

Alzheimer's researchers investigate diabetes link in mice

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Researchers in Aberdeen have highlighted a possible new link between Alzheimer's disease and diabetes according to a new study published today in the journal *Diabetologia*.

While [diabetes](#) is a well-known risk factor for Alzheimer's, this latest study indicates that when Alzheimer's changes in the brain occur first, they could lead to diabetes.

The researchers in this study worked with mice bred to have increased levels of an enzyme called BACE1 in [nerve cells](#) in the brain. In humans this enzyme is involved in the production of a hallmark Alzheimer's protein called amyloid and is seen as a potential target for future Alzheimer's treatments.

They found that, compared to mice without additional BACE1, those with more of the enzyme not only went on to show Alzheimer's-like brain changes, but were also found to have characteristic features of diabetes, including problems regulating glucose, and decreased sensitivity to the [hormone insulin](#). The researchers suggest that additional BACE1 may be affecting an area of the brain called the hypothalamus, which plays a key role in regulating hormones, controlling appetite and has previously been linked to diabetes in mice.

Dr Rosa Sancho, Head of Research at Alzheimer's Research UK, said:

"Scientists have known for some time that people with diabetes have an

increased risk of developing Alzheimer's, and research is currently underway to better understand how diabetes might be triggering Alzheimer's changes in the brain. This study suggests that the link between these two diseases could also be working in the other direction, with aspects of Alzheimer's leading to complications associated with diabetes.

"Clinical trials are currently underway to determine whether medications for diabetes could benefit people with Alzheimer's and a better understanding of this link is crucial as researchers seek to find new ways of tackling both diseases.

"Diabetes is one risk factor for Alzheimer's but the disease is caused by a complex mix of age, genetics and lifestyle factors. Current evidence suggests that not smoking, keeping blood pressure and cholesterol in check, eating a balanced diet, drinking in moderation and staying mentally and physically active call all help to maintain [brain](#) health as we age."

Provided by Alzheimer's Research UK

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