

RENALIS

Dietary Guidelines for the Hemodialysis Patient



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October 2023

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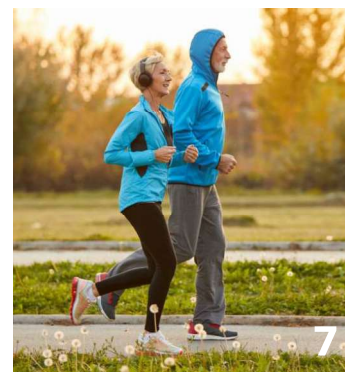
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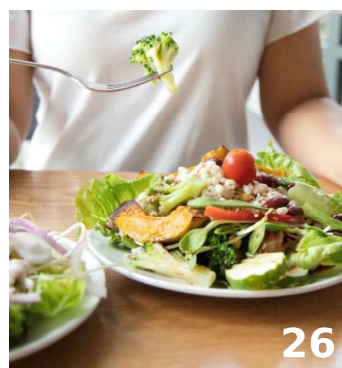
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You need water, energy and nutrients to function — to think and move — and you can get them only from food and drink.

Foreword

The importance of physical activity, eating and food choices for health and quality of life is scientifically proven, but understanding their effect on our own wellbeing can be difficult. We usually associate food and drink with relieving hunger and thirst, the feeling of fullness, and digestive complaints, but we do not normally sense straight away how it actually affects our body and health — the effect appears over a longer period of time, and amid a fast pace of life it can be hard to notice.

Some immediate effects of food choices can be assessed through body composition studies or laboratory blood tests (for example fluid retention in the body or the accumulation of potassium salts), but these alone are not sufficient for giving everyday dietary recommendations. Longer observational studies help to reveal the links between eating habits and general health and wellbeing, including at different stages of kidney disease.

If you pay more attention to what you eat and how much you move, you will be better able to take your body's needs into account and improve how you feel.

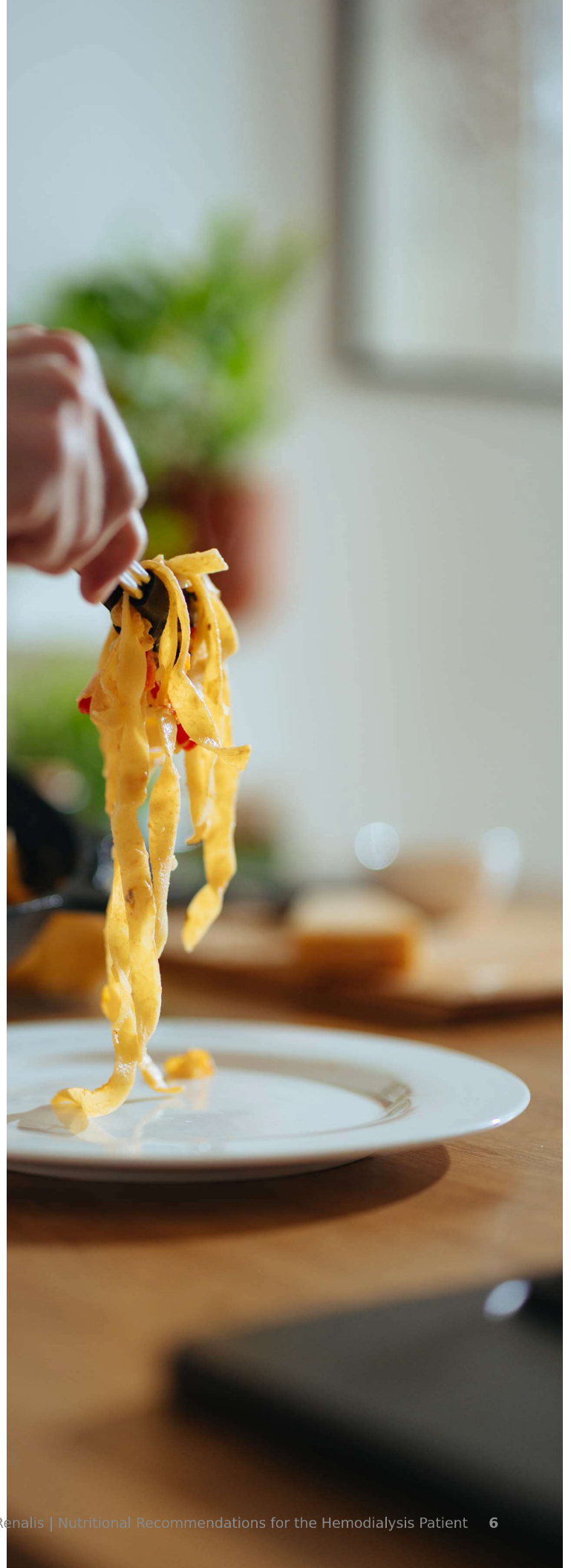
Different foods and preparation methods can either support or hinder metabolism and digestion — illnesses, digestive problems, environmental changes, stress and mood can either be relieved or made worse by food choices, which in turn often determines subsequent choices.

The body uses food energy and nutrients for metabolism depending on how active we are. When something in the functioning of the organ systems is out of balance, lifestyle and choices become even more important for maintaining body composition, performance and quality of life.

Eating rules during dialysis do not differ much from recommendations for healthy eating. The four main principles — balance, moderation, matching your needs, and variety — are not actually difficult to follow; what is needed is a little conscious planning and willingness.

This booklet offers simple advice on eating and food choices during dialysis treatment, based on scientific research and professional experience. It is important to note that every person is different, and needs may change over time depending on the disease, its severity and the treatment.

