

## About renal failure

Residual substances and toxins accumulate in the body in the case of a kidney that functions in a pathological way, and excess fluids build up in the body. Here are two types of renal failure.

**In the case of acute renal failure**, kidney disorders occur abruptly, in a matter of hours or days, and require rapid intervention and immediate treatment. In some patients, this is a reversible process and it is possible that the renal function will go back to normal as a result of treatment. However, in other patients, it can lead to permanent conditions, and these patients require renal substitution treatment throughout their entire life.

**In the case of chronic renal failure**, the kidneys have been irreversibly damaged throughout a longer period of time, even years. In two thirds of cases, this condition is caused by diabetes or arterial hypertension. However, it can occur as a result of the inflammation of the capillary networks within the kidneys, immune system disorders, or as a result of an infection or hereditary renal disease (for example, polycystic kidney disease). Furthermore, it can occur as a result of the prolonged administration, throughout several years, of certain drugs that are harmful to the kidneys, yet there are other causes as well. Advance stage chronic renal failure is terminal stage renal failure which requires renal substitution.

## WHEN IS A KIDNEY TRANSPLANT NECESSARY?

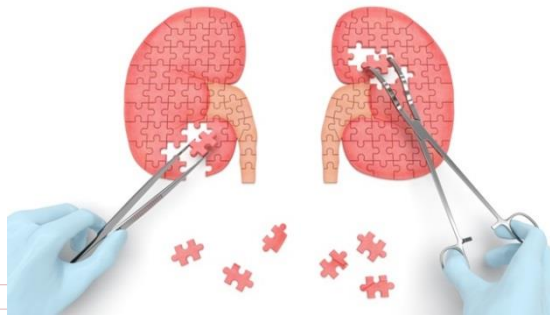
The kidneys represent the body's filter, fulfilling an important role in the healthy functioning of our body. They run without interruption, 24 hours per day, filtering 1 liter of blood per minute. They clean the blood that reaches them through the renal arteries, eliminating residual toxic substances and excess water, maintaining the body's hydric balance. A significant part of the excess fluid and residual products, such as drugs, is eliminated through urine.



## Aside from these, the kidneys fulfill a variety of regulatory and excretory functions

Among others:

- ✚ they ensure the body's electrolyte and salt balance;
- ✚ they aid in regulating arterial blood pressure;
- ✚ they enhance the production of red blood cells that transport oxygen through the body;
- ✚ they activate vitamin D, necessary for strengthening bones;
- ✚ they aid in regulating blood sugar levels.



### **Can i have a full life with a single kidney?**

Yes. You can have a full life with a single kidney, as even one kidney has the ability to fulfill the renal functions.

### **TREATMENT OPTIONS**

In its incipient stage, the evolution of chronic renal failure may be slowed down by means of medicated treatment and diet. This conservatory therapy can successfully mitigate the condition's symptoms.

However, in the terminal stage, the kidneys' diminished or lost functions must be compensated.

Dialysis is a form of renal substitute therapy. During hemodialysis, the blood is evacuated from the blood vessels, passed through the dialysis system, and reintroduced into the blood vessels after having been cleaned. In the case of dialysis at the level of the abdominal cavity (peritoneal dialysis), the fluid led into the abdominal cavity frees the body of toxic substances and excess water.

However, dialysis does not replace the many other vital functions of the kidneys. **With this purpose, the kidney transplant offers a complex solution, another form of renal substitution therapy, the advantage of which, as opposed to dialysis, is evident in terms of quality of life, rehabilitation, and chances to life.**

The transplant may be performed even before the dialysis. This type of transplant is called a preemptive kidney transplant, in other words, preventive, and offers the patient better chances.

Given that transplant from a live donor can be planned, there are great chances of avoiding dialysis or, if the patient is already part of a dialysis program, time spent in this manner may be significantly reduced.

Renal failure affects almost all organs and all organ systems, and that is why an adequate treatment must be administered in the shortest possible time.



