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## Clear obesity gene link 'found'

### Scientists say they have identified the clearest genetic link to obesity yet.

They found people with two copies of a "fat" version of a gene had a 70% higher risk of obesity than those with none, and weighed 3kg (6.5lb) more. The work in *Science* by the Peninsula Medical School and Oxford University studied data from about 40,000 people.

The findings suggest that although improving lifestyle is key to reducing obesity, some people may find it harder to lose weight because of their genes. **The typical message has been that if you are overweight it is due to sloth and gluttony and it is your fault.**

Half of white Europeans carry one copy of the variant and one in six has two copies, experts estimate. The authors say their work, funded by the Wellcome Trust, could improve understanding of obesity and eventually help prevent it, as well as an illness it is linked to.

### Genome differences

Obesity is associated with an increased risk of type two diabetes, and the investigators first identified the FTO gene when looking for differences between the genomes of people with type two diabetes and people without diabetes.

People with type two diabetes were more likely to have a particular variant of the FTO gene, which was also shown to be linked to increased body weight. The variant making people fatter differed from the other version of the FTO gene by a single mutation in the DNA sequence.

The team then looked at other studies involving 40,000 people searching for this FTO mutation, and confirmed that it was associated with body weight.

People carrying one copy of the "fat" FTO variant had a 30% increased risk of being obese compared to a person with no copies of that version.

Those carrying two copies of the variant had a 70% increased risk of being obese, and were on average 3kg (6.6lb) heavier than a similar person with no copies.

Professor Andrew Hattersley of the Peninsula Medical School said this could explain why two people can seem to eat the same things and do the same amount of exercise yet one may struggle to lose weight more than the other.

He said: "The typical message has been that if you are overweight it is due to sloth and gluttony and it is your fault.

"This work is suggesting that there is also a genetic component."

And he said although a 3kg difference in weight sounds relatively small, it is enough to make a big change in the risks of obesity.

### Improving treatment

Dr Sadaf Farooqi of the Department of Clinical Biochemistry at the University of Cambridge said: "This study is important because it has yielded evidence for the first obesity susceptibility gene.

"Understanding the genetic susceptibility to weight gain will make an important contribution to the prevention and treatment of obesity."

The team does not yet know exactly what the FTO gene does or how the different variants work to influence body weight.

But they hope further research to understand the gene may lead to the unravelling of the basic biology of obesity.

Dr Mark Walport, director of the Wellcome Trust, said this could have very helpful consequences for public health as about one in six white Europeans carried two copies of the variant.

"Obesity is one of the most challenging problems for public health in the UK," he said.

"The discovery of a gene that influences the development of obesity in the general population provides a new tool for understanding how some people appear to gain weight more easily than others."

I think that this article is very interesting and may help to explain why some people find it harder to lose weight than others, though it should be viewed with caution. The problem with this sort of media coverage is that many people may look on this as an excuse to their body weight and think oh well it's my genetics and there is nothing I can do about it. Of course I am not talking about you lot. I know you would never think such a thing, Would you?

The thing to take away from this is that yes ok maybe it could be associated with genetics, but it should also consider that obesity has only been a problem in the western world for around 30 years. Genes do not modify that quickly they take hundreds and thousands of years to adapt changes in our lives. So these so called obesity genes must have been around 30 years ago, but the fact of the matter is that there has only become an obesity epidemic because of our modern day lifestyles. Meaning everything from our diet, technology, the type of jobs we do are all major contributing factors to obesity and weight gain in general. For instance 30 years ago I might have had to walk down to the library to research for this newsletter, instead I have not left my computer for the last hour and have only really moved my fingers, which as you might imagine does not burn many calories. If I feel hungry I can pop downstairs and put something in the microwave instead of having to travel to buy my food and taking time to prepare it. Life is much more convenient these days we don't have to search for food for days on end unlike our ancestors who would often go days without. This is why our bodies hang onto fat when we go into starvation mode when we diet, because the body functions that were essential to our ancestors are still within our genetic makeup although they are no longer required.

I hope that I have left you with a few points to think about. You are solely responsible for your lifestyle and ultimately your body shape. If you do have a fat gene (which according to the report is most of us) then that just means that you may have to work a little harder to achieve the result that you want. This should in no way deter you.

Remember by reading this newsletter you are already on the right track towards a healthier and happier lifestyle, you are proving that you care about your health. Be conscious about your day to day actions, how much food you are eating and how much exercise you are doing, could you do that bit more.

Please come and see me if you have any questions or comments.

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