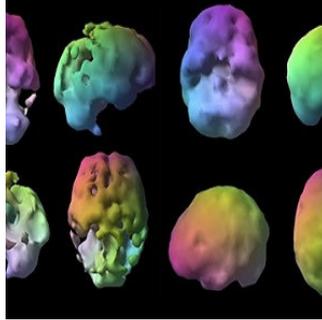


## SPECT Imaging Helps Distinguish Depression from Dementia



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Overlapping symptoms make it difficult for clinicians to distinguish between depression and a cognitive disorder (CD) such as Alzheimer's disease. Now a new study in the *Journal of Alzheimer's Disease* shows that single photon emission computed tomography, or SPECT, could distinguish depression from CDs with 86 percent accuracy. In addition, brain SPECT imaging showed the ability to distinguish depression or dementia in people with both with 83 percent accuracy.

**See Also:** [PET Imaging With Tracer Can Detect Early Alzheimer's](#)

"Cognitive impairment is present in approximately half of persons who have late onset depression and depression is evident in 9-65 percent of individuals with dementia. Studies have indicated that the prevalence of depression in patients with mild cognitive impairment is 25 percent. Consequently, it is often challenging to diagnostically disentangle depression and cognitive disorders from one another," according to the researchers.

In one of the largest studies of its kind, 4,541 subjects were examined, 847 of whom had been diagnosed with dementia, 3,269 with depression, and 425 with both conditions. Using brain SPECT imaging, a nuclear medicine study that measures blood flow and activity, the researchers found that people with cognitive disorders had reduced blood flow in multiple brain areas compared to those with depression, particularly in the hippocampus, temporal, and parietal lobes.

Traditionally, depression can be diagnosed using tools such as the Beck Depression Inventory. However, there was no statistically significant difference in the burden of depression symptoms on this inventory between persons with both depression and CDs compared to persons with either condition. This increases the difficulty of distinguishing these disorders on the basis of depression symptom severity alone.

"These disorders have very different prognoses and treatments and being able to improve diagnostic accuracy can improve outcomes for some patients," explained lead researcher and psychiatrist Daniel G. Amen, MD.

"One of the greatest new insights of the past decade is the linkage of depression to the psychology of late life cognitive decline. Raji and co-workers extend the approach to the biological substrate by an elegant imaging approach. These studies further place brain aging on a firm biological basis," added George Perry, PhD, Editor-in-Chief of the *Journal of Alzheimer's Disease* and Dean and Professor of Biology University of Texas at San Antonio.

Source: [IOS Press](#)

Image Credit: Amen Clinics

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