### **AM I ELIGIBLE FOR A KIDNEY TRANSPLANT?**

The preliminary condition for a kidney transplant is that the patient's AB0 blood type is compatible with the donor's blood type, as in the case of transfusions (Rh type is irrelevant). Histological similarity is essential as well, as, the greater the match is between the types of tissues within the two bodies, the greater are the chances of the transplant succeeding.

**Another basic condition is that the patient's body is apt for surgical intervention.**

The presence of certain changes that are the object of acute or chronic contraindications within the body is established through complex medical assessments. Assessing the cardiovascular system is one of the most important assessments, due to the fact that cardiac failure and calcified blood vessels may impede the surgical intervention. Inflammation, infections, and tumors must

be considered exclusion factors, as the drug treatment administered during the transplant so as to weaken the immune system may aggravate these conditions, in certain cases leading even to death. Overweight persons are exposed to a high risk of complications as a result of the surgical intervention due to the considerable fatty tissue layer at the level of the abdomen.

**However, the patient must be in an adequate state for transplant not only in general, but at the time of the surgery as well.** Regardless of the fact that the patient is on a waiting list, the surgery cannot be performed if the patient is not apt at that respective time. For example, in the case of bacterial or viral infections, and in the case in which bleeding occurs at the level of the stomach or the gastrointestinal tract etc., the patient shall remain on the waiting list for an organ transplant, however, the transplant alert cannot be triggered until the patient is healed, that is until the patient is once again “apt for transplant”. After the patient has healed, he/she is once again “apt for transplant”, and this shall not affect the time spent on the waiting list.

### **Transplant alert**

In the case in which you travel abroad, it is important that you communicate your intention beforehand. If you have an alert during this time, the next person, after you, on the waiting list shall be automatically called in for transplant. As such, it is recommended that you do not travel too far, with the exception of adequately substantiated situations.



### **PREPARE YOURSELF FOR HOSPITAL ADMISSION!**

**Prepare your “alert bag” so as to not waste time if you have to go to the hospital:**

- + pajamas, slippers, and a robe;
- + sufficient underwear;
- + comfortable clothing and shoes, that are adequate for weather conditions at that time;
- + toothbrush, comb, shaving kit, cosmetic products;
- + reading material, telephone;
- + medical documents, precise and updated medication list, your charts, and final reports.

After the surgical intervention, you will be temporarily hospitalized in the Intensive Care Unit (ICU), where you will not be allowed to take any personal objects with you, however, after being discharged from the ICU, you will need the aforementioned objects.

### **PREPARATION FOR SURGERY**

After arriving at the hospital, before the surgery, there are several routine examinations that must be performed. Your blood pressure, pulse, temperature, and weight will be checked, you will be asked for blood samples, cultures and x-rays of the thorax will be performed, and an ECG. The on-call physicians will ask you questions, will examine you, and, if necessary, they will perform other examinations with instruments. It is possible that you will require dialysis before the surgical intervention. Subsequently, you will be

required to wash with disinfecting soap, and the surgical area will be shaved. The physicians that will be performing the operation shall explain how the surgery will take place and the risks it involves. They will ask you to sign a consent form for the operation. This operation is performed under general anesthesia, which often requires placing a cannula at the level of the neck or shoulder vein through which fluids and medication can be administered throughout the surgery and after it.

### **SURGICAL PROTOCOL**

For kidney transplantation, surgeons use a surgical technique developed throughout several decades by means of which thousands of successful transplants have been performed in Romania as well. Generally, the surgery takes 2-3 hours, during which a kidney is implanted, and the patient's kidneys are left in place. The new kidney is implanted in the lower part of the abdominal cavity, near the iliac ridge. The blood vessels that carry the blood to the kidney are connected to the blood vessels that ensure blood circulation in the



legs, and the urinary tract is connected to the patient's urinary tract or the gallbladder.

The surgeon shall also place a drain tube near the implanted kidney, which will evacuate the fluid accumulated around the kidney through the abdominal wall. At the beginning of the operation, a catheter will be inserted into your bladder as to accurately measure the urine output and to evacuate it. The drain tube and the bladder catheter will be removed several days after surgery.

