

Liver and Kidneys



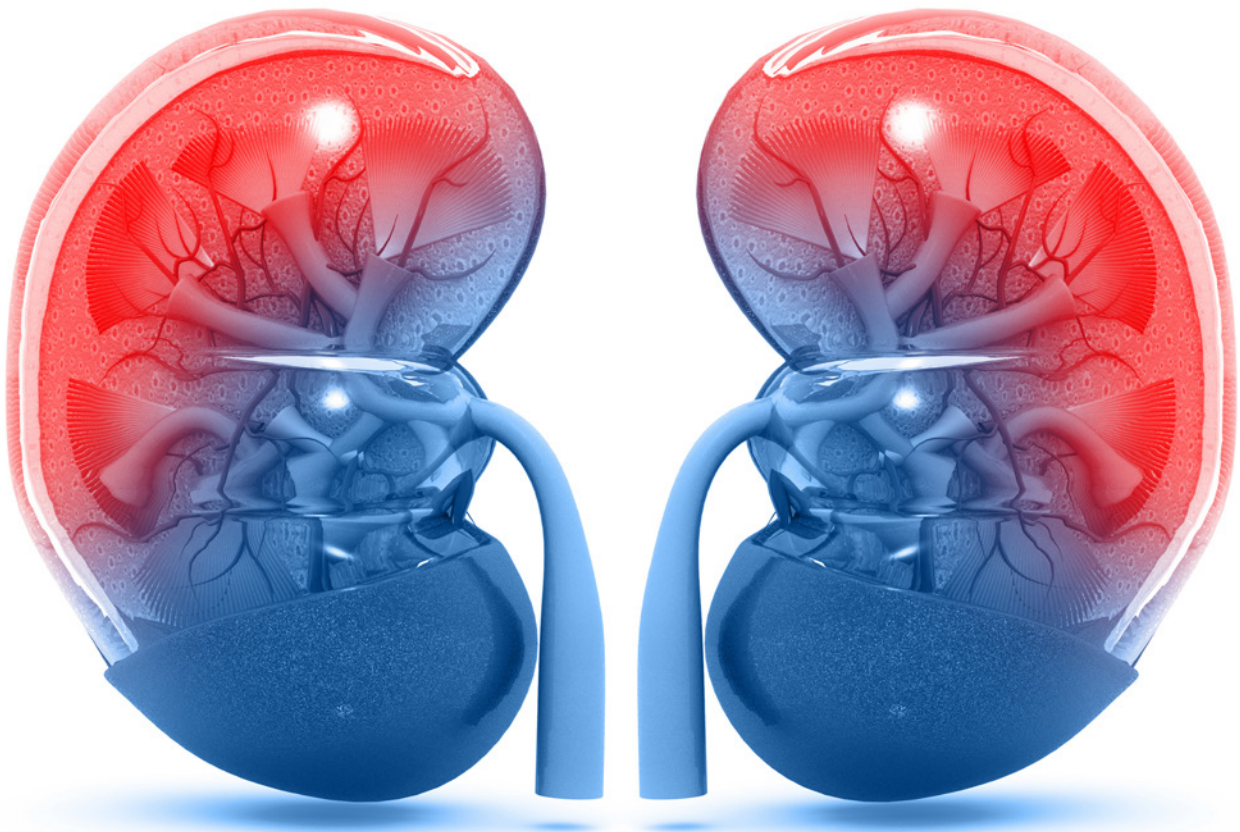
This booklet contains basic information about the kidneys and liver, their failure, and forms of treatment. The booklet contains advice on how to live with a disease, as well as information on the activities and membership of the Finnish Kidney and Liver Association.



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Kidneys

The kidneys have many vital functions. They remove fluid and waste products from the body and are involved in regulating the acid-base balance. The kidneys are involved in regulating blood pressure. They control the formation of red blood cells and activate vitamin D. Without a functioning kidney, a person dies.