These recommendations do not replace the guidance given by a doctor or a nutrition counselling specialist.



Balance in Eating

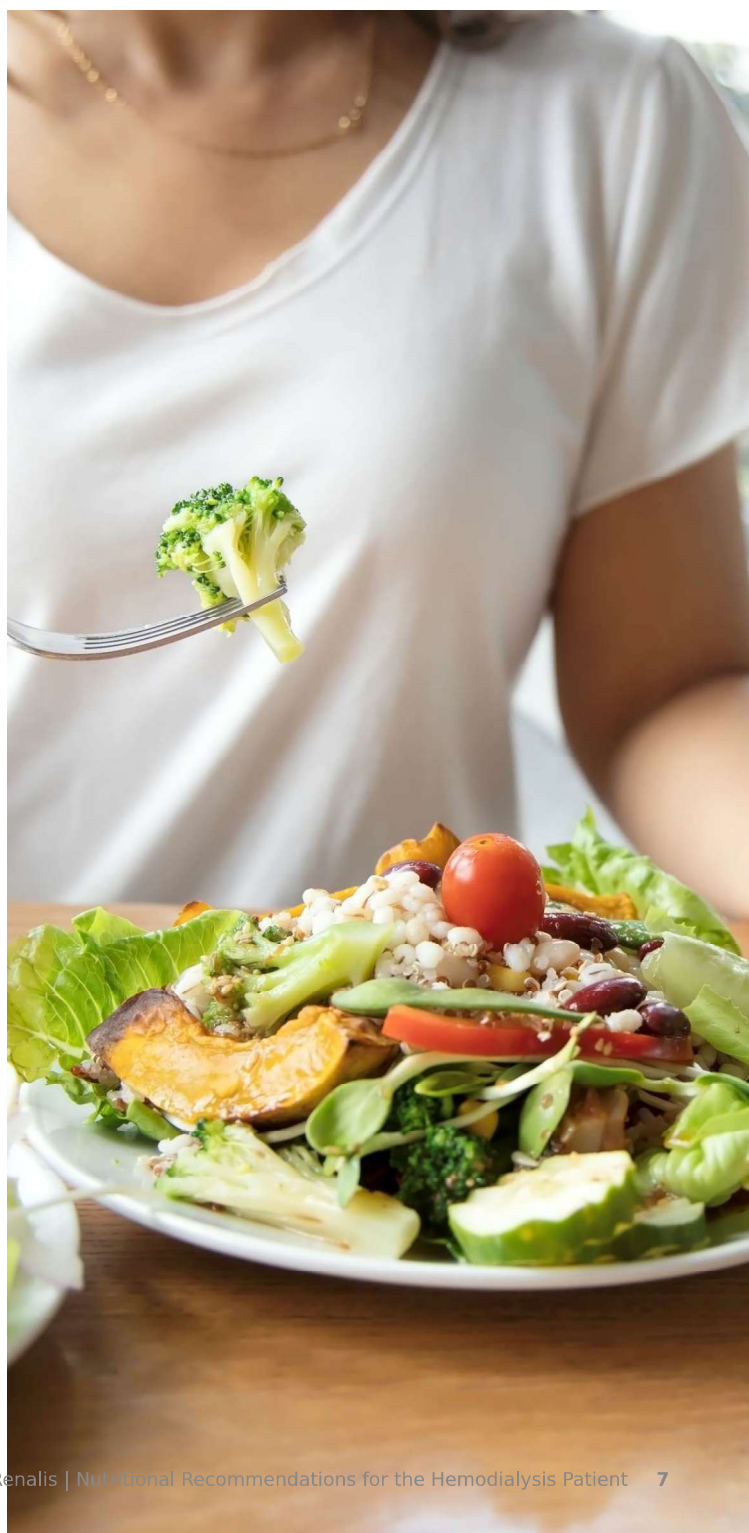
Nutrient and energy turnover, and dietary variety

A balanced diet and menu means that, from day to day, we eat and drink such an amount and variety of foods and beverages that provide the body with the water, energy supply and amount of nutrients it needs. During dialysis treatment it is important to monitor your needs more precisely, especially regarding fluid intake.

The water the body needs to function comes from both drink and food. Water does not provide energy — we get that from the carbohydrates (sugars), fats (lipids) and proteins in food. The body also uses these substances to carry out various tasks — general functioning and building tissues.

In addition, we need to get vitamins and minerals from food, which the body does not produce itself. Vitamins and minerals do not provide food energy, but without them metabolic processes do not function. Many of these substances are water-soluble, which is why they are removed via the kidneys or during dialysis treatment.

Balance and moderation are the foundation of healthy eating: you get the amount of water, energy and nutrients your body needs from the right amount of varied food and drink. Keeping eating and drinking in balance is important not only for body composition but also for physical performance and mental wellbeing.





During dialysis treatment it is necessary to limit fluid intake. However, it is necessary to get more food energy and nutrients than usual.

Food and prepared dishes contain various nutrients (protein, fat, carbohydrates, vitamins, minerals) and water in different amounts and proportions. Some foods are good sources of protein or vitamins, others are more energy-dense, and some are lower in nutrients. Carbohydrates and fats are the main sources of energy for humans, but all nutrients are important for the body. That is why it is important to eat a varied diet — different foods such as grain products, vegetables, fruit, berries, oil-seed crops, dairy products, meat, fish, eggs, or dishes made from them.

