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**'Fat genes' drug could wage war on obesity**

**BYLINE:** Nathan Rao

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THE discovery of fat **genes** that make some pile on the pounds while others stay **slim** could be the latest weapon in the fight against obesity, it was revealed yesterday.

Researchers at the University of **Edinburgh** have identi-fied **genes** in mice that encourage fat storage and prevent its breakdown, regardless of diet.

They think humans could carry identical or similar **genes**, which could be why some struggle to lose weight despite eating healthily.

It is hoped the breakthrough will lead to medication that can be used to help overweight people fight the flab without making lifestyle changes.

Until now **genes** involved in weight gain have been found to affect appetite. But latest research shows they could alter the metabolism and fat storage whatever food is consumed.

Appetite Dr Nik Morton, who led the research, said: "We think humans could carry similar **genes** or at least that the same process could be going on in humans.

"We have known for a long time that there's a strong genetic component to being overweight and studies have shown **genes** can control appetite.

"Our research suggests **genes** in fat tissue determine the breakdown or putting down of fat regardless of diet." He added: "The next step would be to do more research on humans."

The team compared fat tissue taken from mice which had been bred to be thin and compared it with tissue from mice bred to be fat. They pinpointed **genes** that prevented the breakdown of fat were present in overweight mice in greater numbers compared with thin ones.

By breeding fat and thin mice together they found the **gene** was passed on, with offspring that were born overweight carrying the same genetic make up as their "fatter" parent.

Dr Norton said: "Again this supports the theory that obesity is something that can be hereditary, with people having overweight parents more likely to be obese themselves."

The team also discovered that the **genes** led to weight gain in mice that were fed the same diet as those that stayed thin.

"If we can figure out the **genes** that control fat deposit and fat breakdown, we can go on to develop medicines that can help prevent obesity," said Dr Morton. He said this was the first time this specific set of "fat **genes**", which affect how fat is broken down or stored, had been found in fat tissue.

But he added: "While this supports the idea that genetic factors are linked to obesity, exercise and diet are still important to maintain healthy lifestyles and can prevent most people from becoming obese."

The research has been welcomed by the National Obesity Forum, which supports the theory that **genes** play a large role in obesity.

Its spokesman Tam Fry said: "Genetics used to be considered an excuse but research has really shown that **genes** play a far higher role in obesity.

"It is very responsible research, especially as Dr Morton is saying the whole package of exercise, diet and lifestyle is the key to fighting obesity."

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**Being fat is all in the genes, say scientists**

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THE secret of staying **slim** could be in the **genes**, scientists suggested yesterday. **Edinburgh** University researchers believe some people carry more weight than others because of **genes** that encourage fat storage. The team has identified a number of **genes** in fat tissue that may lead us to retain fat unnecessarily in the body. They compared fat tissue from mice that had been selectively bred for many generations to be increasingly fat or thin and, as a result, had acquired weight-related **genes**. The researchers then pinpointed **genes** that prevented the breakdown of fat, which were more prevalent in the fat tissue of the overweight mice compared to the fat tissue of the lean mice. Mice were then bred from one overweight parent and one lean parent. Those among the offspring that were born overweight were found to have the same active **genes** as the fatter parent mouse - an indication that hereditary factors play a role in fat storage.

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