### **AFTER THE SURGICAL INTERVENTION**

After the surgery, you may be admitted to the intensive care unit. If all goes according to plan, you will be transported back to your room in one day. It is possible that you may require dialysis a few more times after the surgery. You need not worry about this: the new kidney will require a small amount of time to be able to function normally again. The new kidney's function and blood supply is checked by the physicians by means of ultrasound.

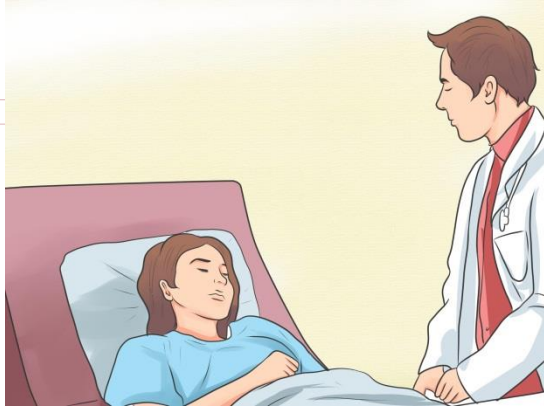
Normally, the day after surgery, you are not allowed to eat or drink as to ensure that the digestive system is calm. Restarting the intestinal transit may require an enema. During this time, you will be receiving fluids and nutrients intravenously. Try and get up as soon as possible in order to avoid blood circulation issues.

**In general, you may be discharged from the transplant unit after 10-14 days.** In the case of a live donor transplant, it is possible to be discharged even after a week. During your recovery period, you will be checked for signs of rejection, that is fever / increase in body temperature, pain, or a decrease in the urine quantity. After surgery, recovery is



facilitated through intensive physical and nutritional rehabilitation. You can contribute a lot to a speedy recovery through active participation.

### **WHAT DO I HAVE TO DO AFTER THE TRANSPLANT?**



Recovery after a kidney transplant is a long process. It will be successful if you do everything possible to recover: go in for regular medical check-ups, take your prescribed medication without delay, observe the rules regarding lifestyle, and cooperate with the treating physician.

In the case of each organ transplant, we must take into account the risk of the body rejecting the donor organ. However, medication against rejection weakens the immune system, and persons with transplanted organs become more vulnerable to certain diseases, especially infections, and, in the long run, to cancer. As such, they must take greater care of themselves. During the initial post-transplantation period, most patients with kidney transplants may go back to work, to the lifestyle they had prior to the disease, and can lead an active life.

### **WHAT ASPECTS DO I HAVE TO BE MORE ATTENTIVE OF AFTER GETTING HOME FROM THE HOSPITAL?**



#### KEEP THE SURGICAL WOUND CLEAN!

The surgical wound must be kept clean with disinfecting soap. If you notice any changes, such as redness, swelling, or secretions, inform your treating physician or the physician on-call immediately.

#### TAKE YOUR TEMPERATURE!

If you feel like you have a fever, chills, or pain, take your temperature, as these could be the initial signs of an infection or of rejection.

#### TAKE YOUR BLOOD PRESSURE AND YOUR PULSE!

In the hospital, you will be trained with regards to how to take your blood pressure and your pulse. Inform the physician if the measured value exceeds normal limits. The transplanted kidney may function correctly in the long run if your blood pressure remains within normal limits.

### **FOLLOW YOUR WEIGHT CHANGES AND THE QUANTITY OF URINE!**

The adequate functioning of the new kidney may be established based on the quantity of urine. Aside from the quantity of urine, keep note of the quantity of liquids that you consume on a daily basis and of your weight before breakfast. In the case in which the quantity of urine decreases or the weight before breakfast increases by 1 kg, contact your physician at the transplant center or the treating physician immediately. Inspect your urine every day. Immediately after the surgical intervention, it is possible that you will

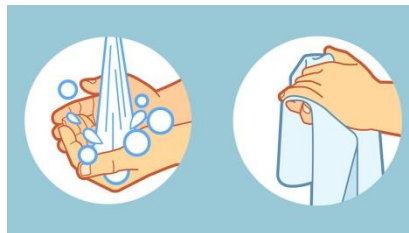
have a small amount of blood in your urine. However, contact your physician if you have blood in your urine, if you have difficulties eliminating urine, if it stings when you urinate, or if your urine has an unpleasant smell even after several days.