After eating, food is broken down in the digestive tract into smaller parts, which are carried by the bloodstream to the liver. There, further breakdown and processing takes place, and the necessary substances are transported by the bloodstream to other organs. Surpluses are stored in fatty tissue or the liver for later use, and unnecessary substances are removed from the body via the kidneys or dialysis. However, the body has no way of storing certain substances, such as dietary protein and water-soluble vitamins, over the longer term, so they need to be continuously replenished through food.

The body's fluid balance changes during dialysis treatment, because whereas the kidneys excrete surpluses continuously throughout the day, dialysis does so only at certain points in time. More energy is used on dialysis days, however, because blood flows faster during the procedure and body temperature may change during it. Since dialysis also removes a certain amount of water-soluble nutrients — amino acids needed to build proteins, and vitamins — it is important to take this additional need into account when planning meals.

•ods higher in sugar and fat are suitable for a quick snack if you have an energy deficit. Note!

These are often also low in nutrients and contain little or no fibre — try to find snacks you enjoy that are rich in both energy and nutrients!



Carbohydrate-rich foods provide us with the largest share of our daily energy, but fats are the most energy-dense per unit of weight. Fattier and sweeter foods are often low in nutrients. As a snack, they are a suitable choice if you are at greater risk of an energy deficit — for example during an acute illness or if you are underweight. Even so, you should choose snacks that are also richer in other nutrients.

Carbohydrate-rich foods:

- grain products: buckwheat, rice, pasta;
- fruit, vegetables, potatoes;
- dishes made from dairy products;
- sweets: pastries, cakes and confectionery.

Fat-rich foods:

- fatty meat and fish;
- dairy products: cheese, sour cream, butter;
- sauces, vegetable oils;
- some vegetables: avocado and coconut, and spreads and sweets made from them (for example chocolate and cream ice cream).

Protein in food is also a source of energy, but it has other important functions in the body, such as maintaining immunity, supporting circulation, and muscle function. Unlike sugars and fats, the body has no reserve of protein, and its need increases because of losses during dialysis. If the diet lacks sufficient protein, the body will take it from the muscles. Although regular physical activity and passive muscle exercises during dialysis can help somewhat to reduce the body's protein deficit, it is very important to eat protein-rich foods (read more on page 17).

So that eating does not become a purely technical activity, it is also important to enjoy your food. By making your table more varied, trying new recipes, flavours and ingredients, and eating something from different food groups every day, you are more likely to get all the substances your body needs, and you will enjoy your meals more.

Choose a protein-rich, nourishing drink that supports digestion — for example, half a glass of kefir gives you 4.5 g of protein.



The Plate Rule



✓ Recommendations for increasing additional energy intake from food during dialysis treatment:

It is important for a dialysis patient to get enough energy from food.

- follow a regular meal schedule: breakfast, lunch and dinner, plus 2–3 protein-containing snacks;
- do not skip meals on dialysis days and allow time for breakfast;
- bring a suitable snack to the procedure: a sandwich, an energy bar, yoghurt, nuts or almonds (10–12 pieces in total), or another protein-rich snack;
- eat your first snack within the first hour of dialysis treatment: this reduces the loss of energy and muscle mass;
- follow the plate rule: fill a quarter of the plate with protein-rich food, a quarter with a carbohydrate-rich side, and half with vegetables and salad, adding a tablespoon of oil or cream for extra energy;
- try to keep at least 5 handfuls of different-coloured, lower-potassium vegetables, fruit and berries in your daily menu, and if you have an energy deficit, make jam or preserves from them, adding honey or sugar if needed;
- add oil, butter, melted or grated cheese (up to 1 tbsp), cream, jam or honey while preparing food or just before eating — this way you get more energy from every mouthful;
- do not refuse food offered during treatment: you need it to restore the energy lost during the dialysis process;
- if you have diabetes: monitor your blood sugar level and correct dosing of your medication.

✓ Recommendations for ensuring food quality:

- **Nutrient density:** choose foods rich in vitamins, minerals and fibre. For example, vegetables, especially legumes (beans and peas), as well as fruit, berries and nut pastes, are good choices. Wholegrain products and seeds also contain a lot of vitamins, but if you have high blood phosphorus levels it is advisable to limit their consumption. If you have issues with elevated blood potassium or maintaining fluid balance, choose snacks based on their content and check with your treating doctor about the individual suitability of food choices;
- **storage and hygiene:** processing food is necessary to avoid foodborne infections. Nutrient content decreases when fresh food is stored and processed. Store food correctly according to the instructions on the packaging, prefer to eat food soon after preparation, and store leftovers in the fridge, protected from air and light. Protect dry goods and grain products from moisture, mould, insects and rodents;
- **additives:** avoid foods containing excessive artificial flavourings, fragrances, colourings and preservatives. These can be harmful to health and often contain excessive amounts of sodium and phosphate salts;
- **salt and sugar content:** be aware of the salt and sugar in your food and limit your intake. Excessive salt and sugar consumption can lead to health problems such as high blood pressure and diabetes. Salt, sugar and additives are often added to processed products to improve a bland taste and extend shelf life, so prefer freshly prepared, higher-quality dishes over canned soups and ready meals;
- **cooking at home:** prepare your own food at home whenever possible. This gives you control over the content of your food and allows you to use higher-quality ingredients, while also reducing the preservatives used;
- **reading labels:** learn to read the list of ingredients on food packaging. This helps you make more informed choices and compare the nutritional quality and salt content of products from different manufacturers;
- **environmental friendliness:** choose food that is produced sustainably, since the state of the environment also affects your health.

To maintain a body composition that supports good wellbeing, both balanced nutrition and regular physical activity are important.

