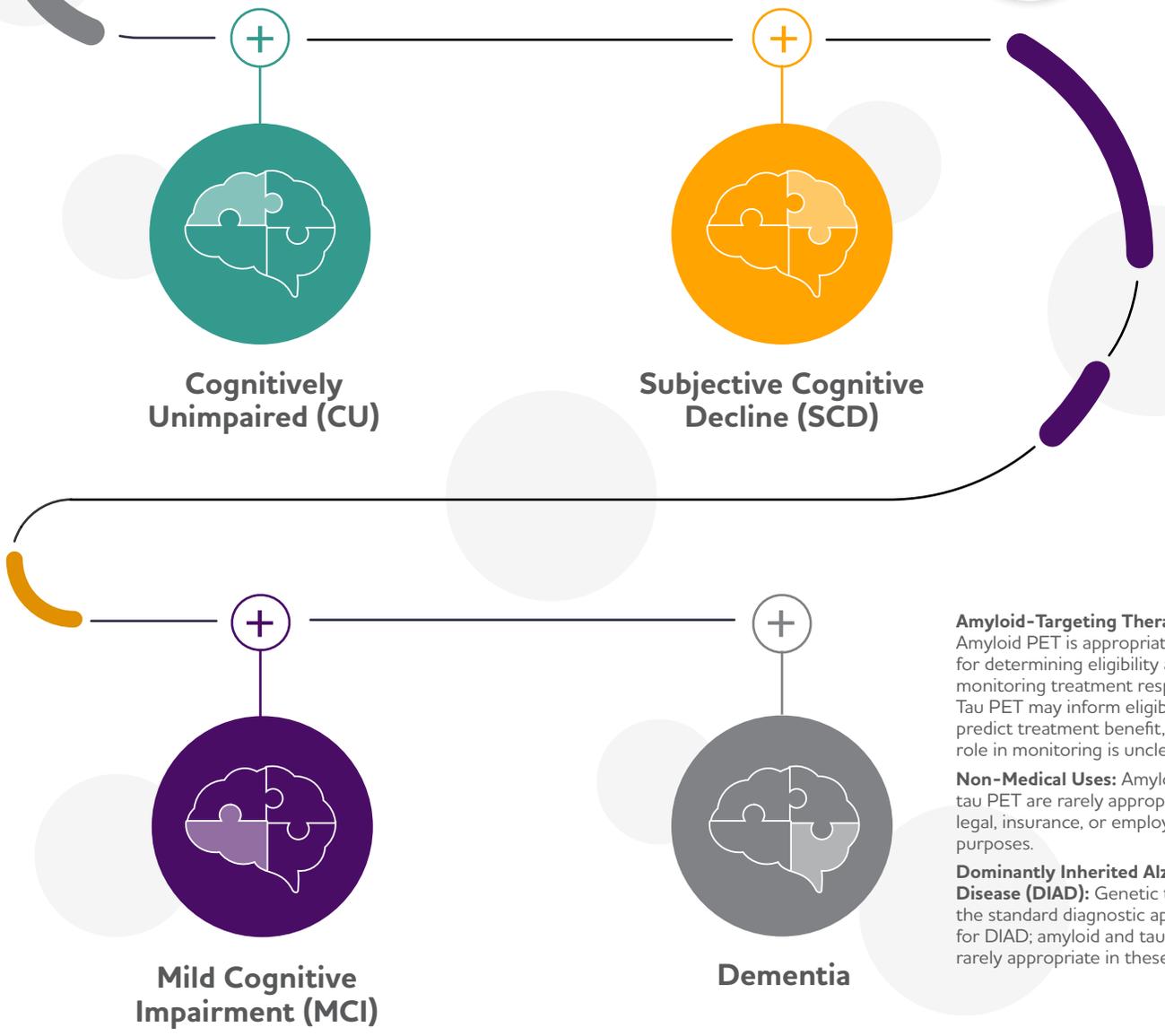


# Appropriate Use Criteria for Amyloid and Tau PET Imaging 2025: A Visual Guide

This infographic illustrates the updated Appropriate Use Criteria (AUC), developed by the Alzheimer's Association and the Society of Nuclear Medicine and Molecular Imaging (SNMMI), for amyloid and tau positron emission tomography (PET) imaging in the evaluation of cognitive decline. While these criteria aim to guide the appropriate use of each modality independently, they are intended to supplement, not replace, comprehensive patient assessment and clinical judgment. These criteria are most relevant when evaluating patients with suspected Alzheimer's disease (AD), where a diagnosis is uncertain, and results will influence patient management.

Explore clinical scenarios categorized by disease stage to learn how amyloid and tau PET results can inform your clinical decision-making.



**Amyloid-Targeting Therapies:** Amyloid PET is appropriate for determining eligibility and monitoring treatment response. Tau PET may inform eligibility and predict treatment benefit, but its role in monitoring is unclear.

**Non-Medical Uses:** Amyloid and tau PET are rarely appropriate for legal, insurance, or employment purposes.

**Dominantly Inherited Alzheimer's Disease (DIAD):** Genetic testing is the standard diagnostic approach for DIAD; amyloid and tau PET are rarely appropriate in these cases.



# Cognitively Unimpaired (CU)

## Amyloid

## Tau

### Standard AD Risk\*



Uncertain predictive value for individual cognitive outcomes.



