

# starvation syndrome

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## Starvation Syndrome

The effects of starvation on the human body are well documented. When starved of calories, the human body responds with “Starvation Syndrome”. People with Anorexia Nervosa suffer from starvation as a result of severely restricting their calorie intake. People with Bulimia Nervosa suffer from starvation by engaging in restriction and purging behaviour (which also reduces caloric absorption) and from irregular intake of vital nutrients.

## The Minnesota Experiment

In the 1940s, there was an experiment involving 32 fit young men who had been drafted into the US army. They were conscientious objectors to military service and had volunteered to do humanitarian work. They became subjects of a year-long experiment. This involved:

- 3 months of normal eating (3600cal)
- 6 months where rations were cut by 50% (1800cal)
- 3 months of full rations (3600cal)



For the first three months, when they were receiving normal rations, the men engaged in normal behaviours, getting along well with one another, playing games, following the war on the radio and in newspapers.

After six months of half rations (semi-starvation), the men experienced not only the expected physical changes, but dramatic mental changes too.

### **Physical changes**



On average, the men lost 25% of their body weight, both fat and muscle. Their hearts (muscle) also reduced by 25%, and slowed down. Their basal metabolic rate slowed down so that their bodies could conserve energy—about 600 calories per day. Body temperature decreased so they felt cold all the time. Many reported dizziness and momentary blackouts. They lost strength and were constantly tired. Hair often fell out; hair and skin were dry. Many suffered from fluid retention. Their hormone levels decreased, resulting in loss of sexual desire and performance.

### **Personality changes**

The men became depressed and apathetic, self-centered and less interested in life going on

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around them. Their mental alertness decreased and they became moody and irritable, restless and anxious. They reported poor concentration and decision making. Their thinking became more rigid and they obsessed more

## **Social changes**

The men lost their sense of humour and became sarcastic with one another. Group spirit deteriorated and social interaction became stilted. When they talked to each other it was mainly about food.

## **Food preoccupation**

The change in attitude to food was one of the most surprising outcomes of the study. The men became preoccupied with food, including having persistent thoughts and dreams about food. There was a change in mealtime behaviours, including toying with food, or being ritualistic about the way they ate and taking longer to finish a meal. They even collected recipes—unusual in males during the 1940s!

These symptoms are experienced by anyone who is starved of calories. *If you recognise these symptoms in your own life, it is important to remember that they all stem from one thing: starvation.*

## **Recovery from Starvation**

The men in the Minnesota Experiment recovered from their physical and mental symptoms once they were given regular rations, although it took some men a while to normalise their eating. Many men reporting feeling full and some developed binge eating. Their mood remained low for a while and usual social behaviours took longer to return.



## **How is this relevant to eating disorders?**

We now believe that ANY kind of weight loss (from dieting or even having a stomach bug) can push someone into developing anorexia nervosa or an eating disorder.

People with anorexia nervosa and anyone who has lost a lot of weight will probably be suffering from full-blown starvation syndrome. Starvation does not just affect weight and food, it affects all aspects of your psychological and social functioning.



However, there are some major differences. The men in the Minnesota Study wanted to eat, they weren't afraid of regaining weight, whereas people with anorexia nervosa are terrified of eating and weight regain. So anyone with anorexia nervosa will be suffering from BOTH starvation AND

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an eating disorder.

We need to remember that eating disorders are mental illnesses, and the most relevant point about anorexia nervosa is the **intense** fear of weight regain. This is NOT merely the commonly held fear of gaining weight experienced by many women and some men. It is a fundamental characteristic of anorexia nervosa, and it is usually a fear so strong that it keeps them ill and underweight.

So having an intense fear of weight regain makes starvation syndrome in someone with an eating disorder different from starvation in the men in the Minnesota Experiment. And the paradox is that the only way out of anorexia nervosa is first getting out of starvation mode—which means gaining weight, the scariest thing for someone with anorexia nervosa!



## Getting out of starvation

The fear of weight regain is something that your therapist will understand. He or she will be very empathic, but will be encouraging you to relearn to eat, since it is not helpful for them to support you to remain in a state of starvation.

The physical and mental changes you have experienced will also be reversed when you increase and normalise your food intake, giving your body the energy it needs. The mental changes often take longer. Through regular and healthy eating, your body can regain its strength and fight these symptoms of starvation. You may need to consult a medical practitioner, psychologist, dietitian or other health professional for support with this.

Your brain will not function as it should without adequate nutrition. A starved brain will have problems processing and regulating emotions, which means your moods and reactions to situations might be unpredictable.

You will find that you feel stronger and have more energy when you return to a weight that is healthy for you. Your hormones and your heart will be functioning in a healthy way, but for a while you may still feel anxious about food. Your brain will take longer to return to its former levels of functioning, but it will catch up!