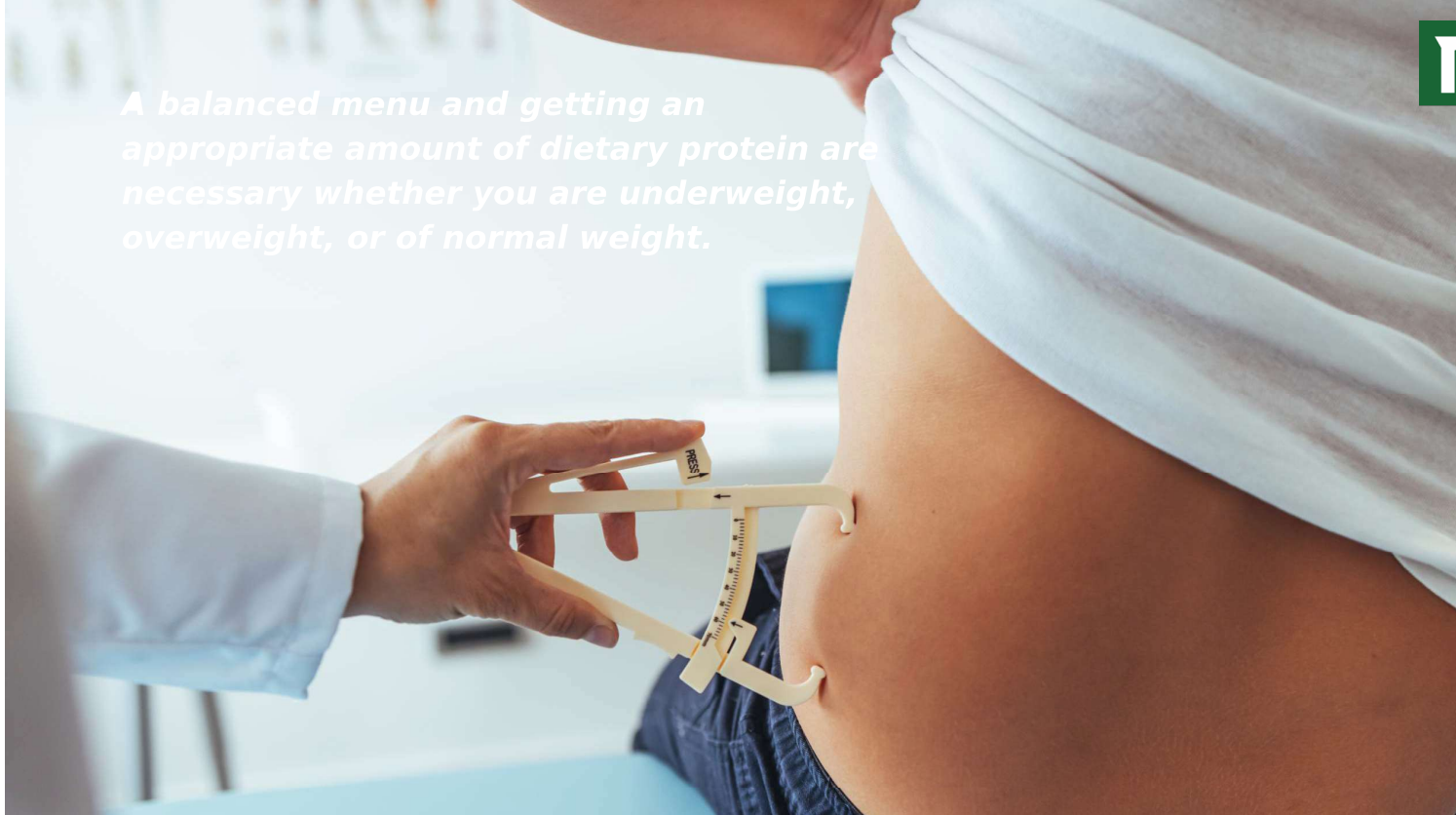
Nutritional Status Assessment

Your body consists largely of water and substances dissolved in it, as well as cells organised into various tissues. Body composition — that is, the ratio and distribution of water and different tissues — affects both your performance and your metabolism. One way of assessing body composition and its changes is to measure the ratio of fat tissue to muscle tissue. This can be done using various methods: indirect measurements and calculations, and measurements of electrical resistance.

By monitoring your body weight, waist circumference, body mass index and body composition, you can get a sense of how well your body is managing the intake and expenditure — that is, the balancing — of fluid and food energy.

Changes in your body composition are measured at Renalis clinics using the bioimpedance method (BCM) — by measuring changes in electrical resistance.

A balanced menu and getting an appropriate amount of dietary protein are necessary whether you are underweight, overweight, or of normal weight.



Large weight extremes and rapid weight fluctuations are not advisable. A rapid change in weight is usually due to the body's fluid content, while a slower change more reflects changes in muscle and fat mass. Changes in body weight of a couple of kilograms are usually typical of problems with fluid excretion. Weighing therefore does not allow a very good assessment of body composition, but it is important for monitoring fluid balance at home.

The simplest, though not very precise, way of assessing the health risks arising from weight is to assess the ratio of weight to height, done by calculating the body mass index (BMI). Recommended BMI norms depend on age and the severity of the disease.

$$\frac{\text{Body weight (kg)}}{\text{Height}^2 \text{ (m}^2\text{)}}$$

During dialysis treatment, it is recommended to keep your BMI in the range of 20.5–25.

It is important to know that weight and BMI do not provide precise information about your muscle mass, fat mass, or the fluid contained in your body. Whether your BMI is high, low or normal, there can still be an excess or deficiency of fluid or nutrients, and balancing these can help improve how you feel and reduce the risk of concomitant diseases.

