

Causes of obesity

It is well-known that if you eat more calories than you burn you will put on weight.

Carbohydrate contains 17 kJ pr. gram.

Protein contains 17 kJ pr. gram

Fat contains 38 kJ pr. gram

To build one kilo of fatty tissue you must eat 32.000 kJ

Thus if you don't exercise and at the same time eat high fat food you will put on weight.

But it isn't that simple. Overweight is also due to other factors: genetic, hormonal, behavioural, environmental and cultural.

Obesity has increased much during the last decades which indicates that our environment plays a key-role in the increasing obesity. I will not talk so much about how the environment has changed in the last decades but about some of the biological causes of obesity.

Stress:

It has been found that depression and stress are one leading causes of obesity. In connection with stress the hormone cortisol is liberated. Especially the fatty tissue between the organs is easily influenced by the hormone and thus stress will contribute to the development of the dangerous belly fat.

Belly fat is unlike the fat on the hips, a very active tissue that produces a lot of hormone-like substance that is suspected to be forerunner for the development of insulin resistance which leads to increased blood glucose concentration. Insulin resistance can again lead to blurred sight and convulsions in the legs.

Satiety:

The intake of food is controlled by two centres in hypothalamus, the satiety centre and the hunger centre. When there is no longer food in the stomach, the hormone ghrelin tells the hunger centre that you are hungry. Satiety is regulated by the following factors: macro nutrients such as fat, carbohydrates and protein. You will also feel satiety when your stomach is widened and activates receptors that send nerve signals to the brain. Chewing and swallowing also play a part.

Leptin:

Leptin is one of the hormones that play a long term role in the regulation of weight. It is produced in the fatty tissue (especially in belly fat). It influences the brain to increase the feeling of satiety and the metabolism. Obese people produce a lot of leptin, and this results in a certain resistance to its effect. The picture of the fat mouse in the power point presentation shows a mouse suffering from leptin resistance.

Inheritance:

It is not easy to see if obesity in a family is caused by heritage or lifestyle habits that individuals from the same family mostly share. But it is known that some of the weight-related processes in the body are affected by genes. This has been discovered in studies of families with adopted children. It turns out that adopted children tend to develop weight problems similar to their biological parents rather than their adoptive. Equally research has shown that normal-weight children of obese parents

are more likely to get weight problems in adulthood than normal-weight children of normal weight-parents are. All of this points towards a connection between obesity and inheritance. Researchers have found some of the gene affected processes in the body to be: metabolic rate, blood glucose, hormones and fat-storage.