### **DAILY LIFE AFTER THE SURGICAL INTERVENTION**

In order to avoid the immune system rejecting the organ, you will receive treatment with immunosuppressives. This, however, will weaken the body's natural defense mechanisms, and, as such, you will become more susceptible to infections. However, you can significantly diminish the danger of infection if you respect hygiene rules, eat healthy, and adopt an adequate lifestyle.

### **GENERAL HYGIENE**

You have to be particularly attentive to your personal hygiene, as this is the way you can reduce the risk of infection. Take regular showers, use liquid soap instead of solid soap. Wash your hands before each meal and after each bathroom use. Clean your nails thoroughly with a nail brush. Protect yourself against colds and avoid crowded places during flu seasons.



### **SKIN CARE**

Some medications may lead to pimples (acne) outbreaks on your face and body. Wash yourself with a delicate antibacterial soap. Do not use hypoallergenic cosmetic products that contain drugs for acne coverage, as make-up impedes the healing of pimples. If your skin becomes very dry, do not wash the affected area with soap for a while and use a body lotion.

### **UNWANTED HAIR GROWTH**

The intensification of hair growth on the face and, at times, in other areas is an adverse reaction to the immunosuppressive treatment. This reaction may be unpleasant, however, do not change or interrupt the treatment, for any reason. There are several efficient methods to remove unwanted hair (creams. wax etc.).

### **DENTAL HYGIENE - DENTISTRY SERVICES**

Use a soft toothbrush as to avoid injuring the gums. Wash your teeth immediately after a meal and use mouth wash. If you have a dental prosthesis, clean it thoroughly after each meal.

Have a dentistry check-up every six months, as to prevent infections and cavities. However, during the first six months after the surgery, please see a dentist only if you have a severe tooth issue.



Regardless of the moment you had your kidney transplant, if the dentistry intervention

that you have scheduled (endodontics, dental extraction) implies bleeding, start taking the antibiotics 24 hours before the intervention and continue to take them over 48 hours after the intervention. Ask your physician to prescribe the antibiotic established together with the transplant center.

## **FEMININE HYGIENE**

During menstruation, women must change their pads or tampons often, as the blood is an ideal medium for bacteria development. Do not use feminine hygiene products, as these destroy the normal bacterial flora of the vagina as well, which leads to a high risk of infection. Regular washing with soap is sufficient.

## **CLEANLINESS**

Regularly clean your bathroom and kitchen and pay extra care to the refrigerator. Change your bed sheets and your towels frequently. You do not have to use special cleaning agents. It is sufficient to use regular household cleaning items. If you perform gardening activities, wear rubber gloves.



## **DIET, FOOD AND BEVERAGE CONSUMPTION**

Adequate diet is extremely important in the healing process, as a healthy and balanced diet helps with recovery. An increased appetite is among the adverse reactions caused by certain medications, which leads to gaining weight. Moderation and a low fat and sugar diet created by a nutritionist can help you maintain your weight and your blood sugar level in check.

## **THE KIDNEY TRANSPLANT DOES NOT IMPLY A STRICT DIET, HOWEVER, MAKE SURE THAT YOUR DIET CONTAINS THE FOLLOWING:**

fresh fruits and vegetables (after having been washed thoroughly under running water);

- + whole grains and bread;
- + milk and dairy products with a low fat content;
- + lean meats, fish, poultry, or other protein sources with a low fat content;
- + consume at least 2-3 liters of liquids (mainly water) daily and try to eliminate 1.5 - 2 liters of urine per day.

If you are taking diuretics, establish with your physician the exact amount of salt you will consume.

In certain cases, your kidney may eliminate a greater quantity of potassium than is required. Consult your treating physician with regards to potassium consumption as well.

