



Consequences of an Overloaded Pancreas

Diabetes Type 2-- This common chronic condition affects millions of people worldwide. It occurs when the body's cells become resistant to the effects of insulin. It can be treated using various medicines all requiring much explanation.

TEXT: JANE FUNKE AND HANNELORE GIESSEN

Diabetes is a chronic health condition that affects how the body transforms food into energy. Whereas in Type 1 diabetes the body doesn't produce enough insulin, in type 2 diabetes it is not the *lack* of insulin but the body's inability to use it in the right way that leads to symptoms.

About 90-95% of those with diabetes have type 2. It develops over many years and is usually diagnosed in adults but more and more often in children, teens, and young adults. Type 2 diabetes is widespread in all Western countries.

The Stressed Pancreas

Insulin is a hormone produced by the pancreas and it acts like a key letting blood sugar into the body's cells to be used as energy. In type 2 diabetes, cells don't respond normally to insulin; this is called insulin resistance. The pancreas makes more insulin to try to get cells to respond. Eventually after several years the pancreas can't keep up and blood sugar levels rise, *setting the*

stage for prediabetes and type 2 diabetes. High blood sugar is damaging to the body and can cause other serious health problems, such as heart disease, *vision loss* and *kidney* disease.

Causes and Risk Factors

While the exact cause of type 2 diabetes is not fully understood, several factors contribute to its development:

- **Genetics:** A family history of diabetes can increase an individual's risk.
- **Obesity:** *Surplus* bodyweight, especially around the abdomen, is a significant risk factor. Fat cells release biological messengers that can interfere with the insulin's action.
- **Lifestyle:** *Sedentary* behaviour and a diet high in sugary, *processed foods* can contribute to the development of type 2 diabetes.
- **Age:** The risk of type 2 diabetes increases with age, especially after 45.

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A Wide Range of Medication

In the management of type 2 diabetes, medication and interventions play a **vital** role in helping patients **achieve** and maintain healthy blood sugar levels. In order to support patients effectively, it is essential to know which substances are currently being applied and to understand how they act in the body. Several classes of oral medication are available to help manage type 2 diabetes. These medications work in various ways to lower blood sugar levels:

- Metformin: Often the first-line treatment, it reduces liver glucose production and improves insulin sensitivity.
- Sulfonylureas: Stimulate the pancreas to release more insulin but are applied only in very rare cases because of side effects.
- DPP-4 inhibitors: **Elevate** the body's insulin production and reduce glucose production.
- GLP-1 receptor agonists: Increase insulin secretion, decrease glucagon release, and slow down **gastric emptying**.
- SGLT2 inhibitors: Reduce glucose reabsorption in the kidneys, leading to increased urinary glucose excretion.

Insulin therapy: Patients with type 2 diabetes may eventually require insulin therapy if their blood sugar remains uncontrolled. Insulin can be administered using injections or insulin pumps, and different types of insulin are available to address various needs: **rapid-acting insulin**, short-acting insulin, intermediate-acting insulin and long-acting insulin. Over all, lifestyle changes, basically a healthy diet and regular exercise, are fundamental in managing type 2 diabetes and can often delay or reduce the need for medication. ★

Jane Funke ist geborene Britin und erstellt als Native Speaker gemeinsam mit Apothekerin Hannelore Gießen seit vielen Jahren die Serie „English for PTA“, die sich mit klassischen OTC-Themen befasst.

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¹ Wurzer-Materna, N., Thieme, U., Werdier, D. et al. Handling of Sore Noses: a Proof of Concept. SN Compr. Clin. Med. (2020).

² Thieme, U., Müller, K., Bergmann, C., et al. Randomised trial on performance, safety and clinical benefit of hyaluronic acid, hyaluronic acid plus dexamethanone and isotonic saline nasal sprays in patients suffering from dry nose symptoms. Auris Nasus Larynx. 2020 Feb 14;50385-8146(20)30028-6.

³ Bergmann et al. Real-World Data on the Use of Hypertonic Saline Nasal Spray in ENT Practice. SN Comprehensive Clinical Medicine. 2019. Vol 1(5):354-361

Dialogue

Customer: Good morning, is it okay if I ask you a few questions?

PTA: Yes, of course – **fire away!**

Customer: I've just been diagnosed with diabetes type 2. What is that exactly?

PTA: Diabetes is when the glucose in your blood builds up instead of being used as energy. In type 2, there is usually enough insulin but the body's cells cannot use it properly.

Customer: And what causes it?

PTA: It's mainly due to lifestyle factors and genetics. Being overweight, an **unsuitable** diet and lack of exercise over a long time can all affect the

function of the pancreas. People with a family **predisposition** have an increased risk of diabetes.

Customer: Is it life-threatening?

PTA: Well, if left untreated, it can result in serious health complications such as heart disease, nerve damage, loss of sight and so on.

Customer: Can it be cured?

PTA: At the moment, there is no cure for diabetes but a lot of research is being carried out, so maybe someday there will be.

Customer: My doctor has told me to make some lifestyle changes



and then come back in three months, when she'll decide how to proceed. What does she expect me to do?

PTA: First of all, you need to focus on diet and exercise. Eating a healthy diet, being physically active and losing weight will help to normalize or control blood sugar levels. Try to aim for a minimum of three hours of activity a week. These **measures** might even be enough. If not, the next phase of treatment is taking medication. Additionally, your doctor will refer you to a certified diabetes educator who will help you. As far as your medication is concerned, we will support you as much as we can.

Customer: Will I have to take insulin?

PTA: It's possible later on but at the beginning you will start with oral medication, such as metformin. The

tablets are taken with or after meals. Nowadays, there are many new drugs available, that may delay or prevent the need for insulin. And sometimes patients are given more than one medicine, in order to use different metabolic pathways.

Customer: Is there anything else I need to consider, apart from changing my lifestyle?

PTA: Test your blood sugar at regular intervals and get eyes and feet checked at least once a year. Would you like me to give you some written information and send you some email links? There is a lot of information available on the Web but not all of it is **valid** or **reliable**.

Customer: Yes, please. That would be very helpful. Thank you!

PTA: You're welcome.

Vocabulary

English	Deutsch
lack	Mangel
to set the stage	den Weg für etwas bereiten
vision loss	Sehverlust
kidney	Niere
obesity	Adipositas
surplus	überschüssig
sedentary	sitzend, bewegungsarm
processed food	verarbeitetes Lebensmittel
vital	wesentlich, entscheidend
to achieve	erreichen, erzielen
to elevate	heben, erheben
gastric emptying	Magenentleerung
rapid-acting insulin	schnellwirksames Insulin
fire away!	Schießen Sie los!
unsuitable	ungeeignet
predisposition	hier: Veranlagung
life-threatening	lebensgefährlich
to proceed	fortsetzen, fortfahren
measure	hier: Maßnahme
valid	stichhaltig, fundiert
reliable	glaubwürdig, verlässlich

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