

# Diet and exercise combinations to counter type 2 diabetes

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Obesity puts people at risk of type-2 diabetes. But new research aims to find a combined diet-exercise prescription for keeping the optimal body weight, which may help prevent the disease.

Type-2 diabetes, which has dramatically spread in the last decade, is most often associated with being overweight and suffering from obesity. Moreover, nutritionists believe that inactive and sedentary lifestyles together with bad eating habits are the basis for weight gain. The EU-funded project, Preview, due to end in 2018, is looking at a combination of specific diets and physical activities as a way to prevent the incidence

of this disease. Project coordinator Anne Raben, professor in obesity prevention and treatment at the Department of Nutrition, Exercise and Sports of the Faculty of Science, University of Copenhagen, in Denmark talks to CommNet how her team is aiming to identify a prevention recipe for type-2 diabetes.

## **How are you going to conduct this research?**

We have a large human intervention study where we recruit 2,500 people from Europe, New Zealand, and Australia, at high risk of developing diabetes. This includes children, adolescents, adults and elderly. It is a large three-year trial, during which we will be looking at different diets and physical activities. Furthermore, we have data from large population patterns in different cohorts from Europe, New Zealand and Canada, for epidemiological research. That's approximately 170 thousand people from all age groups. Here we look at the same end-points as in the [intervention study](#).

## **What kind of diet and exercise combinations do you want to test?**

We will test the effectiveness of two different diets combined with two different [physical activity](#) intensities. The diets are a moderate-protein and medium-glycaemic-index (GI) diet or a high-protein and low-GI diet. We will look at the impact and protein content in the diet. At how we can optimise it in order to get the best diet that can be then recommended for the treatment and prevention of type-2 diabetes. We will also look at the physical activity. So we will instruct people in a moderate or in a high intensity [exercise](#) regime. Furthermore, the interaction with other life-style factors, such as habitual stress and sleeping pattern as well as behavioural, environmental, cultural, and socioeconomic variables, will be investigated.

## **What are the most significant risk factors for type-2 diabetes?**

Those are being overweight and suffering from obesity. It is very difficult to prevent the overweight. Of course, it depends on what you eat and how much you eat. And how ready people are to lose weight. It is important to move one's body and to use your car less, for instance. It is also related to sleep. If you sleep too little or too much you are at risk of being overweight. And stress also plays a role. If you have a stressful life, that can increase the risk of becoming overweight.

## **What are the areas where our knowledge is limited?**

There is an uncertainty regarding the types of food people eat. I think we do not know the best recipe for how to keep the best body weight. It seems that a high intake of protein may be more efficient, compared with carbohydrate and fat. We have to find out what is the best diet or the best physical exercise. Many recommendations tell the population to reduce intake of sucrose, fat, and high-density food items. This is probably still valid in order to decrease the risk of getting obese and develop type-2 diabetes.

Do you think you will be soon able to distinguish between various prevention programs for people at risk of developing type-2 diabetes?

Yes. We may see differences between the different diets and exercise interventions. But we may also conclude that there is no difference between them and that either regime is good.

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