## **WHAT NOT TO EAT?**

- + Due to their high potassium content, eat small amounts of bananas and spinach.
- + Do not eat grapefruit and pomegranate (not even their juice), as they influence the

concentration of the anti-rejection medication.

- ✚ Do not eat dairy products made from raw (unpasteurized) milk or that have been inoculated (while ripening) with mold.
- ✚ Avoid very spicy foods.

It is important to reduce salt consumption, avoid processed foods, chips (crisps), and salty canned foods!



## ALCOHOL?

**Avoid drinking alcohol!** Alcohol decomposes in the liver and its effect is extremely harmful on the liver together with the medications.

## PHYSICAL ACTIVITY

Regular physical activity improves the overall condition, offers motivation both in the private life and the professional one. It facilitates the strengthening of the body and helps maintain weight.



After the long months of recovery, you have to strengthen your weakened muscles, and that is why we recommend that you create a daily training program. It is important to gradually increase the intensity of the exercises as to avoid accidents. Begin your exercises by walking up the stairs, but do not push yourself. Rest if you feel tired. For three months after the surgery, you must avoid exercises that involve using the

abdominal muscles, so as to avoid the risk of abdominal hernia. Initially, we recommend cycling, swimming, and long walks. Then, after three months, period in which your regain your strength and your physical condition improves, you can start practicing other sports as well, such as tennis, and running.

However, contact sports (for example, football, fighting sports) are not recommended later either. Regular physical activity and practicing a sport are in your benefit.

**Take a break and ask your physician if you are having either of the following problems:**

- ✚ excessive fatigue, difficulty breathing;
- ✚ dizziness and confusion after physical activity;
- ✚ rapid or irregular heart rate during the physical activity or after it;
- ✚ you feel pressure or pain with constriction at the level of the chest, neck, or mandible.

## SMOKING

If you have smoked until now, quit smoking! Persons with renal conditions are more susceptible to cardiovascular conditions. As such, smoking has a more severe effect in their case than usual. Smoking plays a significant role in the development of other cancers, as well.



## DRIVING VEHICLES

After surgery, it is recommended that you do not drive for a certain period of time. This may vary depending on the person. Consult your treating physician in order to find out when you can drive again! Always wear a safety belt, as this will not create discomfort at the level of the new kidney!

## PETS

Patients with transplants are more susceptible to infections, an aspect which must be kept in mind with regards to pets as well. However, the danger of getting an infection can be reduced to a minimum by observing certain rules. The risk of infection is lower in the case of fish, hamsters, and cats kept inside. You can also have a dog, HOWEVER, it is not recommended to have reptiles, snakes, turtles, birds kept in cages. Always use rubber gloves when cleaning the litter box, terrarium, or fish tank, however, the optimal solution is that these activities be performed by someone else. **The litter box should not be kept in the kitchen!** Keep the pet's objects clean and as far away as possible from yours. Do not let the animal lick your hand or face. If this happens, wash the contact area with soap. Do not let pets into the bedroom.

## EXPOSURE TO SUN

In the case of transplant patients, the risk of skin cancer is greater, as the immune system cannot protect the skin as efficiently against ultraviolet rays that pass through the skin. Certain medications can cause sensitivity to light. As such, always protect your skin against the sun's rays.

Do not expose yourself to the sun between the hours of 11 and 15, when solar radiations are at their peak!

Wear a hat, protect your skin with clothing, and wear a sun block lotion with a high protection factor (at least 50)!

As sun rays may be harmful even during cloudy periods, ensure your skin's protection on cloudy days as well.

**Do not go to the tanning salon!**

Follow potential skin cancer signs! If you see changes in color, size, itching, or deformations of a mole's contour, show it to your physician. Each year, or at the time interval recommended by the physician, go in for dermatological screening investigations, even if you do not have such issues!

## PSYCHOLOGICAL SUPPORT

The years spent with the disease, the emotions involved in waiting for a new organ, and the transplant itself are demanding from an emotional point of view as well. Many transplant patients present anxiety, fear, and, at times, depression after surgery. Some of them worry about rejection, and no longer feel safe; others are not sure that they can adapt to the new lifestyle. The persons that have undergone a transplant can have ambivalent states, feeling both as a burden and vulnerable at the same time. A supporting family environment is essential for recovery, however, the help of a family psychotherapist can also be sought, or that of counseling services, so as to face the

events from an emotional perspective. Consult your physician to find out where you can ask for psychological help.

