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The devilish secret that makes HobNobs so moreish (and plays havoc with your diet)

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Last updated at 11:45 PM on 22nd February 2010



Just the one... packet! A sugar found in HobNobs tricks the brain into thinking you need more food

Why is it so hard to stop at eating just one biscuit and so easy to finish off the packet?

How is it that one spoonful of ice cream can turn into half the tub?

It might not be just a lack of willpower that's to blame, but a type of sugar based on one found in fruit.

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We tend to think of fruit as healthy, but new research suggests that too much fruit - or the sugar found in fruit - is actually bad for us.

The problem is glucose-fructose syrup.

This is actually corn syrup that has been processed using enzymes to convert its glucose into fructose (or fruit sugar).

This is then mixed with glucose from pure corn syrup. Because it is cheaper than regular cane sugar, glucose-fructose syrup is increasingly being used in processed foods, such as fizzy drinks.

It's easy to see its appeal from the manufacturer's point of view - not only is it cheap, but it also helps to keep foods moist, which boosts a product's shelf life.

It also helps to provide texture to food such as cereal bars and biscuits, making them chewy, and thickens up ice cream and yoghurt drinks.

And it's not just used in obviously sweet foods - glucose-fructose syrup is also found in lots of products you wouldn't necessarily imagine contain it, such as cereal.

Often it appears in product ingredients lists as 'glucose-fructose syrup', 'high fructose corn syrup', or 'HFCS', which is the name used by some manufacturers.

The problem is that glucose-fructose seems to trick the brain into thinking you need more food, say experts.

Worse, it can trigger the growth of fat cells around the heart, liver and other vital organs and even cause diabetes, obesity and heart disease, according to a new study.

Because of its health risks, it's been dubbed the 'Devil's candy' in the U.S. and, in the face of a consumer backlash, some manufacturers have been forced to re-think their product ingredients, returning to sugar.

It's the fructose part which is being blamed for artificially boosting appetite and the health problems. Fructose gives us confused messages about satiety, explains Dr Carel Le Roux, consultant in metabolic medicine at Imperial College London.

'When we eat sugar, our body releases insulin which tells the brain that we have had enough to eat.

'High insulin levels are one of the factors that dampen the appetite,' he says. '

But fructose doesn't trigger as much of an insulin response as regular sugar, so the brain won't get the message that you are full.'



'Devil's candy': The sugar, which is based on one found in fruit, is used to bulk up biscuits, pictured, but it can cause diabetes and even heart disease

As well as tricking you into eating more, the syrup has worrying effects on health. Previous studies have linked fructose with high blood levels of triglycerides - a type of blood fat which, in excess, can increase the risk of heart disease. And there is ongoing research into whether fructose can affect kidney health. Fructose can also affect blood pressure.

A study at Colorado University, in the U.S., looked at more than 4,500 people with no history of hypertension, and found that those who ate or drank more than 74 grams a day of fructose (the same as two-and-a-half sugary drinks) increased their risk of high blood pressure by up to 87 per cent.

In a recent study, scientists at the University of California have found that fruit sugar is more readily turned into fat in the liver than glucose is; this increases your risk of suffering from a fatty liver, which is linked to liver disease and Type 2 diabetes.

THE OTHER FOODS TO WATCH FOR

The following foods contain glucose-fructose syrup:

- McVities HobNobs
- McVities Jaffa cakes
- Carte D'or ice cream
- Weightwatchers vanilla and fruit fromage frais
- Frubes
- Kellogg's Cornflakes
- Kellogg's All Bran
- Mr Kipling bakewell slices
- Ribena
- Ocean Spray cranberry juice
- Lucozade energy orange
- Yop yoghurt strawberry

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The researchers put 16 volunteers on a carefully controlled diet for ten weeks and gave them high levels of fructose.

The volunteers produced new fat cells around their liver, heart and digestive organs, and also showed signs of the kind of abnormalities related to heart disease and diabetes.

A second group went on the same diet, but ate glucose instead of fructose - and they had no such problems.

Although volunteers in both groups gained about the same amount of weight, the researchers predict that the fructose group would have put on more weight in the long term.

This is because fructose, unlike other sugars, ends up in the liver in a relatively unbroken down state; this disrupts the mechanisms that instruct the body whether to store or burn fat.



The problem: The sugar, which thickens ice cream, triggers growth of fat cells around vital organs

Molecular biologist Kimber Stanhope, who led the study, says this is the first evidence that fructose increases heart disease and diabetes independently, and not simply because it has caused weight gain.

‘We didn’t see any of these changes in the people eating glucose,’ he said. Experts believe that the rise in childhood diabetes could be linked to the syrup.
So if fructose is so bad, does this mean we shouldn’t eat fruit?

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Fruit is fine in moderation, but don't greedily eat an entire bunch of grapes, warns Dr Le Roux.

'Lots of obese patients eat very healthy diets. The problem is that they contain vast amounts of fruit,' he says. Eating high levels of fructose may not make you feel full and you will crave more fruit and could end up eating huge quantities in one sitting.

Ursula Arens at the British Dietetic Association also warns against drinking too much fruit juice. 'Treat it with caution, because it's a very fast way to get not only a lot of fructose but a lot of calories.

'It's always better to eat fruit whole if you are concerned about your weight — you can gulp down a large glass of orange juice in seconds, but eating the equivalent of six whole oranges would take ages as you would have to peel them.'

But, even if we keep our fruit and fruit juice intake in check, there's still the problem of unknowingly eating fructose that has been added to processed foods. So check the label.

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