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## Missing Connections May Explain Cognitive Challenges in ALS

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News in Brief

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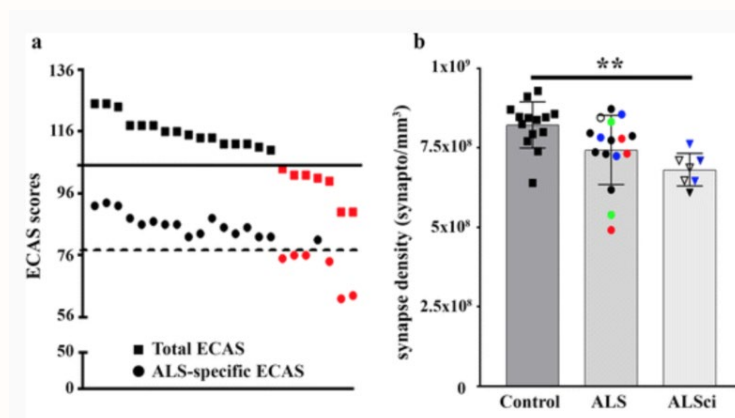
Researchers may be one step closer to understanding why some people with ALS may have trouble planning and making complex decisions (see [January 2016 news](#)).

The study, led by University of Edinburgh's Christopher Henstridge and Tara Spire-Jones in Scotland, found in part, that people with ALS that experience cognitive challenges had a significantly lower number of synapses in a key region of brain important for cognition. No atrophy in this region of the brain was detected.

The findings build on previous studies, using MRI and PET brain imaging, which suggest that changes in this region of the brain, known as the dorsolateral prefrontal cortex (Brodmann area 9), occur in people with ALS that experience cognitive challenges ([Abrahams et al., 1996](#); [Abrahams et al., 2005](#)).

The study suggests that at least some cognitive challenges in ALS may occur due to the loss of key neuronal connections in the brain. The results may help researchers zero in on why these synapses crumble and therefore, design treatment strategies that may stabilize them.

The study [appeared](#) on December 22 in *Acta Neuropathologica*.



**Breaking connections?** Scientists found that people with ALS that are cognitively impaired had decreased synaptic density in a region of the brain important for cognition according to a post-mortem analysis. The findings suggest that cognitive challenges may be due to the loss of synapses and therefore, may not occur indirectly due to the loss of neurons caused by the disease. [Courtesy of [Henstridge et al., 2017](#), *Acta Neuropathologica*, CC BY 4.0.]

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Further Reading

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