### **SEXUAL ACTIVITY AND THE DECISION TO HAVE KIDS**

After you start feeling sufficiently well, there is no reason why you cannot start having sex. In general, sexual activity improves in several months, most men regaining their fertility. Make sure that neither you, nor your partner, have an infection, such as herpes. Certain medications may disturb the sexual functions.



Contact your treating physician if you have such issues. Certain medications may affect the efficiency of contraceptives. These can only be taken under medical supervision. The use of an intrauterine device (IUD) is not recommended, as it can increase the risk of infection. The condom represents an efficient contraceptive method and impedes infection transmission as well.

If you plan on starting a family, discuss this with your physician beforehand. It is important that every child always be a planned one, as medication may need to be changed in such a situation. **Many men and women have had**

**healthy children after a kidney transplant.** Most women regain their menstrual cycle several months after the surgery; however, it is recommended that they wait at least one year until they can get pregnant.

### **TRAVELS AND VACATIONS**

While on vacation, avoid places in which the water and food may be contaminated. Preferably, drink only bottled (mineral) water in foreign places. Always bring with you enough medication to last for the entire duration of the trip, and even a bit more than necessary, in case your trip is extended for whatever reason. In the case in which you travel by plane, take your medication with you in the cabin luggage. Do not forget that the commercial denomination of medicines differs from country to country. Therefore, remember and write down the active substances in your medications so as to be able to buy them if your medications run out or are lost. Discuss your travel plan with your physician and request a kidney transplant certificate, necessary to prove that you require a large (larger) quantity of medication. Bring along your most recent clinical chart, the most recent final study reports, so as to provide all necessary information if the situation calls for it.

**Communicate the address and phone number where you can be reached.**

**Make sure that you can receive help where you will be spending your vacation.**

## **VACCINATIONS**

It is recommended that you obtain protection before the transplant, and that you get vaccinated against diseases such as hepatitis B, chicken pox, and rubella. Vaccinating family members ensures the patient's protection as well. As such, we recommend that you and your family get vaccinated against the flu before the operation.

**After the transplant, you cannot receive vaccines that contain live or attenuated pathogens. The oral vaccination against poliomyelitis, the vaccine against rubella, and the one against yellow fever are among these.** Vaccination is allowed with non-live or inactivated pathogens, however, before administering them, inform your physician or the physicians at the transplant center. If you have doubts with regards to the protection against certain diseases, request that your physician perform a serological test.

The patient's protection is ensured through the vaccination of his/her family. Collective immunity means protecting the patient through the vaccination of his/her family.

## **LONG TERM CARE AND SCREENING INVESTIGATIONS**

### **IMMUNOSUPPRESSIVE TREATMENT**

The body's defense mechanism, the immune system, is responsible for fighting against bacteria, viruses, and pathological agents, as well as ensuring an adequate protection level. Its primary role is differentiating between the body's own substances and those that are foreign to it, and to destroy the latter. The immune system attacks the new organ, as it considers it to be a foreign body. The immunosuppressive medications are necessary as to attenuate the immune response against the "foreign" organ and impeding the body from rejecting the new kidney. However, these medications weaken the immune system in general, they do not just impede rejection.

For this reason, after the organ transplant, the patients are more exposed to infections and certain cancers, and the risk of cardiovascular diseases is greater. That is why, while undergoing treatment, balance must be found in a personalized manner, so as to avoid rejection, but also to protect you from infections.

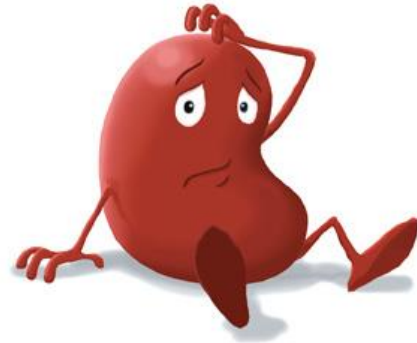
Disease prevention is better than treating diseases. Take care of your health. Go in for regular screening!

