فقيه

مجموعة فقيه للرعاية الصحية
Fakeeh Care Group

فقيه

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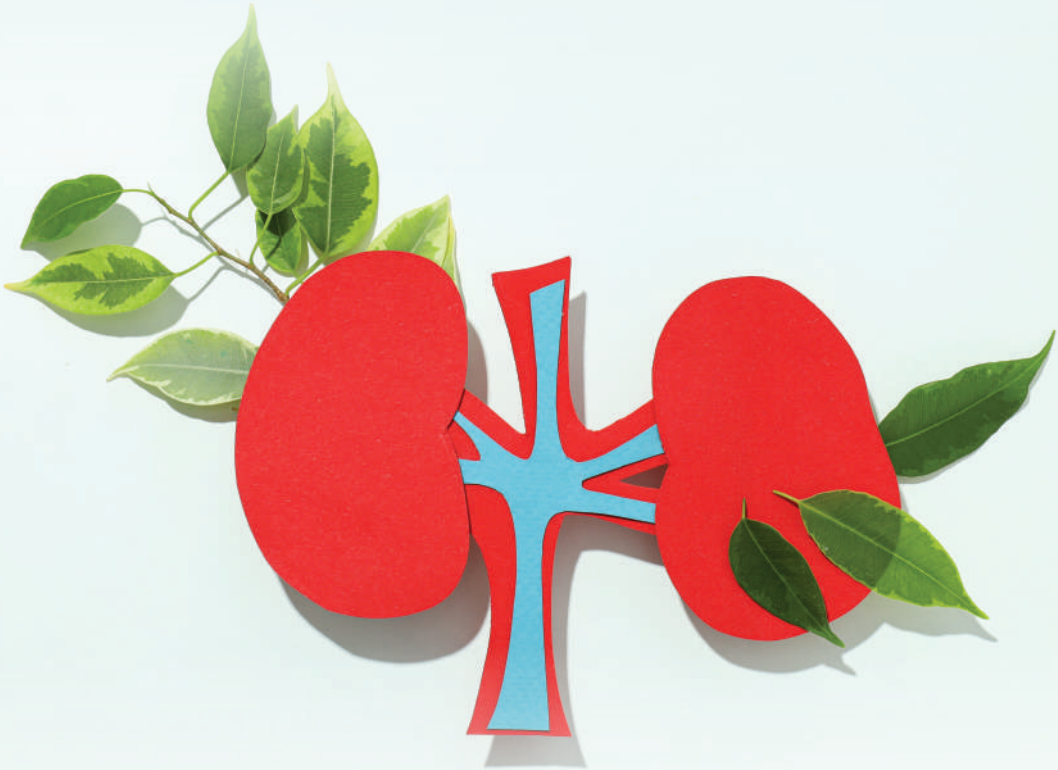

Kidney Transplant Booklet

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Kidney transplantation

is a surgical procedure in which a healthy kidney from a living or brain-dead donor is transplanted into a patient with end-stage kidney failure. The new kidney is placed in the lower abdomen, the blood vessels are connected to each other, and then the ureter is attached to the bladder and secured. Because the body may reject the transplanted kidney, the patient must take immunosuppressive medications. It is often the best alternative to dialysis and helps restore the kidney's function of filtering waste from the blood.

Hormonal functions of the kidneys:

The kidneys produce important hormones such as erythropoietin, which stimulates the bone marrow to produce red blood cells, and renin, which is related to angiotensin and helps regulate blood pressure.

Kidney Donor Acceptance Requirements:

1. Age between 18 and 65 years.
2. The donor and recipient must be first-degree relatives up to the fifth degree, except for spouses. Proof of kinship must be provided by the competent government authorities if the relationship is not of the first degree, or in the case of a donor exchange program. The degree of kinship between the donor and the recipient must be from the first to the fifth degree of relatives, excluding spouses. Proof of kinship must be provided by the competent government authorities if the kinship is not of the first degree or in the case of a donor exchange program.
3. No diabetes.
4. No high blood pressure.
5. No HIV / AIDS.
6. No cancer.
7. No kidney disease.
8. No morbid obesity.
9. Blood type compatibility between the recipient and donor.
10. No active mental illness.

