NEW DEVICE CAN DETECT SIGNS OF PARKINSON'S WITH A BREATH

Scientists have developed a breathalyser that they claim can diagnose Parkinson’s disease.

Parkinson’s disease is a progressive neurodegenerative disorder. Around 60,000 people are diagnosed with Parkinson’s disease every year in the US alone. There is no cure for the disease, although there are medications that can help to manage some of the symptom. However, many people are not diagnosed until the disease is advanced, making treatment more difficult. Now, a team of scientists at the Lab for Nanomaterial-based Devices at the Israel Institute of Technology (Technion) has developed a device that uses the patient’s breath to detect Parkinson’s.

Different diseases have different ‘chemical signatures’. These can be identified in exhaled breath, in the form of different amounts of certain chemicals. The Parkinson’s breathalyser contains an array of 40 sensors. Each sensor has a different chemical attached to it, which binds with different molecules in the breath. The binding alters the electrical resistance of the sensor, which then identifies whether the chemical signature for Parkinson’s is present.

In initial tests, the researchers found that the device could detect the early stages of Parkinson’s disease with 81 percent accuracy. This is almost as good as an ultrasound scan of the brain. Researchers hope that the new technology will enable fast and inexpensive diagnosis, not just for Parkinson’s but other diseases as well. Coined the ‘artificially intelligent nano-array’, Professor Hossam Haick explained, “This device as a new and promising direction for diagnosis and classification of diseases. It is characterised not only by considerable accuracy but also by low electricity consumption, miniaturisation, comfort and the possibility of repeating the test easily.”
Takeaway:

At Springwise, we have seen many innovations aimed at treating or managing disease. These have included a smart mirror that can detect early signs of disease and a home device that can detect signs of breast cancer. Technology is an effective resource to help not only health care professionals with diagnosis but also admin support, productivity and time. However, there is still a larger question around the mortality and safety of using technology to function without human intervention. How else could technology be used in healthcare to overcome reservations?