

# EXENATIDE AND PARKINSON'S DISEASE

## Fact Sheet

### What did the clinical trial investigate?

The phase II trial evaluated a diabetes drug called exenatide to see if it was safe for use in people with Parkinson's and if it improved motor symptoms of the disease. The study was led by Prof. Thomas Foltynie at University College London and was funded by The Michael J. Fox Foundation for Parkinson's Research. It is part of the Linked Clinical Trials initiative, a program spearheaded by The Cure Parkinson's Trust and supported in part by Van Andel Research Institute.

The trial involved 60 people with Parkinson's, half of whom received an injection of exenatide once a week and half who received a placebo for 48 weeks, in addition to their usual medications. The trial was double blind, meaning that neither the investigators nor the patients knew which group received the drug and which received the placebo. At the end of this period, the drug and placebo were stopped and the patients were monitored for 12 weeks. Throughout the trial, investigators evaluated the participants' symptoms, particularly those that were related to movement.

### What are the findings? What do they mean?

People with Parkinson's who received exenatide showed a slight improvement in their motor function, although it is not clear whether this is due to the drug affecting the disease's underlying mechanisms or if it is temporarily alleviating symptoms. A larger study is needed to evaluate whether exenatide actually slows disease progression.

Exenatide also appeared to be safe based on results from the trial. Some people experienced slight weight loss as well as injection site irritation, nausea and loss of appetite. However, more research is needed to definitively prove that it is safe and effective as a disease-modifying therapy in Parkinson's.

The results were in line with an earlier, smaller clinical trial in which participants also showed slight improvements in motor symptoms.

### What is the takeaway for people with Parkinson's?

The results of this trial are promising but further study and a larger trial is needed to ensure the safety and effectiveness of exenatide in people with the Parkinson's. **Given this, people are urged to not to add exenatide to their treatment plans at this time.**

### How is exenatide different from current therapies?

Existing therapies, such as levodopa, help mitigate symptoms but do not slow or stop disease progression. Moreover, levodopa typically becomes less effective over time and comes with side effects such as uncontrolled movements. If scientists can find a drug that impedes the progression of the disease, it could give people more years with fewer symptoms and prolong the number of years that levodopa is effective. The goal is to prevent two of the most debilitating complications of advanced disease—falls and cognitive decline.

### What kind of drug is exenatide?

Exenatide (Bydureon) is a glucagon-like peptide-1 (GLP-1) agonist, a type of drug commonly used to treat type II diabetes by prompting the pancreas to release insulin. It works by linking up with GLP-1 receptors, molecules that help cells communicate with each other. These receptors are found in the gut and in the brain.

### How are diabetes and Parkinson's related?

Although they look different on the surface, diabetes and Parkinson's share some underlying mechanisms, such as signs of cellular energy failure and inflammation. Both diseases are related to metabolism, meaning they are associated with problems with cells' ability to produce and process energy.

