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# New tummy patch could reduce fat by more than 30 per cent in weeks, study suggests

Research in mice shows encouraging results, scientists say, and it could lead to a cost-effective treatment for obesity

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The skin patch could lead to a treatment for obesity *Getty istock*

A new tummy patch could reduce weight gain and fat mass by more than 30 per cent over four weeks, research has found.

Scientists from Nanyang Technological University in Singapore invented a patch which contains hundreds of micro-needles, each thinner than a human hair, loaded with weight loss drugs.

While the drugs themselves are established forms of treatment for obesity, the new approach to delivery showed significant promise - albeit in trials on

mice - and suggests a cost-effective programme could be developed for humans.

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The drugs work by breaking down the energy-storing white fat underneath skin, turning it into energy-burning brown fats.

NTU Professor Chen Peng and Assistant Professor Xu Chenjie said this approach could help to tackle obesity.

“With the embedded microneedles in the skin of the mice, the surrounding fats started browning in five days, which helped to increase the energy expenditure of the mice, leading to a reduction in body fat gain,” Assistant Prof Xu said.

“The amount of drugs we used in the patch is much less than those used in oral medication or an injected dose. This lowers the drug ingredient costs while our slow-release design minimises its side effects.”

Professor Chen said the aim was to use a person's own body fat to burn more energy.

The mice that were tested also had significantly lower blood cholesterol and fatty acids levels compared to the untreated mice, the scientists said.

“What we aim to develop is a painless patch that everyone could use easily, is unobtrusive and yet affordable,” Prof Chen said.

The research was published in the journal *Small Methods*.

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