Excess fat tissue in the waist area increases inflammatory activity in the body and is associated with a higher risk of developing cardiovascular disease, diabetes and malignant tumours. Keeping your waist circumference within the recommended range can help better manage the likelihood of disease. Precise recommendations for the most suitable waist circumference for dialysis patients are not yet known, but the following recommendations apply for reducing the risk of cardiovascular disease:

- Recommended waist circumference for men: under 94 cm
- Recommended waist circumference for women: under 80 cm

If your BMI exceeds 25 or your waist circumference is above the recommended level, this may indicate excessive consumption of carbohydrates or fats, excessive consumption of sugary drinks, or insufficient physical activity. With a larger waist circumference you probably have more reserve fat, but at the same time you may be deficient in nutrients, especially proteins and vitamins, whose daily requirements are calculated based on body weight.



Recommendations for improving body composition:

- avoid carbohydrate-rich drinks, as they contain a lot of energy and fluid but do not provide the necessary nutrients;
- reduce your consumption of savoury crackers, ready-made pastries, cakes, pretzels and sweets, as these can provide a lot of nutrient-poor energy along with added sugar and salt;
- do not skip meals and plan your meals and snacks in advance to avoid hunger and overeating;
- do not go shopping when hungry — make a shopping list instead, to avoid impulse buying and unnecessary spending;
- prefer home-cooked food, as this lets you better control what you eat;
- reduce your consumption of fast food, as it often contains few nutrients but a lot of energy;
- reduce your consumption of high-fat meat and dairy products and prefer unseasoned, unprocessed foods;
- choose cooking methods that do not require added fat: for example stewing, boiling, air-frying and grilling;
- season food with herbs and vegetable oils rather than butter, cream and salt;
- take your time eating, because if you rush, your brain does not have time to register fullness, and you may consume significantly more than you actually need or want. For example, plan at least 30 minutes for lunch (use a timer if needed);
- choose healthy but nutrient-rich snacks, such as wholegrain bars, rice cakes, berries or low-fat dairy products;
- prefer fresh fruit to dried fruit, as it contains less energy and potassium;
- if you feel like snacking, choose raw or baked, sauce-free, low-potassium vegetable snacks and avoid high-fat ready-made snacks such as potato crisps;
- limit your consumption of processed meat products, as they often contain a lot of saturated fatty acids, salt, additives, phosphates and hidden energy.

Underweight

If you have a low body weight or body mass index (BMI below 20.5), this may indicate that you are eating too infrequently or getting too little energy from your food. To increase your body weight and restore the energy lost during the dialysis procedure, it is important to eat enough and often. You could try increasing portion sizes, choosing more energy-dense foods, or adding snacks.

If you are having problems with loss of appetite or nausea, it is important to talk to your treating doctor about it. Loss of appetite can worsen due to a sustained nutrient deficiency, and you may need clinical nutrition support to improve your body composition and performance.

In a person undergoing dialysis treatment, loss of appetite and eating problems may also be related to the build-up of waste products or changes in fluid balance in the body — which is why a dialysis procedure of suitable frequency and length is important. Good cooperation with your treatment team is the basis for achieving the best result.

Whether you need to reduce or increase your food energy intake, it is important to make sure your menu includes enough protein-rich foods and that your daily schedule includes regular physical activity.



✓ Recommendations for loss of appetite:

Tips for making food more enjoyable and eating more pleasant when you have a poor appetite or feel weak and need to improve your nutrition:

- make your food visually appealing by adding plenty of colourful vegetables, spices and garnishes;
- order ready-made food delivered to your home (if you have no one to help you), as this can be a convenient way to avoid spending energy;
- eat together with people who support you and with whom meals are more enjoyable;
- link your meals to your daily schedule so you do not skip them;
- choose higher-fat dairy products, and add oil and butter to your food to increase its energy content;
- if you feel very weak, ask your loved ones to prepare snacks that are convenient to keep by the bed and to nibble on frequently in small amounts;
- keep your favourite energy-rich snacks close at hand — at home, in the fridge, in your bag, in your pocket;
- you can increase your protein intake by drinking, in moderation (100 ml/half a glass a day), protein-containing drinks — kefir, drinking yoghurt and milk;
- do not drink during meals, and start your meal with protein-rich foods to reduce muscle mass loss;
- consider using clinical nutrition supplements — these can help you make up for the energy and protein lost during dialysis (read more on pages 18 and 20);
- try to avoid cooking yourself — let your loved ones prepare and serve your food;
- if you have problems with appetite or the feeling of fullness, start your meal with protein-rich food.

● keep your body healthy and functioning well, it is important to eat protein-rich food and be physically active — this is the only way to maintain and improve your muscle mass. To prevent muscle loss, you should eat one additional protein-rich snack during dialysis treatment.



Dietary Protein

The importance of dietary protein for performance

Dietary protein is very important for your body — you need it so that all your organs function properly. Protein is needed to build and renew tissues, fight infections, and keep fluid within the circulatory system. If you get enough dietary protein, you will have more muscle mass and strength for movement. Protein waste products are excreted, in the form of nitrogen, via the kidneys or through dialysis, and their accumulation disrupts the functioning of the nervous system and digestion.

The body has no reserves of protein. If you do not get enough protein from your food, your body may start breaking down muscle to compensate for the protein deficiency.

If you eat more protein-rich food than you use, waste products may start to accumulate. Before starting dialysis treatment, you were probably advised to limit your dietary protein intake. During dialysis treatment, however, the need for dietary protein increases, because the procedure removes some of the amino acids that make up proteins along with the waste products. If the lost amino acids are not replaced, both muscle mass and performance decrease.



