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ASIA EDITION

Medtronic earns US FDA approval for world's first adaptive deep brain stimulation system for Parkinson's

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New closed-loop system self-adjusts DBS therapy to individual brain activity in real time



For the one million people diagnosed with Parkinson's disease in the United States, Medtronic plc, a global leader in healthcare technology, has announced US Food and Drug Administration (FDA) approval of BrainSense Adaptive deep brain stimulation (aDBS) and BrainSense Electrode Identifier (EI).

There is no cure for debilitating neurological conditions like Parkinson's, however, deep brain stimulation (DBS) has been transforming the lives of people with Parkinson's and other neurological disorders for more than 30 years. DBS is similar to a cardiac pacemaker, but for the brain. It uses a surgically implanted neurostimulator via a minimally invasive procedure to transmit electrical signals to specific parts of the brain affected by debilitating neurological disorders.

Now Medtronic has enhanced its Percept DBS neurostimulators with exclusive BrainSense Adaptive technology. This feature personalises therapy based on a patient's brain activity in real time – both in clinical settings and in daily life. It provides enhanced therapy personalisation for symptom control that automatically adjusts, minimising the need for patients to manually adjust stimulation.

For more than ten years, Medtronic has been developing a complete, sensing-enabled DBS system leveraging exclusive BrainSense technology to detect, capture, and classify different brain signals, putting Medtronic at the forefront of incorporating brain-computer interface (BCI) technology into DBS therapy.

With more than 40,000 DBS patients served worldwide with Medtronic Percept devices, BrainSense Adaptive DBS presents the largest commercial launch (by several magnitudes) of BCI technology, ever. The US FDA approval also includes the Medtronic BrainSense Electrode Identifier (EI), which helps reduce patient time spent in clinic to programme their DBS settings. By using EI, clinicians can conduct an accurate and precise initial programming, 85% faster compared to traditional electrode selection.

BrainSense aDBS and EI are also available in Europe. Patient programmings in the United States will begin at select healthcare systems over the coming weeks with availability nationwide in the coming months.