



Treatment Procedure

- Come to the clinic 15 minutes early so you have time to change. Before your blood pressure is measured, you should sit for 15 minutes;
- before dialysis you will be weighed to determine how much fluid has built up. We recommend always wearing clothing of the same weight, so the measurement is as accurate as possible;
- wash your hands and the fistula area with warm water and soap, then use an antiseptic. Washing your hands is important for the safety of you, the staff, and fellow patients;
- your fellow patients may have weakened resistance to infectious diseases. If you feel unwell, be sure to wear a protective mask during transport and at the clinic. We also recommend getting vaccinated against flu and COVID-19 every autumn;
- the nurse enters your data into the dialysis machine and connects you to it via your vascular access;
- please tell the nurse before dialysis begins if your medications have changed or if any unusual health-related events have occurred (for example, needing emergency medical care, a fall);
- during dialysis you can rest, read, watch television, listen to the radio, or use your mobile phone, tablet, or laptop;
- because the dialysis procedure lowers blood sugar levels, you will be offered food during dialysis. We recommend eating during dialysis whenever possible;
- during dialysis you may move — turn over, sit up, or stand. We recommend exercise, which is very important for feeling well;
- during dialysis you can be disconnected from the machine to use the toilet. Let the staff know if you need to;
- your blood pressure is measured repeatedly during dialysis — it changes during treatment, which is normal. The goal is to keep your blood pressure consistently below 155/80 mmHg;
- at the end of dialysis, the blood remaining in the bloodlines and dialyzer is returned to you;
- in the case of a fistula, the needles/cannulas are removed from the vessel after the procedure, and you must apply moderate pressure to the puncture site for at least 10 minutes to stop the bleeding. Use a rubber glove so you don't get blood on your hands and to prevent the spread of infection. A bandage must not be wrapped around the fistula arm to stop bleeding, as this can cause the vascular access to block, i.e. thrombose. Creating a new fistula requires a new surgery in Tartu or Tallinn, with a temporary central venous catheter, i.e. a line, placed in the meantime. A new fistula can only be created a limited number of times;
- at the end of dialysis, you are weighed again to assess how much excess fluid has been removed;
- once a month, your body composition is measured with a special device, which also makes it possible to assess the amount of excess accumulated fluid and, if needed, adjust your treatment plan;
- nurses are with you every day, and the nephrologist visits the clinic at least once a month. You can share any concerns with the dialysis nurses, who will consult the doctor if needed;
- review your prescription needs before the nephrologist's visit;
- you need to purchase erythropoietin syringes yourself from the pharmacy and bring them to the clinic for storage. Please make sure the syringes are stored carefully at a temperature of +2 to +8 °C.

Studies have shown that a dialysis procedure of sufficient frequency and duration helps improve your wellbeing and overall quality of life, reduces hospitalizations, and extends life.

We wish you pleasant cooperation and strong health!



Hemodialysis Treatment

RENALIS



Kidney Failure

Chronic kidney disease usually develops slowly and produces no symptoms in its early stages. As a result, many people learn of their kidney disease only at a stage when kidney function has already declined significantly. Kidney failure is classified into five stages — at stage five, less than 15% of kidney function remains and the person requires renal replacement therapy, i.e. dialysis, for which there are two options — hemodialysis and peritoneal dialysis. Renalis clinics offer hemodialysis treatment.

The kidneys have several important functions:

- removing waste products and excess fluid from the body;
- producing the enzyme renin, which is involved in regulating blood pressure;
- producing the hormone erythropoietin, which influences red blood cell production in the bone marrow;
- producing the active form of vitamin D, which is involved in regulating calcium balance;
- removing excess phosphorus from the blood;
- maintaining the balance of various chemical elements (such as potassium).

Travel: Travelling during treatment is allowed. When travelling within Estonia and the European Union, your treatment costs are covered by the Estonian Health Insurance Fund. When planning your trip, please consult our clinic staff.

Hemodialysis

Hemodialysis is a procedure in which blood is pumped by a dialysis machine through a special filter, or dialyzer, and then returned to the bloodstream. The dialyzer contains more than 10,000 thin fibers, around which flows, in the opposite direction, a fluid made up of purified water and corresponding concentrates, known as dialysate.

Inside the fibers are tiny openings, or pores (typically 3–5 nanometers in size), through which accumulated harmful substances and excess fluid are removed from the blood. The pores are sized so that blood cells and proteins needed by the body cannot pass through them. Dialyzers come in different sizes, and the one suitable for you will be determined by your treating physician.



Dialyzer

Information brochures for patients: renalis.ee

- “Guide to Vascular Access Care for Patients”
- “Nutritional Recommendations for the Hemodialysis Patient”

Vascular Access

To carry out the hemodialysis procedure effectively, a blood flow rate of over 300 ml/minute is required, and to ensure this flow rate, a suitable vascular access is created for the patient:

- a connection made from the patient's own blood vessels, i.e. a fistula;
- a connection made using a vascular graft;
- a central venous catheter, i.e. a line.

The vascular connection is usually created on the forearm, less often on the upper arm or in the thigh area.

A well-functioning vascular access is the foundation of the entire hemodialysis procedure:

- Follow the instructions prepared by the vascular surgeon every day;
- never allow blood samples to be taken or blood pressure to be measured on the arm where your vascular access is located!

Frequency of Hemodialysis

Treatment guidelines recommend undergoing hemodialysis at least 3 times a week, and more often if needed. Healthy kidneys work around the clock to keep waste products in the blood consistently low and to prevent excess fluid from accumulating. The less waste and excess fluid accumulate between dialysis sessions, the less harm this does to the body. To achieve this:

- do not skip dialysis sessions;
- take medications as prescribed by your doctor;
- follow the nutritional recommendations and fluid intake restrictions.

Your transport to the dialysis center is the responsibility of your local municipality. For more information, please contact our clinic staff.

Duration of Hemodialysis

To remove the necessary amount of waste products and fluid, the procedure must be carried out for a sufficient length of time. Treatment guidelines recommend a dialysis duration of 12 hours per week: with dialysis 3 times a week, each session needs to last 4 hours. Even this amount of treatment time replaces only part of the work of normal kidneys. Sometimes it may be necessary to extend the dialysis time beyond four hours (for example, in the case of significant accumulation of waste products and fluid between dialysis sessions). The longer the dialysis procedure lasts, the more gently fluid is removed from the body, and the better you tolerate the procedure. As a result, episodes of low blood pressure during and after dialysis occur less often. The effectiveness of the dialysis procedure is monitored regularly, based on both dialysis equipment data and blood test results.