Kidney Failure

In kidney failure, the kidneys are unable to perform their vital functions. Failure can be acute and sudden or chronic. Chronic kidney disease usually progresses slowly. Its most common causes are diabetes, glomerulonephritis, hereditary diseases, and atherosclerosis.

Common symptoms of advanced kidney failure include fatigue and decreased performance. Cramps and restless legs are also very typical. Swelling may occur when a lot of protein is excreted in the urine. Itchy skin, loss of appetite, nausea, and weight loss are late symptoms of kidney failure.

Kidney disease is detected by blood and urine samples. The structure of the kidneys and urinary tract are usually

seen well on ultrasound. Other methods of kidney scanning include a CAT scan and magnetic resonance imaging, which provide more accurate images of the kidneys and urinary tract than the ultrasound. Accurate diagnosis of kidney disease may require a biopsy to be taken from the kidney.

The progression of kidney failure can be slowed with medication, nutrition, and lifestyle changes. Severe kidney failure is treated with dialysis or a kidney transplantation. Dialysis treatment partially replaces the function of your own kidneys.



Forms of Treatment: Dialysis

Dialysis partially replaces the function of a kidney. Dialysis treatment can be done at home or in a health care unit by blood (haemodialysis) or by using your own peritoneum (peritoneal dialysis). The form of treatment is chosen on a case-by-case basis with a doctor and your family members. The form of dialysis can be changed later if needed.

Dialysis helps with symptoms caused by kidney failure, such as fatigue, nausea, and itchy skin. A person on dialysis can go to work and participate in hobbies, move around, and travel. With dialysis, you can live for decades.

Peritoneal dialysis (PD) is a type of dialysis which uses the peritoneum in a person's abdomen. The membrane acts as a filter through which waste products and excess fluid accumulated in kidney failure can be removed from the blood with the dialysis fluid. The dialysis catheter is inserted into the abdominal cavity with a small incision. Pure dialysis fluid is drained through the dialysis catheter into the abdominal cavity and after the exposure time, the fluid containing waste products is drained out.

Those in need of dialysis usually do the treatment themselves. Peritoneal dialysis can be performed mechanically during the night or by changing fluids manually during the day. Changing fluids manually takes half an hour at a time and can also be done away from home.

In haemodialysis, the blood is cleansed of waste products and excess fluid using a dialysis machine. The blood vessel (fistula) needed for haemodialysis is made in surgery, vascular conditions permitting, by connecting the artery and the vein in the wrist area. Dialysis is initiated by inserting the necessary two cannulas into the fistula.

Haemodialysis is usually performed three times a week for four to five hours at a time in a hospital or a health care unit. Haemodialysis can also be done independently at home. You can then choose the time of the treatment yourself and the dialysis can be done several days a week in shorter treatment times.



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Forms of Treatment: Kidney Transplant

Most often, a kidney is obtained from an unknown brain-dead donor, but an adult can also donate another kidney to a family member or a friend.

On average, it takes between 1.5 to 2 years to receive a kidney transplant. The waiting time can be years, as the blood groups of the donor and recipient must be compatible, and the tissue types must be close enough. In addition to good tissue fit, the choice of a transplant recipient is influenced by, among other things, the length of dialysis and waiting time, as well as the age difference between the donor and the recipient.

A transplant is from another person's tissue. There is always a risk of rejection in organ transplantation. To prevent rejection, kidney transplant recipients must use medication for the rest of their lives.

After a successful transplant operation, you can live a normal life. If a kidney transplant fails to act as hoped, or if a well-functioning kidney fails over time, you can go back to dialysis and receive another kidney transplant.



Kidney transplant from a living donor

An adult can donate their kidneys to treat a family member's or a friend's illness. Kidney donation is always voluntary and based on the desire to help another person.

Receiving a kidney transplant from a living donor has several advantages over a transplant from a brain-dead donor. A person in need of a kidney transplant receives an examined, healthy kidney, and surgery can be done at a pre-planned time. Transplant surgery can be performed only after a few dialysis sessions or completely without a preceding dialysis phase. A kidney received from a living donor begins to function immediately after the transplant

surgery which affects the long-term prognosis of the transplant. A kidney from a living donor is likely to function longer than a kidney obtained from a brain-dead donor.

