



A HEALTHY LIFESTYLE

RECOMMENDATIONS FOR NUTRITION AND PHYSICAL ACTIVITY

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Lilly | DIABETES

WHAT CAN ONE DO TO OPTIMIZE DIABETES MANAGEMENT?

The challenge with diabetes is to rethink one's habits and rediscover the joys of exercise and healthy eating.

A couple of golden rules

The German Diabetes Association recommends a weight reduction of five to ten percent to persons whose BMI (Body-Mass-Index) is greater than 27 by reducing energy intake and increasing energy consumption at the same time. Even moderate weight loss can have plenty of benefits: This will improve insulin sensitivity and lower both blood lipid levels and blood pressure.

- ✓ Maintain normal weight or lose weight in case of overweight (BMI > 27).
- ✓ Healthy nutrition with plenty of vegetables, whole grain products and fruit. Reduce intake of sugar and foods with lots of saturated fats.
- ✓ Exercise regularly to increase energy consumption



Body Mass Index

The Body Mass Index (BMI) is based on the relation between body weight and height. According to the World Health Organization, a BMI of 18.5 to 24.9 is considered to be in the normal weight range. BMI is calculated by dividing current weight by height in metres squared.

$$BMI = \frac{\text{body weight (kg)}}{\text{height (m}^2\text{)}}$$

NUTRITIONAL RECOMMENDATIONS

Are all foods the same?

The human body requires energy to live, energy it gets from foods. Different foods contain different nutrients that are important for the organism, for instance:

Carbohydrates

Carbohydrates are the most important source of energy and the best fuel for our organism. This class of nutrients is particularly relevant for diabetics, since they impact the blood glucose level directly after ingestion.

Carbohydrates are divided into complex and simple sugars based on their structure and how quickly they take effect.

Simple sugars such as grape, fruit or household sugar cause the blood glucose level to rise rapidly and should therefore be consumed by diabetics in small amounts only (less than 25 g of household sugar per day). **Examples: sugar, honey, marmalade, sweets and desserts.**

Complex sugars such as starch require more time for digestion and uptake. They therefore raise the blood glucose level more slowly than simple sugars, making them the preferable carbohydrate source. **Complex sugars together with dietary fibre (roughage) are even better. Examples: grain products (bread, noodles, rice, whole grain products), potatoes, legumes.**



Fats

Our food contains many different fats, all of which are made up of either **saturated or unsaturated fatty acids**. Diabetics should consume mainly unsaturated fatty acids, which protect the cardiovascular system by impacting cholesterol and blood glucose levels in a positive way. Unsaturated fatty acids are found above all in fatty fish such as salmon and herring as well as in vegetable oils (especially linseed, rapeseed and walnut oil), nuts, kernels, olives and avocados. Avoid the hidden fatty acids and trans fatty acids often used in fast food products. Trans fatty acids are industrially processed fats that have been hardened to facilitate processing. They damage blood vessels.



Proteins

Proteins are important structural substances in our body's cells. Since proteins cannot be stored by the body, they must be consumed every day, whereby a person weighing 100 kg must consume at least 80 g of protein. The most important protein sources are milk, cheese, eggs, meat and fish as well as legumes such as peas, lentils and beans. It has been demonstrated that a diet with more protein and less carbohydrate can lower blood pressure, increase insulin sensitivity, improve blood lipid levels and lead to weight loss.

Dietary fibre (roughage)

These substances are found in fruit, vegetables, legumes and all whole grain products and they cannot be broken down by the digestive system. They do, however, regulate intestinal function, increase one's sense of satiety and lower the cholesterol level. Foods with high levels of dietary fibre can also counteract development of insulin resistance and delay absorption of sugar in the intestine, thus slowing the rise in blood glucose following a meal.

WHAT'S IN A HEALTHY DIET?



Enjoy the many kinds of food that are available.



Eat at least three portions of vegetables a day. A portion of vegetables would be, for example, a bell pepper, 3 tomatoes or 1 glass of vegetable juice.



Give preference to whole grain products.



Milk and dairy products, for example yoghurt and cheese, should be part of your daily diet.



Fish should be on the menu once a week.



Vegetable fats and oils are best.



Do not eat more than one or two handfuls of fruit a day.



Hold back on salt and sugar whenever possible. Manufactured food products often contain too much salt and sugar.



Drink 1.5 litres of water or calorie-free beverages, for example unsweetened tea. Avoid beverages that contain sugar.



Take your time and enjoy your food at meals.