### **REMEMBER!**

There are immunosuppressants that you have to take throughout your entire life. You cannot omit any dose without approval from your treating physician and you do not have permission to reduce the quantity of medication. If not, you may lose the implanted organ or even endanger your life. After a certain time after the surgery, you will need less medication, however, adjusting the dosage is the responsibility of your treating physician.

## RECOGNIZE REJECTION SIGNS EARLY!

The purpose of the immunosuppressive treatment is impeding rejection of the new kidney. Mild or moderate rejection episodes may occur (more) frequently at any time, but especially during the first eight weeks after transplantation. However, the process may be impeded, even reversed, by increasing the medication dose or the temporary administration of new substances. If you see signs of rejection, contact your physician immediately, as treatment must be administered as soon as possible.



**The first signs that indicate rejection are not always evident. Pay special attention to the following symptoms:**

weakness, lethargy, indisposition;

- + pain, sensitivity to pressure in the area of the implanted kidney;
- + reduced quantity of urine;
- + fever over 38 °C;
- + blood pressure increase;
- + weight gain, inflammation of the feet.

Due to efficient immunosuppressive substances, uncontrollable rejection reactions occur only in 1-2% of patients.

**If it is detected early, most rejection reactions may be successfully handled.**

## WHEN IS KIDNEY BIOPSY NECESSARY?

In order to analyze the kidney's state with the purpose of histological examination, a specimen may be collected from the new organ (biopsy). This process is necessary for physicians to check for potential rejection issues or other issues. After anesthesia, a very thin, special needle, controlled through ultrasounds is introduced into the kidney. The tissue collected from the kidney is examined under a microscope. After the intervention, you will have to remain in bed for at least four hours.

## 10 GENERAL RULES FOR MEDICATION ADMINISTRATION

1. Try to take your medication at the same hour every day.
2. Do not reduce the dosage and do not interrupt treatment, even if you feel better.
3. If you have accidentally taken a larger dose than the one prescribed, contact your treating physician immediately.
4. If you have forgotten to take your medication, consult the prospectus for the manner of administering the drug and consult your treating physician.
5. Do not take any available non-prescription medicine without physician approval. The medication was prescribed to you only.
6. Do not give it to other people.
7. Do not take expired medications. Take unused medication back to the pharmacy.

8. Inform your treating physician if you experience any adverse reactions while undergoing treatment, regardless if you believe that they may or may not be caused by the medication you are taking.
9. Do not keep medication in the refrigerator, except for the case in which your physician has instructed you to do so.
10. Make sure that you have sufficient medication for weekends, holidays, and travels. If the prescribed dose has been changed, make sure you have sufficient medication as to take the increased doses.

## WHY ARE CHECK-UPS IMPORTANT?

After being discharged from the hospital, in the first 3 months, you have to go in for weekly check-ups (or more often, depending on the case) at the transplant clinic.

Always show up for check-ups, as this is the only way the physicians can track the changes in your condition and detect possible complications early. Your renal function shall be examined, and you will be checked for infections.



They will also check the concentration of certain anti-rejection medication remaining in your bloodstream (the concentration before taking the morning medication). Furthermore, the dosages will be adjusted, if necessary. Always bring along the list of medications with the exact dosage mentioned on it whenever you go in for check-up.

**The purpose of the visits may vary: there are certain visits through which your overall health condition is assessed, some visits during which the anti-rejection medication concentration is checked, and others during which specific screening investigations are performed. (During most visits, blood is collected, and physicians check the concentration of anti-rejection medication remaining in the bloodstream).**

Due to the fact that certain immunosuppressive medication have the adverse effect of increasing the risk for diabetes, hypertension, or osteoporosis, and due to the fact that the body's natural defense system is weakened and this increases the chance of developing cancer, you have to have regular screenings.

