PARKINSON'S UK
CHANGE ATTITUDES.
FIND A CURE.
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OUR RESEARCH PROJECTS 2020

Parkinson's UK is the largest charitable funder of Parkinson's research in Europe and people affected by Parkinson's are our driving force. We're dedicated to finding better treatments and a cure. But we're not just focused on the future. We're investing in research to improve life for people with Parkinson's right now.

Our research projects exist at different stages of the research pipeline. Some are in the early scientific discovery stage, while others are already being tested in clinical trials. You can find out more about the terms used in this document in the key below:

What are 'cure' projects?

Projects that work towards treatments and strategies to slow, stop, reverse or prevent Parkinson's. This includes developing new treatments, and improving diagnosis and monitoring of the condition.

What are 'life' projects?

Projects that work towards treatments and strategies to improve the symptoms and quality of life of people with Parkinson's. This includes better therapies and management for issues such as falls, anxiety, and thinking and memory problems.

What happens in the different stages of the pipeline?

- Scientific discoveries – researchers attempt to find out what goes wrong in Parkinson's and come up with ideas for how to fix it.
- Developing treatments – dedicated teams turn the most promising scientific discoveries into potential new treatments.
- Clinical trials – new treatments that have been proven safe and effective by all other methods are carefully tested in volunteers.

Our active research grants

1	Project name	Parkinson's UK Brain Bank (J-1901)
Lead researcher		Professor Stephen Gentleman
Start and end date		July 2019-July 2024
Location		Imperial College London
Cost		£1,534,543
Type: Cure		Stage: Scientific discovery

The Parkinson's UK Brain Bank, based at Imperial College London, is the world's only brain bank solely dedicated to Parkinson's research. Both people with and without Parkinson's can pledge to donate their brains to research through the Brain Bank. The tissue is supplied to researchers studying Parkinson's all over the world, increasing our understanding of what exactly goes wrong in the condition.

2	Project name	Investigating non-invasive nerve stimulation to improve walking (G-1903)
Lead researcher		Dr Alison Yarnall
Start and end date		June 2020-June 2023
Location		Newcastle University
Cost		£102,476
Type: Life		Stage: Clinical trial

In Parkinson's, brain cells are lost over time, resulting in the levels of vital brain chemicals being decreased. One of these chemicals is called acetylcholine, which plays an important role in memory, thinking and walking. This means that people with Parkinson's have an increased risk of falling. This research will look at a small handheld device placed on the neck to stimulate a nerve with the aim of boosting acetylcholine levels. Researchers will be looking at 40 people with Parkinson's to see if this potential non-invasive treatment can help reduce falls and improve the quality of life for those living with the condition.

3	Project name	Therapeutic avenues to halt Parkinson's progression (G-1902)
Lead researcher		Professor Sylvie Urbe
Start and end date		January 2020-January 2023
Location		University of Liverpool
Cost		£225,159
Type: Cure		Stage: Scientific discovery/Developing treatments

Our brain cells need a lot of energy to function and cell batteries called mitochondria play a crucial role in this. But the buildup of mitochondria that are not working properly is thought to play a critical role in the loss of healthy brain cells in Parkinson's. This project aims to find ways to boost the disposal of damaged mitochondria to ultimately design new therapies that halt the progression of Parkinson's.

4	Project name	Understanding the role of toxic proteins in Parkinson's and Parkinson's-associated dementia (G-1901)
Lead researcher		Professor David Klenerman
Start and end date		January 2020-January 2023
Location		University of Cambridge
Cost		£277,423
Type: Cure		Stage: Scientific discovery

Abnormal clumps of proteins, including alpha-synuclein, are found in the brains of people with Parkinson's. For some, this can be linked to the development of Parkinson's dementia. It is unclear exactly how these proteins are damaging brain cells, and this research aims to understand more. The researchers will do this by studying tissue from the Parkinson's UK Brain Bank. They will study samples, taken over three years, from people with and without Parkinson's, as well as those with high and low risk of dementia. This could help find a way to predict and track the progression of the condition and pave the way for better treatments.