What are the benefits for me as a kidney donor?

1. Kidney transplantation for kidney failure patients at a young age reduces the chances of death by up to 50% compared to remaining on dialysis for five years. God Almighty says, "And whoever saves a life, it is as if he has saved all of humanity."
2. The feeling of satisfaction and happiness in helping others.
3. The decision to donate can be reversed at any time before the operation.

Before and during operation health instructions for the donor:

1. The surgical team will review the procedure and possible complications with you again the day before the surgery.
2. You must stop eating and drinking 6 – 8 hours before surgery, clear fluids may be allowed up to 4 hours before.
3. On the morning of surgery, you will meet the operating room team and the anesthesiologist.
4.You will then be taken to the operating room, where anesthesia and antibiotics are given.
5. After anesthesia, you will be asleep and a urinary catheter will be inserted.
6. Your position will be adjusted according to the surgical procedure.
7. The surgical area will be shaved, cleaned and sterilized.
8. The surgery is performed through small incisions (one about 5 – 4 cm and 3 – 2 smaller ones).
9. It is done using laparoscopic or robotic surgery, which usually allows faster recovery and less pain.
10. The procedure usually takes about 2.5 – 5 hours including anesthesia.
11. After surgery, you will be moved to the recovery area for monitoring before returning to your hospital room.

Health instructions to follow after the operation for the donor:

1. After returning to your hospital room, you can drink once you are fully awake.
2. The medical team will explain how to request pain medication when needed.
3. Pain is controlled with IV or oral medications and usually improves within 7 – 5 days.
4. Most donors can leave the hospital within 2 – 1 days after surgery.
5. You can walk, move, and eat and drink normally.
6. Showering is usually allowed from the first day after surgery.
7. Small dressings are placed on the wounds and usually fall off within about 10 days.
8. Avoid rubbing the wound and monitor it for bleeding, redness, or fluid.
9. Monitor blood pressure and blood sugar at home.
10. Avoid driving for about 2 weeks.
11. Avoid lifting heavy objects for 3 months.
12. It is recommended to pray while sitting to avoid straining the abdominal muscles.
13. Returning to sexual activity depends on your health condition, while avoiding abdominal strain within three month.
14. It is generally advised not to fast until your doctor reviews your kidney function tests.

The donor requires ongoing follow-up after the operation

1. The first follow-up with the surgical team takes place within the first two weeks after the operation to ensure your overall health and, in particular, the healing of your wounds.
2. Three months after the last visit, the medical team will check your blood pressure, glucose levels, kidney function tests, and urinalysis.
3. Six months after the last visit, the medical team will check your blood pressure, kidney function tests, urinalysis, and blood sugar levels.
4. One year after the last visit, the medical team will check your blood pressure, kidney function tests, urinalysis, and blood sugar levels.

The donor should visit the emergency room in the following cases:

1. Severe pain that cannot be controlled with painkillers.
2. Discharge of blood or pus from the surgical site.
3. High grade fever.

The most important contraindications for kidney transplantation in the recipient are:

1. Having a malignant disease that has spread throughout the body.
2. Having HIV/AIDS.
3. The presence of a severe and complex incurable disease in addition to kidney failure, including impaired heart, lung, or brain function.
4. Having an active and untreated bacterial infection such as tuberculosis or hepatitis C.
5. Having certain rare kidney diseases that cause rapid failure of the transplanted kidney.

Challenges and risks for the recipient:

1. Kidney rejection: The body's immune system may attack the new kidney.
2. Infection may occur.
3. Other complications: You may temporarily experience side effects such as a sore throat, gas pain, or constipation.
4. Blood clots: Blood clots may form in the blood vessels of the new kidney.
5. Ureteral obstruction: A blockage of the ureter may occur after the operation.

