

sanotact®



LACTOSE



FRUCTOSE



OLIGO-
SACCHARIDES

When food causes discomfort

Useful information about digestive problems
when eating milk products, fruit and vegetables



sanotact_de



sanotact

www.sanotact.de

Healthy nutrition is becoming more and more important in today's world. Without doubt, it is hard to imagine creating a daily food plan without including vegetables and fruit as the key sources of vitamins and minerals. And calcium-rich milk and milk products are also simply part and parcel of a healthy diet.

However, more and more people are experiencing discomfort from these foods, such as unpleasant bloating and flatulence, oppressive abdominal pain and diarrhoea. In most cases, this is caused by sugar compounds (carbohydrates), which can be poorly digested by some people as a result of a genetic predisposition. Due to an enzyme defect, an estimated 15 to 20% of Germans react sensitively to milk sugar (lactose) and for one in three, fruit sugar (fructose) is insufficiently absorbed in the small intestine.

On the following pages, we aim to give you greater insight as to why some healthy foods are not so healthy for some individuals and what sufferers can do to about the intolerances.

Your health is a matter close to our hearts.

Your sanotact team

sanotact®



CONTENTS

Why can't I tolerate healthy food?	4
How do the symptoms develop?	5
Why can't I tolerate milk?	6
What can I do if I am lactose intolerant?	8
Why can't I tolerate any fruit?	11
What can I do about fructose malabsorption?	12
Does intolerance make you ill?	15
Why are some vegetables poorly tolerated?	17
What diagnostic options are available?	19



DID YOU
KNOW?

WHY CAN'T I TOLERATE HEALTHY FOOD?

During digestion, food is broken down into its component parts:

- ✓ **Carbohydrates in monosaccharides**
- ✓ **Proteins in amino acids**
- ✓ **Fats in fatty acids and glycerine**

To do this, the body needs digestive enzymes to break down the links between the individual components, which are then absorbed into the body via special transporters found in the intestinal mucosa.

If there is an enzyme deficiency and/or the transporters aren't working sufficiently enough, some foods cannot be absorbed. Such deficiencies are widespread, particularly for sugars such as milk sugar (lactose) and fruit sugar (fructose). For many people, undigested sugar results in pain and discomfort.

HOW DO THE SYMPTOMS DEVELOP?

If carbohydrates - whether simple sugar or more complex sugar compounds - cannot be digested in the small intestine, they continue on further and enter the large intestine. Here they are used by the resident intestinal bacteria as a food substrate. Bacterial decomposition produces flatulent gases and short-chain fatty acids.

Carbohydrates also cause an influx of water in the large intestine, which subsequently causes the following typical intestinal problems:

- ✓ Stomach pain
- ✓ Nausea
- ✓ Vomiting
- ✓ Diarrhoea
- ✓ Bloating and flatulence

Some of those affected may also experience a number of atypical symptoms, including headaches, fatigue, sleep disorders and skin problems.

Info

If such symptoms frequently occur after consuming specific food groups, such as milk products, it is likely to be food intolerance.



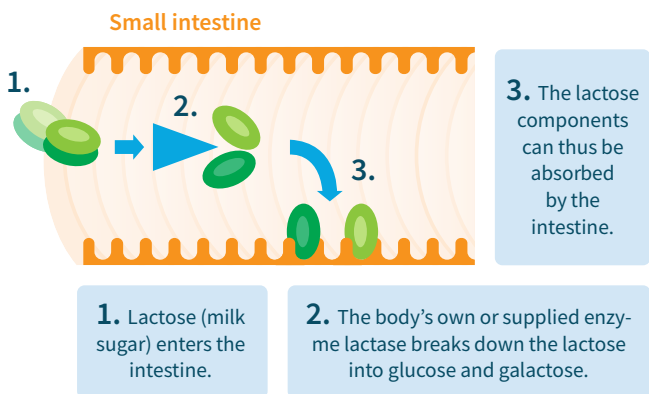
LACTOSE

WHY CAN'T I TOLERATE ANY MILK?

About 15 to 20% of Germans suffer from lactose intolerance (milk sugar intolerance). For these individuals, consuming milk and dairy products, such as cheese, cream or yoghurt, triggers symptoms. This is due to insufficient digestion of lactose.

What is lactose?

Lactose only occurs naturally in the milk of mammals such as cattle, sheep or humans. This serves as a source of nutrition for newborn babies in the first months of their lives.



