

A+B: BLOOD SUGAR CONTROL AND TYPE 2 DIABETES

- 1 Consumption of food and drink.
- 2 Blood sugar increases to a greater or lesser extent depending on what we eat and drink.
- 3 The level of blood sugar can be measured.
- 4 Insulin (= keys) is released from the pancreas into the blood as blood sugar rises.
- 5 There are insulin receptor molecules (= keyholes) on the body's cells (for example muscle, fat and liver cells).
- 6 Insulin binds to and activates the insulin receptors.
- 7 These can bind sugar into the cells.
- 8 The cells gain energy for use for example in operating muscles, biochemical processes essential for life and heat production, or it can be stored.
- 9 Insulin does not work so well if you have type 2 diabetes. This is called insulin resistance, meaning that cells have become insensitive to insulin.
- 10 Insulin resistance means that more insulin is required to get sugar into cells. The pancreas reacts by releasing more insulin.
- 11 This means that when type 2 diabetes starts, there are typically raised levels of sugar and insulin in the blood.
- 12 Metformin is a drug that boosts the effect of insulin by increasing cellular sensitivity to insulin, thus helping to reduce blood sugar.
- 13 As time passes, your own insulin production may decline so that there is not enough insulin to regulate the blood sugar.
- 14 Drugs that help boost the amount of insulin in the blood are for example GLP-1 agonists, DPP4 inhibitors and insulin analogues.
- 15 Exercise increases cellular absorption of sugar.
- 16 Drinking alcohol can give a delayed drop in blood sugar since it reduces the ability of the liver to produce sugar a long time after taking alcohol. This can lead to hypoglycaemia if you are not aware.