Elevated tau unlikely, limited clinical utility without prevention.

### Increased AD Risk\*



Limited clinical actionability despite elevated risk. Future preventative therapies may change this.



Elevated tau unlikely.

\*Based on age, APOE ε4 status, family history



Appropriate



Rarely appropriate



Uncertain

Cognitively Unimpaired (CU)

Subjective Cognitive Decline (SCD)



Mild Cognitive Impairment (MCI)



Dementia

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# Subjective Cognitive Decline (SCD)

## Amyloid

## Tau

### Standard AD Risk\*



Uncertain predictive value for individual cognitive outcomes.



Limited data on individual risk. Rarely positive outside medial temporal lobe.

### Increased AD Risk\*



Limited prognostic value, lack of actionable interventions.



Elevated tau unlikely.

\*Based on age, APOE ε4 status, family history



Appropriate



Rarely appropriate



Uncertain

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## Mild Cognitive Impairment (MCI)

### Amyloid

### Tau

#### Suspected AD, <65 Years Old



Highly accurate in population, aids accurate diagnosis.



Can help detect AD pathology.

#### Suspected AD, ≥65 Years Old



Can confirm/rule out AD, reduce need for further testing, and inform management.



High positive predictive value, uncertain negative predictive value.

#### Suspected AD, Atypical Features



Helps differentiate AD from other causes.



Spatial patterns can match affected brain regions, further supporting AD diagnosis.

#### Suspected AD, Prognosis



Positive scan increases likelihood of progression to dementia.



Tau correlates with severity/cognitive decline.

#### Confirmed AD, Monitoring Progression



Does not correlate with disease severity or progression.



Correlates with disease stage, but clinical utility of serial scans for monitoring is unclear.

#### Conclusive CSF Biomarkers Results



Offers additional detail, but rarely changes management.



May provide regional and staging information, but clinical utility is unclear.

#### Inconclusive CSF Biomarker Results



Helps determine amyloid status when CSF results are unclear.



May provide additional information, but clinical utility is unclear.



Appropriate



Rarely appropriate



Uncertain



# Dementia

## Amyloid

## Tau

### Prodromal Lewy Body Disease or DLB



Positive scan does not distinguish DLB from AD, negative scan may rule out AD. Unlikely to affect treatment.



May indicate contributing AD pathology, unlikely to differentiate DLB, AD, PDD. Unlikely to affect treatment.

### Conclusive CSF Biomarker Results



Offers additional detail, but rarely changes management.



May provide regional and staging information, but clinical utility is unclear.

### Inconclusive CSF Biomarker Results



Helps determine amyloid status when CSF results are unclear.



May provide additional information, but clinical utility is unclear.

### Suspected AD, Prognosis



Limited prognostic value.



Correlates with dementia severity, may predict decline.



Appropriate



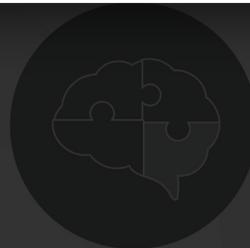
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# Combined Amyloid and Tau PET Imaging

While this infographic focuses on the independent use of amyloid and tau PET imaging as guided by the AUC, it is important to note that combining both modalities may improve diagnostic accuracy and prognostication.

**Amyloid PET offers greater sensitivity for early detection of amyloid pathology, while tau PET is more specific for confirming symptomatic Alzheimer's disease.** However, the optimal combined use of these modalities requires more research.

While positive PET scans can accurately detect amyloid plaques or tau NFTs, negative scans do not definitively rule out their presence. Importantly, a positive scan does not singularly confirm an Alzheimer's diagnosis. Ultimately, PET results should be interpreted in the context of a comprehensive clinical assessment, including thorough patient history, cognitive testing, and other relevant diagnostic evaluations. Clinical judgment remains paramount in making a final diagnosis and developing an appropriate management plan.

**Important Note:** Current criteria for tau PET are based primarily on expert opinion due to limited clinical data. As the evidence base expands, recommendations will evolve.

#### About the Workgroup & Methodology

These AUC were developed by a multidisciplinary workgroup convened by the Alzheimer's Association and the Society of Nuclear Medicine and Molecular Imaging. The workgroup identified key research questions to guide a systematic literature review, performed by Oregon Health & Science University, on clinical amyloid and tau PET, developed 17 clinical scenarios, and rated each by consensus as "rarely appropriate," "uncertain," or "appropriate." Ratings were assessed and voted on for amyloid and tau use separately.

#### About the Alzheimer's Association

The Alzheimer's Association is a worldwide voluntary health organization dedicated to Alzheimer's care, support and research. Our mission is to lead the way to end Alzheimer's and all other dementia – by accelerating global research, driving risk reduction and early detection, and maximizing quality care and support. Our vision is a world without Alzheimer's and all other dementia®. Visit [alz.org](https://alz.org) or call 800.272.3900.

#### About SNMMI

The Society of Nuclear Medicine and Molecular Imaging (SNMMI) is a global nonprofit organization dedicated to advancing nuclear medicine, molecular imaging, and theranostics through its education and research programs. Founded in 1954, SNMMI brings together professionals from all parts of the field to drive innovation, establish practice standards, and enhance education in precision medicine, improving patient care through advanced imaging and therapies that transform diagnosis and treatment. For more information, visit [SNMMI.org](https://SNMMI.org).