Chemically, lactose is a dual sugar composed of two simple sugars, glucose and galactose.

Since the body can only absorb simple sugars, lactose must be broken down into its components in the intestine by the enzyme lactase.

Lactase deficiency leads to lactose intolerance

With a lactose intolerance, too little lactase is produced. Lactose is not sufficiently broken down and it enters the large intestine, where it is decomposed by intestinal bacteria. Typical symptoms caused by the resulting gases and organic acids include abdominal pain, bloating, flatulence and diarrhoea.

Info

IMPORTANT: LACTOSE INTOLERANCE IS NOT AN ALLERGY!

Unlike a genuine allergy, the symptoms of lactose intolerance are not caused by an excessive immune reaction. Again, the best way to prevent the discomfort is to avoid the trigger - in this case lactose.



In principle, a distinction is made between two different forms: a genetically determined „primary“ lactase deficiency and „secondary“ lactase deficiency as a result of certain conditions.

Primary lactase deficiency often occurs from the age of 5, but can also become apparent in later years. In older people, a decrease in lactase activity is part of the natural ageing process. Only in very rare cases does the defect already exist at birth, meaning that babies with the condition cannot tolerate breast milk and are dependent on special food.




Intestinal conditions can also lead to temporary lactose intolerance.

Damage to the mucous membrane of the small intestine also disrupts the function of enzymes located there, such as lactase. Diseases of the small intestine such as Crohn's disease, coeliac disease or bacterial infections, as well as gastrointestinal surgery or the use of antibiotics, can therefore lead to „secondary“ lactose intolerance. The reduced lactase activity is therefore not genetic and usually returns to normal when the underlying condition is treated.

WHAT CAN I DO IF I AM LACTOSE INTOLERANT?

Those who suffer from a lactose intolerance are dependent on a low lactose or lactose-free diet. Here the amount tolerated differs from person to person, so it's important for every sufferer to test for themselves just how much lactose or which products they can enjoy symptom-free.



-  Products that are **high in lactose** include, in particular, milk and whey products, cottage cheese, cream cheese, chocolate, cream, milk ice cream, condensed milk and often infant milk formula.
-  Products that are relatively **low in lactose** include yo-ghurts, mature semi-hard cheese as well as sour milk and butter products.
-  Fresh fruit and vegetables, cereals, bread (usually), meat, fish, poultry, eggs, sugar, honey, jam, potatoes, rice and noodles can be consumed without any worries, as they are **lactose-free** foodstuffs.

Advice

BE CAREFUL WITH PROCESSED PRODUCTS:

Lactose has good technological properties and is often used as a binding agent, carrier substance or flavouring agent in the food and pharmaceutical industry. There are numerous processed products that at first glance seem to have nothing to do with milk but yet still contain lactose.

Lactose can hide in:

- ✓ Meat and sausage products
- ✓ Confectionary products
- ✓ Bread and bakery products
- ✓ Instant powder and ready meals
- ✓ Spice blends
- ✓ Medication and food supplements
(see package leaflet)

Pay attention to calcium intake

If you give up milk and milk products, you will lack important sources of calcium, which can have a negative impact on bone growth and bone density in the long term. That is why osteoporosis in old age is a disease commonly found in lactose-intolerant people. Calcium-rich mineral water and green vegetables, including green cabbage, broccoli and spinach, and also food supplements help to cover the daily calcium requirement.

Lactase preparations

Lactase enzyme preparations are available to prevent symptoms and improve the tolerance of products containing lactase. They supply the body with the enzyme orally and support the natural digestion of lactose. You'll find them on health-product shelves in pharmacies and in food retail shops, among other places.

They make it much easier for people who are lactose intolerant to eat outside the home, especially in restaurants and hotels where you don't have any influence on what ingredients are used.

These preparations are usually taken just before consuming food containing lactose.

Tip

TRUST THE NO. 1*



*Top-selling brand in the lactose-preparations segment - source: IRI Information Resources GmbH, Deutschland, LEH+DM, paragraph, MAT until March 2022



FRUCTOSE

WHY CAN'T I TOLERATE ANY FRUIT?

Fruit is healthy and delicious, yet more and more people experience stomach pain and diarrhoea after consuming it. Many people are unaware for a long time that they are suffering from so-called fructose malabsorption (intestinal fructose intolerance), i.e. an intolerance of fructose.

