

Insulin nasal spray shows promise as treatment for adults with dementia and Alzheimer's

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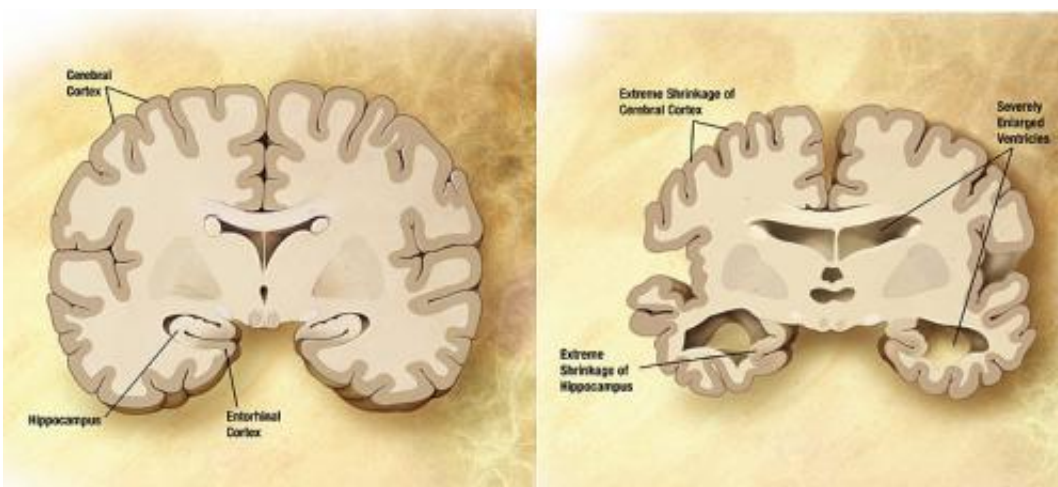


Diagram of the brain of a person with Alzheimer's Disease. Credit: Wikipedia/public domain.

A man-made form of insulin delivered by nasal spray may improve working memory and other mental capabilities in adults with mild cognitive impairment and Alzheimer's disease dementia, according to a pilot study led by researchers at Wake Forest Baptist Medical Center.

The study's subjects were 60 adults diagnosed with amnesic [mild cognitive impairment](#) (MCI) or mild to moderate Alzheimer's dementia (AD). Those who received nasally-administered 40 international unit

(IU) doses of [insulin](#) detemir, a manufactured form of the hormone, for 21 days showed significant improvement in their short-term ability to retain and process verbal and visual information compared with those who received 20 IU doses or a placebo.

Additionally, the recipients of 40 IU doses carrying the APOE-e4 gene - which is known to increase the risk for Alzheimer's - recorded significantly higher memory scores than those who received the lower dosage or placebo, while non-carriers across all three groups posted significantly lower scores.

Previous trials had shown promising effects of nasally-administered insulin for adults with AD and MCI, but this study was the first to use insulin detemir, whose effects are longer-lasting than those of "regular" insulin.

"The study provides preliminary evidence that insulin detemir can provide effective treatment for people diagnosed with mild [cognitive impairment](#) and Alzheimer's-related dementia similar to our previous work with regular insulin," said Suzanne Craft, Ph.D., professor of gerontology and geriatric medicine at Wake Forest Baptist and lead author of the study, which is published online in advance of the February issue of the *Journal of Alzheimer's Disease*. "We are also especially encouraged that we were able to improve memory for adults with MCI who have the APOE-e4 gene, as these patients are notoriously resistant to other therapies and interventions."

The researchers also sought to determine if the insulin detemir doses would cause any negative side effects, and found only minor adverse reactions among the subjects.

The study's overall results support further investigation of the therapeutic value of insulin detemir as a treatment for Alzheimer's and

other neurodegenerative diseases, Craft said.

"Alzheimer's is a devastating illness, for which even small therapeutic gains have the potential to improve quality of life and significantly reduce the overall burden for patients, families and society," she said.

"Future studies are warranted to examine the safety and efficacy of this promising treatment."

Provided by Wake Forest University Baptist Medical Center

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