustment for covariates, including age, social class, and health status, the association of physical activity with atrophy, gray matter, and WML remained significant. Physical activity and stroke each had a significant independent effect on

rated WML load. After adjusting for covariates, leisure activity was no longer significantly associated with NAWM volume.

"In this large, narrow-age sample of adults in their 70s, physical activity was associated with less atrophy and WML," the authors write. "Its role as a potential neuroprotective factor is supported; however, the direction of causation is unclear from this observational study."

More information: [Abstract](#)
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