A kidney donor must be healthy and free of long-term illnesses or medication. The structure and function of the kidneys should be normal. Pre-kidney transplantation examinations ensure that the recipient receives a healthy kidney that is suitable for them and that the kidney donation procedure is safe for the donor. The examinations can usually be done at a central hospital in your area and last for three to six months.



Forms of Treatment: Conservative Treatment

Dialysis treatment might not improve prognosis, performance, or the quality of life if you need a lot of help in your daily life or are in permanent institutional care.

The cornerstone of conservative treatment is optimising medication. In this case, the dosage of the medication is correct in relation to the kidney's functions and the treatment is aimed at avoiding medication harmful to the kidneys.

Symptoms of kidney failure, fatigue, itching, cramps, and loss of appetite are treated. Nutrition counselling, maintaining mobility, and supporting coping at home are important. The most important thing in nutrition is a reasonable and adequate intake of protein.

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Pay attention to your blood pressure. High blood pressure damages the kidneys. The ideal blood pressure for a patient with kidney failure is 120/70. It is important to treat high blood pressure with medication. It is also important to avoid excessive use of salt and alcohol, and being overweight. You should also remember to exercise regularly.

Exercise helps with weight management, lowers blood pressure and corrects blood fat levels. Being overweight puts a strain on the body. It increases the risk of developing type 2 diabetes, raises blood pressure and lowers blood fats, but can also damage the kidneys on its own.

Kidney failure or dialysis do not prevent you from being active. Quite the opposite. If the kidneys are not working properly, physical performance collapses faster than of a healthy couch potato.

Drink less alcohol. Excessive alcohol consumption increases weight, poor blood fat levels, and causes salt and mineral imbalances.

Stop smoking. Smoking causes a constant inflammatory state in the walls of the blood vessels, which accelerates the narrowing, calcification and stiffening of the blood vessels.





Eat less salt. Excessive salt intake can lead to fluid accumulation in the body and raise blood pressure. Most of the salt is obtained from bread, cold cuts, and cheeses. Snacks and ready meals can also contain a lot of salt. Reading the product description is the best way to reduce the intake of salt. By comparing products, you can choose the option with less salt.

Choose low-fat. High levels of fat in the blood also damage the kidneys because they cause the blood vessels to calcify. You can also affect blood fats by exercising and avoiding high-fat products in your diet. Sometimes medication is also needed.

Chronic kidney failure developing as an additional disease of diabetes can be prevented with good glycaemic control.

Eat protein moderately. Excessive protein strains already strained kidneys. Dialysis treatment removes protein from the body, so you need to get more after treatment. It may be necessary to reduce the intake of phosphorus, protein and potassium when the kidneys are not working properly.

Too much phosphorus calcifies the blood vessels and makes bones brittle. Choose foods with fewer phosphates: meat products without phosphate food additives, boneless fish, and cream cheeses. Be sure to take a phosphate binder with every meal.

Too much potassium causes cardiac arrhythmia and muscular debility. If your doctor tells you to reduce your consumption, first reduce the amount of coffee, fresh juice, and potatoes you consume.