What is fructose?

Fructose (fruit sugar) is a monosaccharide, which occurs naturally in fruit and also, but to a lesser extent, in vegetables. This is absorbed into the intestinal cells in the intestine via a special transporter called GLUT5.

How does fructose malabsorption develop?

For about 30 to 40 percent of the Central European population, this transporter only works moderately and fructose is not sufficiently absorbed. As a result, larger amounts enter the large intestine and decompose here into gases and organic acids.

In very rare cases, fructose intolerance can also be a congenital enzyme defect

About 1 in 20,000 people suffer from a “hereditary fructose intolerance“. Unlike the common “intestinal fructose intolerance”, which affects the intestine, this is a congenital enzyme defect, which blocks fructose from being used within the body cells. As a result, products that break the fructose down accumulate in the organs, significantly impairing their function. Those who suffer from this hereditary disease have to eat a strictly fructose-free diet. It’s already possible to detect a hereditary fructose intolerance after weaning due to the severe pain experienced by the infant; fructose malabsorption, on the other hand, doesn’t occur until the child has outgrown the infancy stage, and sometimes not even until adulthood.




WHAT CAN I DO ABOUT FRUCTOSE MALABSORPTION?

Depending on the severity of the fructose malabsorption, some sufferers cannot tolerate even the tiniest amount of fructose. In this case, the consumption not just of fruit but also some kinds of vegetables can result in unpleasant stomach pain, bloating, flatulence and diarrhoea. To prevent these symptoms, anyone suffering from this condition should ensure they stick to a diet that is low in fructose.

Advice


GLUCOSE PROMOTES FRUCTOSE ABSORPTION:

The tolerance of foods containing fructose improves when they are absorbed together with glucose, which promotes fructose absorption via the GLUT5 transporter. A spoonful of glucose on strawberries, for example, often makes it more digestible.

-  Products **high in fructose** include sultanas, dates, figs, persimmons, apples, pears, grapes, cherries, kiwis, blueberries, gooseberries, sweet red peppers, blossom honey, soft drinks and fruit juice drinks.
-  Some fruits, such as bananas, apricots, papayas and lychees, have a **good ratio of fructose to glucose** and can therefore be better utilised by the intestine.
-  Potatoes, rice, noodles, peas, spinach, celery, radishes, mushrooms, bread, bread rolls, fresh meat and fish are foodstuffs that are **free from or low in fructose** and may be consumed without any worries.

Sorbitol enhances symptoms

You are advised to exercise caution with the sugar alcohol sorbitol, something that is added to numerous foodstuffs as E 420, among other things. This exacerbates the intolerance of fructose and should therefore be avoided.

-  Foods **containing sorbitol** include ready-made products, light and sugar-free products, stone and dried fruit, fruit juices, chewing gum, confectionary products, some food supplements and medication.

Pay attention to nutrients

By not consuming fruit and vegetables high in fructose, you'll omit important sources of vitamins and minerals from your menu. As a result, those affected may often suffer from folic acid and zinc deficiency. Experts believe there is a link between deficiency in these vital substances and depression and irritability.

Advice

If you suffer from fructose malabsorption, you must really pay attention to your nutrient intake. Vegetables that are low in fructose, such as asparagus, green beans and green leafy vegetables and wholemeal products, support the supply of folic acid. Meat, sea fish, eggs and hard cheese counteract zinc deficiency.

Fructose and sorbitol-free vital substance preparations support nutrient intake in the case of fructose malabsorption and are available in many pharmacies, among other places. Incidentally, approx. 75% of those affected also suffer from lactose intolerance, which causes similar symptoms.

Watch out for hidden fructose

Fructose has a stronger level of sweetness than household sugar and is therefore often used in industrially manufactured products. Drinks, confectionary products, milk products, ice cream and bakery products may sometimes still contain fructose without any added fruits. Some sufferers are really sensitive and react even to these small amounts. When shopping, look out for fructose, fruit sugar or corn syrup on the ingredients list.





**DID YOU
KNOW?**

DOES INTOLERANCE MAKE YOU ILL?

Intolerance of sugar like lactose or fructose is not an illness. Nevertheless, physical consequences may occur if the symptoms persist. Flatulence, bloating and diarrhoea that persists over a long period of time can put the intestine under a lot of strain.