WHAT FOODS SHOULD I GIVE PRIORITY TO?



Olive oil



Noodles, grains, whole grain bread



Legumes



Fish



Vegetables



Fruit

(no more than 2 handfuls a day)

WHAT SHOULD I CUT BACK ON?



Fats, manufactured food products, white flour products



Fatty meat



Chips and French fries



Sweets and desserts



Alcohol

PHYSICAL ACTIVITY

Physical activity is good for everyone, and its many advantages are particularly important to diabetics:

- ✓ Feel better
- ✓ Better diabetes management
- ✓ Better weight control
- ✓ Blood pressure control
- ✓ Prevention of many complications



Physical exercise need not necessarily mean the fitness studio or swimming pool. Just keep moving – always, no matter where you are and a little more every day! With only 15 minutes of mild physical activity a day you'll live longer than if you remain physically inactive.

A long walk can be an ideal activity: this can be done wherever you happen to be and can be suited to your specific abilities. 30 to 60 minutes a day are ideal. As an alternative, physical exercise three days a week, ideally for 150 minutes, will also do the trick. Both endurance and strength training are good choices. Dexterity, response capacity and agility should also be trained regularly.

A couple of simple tricks can make a big difference:

- ✓ Park a good distance away
- ✓ Use the stairs instead of the lift
- ✓ Give public transport a try
- ✓ Get up from your seat every 30 minutes and move around

A SUCCESSFUL START

The activities you choose must harmonize with your physical abilities and routine so they'll be fun and won't become an unpleasant burden. Don't ask too much of yourself, start out gradually and raise your training level continuously. Especially at the start, the important thing is not to accomplish a lot, but rather to enjoy the exercise and get used to doing it regularly, even if only for five minutes a day. Activities with a group are ideal, for instance a Nordic Walking group, or even just someone to enjoy a walk in the park with. It's just more fun, and mutually motivating, to exercise with others.



Ambulant diabetes or cardiac sports groups offer special exercise programmes for diabetics. Ask at the doctor's office about such opportunities in your area.





IMPORTANT FOR PERSONS UNDER INSULIN TREATMENT

- ✓ Movement and sports reduce blood glucose during and after physical activity because the muscles cover their energy needs during the activity by obtaining glucose from the blood. It is therefore important to monitor blood glucose carefully to avoid a hypoglycaemia.
- ✓ Sporting activities also make the cells more sensitive to insulin, which means the same amount of insulin is more effective.
- ✓ A hypoglycaemia, that is an excessive drop in blood glucose, can occur at any time. Carry grape sugar or a similar sugar source with you at all times to counteract a hypoglycaemia.
- ✓ Drink plenty of fluids, especially in hot weather.

WHICH SPORT IS RIGHT FOR ME?

Endurance sports such as running, swimming and cycling are ideal for diabetics because of their contributions to burning calories, regulating blood glucose and improving cardiovascular function.

Strength training is recommended in addition to endurance sports because it improves insulin metabolism by increasing your muscle mass. A training unit comprising 5 to 10 exercises 2 to 3 times a week is ideal.

Ask your doctor before beginning a new sporting activity whether the sport you are interested in is suitable for you, especially if you inject insulin or have other diseases as well.



Make sure the shoes you wear when doing sports are not too tight and have few seams and elastic soles. Always examine your feet after doing sports to make sure you have no injuries or blisters requiring treatment.

References

- 10 Regeln der DGE-Deutsche Gesellschaft für Ernährung, <http://www.dge.de/ernaehrungspraxis/vollwertige-ernaehrung/10-regeln-der-dge> (last updated January 2019)
- American Diabetes Association. Lifestyle Management: Standards of Medical Care in Diabetes 2018. *Diabetes Care* 2018; 41 (Suppl. 1): pp. 38–50
- Esefeld K et al. DDG Praxisempfehlung Diabetes, Sport und Bewegung. *Diabetologie* 2018; 13 (Suppl. 2): pp. 199–204
- Landgraf R et al. DDG Praxisempfehlung Therapie des Typ-2-Diabetes. *Diabetologie* 2018; 13 (Suppl. 2): pp. 144–165
- Schmeisl GW, Schulungsbuch Diabetes, Elsevier-Verlag, 8th Edition 2015
- VDBD-Arbeitsgemeinschaft Wissenschaft. Diabetes und Ernährung: Eine Broschüre für Diabetesberaterinnen und -assistentinnen. 1st Edition, October 2017

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