

## **Calorie restriction: Is this anti-aging diet worth a try?**

A diet that has extended the life span of worms, flies and rats is capturing the interest of humans. Believers say the calorie restriction diet, which involves eating less, while still getting enough vitamins and nutrients, makes them healthier. And they hope calorie restriction extends their lives.

But just because a diet works in animals doesn't necessarily mean it will work for people. And even if a limited calorie diet was found to extend your life, would you be willing to stick to it?

Scientists have their doubts about the viability of the calorie restriction diet in a Western culture where overweight and obesity seem to be the norm. Still, calorie restriction research may give doctors clues about the aging process and how its effects may be slowed.

### **What is calorie restriction?**

Calorie restriction is the practice of eating less than your body needs to maintain your normal weight. Exactly how much less a person eats on a calorie restriction diet varies. In research studies, people practicing calorie restriction ate 20 percent to 25 percent less than their bodies needed. For example, a person who needs 2,000 daily calories for weight maintenance might eat 1,500 to 1,600 calories a day on a calorie restriction diet. People who follow a calorie restriction diet do so in hopes of slowing the aging process and extending their lives.

But beyond restricting how much food they eat, people who subscribe to calorie restriction carefully monitor their food intake to ensure they're getting all the vitamins and nutrients they need. This can mean choosing more foods that are full of nutrients, but low in calories, such as vegetables and whole grains.

Interest in calorie restriction has grown as studies show the diet can extend the lives of animals. Only limited studies have been conducted in people.

### **What does calorie restriction do for animals?**

Calorie restriction can extend the life span of many different animals. Studies have focused on insects and animals with short life spans, since testing calorie restriction on a longer living animal could take decades. Creatures including worms, flies, fish, mice and rats have been studied.

It isn't clear how calorie restriction works in animals. But researchers have found that animals on restricted diets live longer than their normal-diet counterparts. And the calorie-restricted animals are less likely to develop the chronic diseases that become more common in older age, such as diabetes and heart disease.

In animals, researchers have shown that calorie restriction diets are more important to life span than maintaining a healthy weight and exercising. In rats, for example, normal-weight rats that ran on exercise wheels didn't live longer than rats that were fed calorie restriction diets but weren't allowed to exercise. Obese mice that ate calorie restriction diets lived longer than normal-weight mice that ate normal diets.

Studies in longer living animals are under way, though these studies will take years to finish. Researchers have reported promising, but preliminary results in monkeys.

### **Can calorie restriction extend human lives?**

It's not clear that humans can benefit from calorie restriction the way animals have. Some researchers believe calorie restriction diets trigger a survival mechanism in animals with a short life span, such as rodents, that allows them to outlive food shortages. Whether people have this adaptation remains to be seen.

### **Short trials of calorie restriction diets in people have shown some benefit.**

People undergoing calorie restriction, whether through a restricted diet only or through a combination of diet and exercise, typically have seen positive changes in their:

- Blood pressure
- Blood sugar
- Body fat percentage
- Cholesterol levels
- Heart rate
- Weight

While these are all healthy changes that may reduce the risk of chronic diseases, such as heart disease, it isn't clear whether these changes translate to a longer life span for humans.

Despite the benefits, **researchers have also identified risks of calorie restriction diets**, including:

- Reduced bone density
- Loss of muscle mass
- Anemia
- Memory loss
- Dizziness
- Depression

Studies of people who are severely malnourished, such as people with anorexia, show that getting inadequate amounts of vitamins and nutrients can lead to serious complications, such as heart failure and death.

Studies have shown that people with the lowest range body mass index (BMI) scores have a higher risk of death than do those with scores considered normal. These studies aren't perfect — they don't take other important factors into consideration, such as undiagnosed cancer or other serious illnesses that may have caused weight loss. But the results do give reason to be cautious when considering calorie restriction.

### **Should you try calorie restriction?**

Very little is known about the long-term effects of calorie restriction in people who have a healthy weight. If you're interested in trying a calorie restricted diet, discuss this with your doctor. He or she can discuss the possible benefits and risks of a calorie restriction diet. Eating enough vitamins and nutrients can be difficult when you're eating less food, so consulting with a nutritionist may be helpful. He or she can help you determine what types of foods can provide you with the nutrition you need.

Sticking to a calorie restriction diet isn't easy. In some clinical trials, participants had their meals prepared by researchers, attended weekly support groups and had counseling sessions to help them stick to the protocol. Outside of a clinical trial, you don't have that same support, so you may have more trouble sticking to the diet.

You might find it easier to use exercise to help achieve your calorie restriction goals, as some participants have done in clinical trials. Rather than cut their caloric intake by 20 percent, for example, some participants cut their diets by 10 percent and used exercise to make up the difference. For instance, a person who needs 2,000 daily calories to maintain his or her weight might eat 200 fewer calories and exercise enough to burn 200 calories each day.

If you're overweight or obese, calorie restriction may be one strategy you can consider to help you achieve a healthy weight. Discuss this with your doctor.

### **Is calorie restriction the future of anti-aging therapy?**

Calorie restriction studies may help researchers better understand the aging process, and they may provide clues for developing new anti-aging drugs. Researchers hope to study how calorie restriction works on the body so that drugs may be developed to work in the same way.

Courtesy: MayoClinic.com <http://health.msn.com/health-topics/articlepage.aspx?cp-documentid=100096398>