

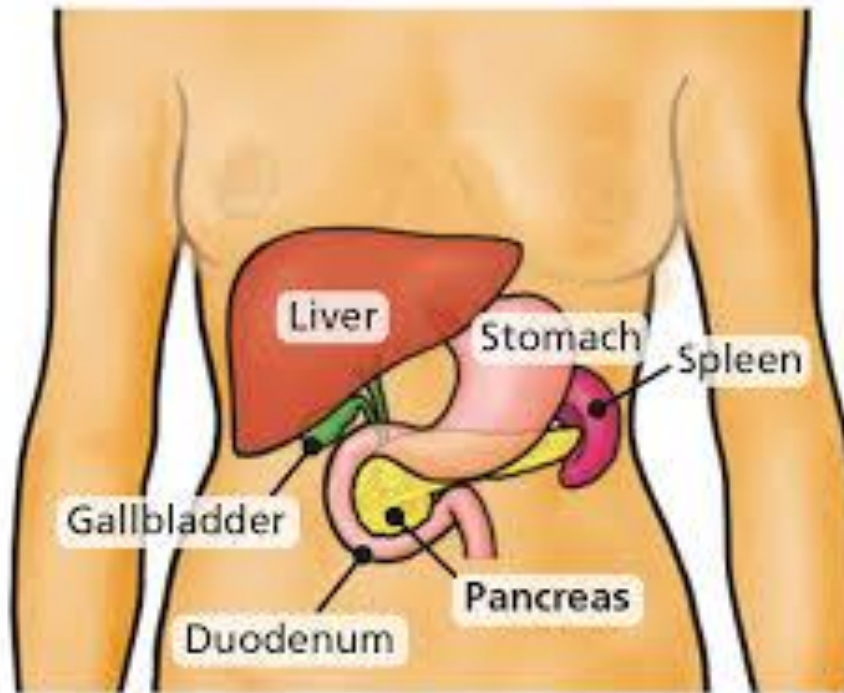
The Healing Power of Food

Insulin Resistance

What is insulin?

- ◆ Insulin is a hormone that your pancreas makes, essential for regulating blood sugar levels.
- ◆ Insulin helps move glucose from your blood into your cells so your body can use it for energy.

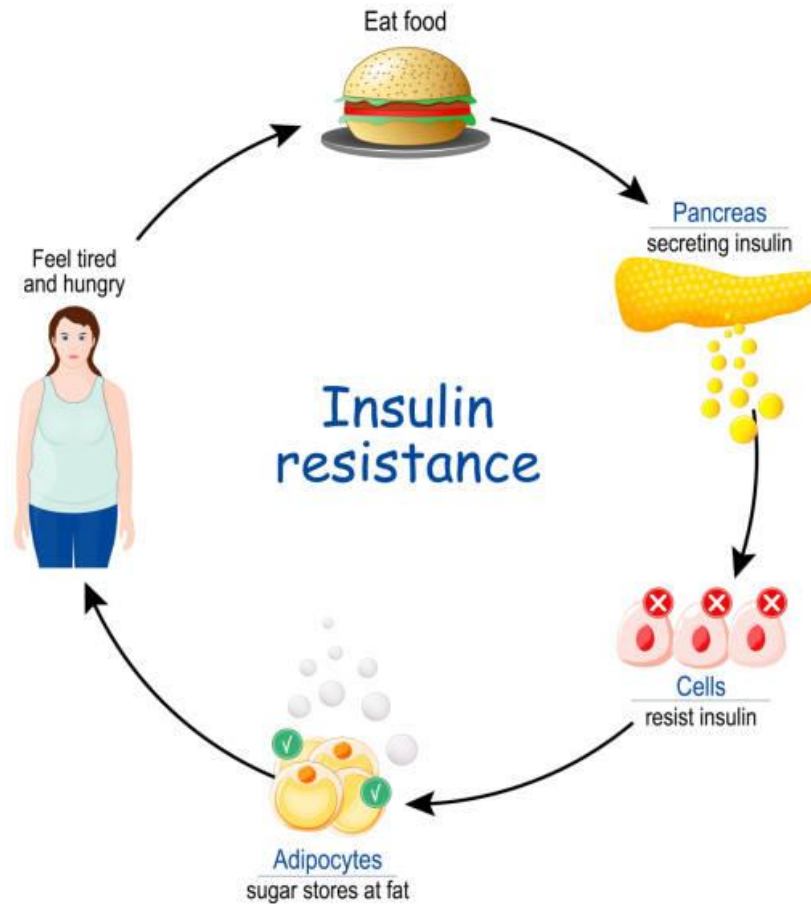
Insulin is made in the pancreas and regulates blood sugar.



