

MRI analysis with machine learning predicts impairment after spinal injury, study shows

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A test of machine-learning algorithms shows promise for computer-aided prognosis of acute spinal cord injury, according to a study to be presented at the ARRS 2018 Annual Meeting, set for April 22-27 in Washington, DC.

The study to be presented by Jason Talbot, assistant professor of radiology at the University of California, San Francisco, involved using semiautomated image analysis with [machine-learning](#) algorithms to assess the accuracy of axial T2-weighted radiomic features for classifying patients by degree of neurologic [injury](#).

Several machine-learning algorithms were tested for injury classification based on texture variables. For each trained model, the accuracy of predicting the testing set was recorded, as were variables important to the model.

This proof-of-principle study highlights the feasibility of applying a semiautomated MRI analysis pipeline for atlas-based texture feature extraction from T2-weighted MRI at the epicenter of acute spinal cord injury (SCI). The results show that exploratory application of five [machine-learning algorithms](#) integrated into the analysis pipeline can classify patients by degree of neurologic impairment with variable accuracy and identify potential prognostic texture features. These data show promise for computer-aided prognosis of acute SCI.

More information: www.arrs.org/am18

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