**Innovate UK grant to further development of ultrasound technology in back pain**

**Data from extended Biomedical Catalyst award to support progression of OrthoSon technology towards first-in-human trial**

**Oxford, UK, July 29 2020 –** OrthoSon, an Oxford University spin-out which is developing a novel ultrasound-based treatment for lower back and neck pain, has been awarded a £250,000 extension to its £1.2m Biomedical Catalyst award. The extension, which will enable completion of the device prototype and generation of preclinical data, has been awarded under the COVID-19 Continuity Grant scheme provided by Innovate UK, the UK’s Innovation Agency. The information and prototype generated under the Biomedical Catalyst grant will accelerate development of OrthoSon’s technology towards first-in-human trials. Its product is expected to restore spinal function as well as reduce pain in a way which is significantly safer, less invasive and more cost-effective than current surgical options, with reduced need for opioid-based pain relief.

Lower back or neck pain is the largest cause of disability globally and causes enormous economic burden, with the costs of treatment, productivity loss and sick leave exceeding $100bn pa in the US and £12bn pa in the UK. OrthoSon is targeting the large group of patients where pain and disability is caused by degeneration of the intervertebral discs located between vertebrae in the spine. Current treatments, including spinal fusion and disc replacement, are extremely costly, highly invasive and show poor outcomes, often leaving patients reliant on long term medication including opioids to manage the pain.

OrthoSon’s patent-protected technology uses a combination of high intensity, high precision focussed ultrasound, gas-stabilising solid particles and injectable hydrogel, all delivered through a small needle directly into the degenerated disc. After the particles are injected into the disc, externally delivered focussed ultrasound is used to implode them repeatedly, causing complete breakdown of the nucleus (centre) of the degenerated disc. OrthoSon’s hydrogel is then injected through the original needle, where it cures (sets) to form a replacement nucleus that restores the function of the spinal segment.

A spin out from the University of Oxford, OrthoSon raised £1.8m in seed funding in November 2019 led by Oxford Technology and Innovations EIS Fund (OTIF) and its advisor Oxford Investment Consultants. This investment came in addition to a £1.2m Biomedical Catalyst grant from Innovate UK. The company’s technology is based on patents and a decade of research at the University’s Institute of Biomedical Engineering.

Rich Simmonds, CEO of OrthoSon, said, ‘Receipt of the Continuity Grant from Innovate UK will allow us to maintain momentum in our Biomedical Catalyst project, generating the prototype and preclinical data needed for the next stages of product development. OrthoSon would like to thank Innovate UK for its ongoing support of our minimally invasive ultrasound-based approach which we expect to revolutionise treatment of crippling lower back and neck pain.’

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**For further information please contact:**

Rich Simmonds, CEO Tel: +44 (0)1865 784350

info@orthoson.com

**About OrthoSon**

OrthoSon was spun out of the University of Oxford to develop a minimally invasive ultrasound- based treatment for lower back pain that does not respond to current treatments. Current approaches, including spinal fusion and disc replacement, are extremely costly, highly invasive and show poor outcomes, often leaving patients reliant on long term medication including opioids to manage the pain.

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Lower back or neck pain is the largest cause of disability globally (Global Burden of Disease Study 2015; Lancet 2016; 388: 1603-58) and causes enormous economic burden, with the costs of treatment, productivity loss and sickness leave exceeding $100 billion per annum in the USA (US Spending on Personal Health Care and Public Health, 1996-2013; JAMA 2016;316(24):2627-2646) and £12 billion pa in the UK (Pain 2000 84: 95-103).

OrthoSon raised £1.8m in seed funding in November 2019 led by Oxford Technology and Innovations EIS Fund (OTIF) and its advisor Oxford Investment Consultants, and has received £1.45m to date in grant funding from Innovate UK, the UK’s innovation agency. It has assembled a leading team for product and corporate development, including CEO Rich Simmonds, who has over 25 years of medical technology experience. Company co-founder and Director of the Institute of Biomedical Engineering at the University of Oxford, Professor Constantin Coussios FREng, is Chief Technology Officer. He is a therapeutic ultrasound expert and was also involved in the establishment of OrganOx and OxSonics Therapeutics. Spinal surgeon Mr Nick Birch is a Clinical Adviser. James Mallinson of Oxford Investment Consultants and Non-Executive Director Glyn Edwards MBE joined the Board last year following the closing of the seed fundraising round. www.orthoson.com

**About Innovate UK**

Innovate UK drives productivity and economic growth by supporting businesses to develop and realise the potential of new ideas. We connect businesses to the partners, customers and investors that can help them turn ideas into commercially successful products and services and business growth. We fund business and research collaborations to accelerate innovation and drive business investment into R&D. Our support is available to businesses across all economic sectors, value chains and UK regions. Innovate UK is part of UK Research and Innovation. For more information visit www.innovateuk.ukri.org