Health instructions to follow before and during the operation for the recipient:

1. Before surgery, you will undergo a full evaluation by the kidney transplant team, including a nephrologist, surgeon, nurse coordinator, and social worker.
2. The day before surgery, the surgical team will review the procedure and possible complications with you.

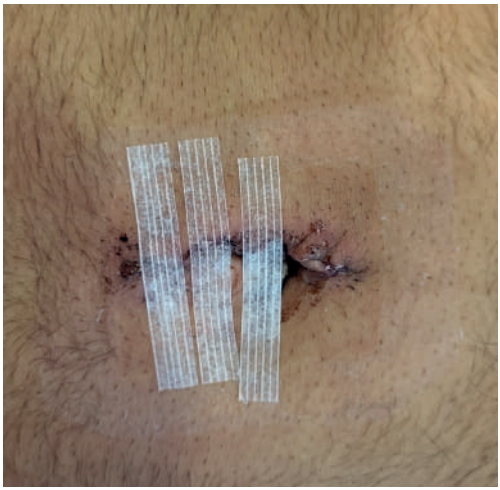
3. You must stop eating and drinking 6–8 hours before surgery; clear fluids may be allowed up to 4 hours before.
4. On the morning of surgery, you will meet the operating room team and the anesthesiologist.
5. You will then be taken to the operating room, where anesthesia and antibiotics are given.
6. After anesthesia, a urinary catheter will be inserted while you are asleep.
7. Your position will be adjusted according to the surgical procedure.
8. The surgical area will be shaved, cleaned, and sterilized.
9. The surgeon makes an incision in the lower abdomen.
10. The new kidney is placed in the body, its blood vessels are connected to the recipient's vessels, and the ureter is connected to the bladder.
11. Usually, the original kidneys remain in place unless they cause problems.
12. A ureteral stent may be placed and removed after a few weeks.
13. The surgery may involve small incisions (about 4–5 cm and 2–3 smaller ones).
14. It can be performed using laparoscopic or robotic surgery, which helps faster recovery and less pain.
15. The procedure usually takes 2.5–5 hours including anesthesia.
16. After surgery, you will be moved to the recovery room for monitoring before returning to your hospital room.

After operative health instructions for the recipient:

1. Pain is controlled with IV or oral medications and usually improves within 5 – 7 days.
2. Shoulder pain and abdominal bloating from gas may occur and usually resolve within 2 – 7 days.
3. Diet progresses gradually from ice chips to clear fluids and then normal food as tolerated.
4. Most wounds can remain uncovered after the first day; small dressings usually fall off within 10 days.
5. Monitor the wound for bleeding, fluid, redness, or warmth and seek medical care if these appear.
6. Showering is usually allowed from the first day, keeping the wound dry and avoiding rubbing for 10 days.
7. Avoid driving for 2 weeks and heavy lifting for 3 months.
8. Sexual activity can resume depending on health status while avoiding abdominal strain.
9. Follow-up with the surgical team after 1 week and weekly during the first month.
10. Take immunosuppressive medications daily and follow a healthy diet.
11. It is recommended to pray while sitting temporarily to avoid straining the abdominal muscles until the pain fully resolves.
12. Fasting is generally not recommended during the first year post transplantation; adequate hydration and avoiding heat and heavy exertion are advised.

The patient should visit emergency department in the following cases:

1. No urine output or very little urine output.
2. Diarrhea.
3. Fatigue.
4. High grade fever.
5. Scrotal edema or swelling (surgery area).