5	Project name	Investigating the benefits of physiotherapy at different stages of Parkinson's (G-1808)
Lead researcher		Dr Robert Skelly
Start and end date		September 2019-December 2022
Location		Derby Hospitals NHS Foundation Trust
Cost		£98,453
Type: Life		Stage: Clinical trial

We know exercise is beneficial for people with Parkinson's. Physiotherapists play a role in advising on suitable exercise and encouraging people to keep active. This research project will explore the views and experiences of people with Parkinson's with regard to physiotherapy. The team will also assess the impact of early physiotherapy – before movement problems have been identified – versus physiotherapy deferred to the time of need. They expect early physiotherapy will help people with Parkinson's maintain independence.

6	Project name	Harnessing the brain's self cleaning system in Parkinson's (F-1902)
Lead researcher		Dr Ian Harrison
Start and end date		November 2019-December 2022
Location		University College London
Cost		£245,909
Type: Cure		Stage: Scientific discovery/Developing treatments

The gradual buildup of toxic proteins is thought to play a major role in damaging brain cells in Parkinson's. The glymphatic system – a recently discovered brain-wide pathway – works to remove waste products from the brain. Previous research has shown that sleep, exercise and low levels of alcohol may help the glymphatic system to clear out toxic proteins in mice. This research will build upon these promising findings and investigate whether boosting the glymphatic system with drug-like molecules can help protect brain cells.

7	Project name	Could epilepsy drugs help treat Parkinson's? (G-1803)
Lead researcher		Professor Stephanie Cragg
Start and end date		January 2019-November 2022
Location		University of Oxford
Cost		£326,682
Type: Cure		Stage: Scientific discovery/Developing treatments

A group of drugs called gabapentinoids were made for treating epilepsy. They also help with some types of pain, sleep problems and restless leg syndrome. Stephanie and her research team have seen that these drugs control calcium levels in brain cells for the controlled release of dopamine. This research project hopes to understand how gabapentinoids could keep dopamine cells working in a healthier way to stop Parkinson's from developing.

8	Project name	Understanding the impact of Lewy bodies (G-1702)
Lead researcher		Professor Peter Magill
Start and end date		April 2018-July 2022
Location		University of Oxford
Cost		£216,824
Type: Cure		Stage: Scientific discovery

Lewy bodies are abnormal clusters of protein that form inside the brain cells lost in Parkinson's. While they are found in brain cells, researchers do not know how Lewy bodies affect them. Peter and his team hope to use a mouse model of Parkinson's to discover the impact Lewy bodies have on the function of dopamine-producing brain cells. Ultimately, their research could shed new light on how to slow or stop the condition.

9	Project name	Tracking Parkinson's (PROBAND) (J-1101)
Lead researcher		Professor Donald Grosset
Start and end date		October 2011-June 2020
Location		University of Glasgow
Cost		£3,411,807
Type: Cure		Stage: Scientific discovery

The ambitious Tracking Parkinson's study launched in early 2012 with the aim of studying how people with the condition differ in their symptoms, respond to drug therapies, and progress over time. Ultimately, understanding these differences will help us to develop better and more targeted treatments that we can use for particular types of Parkinson's.

10	Project name	Delivering a collaborative exercise approach for people with Parkinson's (F-1901)
Lead researcher		Julie Jones
Start and end date		June 2019-June 2022
Location		Robert Gordon University
Cost		£240,258
Type: Life		Stage: Clinical trial

For many, exercise is an effective way to help manage their Parkinson's, and evidence suggests that regular exercise may limit the progression of the condition. Julie's team will explore a collaborative exercise intervention called PDConnect, which includes physiotherapy, community-based group exercise classes, and supported self-management. They will test this approach to see if it is an effective way to support people with Parkinson's to engage in exercise.

11	Project name	Understanding what controls the loss of dopamine-producing cells (G-1804)
Lead researcher		Dr Christopher Elliott
Start and end date		May 2019-May 2022
Location		University of York
Cost		£245,995
Type: Cure		Stage: Scientific discovery

Changes in the LRRK2 gene play a crucial role in the development of rare, inherited forms of Parkinson's and cause the LRRK2 protein to be more active than normal. Christopher and his team have observed in flies that a small protein Rab10 contributes to LRRK2-induced Parkinson's symptoms. In this research project, they will investigate how Rab10 (and other Rab proteins) work with LRRK2 to control the loss of dopamine-producing brain cells.