Early detection plays a key role in curing cancer. We also recommend having a dentistry check-up every six months, as to prevent infections and cavities.

**Given the fact that anti-rejection medication influences the result of laboratory investigations, it is important that blood be collected before the exact time when you take your daily medication dose. (For example, if you take your medication daily at 9 o'clock, then go for your laboratory investigations at 8).**

## WHY IS MONITORING MEDICATION CONCENTRATION IMPORTANT?

The immunosuppressive treatment has as purpose maintaining the medication concentration at a certain level in the body, in order to impede the rejection of the new

organ, while also avoiding the excessive weakening of the immune system.

This can be carried out by measuring the medication concentration.

Maintaining the medication concentration at a constant level is not sufficient if the patient takes a constant dose of the medication, as the concentration may vary even in the case of identical dosing. **The medication concentration must be established by taking into account the individual characteristics of the patient, in a personalized manner, as each person's body absorbs and eliminates medication differently.** Regular monitoring allows for the verifying that the manner in which you take the medication is compliant with the prescription, and to detect any potential interactions with other medications.

## GENERAL ADVERSE REACTIONS

Anti-rejection (immunosuppressive) medications may also have adverse reactions, however, their number may be reduced by combining certain medications, in order to simultaneously maintain an optimal immunosuppression level. Treatment must be established based on your special needs, as every patient reacts differently to certain medications. The treating physician shall inform you with regards to the prescribed medication, the rules around administering them, and the possible adverse effects.

**If you notice any kind of adverse symptoms, regardless if you believe they may or may not be caused by the medication you are taking, inform your treating physician immediately.**



## TAKE CARE OF YOUR HEALTH!

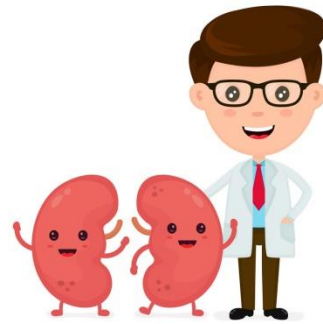
A new kidney means a chance at a new life. This process may imply difficult moments: you must learn to live with the fact that you have to take medications every day, and that you have to undergo regular check-ups. Your friends and family can help you very much with regards to recovery, however, you have the most important role: you have to take care of yourself.

Keep a patient journal and a record to date of the following aspects: blood pressure, pulse, weight, urine quantity, changes in medication or dose, minor infections, new symptoms, or adverse effects. In case you have questions, write them down, so you will not forget them. Take the notes with you when going in for your check-up. Inform the specialist physician treating you with regards to the fact that you have had a kidney transplant and that you take medication regularly.

In most transplant patients, there is a significant improvement of their quality of life after transplant. With the new kidney, you, too, have received a chance to a long and active life. Take advantage of this chance!

## HOW TO TAKE CARE OF MYSELF AND MY NEW KIDNEY? ALWAYS GO TO YOUR CHECK-UPS.

- ✚ Monitor your body, check your temperature, blood pressure, weight, and urine output. Always take your medications with great precision, do not change the prescribed quantity, and do not miss any doses.
- ✚ Follow the instruction received from your treating physician to the letter. Observe hygiene rules and try to avoid infections.
- ✚ Go in regularly for screenings.
- ✚ Eat healthy and avoid consuming excessive amounts of salt and sugar. Consume the necessary amount of fluids.



**Do not drink alcohol and do not smoke. Exercise regularly and take care of your weight.**

**If you see any signs of disease, infection, or rejection, inform your treating physician immediately.**

### *Bibliographic references:*

<https://www.dartmouth-hitchcock.org/transplantation/after-kidney-transplant.html>

<https://www.kidney.org/atoz/content/foods-avoid-after-transplantation>

<https://www.who.int/cancer/prevention/en/>

<https://www.cdc.gov/healthypets/specific-groups/organ-transplant-patients.html>

<https://www.skincancer.org/prevention/are-you-at-risk/transplants>

Steiner, R. et al: Steroids in kidney transplant patients, *Semin Immunopathology*. 2011 Mar; 33(2): 157-167. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3082701/>