Medications Used with Organ Transplant Recipients

Medications used to prevent organ rejection after transplantation aim to prevent the body from rejecting the new organ. These medications work by reducing the body's immune response, a process known as immunosuppression. When these medications are used, the immune system is weakened to a level sufficient to prevent rejection of the transplanted organ, while still maintaining enough immunity to protect against serious infections.
Medications used to prevent organ transplant rejection work in two phases to minimize side effects and suppress the immune system. These phases are: induction and maintenance/rejection control:

- **Immunosuppressant drugs:**
  These are given intravenously before and after transplantation. Induction drugs prepare the body to accept the transplanted organ.
- **Maintenance immunosuppressant drugs:**
  These are taken for the duration the transplanted organ remains in place. They are used long-term to maintain immunosuppression. Patients often receive a combination of these medications after organ transplantation, starting shortly after surgery. Any symptoms of organ rejection should be reported to a healthcare professional immediately.

Side Effects

Medications used to prevent organ transplant rejection can have side effects. These side effects are usually manageable and lessen in severity over time. Common side effects of medications used to prevent organ transplant rejection include:

1. High blood sugar due to corticosteroid medications.
2. High blood pressure, which usually appears within the first eight weeks.
3. High cholesterol.
4. Increased risk of infection or certain types of cancer, associated with immunosuppressant medications.
5. Electrolyte imbalances: 90% of kidney transplant recipients experience low blood phosphate levels and high blood potassium or low blood magnesium levels.
6. Gastrointestinal problems such as nausea, vomiting, and diarrhoea occur in approximately 20% of cases.
7. Drug-nutrient interactions, such as those involving grapefruit.

Regular blood tests are necessary to monitor drug concentrations. High blood drug concentrations can worsen side effects. Insufficient drug dosage may compromise the transplanted organ's protection.

Medications to prevent organ rejection

Common medications used after organ transplantation include:

1. Mycophenolate mofetil (Cellcept, lamucon)
2. Tacrolimus (Prograf and Astagraf XL)
3. Azathioprine (Azasan, Imuran)
4. Basiliximab (Simulect)
5. Belatacept (Nulojix)
6. Cyclosporine (Neoral, Sandimmune, and others)
7. Prednisone (predo, prednisolone)

1. Mycophenolate mofetil (Cellcept and lamucon)

Mycophenolate mofetil works by inhibiting the proliferation of certain types of white blood cells. This medication is often used in combination with other immunosuppressant drugs. Mycophenolate mofetil is available as capsules to be taken orally or administered by injection by a healthcare professional.

Common side effects of mycophenolate mofetil include: loose stools, fluid retention, hypertension, headache, heartburn, nausea, stomach pain, hyperglycemia vomiting, weakness, blisters, dizziness, rash, and trouble sleeping. Contact your healthcare professional if these symptoms worsen.

2. Tacrolimus (Prograf and Astagraf XL)

Tacrolimus works by stopping the production of certain cells, which helps prevent the body from rejecting a transplanted organ. Tacrolimus is commonly used in people who have had kidney, liver, pancreas, lung, or heart transplants. It is often used in combination with other

immunosuppressant medications. Tacrolimus is available as capsules to be taken orally or administered by injection.
Although side effects from tacrolimus are not common, Abnormal hepatic function tests, chest pain, hyperglycemia they can occur. These include loose stools, loss of appetite, trouble sleeping, stomach pain, upset stomach, and vomiting. Contact your healthcare provider if these symptoms worsen.

3. Azathioprine (Azasan and Imuran)
Azathioprine works by reducing inflammation and stopping the production of blood-forming cells, which helps prevent the body from rejecting a transplanted organ. This medication is usually used with other medications after a kidney transplant. However, it can also be used to treat severe rheumatoid arthritis and ulcerative colitis. Azathioprine is available as tablets to be taken orally.
Side effects are uncommon, but they can occur. Side effects to watch for include cold hands and feet, loose stools, joint pain, loss of appetite, Nausea and vomiting upset stomach, and vomiting. Contact your healthcare provider if you experience any of these symptoms and they do not go away.