12	Project name	Unblocking cellular traffic jams as a treatment for Parkinson's (G-1802)
Lead researcher		Professor Flaviano Giorgini
Start and end date		February 2019-February 2022
Location		University of Leicester
Cost		£264,522
Type: Cure		Stage: Scientific discovery

Recent studies show that traffic jams inside cells may contribute to Parkinson's. The protein Rab39b is involved in the movement of "cargo" within cells. Defective Rab39b is associated with Parkinson's symptoms and Flaviano and team have observed this in fruit flies. In this study, they will enhance Rab39b functions to see if this has a beneficial role in Parkinson's.

13	Project name	Investigating delirium in Parkinson's (DELIRIUM-PD) (F-1801)
Lead researcher		Dr Rachael Lawson
Start and end date		December 2018-December 2021
Location		Newcastle University
Cost		£240,589
Type: Life		Stage: Clinical trial

Delirium is a serious but often treatable condition that can suddenly start in someone who is unwell. People with delirium may appear confused, experience hallucinations, have difficulty following conversations or be unusually sleepy. Some of these features are also symptoms of Parkinson's, which can make delirium difficult to identify in people with Parkinson's. This project will investigate delirium in people with Parkinson's admitted to hospital, which could help better identify and treat the condition.

14	Project name	Using nicotine-like drugs to help restore memory and movement in Parkinson's (G-1805)
Lead researcher		Dr Mohammed Shoaib
Start and end date		October 2019-October 2021
Location		Newcastle University
Cost		£294,180
Type: Life		Stage: Developing treatments

Nicotine binds cells in the region of the brain responsible for memory and motor co-ordination and can enhance their function. In this project, the team will investigate new compounds that have nicotine-like effects on brain cells, but without the side effects of nicotine-like addiction. Nicotine-like compounds will be tested on models of Parkinson's to see whether nicotine-like substances reduce memory loss and movement disorders.

15	Project name	Understanding how the LRRK2 protein is controlled (H-1701)
Lead researcher		Professor Dario Alessi
Start and end date		October 2018-October 2021
Location		University of Dundee
Cost		£91,389
Type: Cure		Stage: Scientific discovery

Changes in the LRRK2 gene play a crucial role in the development of rare, inherited forms of Parkinson's and cause the LRRK2 protein to be more active than normal. Dario and his team have previously discovered a protein called Rab29 that can control the activity of LRRK2. In this research project, they will look at how Rab29 regulates LRRK2 – which could help in the development of new treatments that target this pathway.

16	Project name	Understanding VPS35 in Parkinson's (H-1702)
Lead researcher		Dr Eva Kevei
Start and end date		October 2018-October 2021
Location		University of Reading
Cost		£93,375
Type: Cure		Stage: Scientific discovery
Researchers have recently discovered that changes in a gene called VPS35 can cause Parkinson's, but we don't yet know how. While this genetic form of Parkinson's is very rare, understanding why changes in this gene lead to Parkinson's could give us the vital insight needed to develop new and better treatments. In this project, the team hopes to use a worm model of Parkinson's to better understand how the VPS35 is linked to the loss of precious brain cells.		

17	Project name	Enhancing brain cell batteries to protect from brain cell death (K-1901)
Lead researcher		Dr Nicoleta Moisoi
Start and end date		September 2019-September 2021
Location		De Montfort University
Cost		£49,224
Type: Cure		Stage: Scientific discovery/Developing treatments
In Parkinson's, the small cell batteries that provide energy to brain cells – called mitochondria – can become dysfunctional, leading to brain cell death. Nicoleta and her team have recently found that boosting a protein called CLPP plays a role in the repair and regeneration of these cell batteries. They want to further investigate whether a class of drugs derived from natural compounds can boost CLPP and protect brain cells. This could offer a potential way to protect dopamine-producing brain cells and slow, or even stop, Parkinson's.		