When it comes to protein intake, the animal and plant protein sources obtained from food and drink, and fluid intake, need to be kept in balance.

Since physical activity can also help reduce the breakdown of muscle mass, it is recommended, during dialysis, to avoid complete immobility. Passive muscle activity, however, increases the need for energy, which must be compensated for through food. It can be helpful to eat an energy-rich snack before dialysis or at the start of dialysis treatment, and to do simple muscle-strengthening exercises during the procedure.

Not all protein sources are of the same quality: they can be of animal or plant origin. Animal-based foods, such as fish, meat, eggs and dairy products, are complete proteins — meaning they contain all the amino acids that your body does not produce itself. Plant-based foods (legumes, nuts, wholegrain products) also provide dietary protein, but you need to eat more of them, in combination, to obtain the necessary amount and range of components.

If you have issues with elevated blood potassium or phosphate levels, it may be necessary to reduce wholegrain products, seeds or dairy products in your menu. If your treating doctor has recommended this, you should in turn increase other protein sources (eggs, meat, fish) in your menu. Note! Eating protein-rich food that is low in fibre increases the risk of constipation, so you also need to eat vegetables every day. Constipation increases the rise in potassium levels, and if the problem persists you may need laxatives.

If you are not getting enough dietary protein or energy, even when trying to improve your diet, you may consider using special clinical nutrition products. These are drinks or powders intended for medical purposes that contain a lot of energy and nutrients. The product range also includes specially formulated preparations for dialysis patients, which have limited potassium, phosphate and fluid content. It is important that these products are verified and intended for clinical nutrition. You can buy them from registered importers or pharmacies to ensure their safety and suitability for your special needs (read more also on page 22).

Be careful about your fluid intake and follow the instructions given by your doctor.

Water and Fluid Balance

Water and controlled fluid intake are essential for life, especially in connection with dialysis treatment. Here are some important points you should know:

The body's water content

Your body consists largely of water. Water is necessary for all the processes taking place in the body, for example for transporting nutrients, waste products, and also medications between different tissues. The body's water content changes according to the amount of food and drink consumed and fluid excreted. The latter also depends on the ambient and body temperature.

The water content of food

Do not forget that part of your daily fluid intake also comes from food, especially if you eat foods with a high water content, such as soups, dairy products and juicy fruit.



Nutrient-rich fluids

Drinks are not necessarily just water — they can also be used to increase your intake of food energy and nutrients. If you need to limit your food energy, choose drinks with fewer calories, such as water, herbal teas or diluted juices. If you want to gain weight, you can consume smoothies, higher-fat dairy products, cocoa and energy-rich clinical nutrition drinks. Avoid sugary drinks, which do not provide the nutrients your body needs but do increase your fluid load.

Fluid restriction

Your kidneys' remaining function determines the daily fluid amount that is suitable for you. If you have been given a fluid restriction, follow it carefully, as this helps avoid excessive strain on the heart and circulatory system.

The appropriate daily fluid amount is determined by your doctor — talk to your treating doctor to find out what daily fluid intake is right for you. For a person on dialysis treatment, the average recommended fluid intake limit is 2–3 glasses per day, meaning that 500 ml of fluid per day is allowed, plus, if you have residual kidney function, the amount of urine excreted during the day.

Controlling fluid intake is important during dialysis treatment — it helps prevent swelling of the body caused by water retention, as well as cardiac, digestive and other health problems caused by damage to organs and tissues.

Fluid intake should be temporarily increased if you are losing more fluid than usual, for example in very hot weather, or in the case of fever, diarrhoea or vomiting.

Measuring fluid balance

At Renalis clinics, patients undergo monthly fluid balance measurements using the bioimpedance method, which also calculates the body's muscle mass and fat tissue content. Based on how the measurement results change over time, you are given personalised recommendations, for example to monitor your fluid intake more precisely or to increase your consumption of protein-rich foods.

Vitamins, Supplements and Potassium

In addition to a balanced supply of water, food energy and protein, it is important to make sure you get from food both the usual daily norm and the amount of micronutrients — vitamins and minerals — lost during the dialysis procedure. Micronutrient supplements may also be necessary to replace these, especially if, due to appetite issues or individual dietary restrictions, your menu contains less than the recommended amount of fruit, vegetables or berries.

The human body does not produce vitamins and minerals itself, so you need to get an adequate amount from food. Vitamins are divided into fat-soluble (vitamins A, D, E and K) and water-soluble (B-group vitamins B1-B12 and vitamin C). Water-soluble vitamins are found mainly in fruit, vegetables and wholegrain products.

Vitamins are also filtered out during dialysis, so a dialysis patient needs to additionally take certain vitamins as replacement supplements.

Vitamins and minerals

Not all vitamins and substances obtained from supplements are excreted during dialysis — some vitamin intermediate compounds and minerals can accumulate in the body and have harmful effects. Be careful when taking supplements containing fat-soluble vitamins — in particular, you should avoid taking additional vitamin A and preparations containing it.

Food additives and dietary supplements

These are used to preserve food and prepared dishes and to improve flavour and aroma. Food additives should be distinguished from dietary supplements — vitamins or minerals used in medicine to replace micronutrients or treat deficiencies.

Micronutrient replacement therapy preparations

If your menu contains fewer than 5–7 portions of fruit, vegetables and berries per day, or if your appetite is limited, the use of micronutrient replacement therapy preparations may be necessary. It is important to discuss the use of all supplements with your treating doctor and to choose recommended preparations from registered manufacturers or pharmacies.

Regarding the need for replacement therapy, it is important to consult your doctor or a clinical nutrition specialist to determine the suitable and safe dietary supplements and preparations that match your specific condition and needs.