Elämä peritoneaaldialyysihoidon kanssa



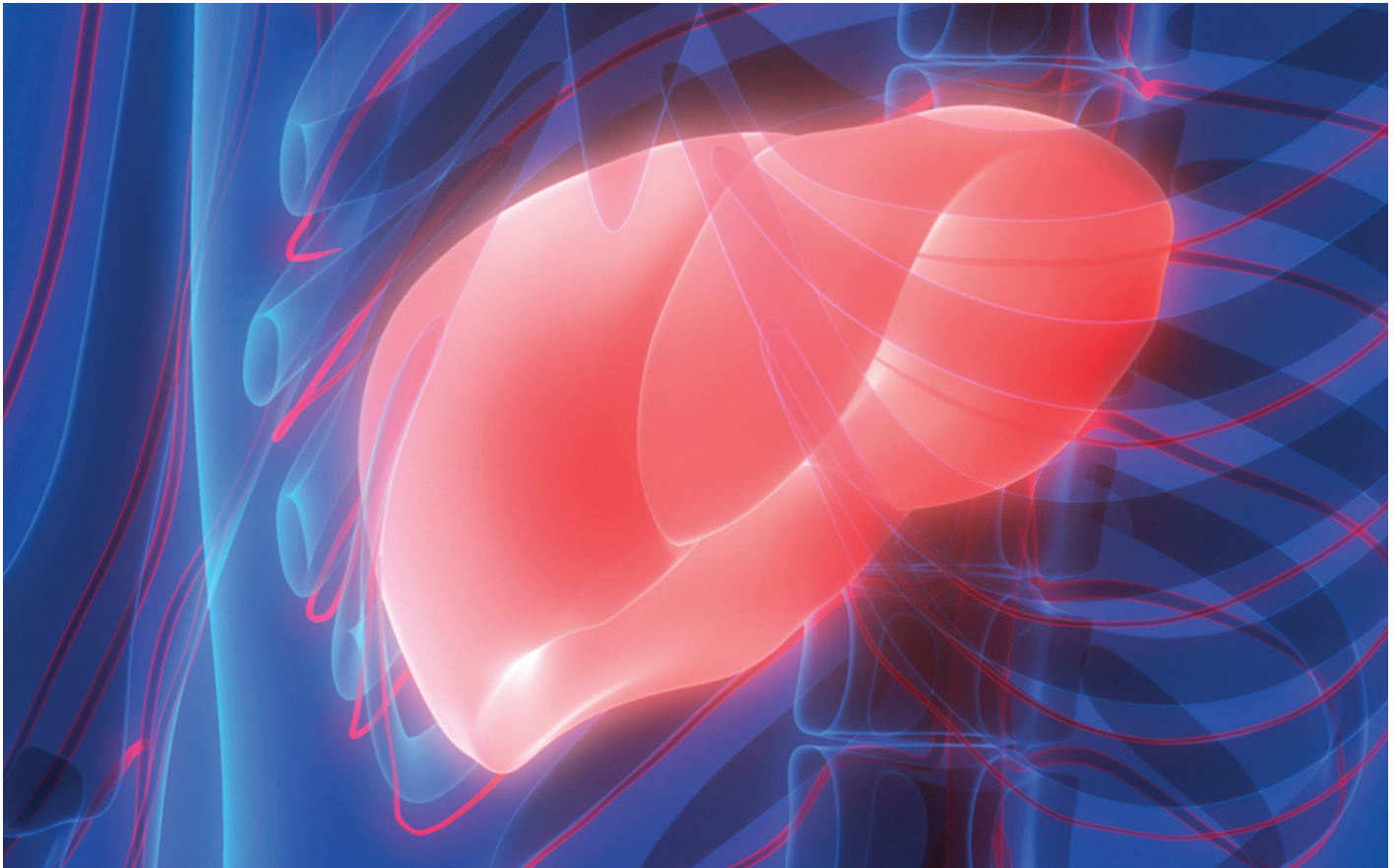
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Liver

The liver has over 500 functions. The liver breaks down alcohol, drugs, and other harmful chemicals, as well as toxins produced by the body itself. The liver stores nutrients, vitamins, sugar, and fat, and distributes them to the blood. The liver produces proteins and other substances that help heal injuries. It secretes bile for digestive purposes.



The cause of a liver disease can be an autoimmune disease, viral hepatitis, alcohol, obesity, or metabolic disease. Some liver diseases are congenital. Sometimes the cause remains unknown. Lifestyle-related liver diseases are becoming more common. The most common liver diseases are fatty liver and alcoholic liver disease.

Liver disease is often diagnosed by chance when looking for a cause for, for example, elevated liver enzymes found in blood tests during a health check.

