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Scientists in Singapore develop capsule to help tackle obesity

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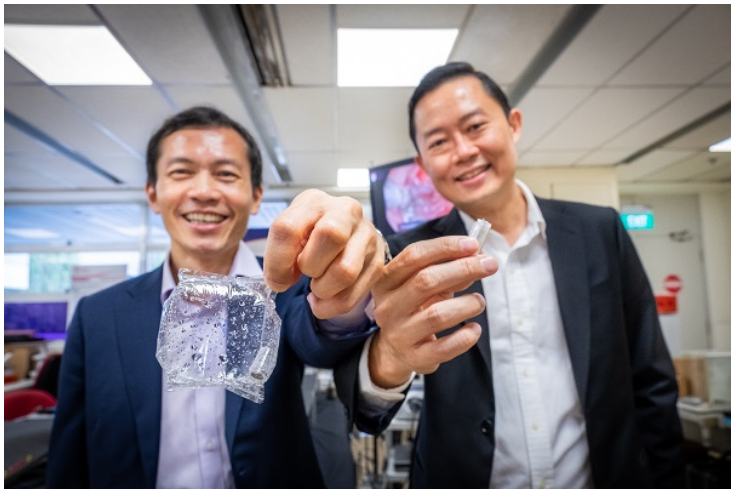

A team from Nanyang Technological University, Singapore (NTU Singapore) and the National University Health System (NUHS) has developed a self-inflating weight management capsule that could be used to treat obese patients.

Called the EndoPil, the prototype capsule contains a balloon that can be self-inflated with a handheld magnet once it is in the stomach, thus inducing a sense of fullness. Its magnetically-activated inflation mechanism causes a reaction between a harmless acid and a salt stored in the capsule, which produces carbon dioxide to fill up the balloon. The concept behind the capsule is for it to be ingested orally, though trials using this route for administration have not yet begun.

Designed by a team led by Professor Louis Phee, NTU Dean of Engineering, and Professor Lawrence Ho, a clinician-innovator at NUHS, such an orally-administered self-inflating weight loss capsule could represent a non-invasive alternative to tackle the growing global obesity epidemic.

Last year, the team trialed their capsule on a healthy patient volunteer in Singapore, with the capsule inserted into her stomach through an endoscope. The balloon was successfully inflated within her stomach, with no discomfort or injury from the inflation.

After improving the prototype, the team hopes to conduct another round of human trials in a year's time – first to ensure that the prototype can be naturally decompressed and expelled by the body, before testing the capsule for its treatment efficacy.

Prof Phee and Prof Ho will also spin off the technology into a start-up company called EndoPil. The two professors previously co-founded EndoMaster, one of Singapore's most prominent deep tech start-ups in the field of medical robotics.