

KFSHRC Advances Neurological Care with AI Powered Brain Implant

RIYADH, SAUDI ARABIA, October 26, 2025 /EINPresswire.com/ -- At King Faisal Specialist Hospital and Research Centre (KFSHRC), the frontier of neurology has begun to think for itself. In June 2025, surgeons implanted the Middle East's first AI powered smart brain device, a closed loop system that listens, learns, and responds to the brain's own electrical language.

The technology marks a turning point for patients with Parkinson's disease, epilepsy, and complex movement disorders. Instead of delivering constant electrical pulses like conventional deep brain stimulators, the new system senses neural activity in real time and adapts its response. When tremors rise, it intervenes. When the brain stabilizes, it eases off.



Clinical results have been striking. Patients have seen tremors reduced by up to 95 percent, seizure frequency by as much as 70 percent, and dependence on Parkinson's medications cut in half. Beyond the statistics lies a quieter transformation, patients regaining control over their hands, their balance, and their daily lives.

The minimally invasive procedure lasts only a few hours and avoids major incisions. Within weeks, most patients begin to notice steadier movements and clearer speech as the device fine tunes its stimulation patterns. Full optimization occurs over one to three months, calibrated uniquely to each individual's brain signals.

This advance builds on KFSHRC's growing leadership in neuromodulation, a field that merges neuroscience with artificial intelligence. Between 2021 and 2024, the hospital doubled its deep brain stimulation cases, making it the largest single center program of its kind in the Middle East. The introduction of the closed loop system now positions the institution as a regional hub for research and data driven collaboration in neurotechnology.

KFSHRC will showcase this milestone and its broader portfolio of precision innovations at the Global Health Exhibition in Riyadh from October 27 to 30, 2025. Alongside the AI powered brain implant, the hospital will highlight advances in robotic surgery, CAR T cell therapy, preimplantation genetic diagnosis, epilepsy programs using stereo electroencephalography (SEEG), and complex organ transplantation. Together, these efforts reflect a unified vision to integrate technology and empathy in reshaping the future of care.

KFSHRC has been ranked first in the Middle East and North Africa and fifteenth globally among the world's top 250 academic medical centers for 2025 and recognized by Brand Finance as the region's most valuable healthcare brand. It is also listed among Newsweek's World's Best Hospitals 2025, Best Smart Hospitals 2026, and Best Specialized Hospitals 2026.

Riyadh

King Faisal Specialist Hospital and Research Centre

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