In the early stages, the liver disease does not necessarily cause symptoms that interfere with everyday life. In self-care, the most important thing is to take the medicines prescribed by your doctor according to the instructions, follow the given lifestyle advice and visit the doctor's office as agreed.

Symptoms and Examinations of a Liver Disease

Liver diseases are initially asymptomatic, or symptoms may be vague such as fatigue, mild fever, loss of appetite, nausea, or a feeling of weight in the upper abdomen. Itching is associated with cholestasis, a condition in which there is a decrease in bile flow from the liver into the intestine. Darkening of the urine may also indicate liver dysfunction.

As the liver disease progresses further, more symptoms appear. Yellowing of the skin, mucous membranes, and the conjunctiva of the eye are signs of liver dysfunction. The tendency to get bruises increases as the concentration of coagulation factors decreases. Changes in sex hormone levels cause sexual reluctance as well as impotence in men.

Accumulation of fluid in the abdominal cavity causes abdominal enlargement and swelling of the upper and

lower limbs. Problems with liver function may also include vomiting of blood, changes in sleep rhythm, slowed cognitive functions, and confusion. Cirrhosis can also be associated with spider angiomas and drumstick fingers.

Liver function and the cause of liver disease can be determined by many different blood tests. In addition to blood tests, the liver can be examined with ultrasound, CAT scans and magnetic resonance imaging. They provide information on the size and structure of the liver, the condition of the main bile ducts, and blood vessel flows. Imaging examinations can distinguish between acute and chronic liver disease, identify complications associated with the disease, and, in some cases, make a definitive diagnosis. A liver sample, or liver biopsy, is often the most important examination in determining the final diagnosis of a liver disease.

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Everyone is entitled to get hepatitis C treatment

Addressing barriers to hepatitis C care will mean uniting all of us — healthcare providers, patients, advocates, caregivers, healthcare systems — in a collective effort to overcome the obstacles. Let's act together and eliminate hepatitis C.

If you think you may have been exposed to hepatitis C, please contact your nearest health center and apply to be tested. In most cases, hepatitis C can be treated with a 8–12 weeks' treatment course of tablets taken orally.

Source: C-hepatitiin hoitopöytä. Terveyden ja hyvinvoinnin laitos 04/2019

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Cirrhosis

Many liver diseases can progress to cirrhosis. In cirrhosis, the liver is scarred, and healthy liver tissue is replaced by connective tissue. Early cirrhosis might not cause any symptoms. The symptoms and complications of cirrhosis increase as the disease progresses and are often similar regardless of the underlying cause of the disease. Cirrhosis predisposes the development of liver cancer.

Complications of cirrhosis include oesophageal varices, ascites, and kidney failure associated with liver disease. In addition, infections and bleeding may occur. Hepatic encephalopathy is a neuropsychiatric disorder associated with cirrhosis.

Symptoms include decreased level of consciousness, confusion, restlessness, difficulty speaking, or slowed

reactions. Hepatic encephalopathy is caused by the accumulation of intestinal toxins, or toxic waste products, in the central nervous system. Complications can often lead to hospitalisation.

Complications of cirrhosis can be prevented by treating the liver disease as effectively as possible, and in addition, their onset can be influenced by, among other things, lifestyle changes and medication. Complications can also be treated and prevented by various surgical and endoscopy procedures.

If a liver disease progresses despite treatment, liver transplantation may be considered. Complications of cirrhosis almost always resolve after transplantation.



Liver Transplant

Liver disease and liver failure can progress to a situation where the only option is a liver transplant. In liver transplantation, your own diseased liver is removed and a new liver is put in place of the old one. In Finland, 60–70 liver transplantations are performed every year. A liver transplant is always received from a brain-dead donor.

Liver transplantation is performed at the Helsinki University Hospital's (HUS) Transplantation and Liver Surgery Unit in Helsinki. Some of the extensive pre-transplantation examinations can also be done in your nearest hospital, but a large part of the examinations preceding the transplantation are also performed at HUS.

