

Korea designs implantable electronic system to treat urinary disorders

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This technology has the potential to revolutionise the diagnosis and treatment of chronic diseases affecting different organs



A research team at KU-KIST Graduate School of Converging Science and Technology, in collaboration with a research team from Soonchunhyang University, both in South Korea, has successfully developed an implantable device aimed at providing a permanent treatment for urinary disorders.

This innovative approach utilises a soft and highly flexible biocompatible electronic device that is directly applied to the surface of the bladder. The device allows for the wireless monitoring and regulation of bladder activity through its integrated wireless technology.

One of the current approaches for treating underactive bladders is intermittent self-catheterisation. This method involves manually inserting a catheter directly into the urethra to drain urine. However, this approach is associated with considerable discomfort and requires 4-6 catheterisations throughout the day, significantly reducing patients' quality of life. Moreover, it carries the risk of secondary complications such as urinary tract infections and sepsis.

Therefore, the technology developed by the research team, which enables the real-time monitoring of bladder function and E-stim to void urine, represents a groundbreaking approach to the diagnosis and treatment of bladder disorders since it can enhance patient quality of life and alleviate the burden of complications.