18	Project name	A clinical trial of the probiotic Symprove (K-1803)
Lead researcher		Professor K Ray Chaudhuri
Start and end date		July 2019-July 2021
Location		King's College London
Cost		£38,562
Type: Life		Stage: Clinical trial
Recent studies have shown that gut health is important in Parkinson's. Symprove is an oral probiotic that can reach the lower gut and has been seen to improve symptoms in conditions such as irritable bowel syndrome. The research team has some evidence that Symprove may be able to reduce motor and non-motor symptoms in people with Parkinson's. Now they want to test its potential in a placebo-controlled trial.		

19	Project name	Targeting GBA in Parkinson's (G-1704)
Lead researcher		Professor Anthony Schapira
Start and end date		July 2018-July 2021
Location		Institute of Neurology, UCL
Cost		£319,324
Type: Cure		Stage: Developing treatments

Changes in the GBA gene are an important risk factor for Parkinson's and can significantly increase the risk of developing Parkinson's. Anthony's previous research has shown that these mutations lead to alpha-synuclein building up in brain cells. He also discovered that a drug called ambroxol may be able to help. Now Anthony and his team plan to investigate whether ambroxol can slow the spread of the alpha-synuclein protein in a mouse model of the condition. This information could help researchers design future clinical trials.

20	Project name	Understanding Fbxo7 gene in Parkinson's (G-1701)
Lead researcher		Dr Heike Laman
Start and end date		June 2018-June 2021
Location		University of Cambridge
Cost		£200,634
Type: Cure		Stage: Scientific discovery

Current treatments only target the symptoms of Parkinson's – they do not slow the loss of dopamine-producing cells. But Dr Heike believes we now have the tools and opportunity to change this. She has experience of studying a gene that we now know plays a fundamental role in brain cell health – Fbxo7. Understanding how this gene protects brain cells could give rise to future therapies that can slow or reverse the progression of the condition.

21	Project name	Predict Parkinson's (G-1606)
Lead researcher		Professor Anette-Eleonore Schrag
Start and end date		May 2017-May 2021
Location		University College London
Cost		£603,271
Type: Cure		Stage: Scientific discovery/Clinical trial

Finding people at risk of Parkinson's could help future clinical trials. Research teams worldwide have been trying to do this by concentrating on specific risk factors, such as sense of smell or having abnormal genes, but there are other factors as well. At the end of the project, the team hopes to be able to accurately calculate risk based on a number of factors and be able to predict people who will develop Parkinson's in the future.

22	Project name	Finding new ways to treat anxiety (G-1601)
Lead researcher		Dr Jerome Swinny
Start and end date		May 2017-May 2021
Location		University of Portsmouth
Cost		£224,978
Type: Life		Stage: Scientific discovery/Developing treatments

Around half of people with Parkinson's have trouble with anxiety, and "stress and anxiety" is rated the second-highest priority area of research for improving quality of life. The locus coerulus, located in the brainstem, is important for responding to stress. So the researchers want to look specifically at changes to the cells in this part of the brain that may be linked to anxiety. They will then look for drugs that can reverse these changes in the brain and reduce anxiety-like behaviour using a mouse model.

23	Project name	Understanding the scope and value of Parkinson's nurses in the UK (the USP project) (G-1807)
Lead researcher		Dr Annette Hand
Start and end date		May 2019-May 2021
Location		Northumbria University
Cost		£100,000
Type: Life		Stage: Clinical trial

Annette and her team want to understand more about the role of Parkinson's nurses to ensure that people with Parkinson's continue to get the best support. They will do this by gathering information from people with Parkinson's, specialist nurses and other healthcare professionals. This study will help to improve support for Parkinson's nurses and inform future strategies.

24	Project name	Studying early brain changes in Parkinson's (K-1703)
Lead researcher		Professor Nicola Pavese
Start and end date		September 2018-March 2021
Location		Newcastle University
Cost		£47,851
Type: Cure		Stage: Scientific discovery

Using special brain scans, we are now able to observe changes in the brain that happen in Parkinson's. However, by the time of diagnosis, many people will have had symptoms for at least several months, so we still don't know what changes happen in the earliest stages of the condition. The team is studying people with REM sleep behaviour disorder, who are at high risk of developing Parkinson's, to identify areas of the brain affected early on.