Liver transplantation takes several hours, after which the patient is monitored in the intensive care unit for a few days. After intensive care unit treatment, follow-up treatment will continue in the ward for a few weeks.

The most common causes of liver transplantation are autoimmune diseases primary sclerosing cholangitis (PSC), primary biliary cirrhosis (PBC), and autoimmune hepatitis (AIH).

The transplanted organ is foreign tissue and the body's defence system launches an attack against it. Immunosuppressive therapy reduces the distribution of white blood cells that are important for the rejection reaction and the release of neurotransmitters into the bloodstream that trigger the inflammatory reaction. Immunosuppressants should be used for the rest of your life.

The results of liver transplantations are considered world-class in Finland by international standards. After a successful liver transplantation, it is possible to live an active life and, for example, return to working life.

Living with Liver Disease

Fatigue associated with liver diseases may limit life, and the rhythm of life will have to be adjusted according to your condition. It is important to take care of your own well-being and to do things you like. Exercise is good for both the mind and the body, so it is good to get the right amount of exercise each day. It is central to the treatment of liver diseases and their complications that the patient commits to their own care.

It is important for a person with a liver disease to take a varied and nutritionally high-quality diet in order to maintain a good state of nutrition and a suitable weight. Advanced liver disease can impair food absorption, preventing the body from utilising all the food it gets.

Chronic liver disease increases the need for protein, as advanced liver diseases are associated with increased breakdown of protein in the body. For example, protein is needed to build muscles and other body tissues and to maintain resistance. Malnutrition weakens the immune system, reduces muscle mass, and slows down wound healing. Early feeling of fullness, nausea, and loss of appetite can reduce eating.

You should pay attention to the recommended intake of vitamin D due to the possibility of osteoporosis, especially if the absorption of fat-soluble vitamins is impaired. Complications of advanced liver disease may be associated with specific nutritional recommendations. It would then be useful to seek guidance from a nutritionist.

During festivities, you can enjoy a glass of alcohol at your discretion, if you are in remission. However, there is no

safe amount of alcohol. Patients with cirrhosis should completely abstain from alcohol, regardless of the cause of the disease.

The use of natural health products should be treated with caution as they may contain compounds that could harm the liver. They may also interact with medicines used to treat the liver disease.



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The Finnish Kidney and Liver Association supports members and their families

The Finnish Kidney and Liver Association does advocacy work and supports the well-being of people with kidney and liver diseases and those who have received a transplant, as well as their family members and loved ones.

Peer support helps to cope with the different stages of the disease. Peers have experienced the same illness and are willing to listen and share experiences. Peer support is volunteer work to help family members and loved ones. When you need peer support, fill in the form at www.muma.fi/vertaistuki.

In member organisation meetings you can meet others who have similar experiences. There are member organisations all over Finland. Their recreational, sports and cultural events provide an opportunity to exchange experiences and spend time together.

The association's adaptation training course provides information on the disease and its treatment, mental well-being, and social security. You can meet other patients during the course. There are courses for people with kidney and liver disease and for those who have received a transplant.

If you want information about courses that might suit you, please contact the association's rehabilitation planner or visit the association's website at www.muma.fi/kuntoutus.

The association shares reliable information on kidney and liver diseases and their treatment, as well as transplants.

Elinehto magazine conveys the feelings and experiences of the patients, acts as peer support, and shares information with patients and their relatives. All the association's publications can be found on the association's website www.muma.fi/julkaisut.

Become a member

Anyone interested in the activities is welcome to become a member: those with kidney and liver disease or waiting for or receiving a transplant, their relatives, medical staff, and anyone who is interested or wants more information. All members belong to a member organisation. The association's 19 member organisations operate all over Finland.

Members receive the association's Elinehto magazine four times a year, the member organisation's magazine or membership letter, as well as national and local membership benefits, and advisory services.

You can become a member by contacting the organisation in your area, online at www.muma.fi/liityjaseneksi or by calling the association's office on +358 (0)50 4365 707.

For more information, please call:

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Or visit: www.muma.fi



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