

Tummy patch 'can burn 30pc of body fat in 28 days'

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FOR those who have overindulged during the Christmas period, help may be at hand from scientists in Singapore.

A tiny tummy patch has been shown to cut body fat by 30pc in just 28 days without the need to exercise.

The patch is covered in hundreds of microneedles which are smaller than a human hair and gradually supply a dose of two weight-loss drugs.

The drug combination works to transform stubborn white fat into more manageable brown fat, which is burned away as energy by the body to keep warm.

Although the patch has so far only been tested in animals, scientists at the Nanyang Technological University (NTU) want to move to human trials quickly, and have already received interest from several biotech companies who are keen to develop the device.

Weight gain is a risk factor for many health problems, including diabetes, heart disease, stroke and some cancers.

But scientists believe the patch, which costs around €2.80 to make, could help people who struggle to lose weight avoid resorting to surgery.

"What we aim to develop is a painless patch that everyone could use easily, which is unobtrusive and yet affordable," said Prof Chen Peng, a biotechnology and obesity expert at NTU. "Most importantly, our solution aims to use a person's own body fats to burn more energy, which is a natural process in babies."

Medication

The patch delivers the diet drug 'Beta-3 adrenergic receptor agonist' and a thyroid hormone called 'T3 triiodothyronine' which is a commonly used for medication for an underactive thyroid gland.

When the patch is pressed into the skin for about two minutes, the micro-needles become embedded and the patch can then be removed. As the needles degrade, the drug molecules make their way to the energy-storing white fat underneath the skin layer, turning it into energy-burning brown fat.

Brown fats are found in babies and they help to keep the baby warm by burning energy. As humans grow older, the amount of brown fats lessens and is replaced with white fats, which are difficult to remove.

Experiments in mice, which were fed on a high-fat diet, showed that the patch reduced their fat mass by more than 30pc over a period of just four weeks. It also lowered their blood cholesterol.