25	Project name	Finding drugs that combat alpha-synuclein (G-1703)
Lead researcher		Professor Maria Grazia Spillantini
Start and end date		March 2018-March 2021
Location		University of Cambridge
Cost		£364,620
Type: Cure		Stage: Developing treatments

The protein alpha-synuclein is the main component of Lewy bodies, and is believed to play a key role in the loss of precious brain cells and spread of Parkinson's. Anle138b is a potential drug that Maria and her team have shown reduces the ability of alpha-synuclein to form Lewy bodies in mouse models of the condition. In this project, the team hopes to find the optimal dose of this compound, and discover more about its effects, to progress it towards clinical trials.

26	Project name	The Monument Discovery Award (J-1403)
Lead researcher		Professor Richard Wade-Martins
Start and end date		February 2015-February 2021
Location		University of Oxford
Cost		£5,857,058
Type: Cure		Stage: Scientific discovery/Developing treatments

The Oxford Parkinson's Disease Centre is a unique, collaborative initiative that brings together the best scientific minds to speed up the search for better treatments and a cure. The researchers are looking at Parkinson's from every angle – including studying stem cells and animal models of the condition – to attempt to answer some of the biggest questions facing the field.

27	Project name	Boosting a growth factor in the brain to fight the loss of dopamine (G-1801)
Lead researcher		Dr Susan Duty
Start and end date		January 2019-January 2021
Location		King's College London
Cost		£168,139
Type: Cure		Stage: Developing treatments

Fibroblast growth factor 20, (FGF20) is a specialised protein that has been shown in the lab to aid the survival of dopamine-containing cells. Susan and her team have found that in animal models they can boost FGF20 levels in the brain with two existing medicines – the anti-asthmatic drug Salbutamol and an aspirin-like drug Triflusal. In this research project, they will see if these medicines help protect brain cells in a rat model of Parkinson's.

28	Project name	Investigating gene silencing as a treatment for Parkinson's (K-1902)
Lead researcher		Dr Sonia Gandhi
Start and end date		January 2020-January 2021
Location		Institute of Neurology, University College London
Cost		£49,823
Type: Cure		Scientific discovery

Buildup of a protein called alpha-synuclein in brain cells is apparent in Parkinson's and is thought to cause damage and lead to brain cell death. Therefore, alpha-synuclein is an attractive target in the search for better treatments and a cure for Parkinson's. This research aims to target alpha-synuclein using a gene silencing method – reducing the amount of alpha-synuclein protein made by the cell. The researchers will investigate this using cells that have come from people with Parkinson's and see if it could build the foundations for a way to slow down the condition.

29	Project name	Understanding gut bacteria to deliver better treatments (G-1705)
Lead researcher		Dr Maria Doitsidou
Start and end date		January 2018-January 2021
Location		University of Edinburgh
Cost		£243,128
Type: Cure		Stage: Scientific discovery

Recent research has highlighted the importance of gut-brain interactions in Parkinson's. We know microorganisms that live in our gut can affect our brain, and there is evidence that, for some, Parkinson's may start in the gut. The team is using a worm model of Parkinson's to investigate how the different types of bacteria in our gut can influence symptoms of Parkinson's, and how gut bacteria communicate with our brain. This could help to predict how Parkinson's will affect an individual in the future and help to develop better treatments.

30	Project name	Looking for DNA modifications in Parkinson's (G-1502)
Lead researcher		Professor Nigel Williams
Start and end date		July 2016-December 2020
Location		Cardiff University
Cost		£232,404
Type: Cure		Stage: Scientific discovery

Nigel and his team are studying high-quality brain tissue samples donated to the Parkinson's UK Brain Bank. Using state-of-the-art technology, they're looking for DNA modifications in the areas of the brain that are commonly affected in Parkinson's, compared to areas that are not. They're interested in histone modifications, as drugs that can enter the brain and reverse histone modification have already been identified and could hold potential for treating Parkinson's.