The need for water-soluble vitamins and certain minerals can be increased not only by dialysis but also by several chronic diseases or long-term use of medications. In such cases you will also need replacement therapy preparations.

Potassium

The most important source of potassium in Estonians' diets is potatoes, and when limiting them, other foods should be found to avoid an energy deficit — rice, buckwheat, groats. Potassium is found abundantly in fruit and vegetables.

During dialysis treatment, your treatment team carefully monitors the levels of several minerals. The most important of these is potassium. The accumulation of potassium in the blood serum can be life-threatening. Bananas and dried fruit, as well as bone broth, are high in potassium.



✓ Recommendations for reducing potassium accumulation in blood serum:

- if possible, reduce the potassium-rich foods listed above in your menu;
- cutting up and soaking vegetables (especially potatoes), and repeatedly changing the soaking water during cooking, helps reduce their potassium content;
- longer boiling, as well as changing the cooking water when making soups, helps reduce the potassium in food;
- avoid using mineral water and PAN salt (a potassium-based salt substitute), as these contain a large amount of potassium;
- in the event of an acute illness, always inform your doctor about any previous problem with blood serum potassium levels;
- discuss the safety of using all medications and dietary supplements with your treating doctor;
- if your potassium level is consistently above the permitted values, keeping a food diary at tap.nutridata.ee may help identify hidden sources of potassium in your menu;
- your treating doctor may prescribe potassium-binding medications for you, which need to be taken during meals;
- if your blood serum potassium values are persistently above the recommended level, discuss this with your treating doctor. If you experience symptoms of elevated potassium levels — tingling or numbness in the hands or feet, muscle weakness and heart rhythm disturbances — be sure to discuss the situation with your treating doctor;
- do not skip any dialysis treatment sessions, as excess potassium is removed during dialysis.

Salt, Phosphates and Phosphate Salts

The body regulates the fluid content in tissues and cells with the help of salts dissolved in water, so keeping the salt content in the body within a limited range is very important.

The salt (i.e. sodium) obtained from food should not exceed the body's actual needs, in order to avoid fluid compartment shifts and health problems, including high blood pressure and swelling.

Regulating the body's salt content is one of the basic activities of metabolism. The body's daily need for salt is very small — an adult needs only 1.5 g of sodium per day.

According to studies, Estonians consume on average 10 g of table salt per day, although the recommended amount is 5 g, i.e. 2.4 g of sodium. With reduced kidney function, the recommended amount of sodium is even lower — under 1.5 g.

Excess salt often comes from food in the form of hidden salts. This can increase the feeling of thirst and cause fluid accumulation in the body, especially if the kidneys are unable to excrete salt.

Phosphate salts

Phosphates are important in the body for energy transfer processes, and for the construction and functioning of tissues — especially bones, muscles and the nervous system. Excessive phosphate intake can cause calcium metabolism disorders, which can lead to bone disease.

Phosphates are found in many foods, including meat, potatoes and bread. Most phosphates come from meat products, ham and some processed cheeses. There are several medications that help slow the absorption of phosphate salts.



✓ Recommendations for reducing salt and phosphates in food:

Eat less of those foods and dishes where the salt and phosphate content is high:

- sausages, ham, frankfurters and cured meats: prefer dishes made from plain meat or fillet;
- melted cheeses and cheese spreads: avoid these due to their high phosphate content;
- minced meat products: make your own mince, or check the amount of added salt on the packaging;
- ready-made marinades and sauces: ask the seller for information about the salt content, or make your own marinade;
- stock cubes and powders: use packaged ready-made stock or make your own;
- ready-made spice mixes: these often have a lot of added salt — dry or freeze your favourite spice mix instead;
- processed and ready-made products: for example canned soups and packaged sauces;
- most breads and cheeses (especially hard cheeses): limit your consumption;
- learn to read food labels: prefer products with a salt content of less than 1 g per 100 g and less phosphates (E339, E340, E341, E450, E451, E452);
- cooking at home: this helps control the nutritional quality of food;
- add salt at the end of cooking, not during it;
- if you smoke, try to quit: this will help you taste salt much better.

Physical Activity

Physical activity ensures both optimal body composition and smooth digestion.

