

# Simple blood test diagnoses Parkinson's disease long before symptoms appear

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A new research report appearing in the December issue of the *FASEB Journal* shows how scientists from the United Kingdom have developed a simple blood test to detect Parkinson's disease even at the earliest stages. The test is possible because scientists found a substance in the blood, called "phosphorylated alpha-synuclein," which is common in people with Parkinson's disease, and then developed a way to identify its presence in our blood.

"A blood test for Parkinson's disease would mean you could find out if a person was in danger of getting the disease, before the symptoms started," said David Allsop, Ph.D., a researcher involved in the work from the Division of Biomedical and Life Sciences and the School of Health and Medicine at the University of Lancaster, in Lancaster, UK. "This would help the development of medicines that could protect the brain, which would be better for the quality of life and [future health](#) of older people."

To develop the blood test for Parkinson's disease, Allsop and colleagues studied a group of people diagnosed with the disease and a second group of healthy people of a similar age. [Blood samples](#) from each group were analyzed to determine the levels of phosphorylated alpha-synuclein present. They found those with Parkinson's disease had increased levels of the substance. Based upon these findings, researchers developed a blood test that detects the presence of phosphorylated alpha-synuclein, which could allow for diagnosis of the disease well before symptoms appear but when [brain damage](#) has already begun to occur.

"When most people think of Parkinson's disease, they think of the outward symptoms, such as [involuntary movements](#)," said Gerald Weissmann, M.D., Editor-in-Chief of the [FASEB Journal](#), "but many people with Parkinson's also develop [neurological problems](#) that may be more difficult to detect right away. Having a blood test not only helps doctors rule out other possible causes of the outward symptoms, but it also allows for early detection which can help patients and their caregivers prepare for the possibility of the mental, emotional, and behavioral problems that the disease can cause."

**More information:** Penelope G. Foulds, J. Douglas Mitchell, Angela Parker, Roisin Turner, Gerwyn Green, Peter Diggle, Masato Hasegawa, Mark Taylor, David Mann, and David Allsop. Phosphorylated  $\alpha$ -synuclein can be detected in blood plasma and is potentially a useful biomarker for Parkinson's disease. *FASEB J.* December 2011 25:4127-4137; [doi:10.1096/fj.10-179192](https://doi.org/10.1096/fj.10-179192)

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