

MEDIA RELEASE

Humanoid Social Robot Turns Exercise Instructor - Enhance productivity and reach, improve rehabilitation outcome and experience -

Singapore, 14 September 2020 – Robotic rehabilitation and assistive technologies have featured prominently in therapy programmes aim at improving patients' quality of life while easing the load on the therapists.

At Ren Ci Hospital, our experience with leveraging on technology and assistive aids include installation of ceiling hoists in our care centres to aid lifting of patients, assist in gait and high level balancing training, as well as deployment of social robots, such as PARO the seal, as a form of 'animal' therapy to improve social engagement and promote positive mood of seniors with dementia. The latest deployment in our centre is that of a humanoid robot – ROBO, as an exercise instructor for seniors' group exercise therapy.

Ms Lai Ka Ying, Principal Physiotherapist at Ren Ci said, "Therapy robots have been widely used to help children, especially those with autism to improve their concentration and social skills. We believe that social robots can be good motivator for seniors too, to engage them in routine exercises and foster better interaction during group therapy. That sets the ground for Ren Ci to explore the use of humanoid robot as therapy instructors."

Previously, the relatively high cost of such robots prevented the scale-up use of such devices in group therapy. Two things happened to change that, one is the relatively low cost of ROBO, which is an Alpha 1E educational robot by UBTECH and costs approximately 20% the price of the only other humanoid robot of similar features in the market. Secondly, Ren Ci found a like-minded partner in SJ Cosmo Future, which is a local artificial intelligence (AI) robotic education solution provider. Ren Ci and SJ Cosmo Future worked closely over the last 6 months to re-programme the robot so that it can function as an exercise instructor. Tapping on its 16 servo motors (joints), ROBO can perform both seated and standing exercises, comprising 23 individual exercise movements to meet different needs of seniors during rehabilitation session. As a total solution provider, SJ Cosmo Future even custom-made props such as the bench for ROBO as it performs seated exercise.

At approximately 40cm in height and 1.65kg in weight, ROBO is extremely portable and can be deployed easily. It is perfect size for a group of 5 seniors in a group exercise. The use of ROBO also improves productivity with a manpower saving of roughly 1 TA per session, approximating a saving of 36.6 man-hours per month. In turn, the TA can now focus more on assisting seniors with higher rehabilitation needs.

Joe Hau, CEO of Ren Ci Hospital said, "We take pride in constant improvement to create more value for our patients, residents, clients and even our staff, through harnessing new healthcare innovations not only to derive the best care possible but also achieve efficiency gains operationally. A no frills humanoid robot like ROBO is not expensive to deploy but yet capable of delivering positive rehabilitation outcomes, enhancing our productivity and improving the therapeutic experiences of the seniors under our care."

Since its deployment in July, ROBO-led group therapy has been a hit with the seniors in our senior care centres. “The seniors, including moderate dementia clients, are able to stay focused longer during the therapy, more eager to follow the exercises and most importantly, enjoy the session led by ROBO,” added Ka Ying.

Ren Ci will be deploying at least 6 other ROBO in our care programmes. Ren Ci is also in touch with AIC and ROBO is likely to be placed on the Green Lane which is an express application track for equipment with proven productivity outcomes.

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About Ren Ci Hospital

Established since 1994, Ren Ci Hospital is one of the few charity healthcare institutions in Singapore to provide high quality and affordable medical, nursing and rehabilitative care services for the community, based on the principles of loving kindness and compassion. Ren Ci plays an integral role in supporting the healthcare needs of the elderly through adopting holistic way of delivering person-centred care.

Besides giving hope to the frail elderly by helping overcome their disabilities and teaching their families to care for them at home, Ren Ci also partners various community groups and social enterprises to give dignity back to the elderly.