

### Transcript Details

This is a transcript of an educational program accessible on the ReachMD network. Details about the program and additional media formats for the program are accessible by visiting:

<https://reachmd.com/programs/alzheimers-disease-towards-earlier-detection/understanding-pathophysiology-alzheimers-disease/8325/>

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## Understanding the Pathophysiology of Alzheimer's Disease

Opening Announcer:

You're listening to ReachMD. Uncover the truth about Alzheimer's in this special series, Alzheimer's Disease: Towards Earlier Detection.

Dr. Matt Birnholz:

Welcome to the ReachMD series Alzheimer's Disease: Towards Earlier Detection. I'm Dr. Matt Birnholz. On this episode, we hear from Dr. Douglas Scharre, Professor of Clinical Neurology and Psychiatry with the Center for Cognitive and Memory Disorder at The Ohio State University Wexner Medical Center. Dr. Scharre talks about the pathogenesis for Alzheimer's Disease.

Dr. Douglas Scharre:

So we know that Alzheimer's disease has pathology in the brain consisting of tau and amyloid proteins. These proteins are accumulating abnormally: amyloid of course outside the nerve cells, tau inside the nerve cells, developing the senile plaques of amyloid and the neurofibrillary tangles of tau. These are very obvious and can be seen on pathology, and we can now measure them on PET imaging and we can also see influences of them on spinal fluid. And all cases of Alzheimer's disease appear to have these abnormal proteins, these proteinopathies that build up. There are obviously other things that

could be causing Alzheimer's disease. We know that genetics plays a large part in increasing amyloid production and perhaps phosphorylation of tau. These are still being worked out. So Alzheimer's is very much a genetic condition and increases greatly in people that have the right genetics, that might perhaps increase these proteins. Other potential etiologies include inflammatory influences to promote neuronal loss, mitochondrial abnormalities. So there's a lot of research still ongoing as to the exact pathophysiology. In current times, people are focusing mostly on amyloid and tau as sort of the premier potential causes of the neuron-neuronal death, and the development of the dementing condition.

Dr. Matt Birnholz:

That was Dr. Douglas Scharre from The Ohio State University Wexner Medical Center. For access to continuing episodes of Alzheimer's Disease: Towards Earlier Detection, visit our series page at [ReachMD.com](https://ReachMD.com). Thanks for joining us.

Closing Announcer:

You've listening to ReachMD. Uncover the truth about Alzheimer's in this special series, Alzheimer's Disease: Towards Earlier Detection. To revisit any part of this discussion and to access other episodes visit [ReachMD.com/timehidesalzheimers](https://ReachMD.com/timehidesalzheimers). Thank you for listening.