

New skin patch could help fight obesity, researchers say

Patch converts visceral white fat into energy-burning brown fat

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A newly-developed skin patch which turns conventional body fat into energy-burning brown fat may aid in the global fight against obesity, researchers say.

The patch has been developed by scientists at Nanyang Technological University in Singapore following tests on laboratory mice.



Each small patch contains hundreds of micro-needles containing drug molecules which prompt the transition from energy-storing white fat underneath the skin to brown fat. Brown fat is normally found in babies, but is replaced by visceral white fat as a person ages.

After the patch is applied for two minutes the micro-needles become embedded in the skin, where they gradually release the weight-loss molecules.

The treatment utilises beta-3 adrenergic receptor agonist, which is used to treat overactive bladders, along with T3 triiodothyronine, a medication for an underactive thyroid gland.

Mice used in the experiments were put on a high-fat diet, and ended up losing almost a third of their body fat over a four week period when exposed to the new treatment.

A paper containing results of the tests was published in the latest edition of the journal Small Methods.

Previous tests using the same ingredients were unsuccessful due to their delivery methods such as oral intake, which caused potentially serious side-effects and drug accumulation in non-targeted tissues.

It is hoped that the new technology could be safely applied to humans, and the team behind the discovery say commercially-available patches may be produced for as little as €3.

The authors of the paper are seeking to further their research, and have received interest from biotechnology companies wishing to partner with the study.

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