Insulin resistance

- ◆ Insulin resistance is when your body doesn't respond as it should to insulin.
- ◆ Your pancreas works harder by making more and more insulin to help keep your blood glucose levels in a healthy range.
- ◆ Over time, your pancreas can wear out, and produces less and less insulin, leading to high blood sugar levels.

What is insulin resistance?



Some symptoms of uncontrolled blood sugar

- ◆ Fatigue
- ◆ Increased thirst
- ◆ Frequent urination (peeing)
- ◆ Increased hunger
- ◆ Blurred vision
- ◆ Yeast infections

Resulting Medical Conditions

1. Hyperglycemia (high blood sugar)
2. Pre-diabetes
3. Diabetes

Note: Some people can be prediabetic without having symptoms

Diabetes Type 1 (Not cause by lifestyle)

- ◆ Often begins in late childhood, but can occur at any age.
- ◆ It is the rarer form, (10% of all diabetics) but the more dangerous form.
- ◆ The pancreas loses its ability to make insulin, so insulin injections must be given, (for life).
- ◆ It is an autoimmune disease that occurs when the immune system mistakenly attacks and destroys the insulin-producing cells in the pancreas, leading to a lack of insulin production.

Diabetes Type 2 (A lifestyle disease)

- ◆ This is late-onset diabetes, (although it is more recently seen in younger adults)
- ◆ The problem initially is not with the pancreas, but with the insulin receptors on the cell surfaces of certain body tissues, especially muscle tissue.
- ◆ The pancreas must work hard to increase insulin output to compensate, and eventually pancreatic function can fail.

Complications of uncontrolled blood sugar #1

- ◆ Heart disease or heart attack
- ◆ Stroke
- ◆ Kidney damage
- ◆ Nerve damage
- ◆ Eye damage
- ◆ Skin problems

Complications of uncontrolled blood sugar #2

The condition is also associated with:

- ◆ Obesity
- ◆ Liver disease (fatty liver)
- ◆ High blood pressure
- ◆ Polycystic ovary syndrome (PCOS)

Causes of insulin resistance

- ◆ **Excess body fat:** Excess fat around your belly and organs (visceral fat) especially raises your risk.
- ◆ **Physical inactivity:** Exercise builds muscle that can absorb blood glucose. A lack of physical activity can lead to the condition.
- ◆ **Food choices:** high carbohydrate diet, low fibre, use of cheap cooking oils and margarine (*study Havard uni 1997*)
- ◆ **Certain medications:** Steroids, blood pressure medications, HIV treatments and other medications

Lifestyle changes can ...

- ◆ Reduce insulin resistance
- ◆ Lower your blood glucose levels
- ◆ Decrease blood pressure
- ◆ Decrease LDL (“bad”) cholesterol levels
- ◆ Raise HDL (“good”) cholesterol levels

A change of lifestyle can eliminate the need for insulin injections.

Foods to avoid

- ◆ Sugar and foods that contain added sugar
- ◆ Sweet drinks, fruit juice and alcohol
- ◆ Bread
- ◆ Potatoes
- ◆ Breakfast cereals
- ◆ Cakes, pastries and cookies
- ◆ Very sweet fruits such as watermelon and dates