Alzheimer's Association publishes final version of its new diagnostic criteria for the disease

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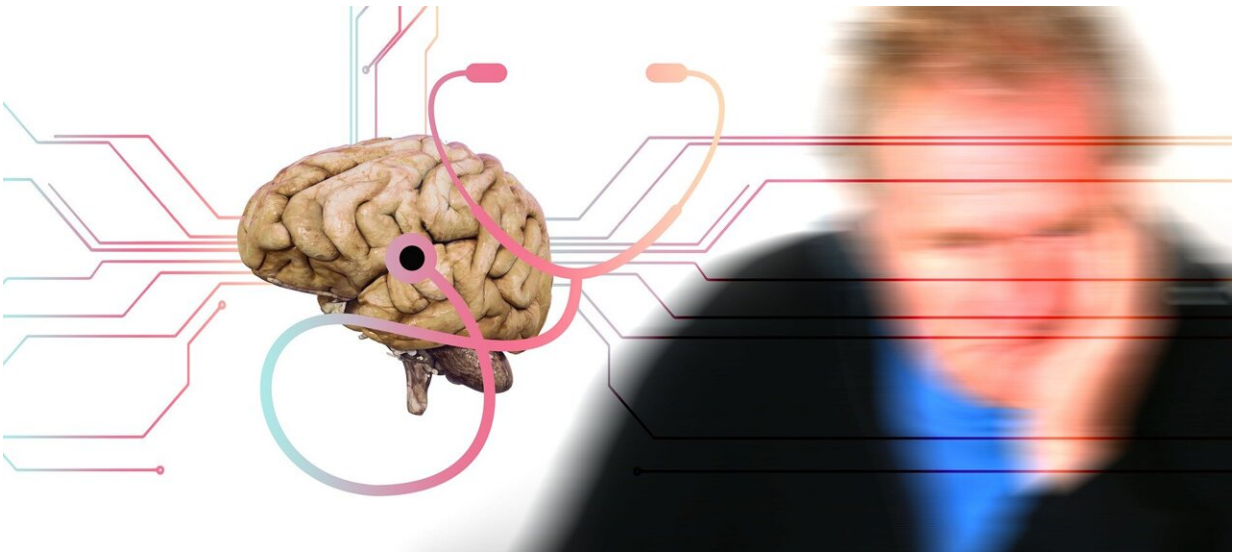

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An international team of medical researchers associated with the nonprofit Alzheimer's Association has published a paper describing the group's final version of their new diagnostic criteria for the disease. Published in *Nature Medicine*, the paper includes use of plasma biomarkers in diagnosing symptomatic Alzheimer's patients.

For many years, the decision to diagnose a patient with Alzheimer's

disease during its early stages has been based mostly on symptoms rather than physical tests. In more recent years, researchers have found protein-based biomarkers that can be used to diagnose patients more accurately.

In this new paper, the team at the Alzheimer's Association has formally included results from such tests in its suggestions for doctors making diagnostic decisions for patients suspected of having Alzheimer's disease—but not for those who are asymptomatic.

In their paper, the authors note that biological marker measurements are standard for diagnosing most other biological diseases and suggest that research efforts over the past several years have led to the discovery of markers for Alzheimer's that are strong enough for use in diagnosis.

The team has outlined three major categories of diagnostic biomarkers: core markers of neuropathological changes (specific to Alzheimer's disease); non-core markers not specific to Alzheimer's patients but important to inflammation, immune activation or neurodegeration; and markers of common non-Alzheimer's disease co-pathologies.

The team then breaks down the core markers into two sub-categories; Core 1 and Core 2.

They define Core 1 markers as those that tend to present early in disease progression, such as certain proteins in cerebrospinal fluid, amyloid buildup, and phosphorylated tau in plasma. They further establish criteria for such markers, such as a 42/40 ratio for amyloid beta in cerebrospinal fluid.

They define Core 2 biomarkers as those that become abnormal during later stages of progression and that are more closely associated with symptoms. They include tau PET and tau fragments found in plasma or cerebrospinal fluid. They further suggest that a combination of Core 1

and Core 2 biomarkers may be used to not only diagnose Alzheimer's disease but to provide an indication of its severity.

They note that because their new guidelines are intended for use by doctors seeking to diagnose patients with existing symptoms, it is not likely they could be used to prescribe early therapies to slow its progression.

More information: Clifford R. Jack et al, Revised criteria for the diagnosis and staging of Alzheimer's disease, *Nature Medicine* (2024). DOI: 10.1038/s41591-024-02988-7