31	Project name	Astrocytes: a support cell in the Parkinson's brain? (G-1402)
Lead researcher		Professor Maeve Caldwell
Start and end date		November 2015-November 2020
Location		University of Bristol
Cost		£210,457
Type: Cure		Stage: Scientific discovery

This project will help us understand the role of astrocytes – the most abundant cell type in the human brain – in the loss of dopamine-producing nerve cells in Parkinson's. Maeve and her team are using induced pluripotent stem (iPS) cells to study how astrocytes support and protect the dopamine-producing brain cells that are lost in Parkinson's.

32	Project name	Hunting for protective genes in Parkinson's (F-1501)
Lead researcher		Dr Emmanouil Metzakopian
Start and end date		November 2015-November 2020
Location		Sanger Institute
Cost		£383,062
Type: Cure		Stage: Scientific discovery

Understanding more about why some people get Parkinson's while others don't, and finding the protective genes responsible, can help scientists develop new protective treatments. Using cells grown in the lab, the team will individually change a single, different gene in each brain cell, using specially designed viruses. The genetically altered brain cells will then be stressed with chemicals that will cause most of the cells to die, helping the researchers find the cells with protective genes.

33	Project name	Understanding and predicting Parkinson's progression (H-1703)
Lead researcher		Professor Huw Morris
Start and end date		November 2017-November 2020
Location		University College London
Cost		£99,169
Type: Cure		Stage: Scientific discovery

Huw's team is interested in finding out how people's genetic makeup may influence the progression of Parkinson's. They will combine clinical and genetic data from several large Parkinson's research studies to create the largest dataset of Parkinson's progression to date. They also aim to predict Parkinson's progression on an individual level using both clinical and genetic factors.

34	Project name	Stem cell therapies: targeting the non-motor symptoms (F-1502)
Lead researcher		Dr Mariah Lelos
Start and end date		November 2015-October 2020
Location		Cardiff University
Cost		£250,000
Type: Cure		Stage: Developing treatments

Cell transplants have the potential to reverse the damage that occurs inside the brain in Parkinson's. The team is transplanting new dopamine-producing cells into the a rat model with Parkinson's-like symptoms to see if they can improve movement symptoms, and non-motor symptoms including problems with thinking, memory, anxiety and smell. The team will use dopamine-producing brain cells made from different types of stem cells, and investigate how they work by using viruses to turn the cells on and off.

35	Project name	Exploring a new treatment for bladder problems (K-1801)
Lead researcher		Professor Doreen McClurg
Start and end date		September 2018-September 2020
Location		Glasgow Caledonian University
Cost		£6,887
Type: Life		Stage: Clinical trial

Bladder problems, such as a frequent and urgent need to pass urine, affect many people with Parkinson's but current treatment options are limited. Transcutaneous electrical stimulation involves using a device to deliver small electrical impulses to the skin. This approach is sometimes used to address pain but has not been used to treat bladder problems before. This project will test if the treatment can improve bladder symptoms in people with Parkinson's.

36	Project name	Steps towards a new diagnostic test for Parkinson's (G-1806)
Lead researcher		Dr Laura Parkkinen
Start and end date		February 2019-August 2020
Location		University of Oxford
Cost		£129,038
Type: Cure		Stage: Scientific discovery

Laura and her team have developed a promising new diagnostic test for Parkinson's focusing on the detection of a specific protein. In this project, they will see how early in the process this protein can be detected. They will also investigate if their test can tell Parkinson's apart from other related conditions to support accurate early diagnosis and treatment.

37	Project name	A blood test to measure LRRK2 (K-1706)
Lead researcher		Dr Esther Sammler
Start and end date		July 2018-July 2020
Location		University of Dundee
Cost		£49,270
Type: Cure		Stage: Scientific discovery

Changes in the LRRK2 gene are one of the most common genetic risk factors for Parkinson's and can change the way cells behave. Esther hopes that a simple blood test may be able to directly measure the activity of the LRRK2 pathway in blood samples from those with Parkinson's. Demonstrating that the test works could support future research to test new treatments that target this pathway.

