

# Diet tailored to personal metabolism reduces risk of cardiovascular diseases

**You can reduce the risk of diseases such as type 2 diabetes and cardiovascular diseases if you adopt a diet that fits your personal metabolism. Anouk Gijbels studied the effects of this 'precision nutrition' on the health of the metabolism, heart and blood vessels.**

'We know different people respond differently to a particular diet but we don't know exactly why. One of the theories is based on biology. We wanted to investigate whether you do indeed become healthier if you eat food that fits your personal metabolic profile or glucose metabolism.'

Working with researchers at Maastricht University, Gijbels studied 242 participants. 'They were all overweight or obese, aged between 40 and 75, and included both men and women. None of them had been diagnosed as diabetic but they all had an abnormal glucose metabolism.'

All the participants had some form of insulin resistance, whereby the body does not respond so well to the hormone insulin, which stabilizes blood sugar levels after a meal. In half the participants, resistance was due to abnormal mechanisms in the muscles, while in the other half the problem was in the liver. Each group was divided into two: one half had to eat a diet rich in monounsaturated fatty acids, with olive oil and nuts for instance, while the other half had to eat a low-fat diet with lots of fibre and protein. So there were four sub-groups.

## Healthier

All participants were monitored for 12 weeks. The aim was not to lose weight. Gijbels: 'After the 12 weeks, all participants were healthier in terms of the cardiometabolic risk factors (the health of the metabolism, heart and blood vessels, ed.):' The health benefits were greatest for participants



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who were in one of the two sub-groups with the 'right' combination of insulin resistance and diet: the high-fat diet for people with liver-related insulin resistance, and the diet rich in proteins and fibres for people with muscle-related insulin resistance. 'Insulin sensitivity increased in these people and we saw fewer fats of the wrong kind or inflammatory markers in the blood. They didn't suddenly become just as insulin sensitive as a healthy, slim, young person, but it was a big improvement.'

## Commercial

We are still a long way off a practical application of diets tailored to your personal metabolism, nice though that would be. 'We now know this concept works, but we still don't know how. What is more, this is the first study to show this. The study needs to be repeated to confirm the results.' Another problem is the lack of a simple test to determine your metabolic profile. 'The type of test we used to determine the profile can currently only

be performed in a lab.'

Even so, commercial companies are very interested in precision nutrition. 'They already use simple markers and measuring instruments, such as the continuous glucose monitor used by some diabetic people. The health benefits of precision nutrition are very promising but it is still in its infancy in scientific terms.' Gijbels got her PhD in June. DV

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