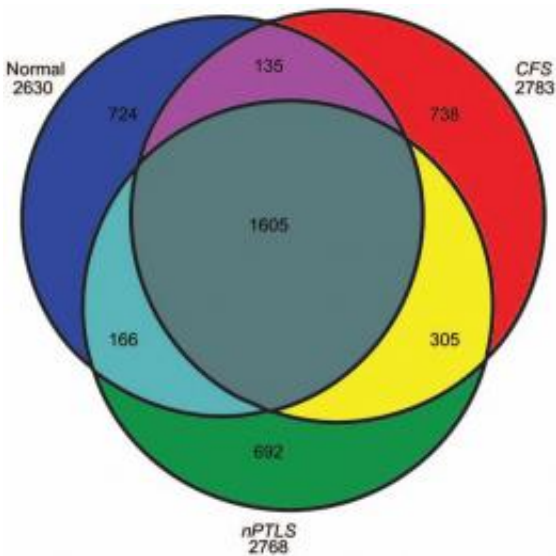


Unique spinal fluid proteins found in chronic fatigue, lyme disease syndrome patients

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Of more than 2500 proteins found in the spinal fluid of volunteers, 724 were unique to healthy patients, 738 to chronic fatigue syndrome patients, and 692 to post lyme disease syndrome patients, differences between the illnesses that researchers can investigate further. Credit: Schutzer et al, *PLoS ONE* 2011.

Chronic fatigue syndrome knocks people down with a debilitating fatigue, but researchers have yet to identify an underlying cause. The difficulty in distinguishing CFS from nPTLS is a result of their shared features of fatigue and cognitive dysfunction. These shared features also create diagnostic dilemmas and impede research into understanding each individual syndrome.

Now, an international team of scientists examining the complement of proteins in spinal fluid comprehensively has found that CFS patients carry a subset of proteins unique to their spinal fluid, compared to nPTLS patients and healthy volunteers. Included in the subset are proteins implicated in Alzheimer's and Parkinson's diseases, supporting the idea that CFS has an underlying neurological cause.

The team was led by Dr. Steven Schutzer, University of Medicine and Dentistry of New Jersey-New Jersey Medical School, and Dr. Richard (Dick) D. Smith, Pacific Northwest National Laboratory. Their results appear in the Feb. 23 issue of [PLoS ONE](#).

More information: Schutzer SE, et al. 2011. "Distinct Cerebrospinal Fluid Proteomes Differentiate Post-Treatment Lyme Disease from Chronic Fatigue Syndrome." *PLoS ONE* 6(2):e17287. [DOI: 10.1371/journal.pone.0017287](#)

Schutzer SE, et al. 2010. "Establishing the Proteome of Normal Human Cerebrospinal Fluid." *PLoS ONE* 5(6):e10980. [DOI: 10.1371/journal.pone.0010980](#).

Provided by Pacific Northwest National Laboratory

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