

Device 'improves stroke recovery'

By DEBBIE LEE

SCIENTISTS at Nanyang Technological University (NTU) have come up with a new device which they say can improve recovery in stroke patients.

The gadget, named Synergistic Physio-Neuro Platform (SynPhNe), consists of computer software connected to a headset with sensors and adjustable cuffs.

It works by detecting a patient's muscle movements and allows stroke patients to monitor their progress on a computer screen. Graphics tell the user which sets of muscles are being contracted or relaxed. They also provide feedback on the emotional state of the user – such as whether he or she is feeling tense.

Dr John Heng, a senior research fellow at NTU's School of Mechanical and Aerospace Engineering, said: "Patients came to us feeling depressed and demoralised because their therapists told them they were not recovering much. But after the device picked up their muscle signals, their fac-



Dr Heng and Mr Banerji demonstrate their SynPhNe device, which can read which sets of muscles are being contracted or relaxed. The gadget has given hope to stroke patients who felt they were making little progress in recovery. PHOTO: NTU

es lit up with hope again."

Dr Heng and his PhD student, Mr Banerji Subhasis, have been working on SynPhNe since 2008. It caters for stroke patients who want to see more improvement when their recovery slows.

They carried out the first set of trials on 10 stroke patients in October last year at Tan Tock Seng Hospital. The gadget was shown to be effective in improving their recovery.

Retiree Ang Kok Tong, 69, a trial participant, suffered a stroke in May 2011, causing movement in his right arm to become impaired. He said: "I am now able to pick up a pen, and use my right arm to grip a water bottle. Before that, I could not move my right arm be-

yond a limited range."

The research team said SynPhNe also frees up therapists so they can keep tabs on more than one stroke patient at a time. "Previously, the therapist would spend time with the patient one-on-one, observing his or her movements. Now, the software does this for them leaving the therapist free to monitor other patients," said Dr Heng.

The device is currently undergoing patient trials in hospitals, and is expected to be commercially available within three years.

A Ministry of Health report last year said there are about 5,700 stroke cases a year in Singapore, involving patients as young as 15.

✉ idebbie@sph.com.sg