# New appropriate use criteria for lumbar puncture in Alzheimer's diagnosis

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In preparation for more tools that detect and measure the biology associated with Alzheimer's and other dementias earlier and with more accuracy, an Alzheimer's Association-led Workgroup has published appropriate use criteria (AUC) for lumbar puncture (spinal tap) and spinal fluid analysis in the diagnosis of Alzheimer's disease.

The AUC is available online by *Alzheimer's & Dementia: The Journal of the Alzheimer's Association* as an article in press, corrected proof.

"Early and accurate diagnosis of Alzheimer's disease is critical as therapies that have the potential to stop or slow the progression of the disease become available," said Maria C. Carrillo, Ph.D., Chief Science Officer at the Alzheimer's Association. "These criteria will arm medical professionals with necessary guidance when the use of lumbar puncture is an appropriate part of the process to diagnose Alzheimer's disease and other dementias, thereby giving people with dementia and their families the possibility of a head start in preparing for the course of their disease."

Alzheimer's disease is commonly diagnosed by a thorough examination of physical health, medical history and assessment of memory, thinking and reasoning. Lumbar puncture, while not currently in routine clinical practice in the U.S., is anticipated to be a safe and cost-effective way to retrieve cerebrospinal fluid (CSF) to test for biological markers of Alzheimer's disease, potentially delivering valuable diagnostic information to clinicians and their patients earlier in the course of the disease.

The Workgroup's efforts complement the 2013 AUC for brain amyloid PET scans developed by the Society of Nuclear Medicine and Molecular Imaging (SNMMI) and the Alzheimer's Association.

The lumbar puncture AUC criteria recommend clinicians consider the following patient populations as appropriate and inappropriate:

Appropriate uses of lumbar puncture:

- A patient has subjective cognitive decline (SCD) and is considered to be at an increased risk for Alzheimer's disease based on indicators that include a persistent decline in memory, younger onset age (>60), onset in the last 5 years and others. The decision to perform CSF biomarker testing in this case should be individualized and most strongly supported when the individual, family and clinician all are concerned about the patient's cognitive decline.
- A patient has mild cognitive impairment (MCI) that is persistent, progressive and unexplained. MCI includes mild deficits on cognitive testing but no change in functional abilities.
- A patient has symptoms that suggest possible Alzheimer's disease, meaning the dementia could be due to another cause.
- A patient has MCI or dementia with onset at an early age (