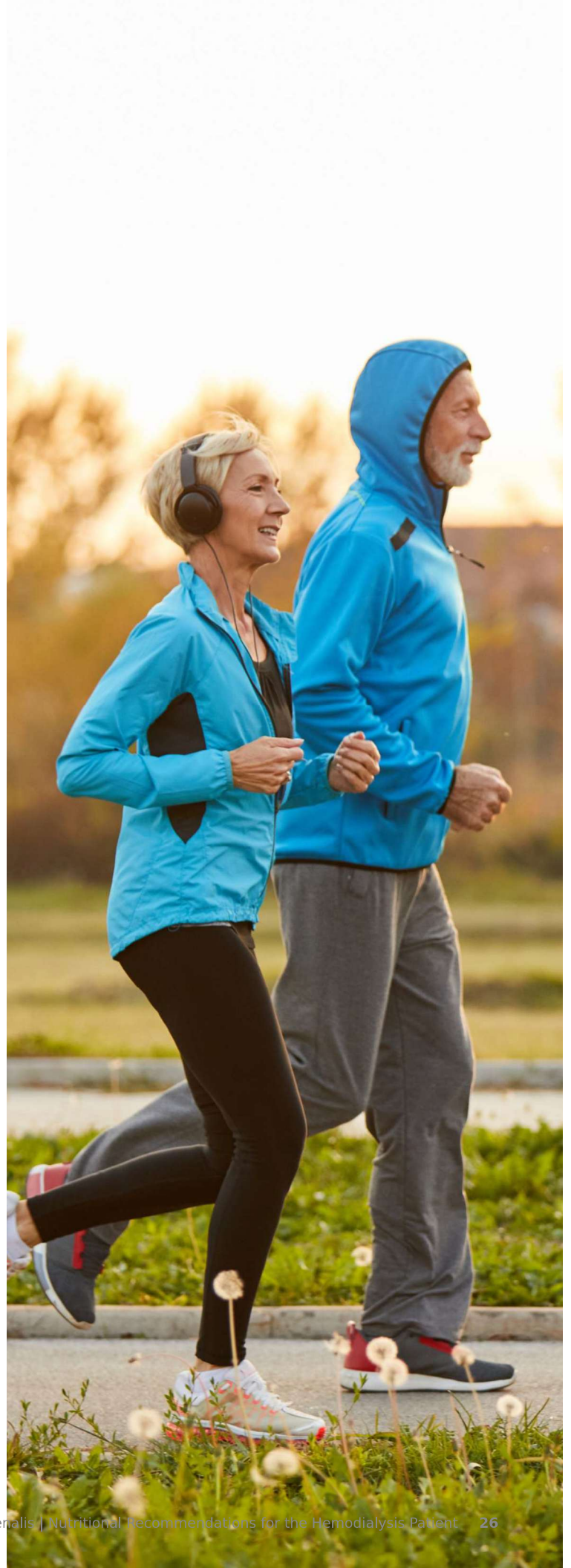
Regular physical activity is important for functioning and maintaining body composition, and it should become a daily habit.

Physical activity helps maintain muscle mass, improve circulation, overall wellbeing and digestion.

It is important to find a way of being active that suits your abilities and state of health and that you enjoy, and to practise it regularly.

Before starting a new exercise programme, it is always a good idea to get advice from a doctor or physiotherapist.

Physical activity should be a daily habit, including during dialysis treatment.



✓ Recommendations for maintaining a physical activity habit during dialysis treatment:

- adjust your training load to your state of health and physical fitness;
- try to take at least 5,000 steps a day: it's great if you increase this to 10,000 steps a day;
- add 2–3 sessions of more intensive exercise to your week, including both cardio and muscle-strengthening exercises;
- if you feel tired, try to be active anyway: an energy-rich snack before and after activity can help;
- if your ability to move is limited: try doing simple passive muscle exercises using a resistance band during dialysis treatment;
- if you feel particularly weak: avoid excessive physical exertion, and focus on calm daily activities;
- forming a new habit takes about 2–3 weeks: be patient and try to be consistent.

✓ Recommendations for making changes:

- if you have eaten healthily up to now, you do not need to make major changes during dialysis treatment: add a couple of protein- and energy-rich snacks to your menu;
- every beginning is hard, but food and eating choices are something you can control yourself. Make them wisely and mindfully!;
- maintain an active lifestyle, including regular light physical activity, and monitor your diet carefully, paying special attention to protein and fluid intake.

Making changes can be a challenge, but don't lose heart — if your weight or appetite is not under control, start by making simpler food choices.

Wellbeing from Eating

Eating healthily and making informed food choices does not mean you have to give up tasty food — there are no foods that are completely forbidden in connection with dialysis treatment.

Use the need for change as an opportunity to plan your life better, by making more informed and varied choices.

From time to time, we can all allow ourselves food choices that are different from usual and not so healthy. Do not set overly strict limits for yourself, and do not make eating the centre of your daily thinking.

Uncertainty and an abundance of choices can be stressful — do not forget that eating is part of life's pleasure. The ability to eat and the availability of food are a gift!

The feeling of fullness and new flavours can bring a sense of wellbeing and a positive mood even to a stressful day. Share these experiences with friends and loved ones, and discover new cultures and people through food.

Every meal is an opportunity enjoyment — new flavours can bring a sense of wellbeing and a positive mood even to a stressful day. Make this simple daily activity a pleasant habit for yourself!





7 simple rules to remember for the dialysis patient:

Summary

1. Make sure you get an adequate amount of energy, dietary protein and other nutrients from food.

Do not skip meals, and plan your meals and snacks to be varied. Combine different foods from all food groups throughout the day. Be sure to do this during the dialysis procedure as well!

2. Be careful with your daily fluid intake and drink amounts, and avoid overdoing salt.

This will help reduce swelling as well as the development of thirst and loss of appetite. Keep in mind that many ready meals are high in salt (see page 24).

3. Limit your potassium intake from food and drink.

Do not consume foods seasoned with potassium salts or mineral water, reduce your consumption of potassium-rich vegetables and dried fruit (see page 23).

4. To prevent bone disease and long-term health damage, limit phosphate salts and additives containing them in your food and dishes.

Reduce your consumption of ready meals, especially meat products such as sausages and canned goods. Effective medications can also help lower phosphorus levels.

5. You can get a sufficient amount of vitamins only from a varied diet.

Make sure your table includes at least 5 different colours and at least 5 portions of vegetables, fruit and berries every day.

6. Your physical and mental performance depends on your body composition — in addition to fluid balance, muscle mass is also very important.

You can help improve your muscle mass both with protein-rich snacks and by increasing physical activity.

7. Have a positive attitude towards lifestyle changes — this will make them easier to make and to maintain!

Try new dishes, discover exciting recipes, and think of physical activity as a new form of friendship with your own body!



Your body composition depends on your everyday choices — treat your body like a long-standing, cherished friend, to whom you offer only consciously chosen, the very best morsels!