The intestinal mucosa changes, which can result firstly in impaired digestion of other nutrients and secondly in increased permeability for germs. In the long term, the symptoms can also impair the intestinal flora, which is made up of several billion micro-organisms, including bifido bacteria and lactobacilli.

Food intolerances can therefore damage our intestinal “protective shield” and encourage other illnesses and infections to develop. There is an increased risk of developing intestinal diseases. Symptoms should therefore not be taken lightly.

Tip

Make sure you avoid intolerant foods, however tasty they may be, or, if necessary, aid their digestion with enzyme preparations. A sufficient intake of vitamins can help take care of the strained intestine, as these contribute towards maintaining normal mucous membranes and thus healthy intestines. These include vitamins A and B₂, Niacin and biotin. Probiotics can also have a positive effect on the intestinal flora as a result of the microorganisms they contain and in this way contribute to good intestinal health.



Vitamins B₂ and biotin found in **sanotact® Bowel Protect** contribute to the maintenance of normal mucous membranes, such as the intestinal mucosa, thereby supporting intestinal health. Vitamin B₆ contributes to a normal function of the immune system. Every capsule also contains 10 billion live, lactic acid-producing bacterial cultures.



OLIGO-
SACCHARIDES

WHY ARE SOME VEGETABLES POORLY TOLERATED?

Vegetables, cereals and legumes contain valuable vital substances and are therefore commonly found on menus. Unfortunately, however, many of these foodstuffs are also known for their flatulent effect, which can quickly turn healthy eating into something more unpleasant. Oligosaccharides are often responsible for this.

What are oligosaccharides?

Oligosaccharides, also called multiple sugars, are more complex sugar compounds composed of 3 to 10 sugar molecules. The individual sugars are bound together by different chemical links. For some of these links the person is missing the corresponding digestive enzyme, such as alpha-galactosidase. This means they are not broken down in the small intestine; they continue on further and enter the large intestine, where the resident bacteria break down and decompose the oligosaccharides.

Depending on the composition and abundance of intestinal flora, most people react sensitively to oligosaccharides, and the decomposition process produces highly flatulent and sometimes foul-smelling gases.

Advice

Cereals, vegetables and legumes are important for our health and should not be avoided.

For example, legumes (peas, beans, lentils, etc) are indispensable sources of vegetable protein but also good sources of vital substances. The oligosaccharides contained in these foods, similar to dietary fibre, also bind lots of liquid and foster a sense of fullness, support bowel movement and get the digestive system going.



With regular consumption, the intestinal flora over time gradually adapts and foodstuffs containing oligosaccharides are better tolerated. Sufficient movement also encourages bowel movement and helps to dissolve the accumulation of gas. In acute cases, fennel and caraway tea have been proved to help.

Tip

Taken before meals, digestive enzyme preparations (for example with alpha-galactosidase) support the digestion of oligosaccharides, even before intestinal bacteria can break down the polysaccharides.



sanotact® DigestionEnzyme tablets support the digestion of carbohydrates in cereals, vegetables and legumes. These mini tablets in a practical click dispenser contain the enzyme alpha-galactosidase. They are ideal for the dietary treatment of oligosaccharide intolerance with concomitant flatulence.



DID YOU
KNOW?

WHAT DIAGNOSTIC OPTIONS ARE AVAILABLE?

Hydrogen breath test

When undigested sugar is broken down by intestinal bacteria, it produces harmless hydrogen, among other things. This can be determined by the doctor in exhaled air. The sufferer drinks a solution of the presumed incompatible sugar. If there is intolerance, the hydrogen content of the external breath will increase significantly.

Blood sugar tests

Impaired sugar digestion can also be detected in the blood. After drinking a lactose solution, the glucose level in the blood increases when lactose is sufficiently broken down by lactase. When drinking a fructose solution, the fructose level in the blood normally increases. This test, however, is not a standard procedure for detecting fructose malabsorption.

Lactase gene test

In the case of primary lactose intolerance, it is also possible to directly diagnose the underlying gene defect. Detecting it this way has no side effects for the sufferer and is more pleasant as it doesn't expose the sufferer to sugar, their trigger. To carry out the gene test, all you need is a saliva sample, which is then analysed in a specialist laboratory.



sanotact®

Make the best of your health!

sanotact® products are available on health-product shelves in pharmacies, in food retail shops as well as on Amazon and from selected online pharmacies.

sanotact GmbH, Hessenweg 10, 48157 Münster, Germany
service@sanotact.de, www.sanotact.de