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**Renishaw announces completion of the main part of a multi-centre clinical trial jointly undertaken with Herantis Pharma plc for the treatment of Parkinson’s Disease patients**

Global engineering technologies company, Renishaw, announces that its award-winning intraparenchymal drug delivery device, has played a critical role in a joint Phase 1-2 clinical study with Herantis Pharma plc, for the investigation of cerebral dopamine neurotrophic factor (CDNF) as a treatment for Parkinson's disease.

The study’s repeated delivery regime, which allows for a prolonged therapeutic window, is crucial to achieve the potential neuroprotective and neurorestorative actions of CDNF, and has been made possible through the use of Renishaw’s ground-breaking drug delivery system.

Initial results indicate predictable and accurate placement of the device as well as its positive performance and safety. The Company will continue to assess the results as the data is analysed and through the extension part of the study, as patients receive ongoing monthly infusions of CDNF using the Renishaw device.

Rupert Jones, Managing Director of Renishaw Medical, said, “The results of this trial and the performance of Renishaw’s drug delivery system are promising for the many people with Parkinson’s disease and I would like to take this opportunity to thank the trial participants for making this possible.”

He added, “These results allow us to build towards CE marking of Renishaw’s device so that further neurodegenerative and neuro-oncological conditions can benefit from our technology. We see our device as an enabling technology that facilitates the reliable and repeated delivery of therapeutic agents direct to targets deep within the parenchyma, as part of a paradigm shift in the way treatments of neurological disorders and brain tumours are progressing.”

**About the device**

Renishaw’s intermittent drug delivery system comprises of up to four catheters, which can be implanted into target areas within the brain. The catheters are accessed via a 3D printed titanium transcutaneous port implanted behind the patient's ear. Drug-filled infusion lines are connected using an MRI compatible application set, which repeatably locates onto the port. Retractable needles extend through a septum in the port to enable therapeutics in the external infusion lines to be infused through the implanted catheters.

Thanks to this innovative, patented design, patients are able to receive infusions in an out-patient setting, rather than requiring the reimplantation of new catheters for each infusion, which has been the only option for many trials to date.

**About the study**

The study was a first-in-human, study whereby 17 patients were randomised to receive either one dose per month for six months, of a placebo, or six increasing doses of Herantis Pharma plc’s novel drug candidate, CDNF, over the same period in a blinded manner. After this six month period, patients may enter into an additional six-month study where all participants receive CDNF. In total, patients will receive 12 infusions, all delivered in an out-patient setting.

The primary endpoints evaluate the safety, performance/tolerability of both the drug delivery system and CDNF as well as surgical accuracy. Secondary to this, the potential efficacy of the drug, rated against the Unified Parkinson's Disease Rating Scale (UPDRS) motor score evaluation, was also monitored.

The clinical study has received funding from the European Union's research and innovation program Horizon 2020 under the grant agreement number 732386.

**About Parkinson’s**

Parkinson's is a neurodegenerative disease, caused by the break-down of dopamine producing neurons in the brain. Symptoms include involuntary shaking, stiffness of muscles and slowing down of movement, which can be extremely debilitating. In addition, patients can suffer associated non-motor symptoms such as difficulty sleeping, memory loss, anxiety and depression. Whilst these symptoms can initially be managed with medication, there is currently no treatment available that effectively prevents disease progression, or that treats the motor and non-motor symptoms together.

For further information on Renishaw’s drug delivery technology, visit [www.renishaw.com/drugdelivery](http://www.renishaw.com/drugdelivery)

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**Notes to editors**

UK-based Renishaw is a world leading engineering technologies company, supplying products used for applications as diverse as jet engine and wind turbine manufacture, through to dentistry and brain surgery. It has over 4,500 employees located in the 36 countries where it has wholly owned subsidiary operations.

For the year ended June 2019 Renishaw recorded sales of £574 million of which 94% was due to exports. The company’s largest markets are the USA, China, Japan and Germany.

Throughout its history Renishaw has made a significant commitment to research and development, with historically between 13 and 18% of annual sales invested in R&D and engineering. The majority of this R&D and manufacturing of the company’s products is carried out in the UK.

The Company’s success has been recognised with numerous international awards, including eighteen Queen’s Awards recognising achievements in technology, export and innovation.

Further information at [www.renishaw.com](https://renishawplc-my.sharepoint.com/personal/lp138190_renishaw_com/Documents/www.renishaw.com)