38	Project name	Does sensory information affect turning mobility in people with Parkinson's? (K-1804)
Lead researcher		Dr Terry Gorst
Start and end date		June 2019-June 2020
Location		University of Plymouth
Cost		£31,449
Type: Life		Stage: Developing treatments/Clinical trial

People with Parkinson's often have difficulty turning, which can lead to falls. This project aims to understand more about how sensory information, such as being able to see your feet or feel a vibration from a small device, can impact turning. The teams hope this information will be helpful in finding ways to reduce turning difficulties in everyday life.

39	Project name	Can we protect neurons against mitochondrial dysfunction? (F-1401)
Lead researcher		Dr Amy Reeve
Start and end date		July 2014-June 2020
Location		Newcastle University
Cost		£413,745
Type: Cure		Stage: Developing treatments

Understanding how changes in mitochondria affect energy production, and contribute to brain cell death, may be the key to treatments that protect against energy loss and help cells survive into old age. Using brain tissue, brain cells grown in the lab, and a mouse model with Parkinson's-like symptoms, Amy is testing a range of drugs known to interact with mitochondria. This could tell her if the drugs can protect brain cells against the problems caused by faulty mitochondria and alpha-synuclein.

Parkinson's UK Virtual Biotech

We're close to major breakthroughs. That's why we set up our Virtual Biotech to fast track treatments to market. We're investing £4m a year to fast track the most promising scientific discoveries into life-changing new treatments.

Collaborative, risk-taking, and bold, we're the only Parkinson's charity working in this way. We'll break through barriers in drug development and make new treatments a reality.

Here are some of the latest projects we are investing in:

Project name	Clinical trial to investigate cannabidiol (CBD) for Parkinson's-related psychosis
Parkinson's UK investment to date	£1.2m

There are many different symptoms of Parkinson's and not everyone will experience the same ones. Evidence indicates that up to 60% of people with Parkinson's go on to develop symptoms of Parkinson's psychosis as their condition progresses.

In October 2019, we announced we're partnering with researchers at King's College London to carry out a clinical trial to see whether CBD is safe and effective for treating symptoms of Parkinson's psychosis.

The first stage of the study is a 6-week pilot to find the ideal dosage of oral CBD capsules. In the second stage, 120 people with Parkinson's-related psychosis will be recruited to take part in a 12-week, double-blind, placebo-controlled study – the gold standard for testing if treatments actually work.

Project name	Optimising molecules that restore brain cell batteries
Parkinson's UK investment to date	£100,000

In August 2019, we announced we're partnering with researchers at the University of Sheffield to develop and optimise compounds that can boost the function of brain cell batteries, as part of our Virtual Biotech. The compounds have the potential to reduce the loss of brain cells and offer a way to slow the progression of Parkinson's.

The project builds on a previous Parkinson's UK-funded research grant, where researchers first identified promising compounds. The aim of this new project is to modify these compounds to maximise their ability to boost the mitochondria and reduce side effects. The compounds will be tested in order to find the best potential treatment to progress along the drug discovery pipeline, and ultimately into clinical trials.

Project name	Targeting brain cell batteries to slow the progression of Parkinson's
Parkinson's UK investment to date	£1m

In Parkinson's, the small cell batteries – called mitochondria – that provide energy to brain cells can become dysfunctional, leading to brain cell death. In July 2019, we announced we're partnering with NRG Therapeutics Ltd to identify new molecules that can enter the brain and support the mitochondria.

The first part of the project will screen molecules that target mitochondria to quickly identify the chemicals with potential to treat Parkinson's. In the second stage, the team will select a small number of the most promising molecules to investigate further. If successful, these protective molecules could provide a safe and effective new treatment that protects brain cells and slows the progression of Parkinson's.

Find out more

For more information about our other research initiatives and the progress that we're making, please visit **parkinsons.org.uk/research**

Get connected to Parkinson's research

Join our Research Support Network to hear about ways to have your say and get involved in Parkinson's research. You'll receive regular emails packed with exciting research news and opportunities. Find out more at **parkinsons.org.uk/rsn**

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Together we'll find a cure.

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