4. Basiliximab (Simulect)
Basiliximab works by preventing the production and activation of antibodies by the cells that produce them. This helps prevent the body from rejecting the transplanted organ. This medication is usually used with other medications after a kidney transplant. Basiliximab is given by a healthcare professional by injection.
Side effects of Basiliximab may include blisters, hyperlipidemia, constipation, upset stomach, loose stools, headache, and heartburn, trouble sleeping, weight gain, excess hair growth, and joint and muscle pain. Contact your healthcare professional if these symptoms worsen.

5. Belatacept (Nulojix)
Bellatacept reduces the activity of the immune system to prevent it from attacking the transplanted organ. This medication is usually used with other medications after a kidney transplant. Bellatacept is given by injection by a healthcare professional.
Common side effects of Bellatacept include constipation, Cough, hypertension, dyslipidaemia, constipation, hyperglycemia, Anemia extreme tiredness, rapid heartbeat, headache, muscle weakness, skin discoloration, and swelling of the hands, feet, ankles, or legs. Contact your healthcare professional if these symptoms worsen.

6. Cyclosporine (Neoral, Sandimmune)
Cyclosporine works by stopping the production of certain cells. This helps prevent the body from rejecting a transplanted organ. Cyclosporine is commonly used in people who have had kidney, liver, or heart transplants. It can also be used to treat severe psoriasis and rheumatoid arthritis. Cyclosporine is available as capsules to be taken orally or as an injection administered by a healthcare professional.
Some common side effects of cyclosporine may include breast enlargement, hypertension, loose stools, and increased hair growth, loss of appetite, sinusitis, upset stomach, and

painful, bleeding, or swollen gums. Contact your healthcare professional if these symptoms worsen.

7. Prednisone (predo, prednisolone)
Prednisone is a medication that reduces inflammation and immune system activity. It belongs to a class of drugs called corticosteroids and is often used in combination with other immunosuppressant. This medication can also be used to treat certain forms of arthritis, severe allergies, lupus, asthma, and other conditions. It is available in tablet form and is taken orally.
Side effects are not widespread, but they can occur. These may include: acne, anxiety, depression, dizziness, easy bruising, headache, increased hair growth, insomnia and difficulty sleeping, facial swelling, upset stomach, and vomiting. Contact your healthcare provider if these symptoms worsen.

Serious Side Effects

Recipients of anti-rejection drugs for organ transplants are more susceptible to infections than others, and any infection they contract may be more severe than usual. Therefore, you should see your healthcare provider immediately if you experience any serious side effects or signs of infection, including:

1. Blood in the urine.
2. Black or tarry stools.
3. Chest pain.
4. Chills.
5. Changes in skin or eye color.
6. Rapid heartbeat.
7. Fever.
8. Mouth sores.
9. Shortness of breath.
10. Skin rash.
11. Sore throat.
12. Stomach or back pain.
13. Swollen or tender gums.
14. Unusual bleeding or bruising.
15. Changes in vision.
16. Vomiting.
17. White patches in the mouth, throat, or on the tongue.

What to avoid when taking medications used to prevent organ transplant rejection
Certain things can negatively affect the effectiveness of medications used to prevent organ transplant rejection. Therefore, these things should be avoided after undergoing an organ transplant. They include:
Some antibiotics, medications, and dietary supplements should be avoided after organ transplantation. Certain antibiotics, such as erythromycin and clarithromycin, should be avoided because they can interact with medications used to prevent organ rejection and

cause health problems. Some pain relievers, such as aspirin and ibuprofen (Advil, brufen, and others), should also be avoided. Ibuprofen can cause stomach upset and fluid retention after organ transplantation. Aspirin can be taken in small doses, but high doses can irritate the stomach and cause ulcers.

Nutritional concerns in the short term (first 6 weeks)

In the first few weeks following your transplant you may need to continue some of your previous dietary restrictions. Your appetite and taste however should improve.

Medications

You may sometimes experience some or none of the following potential side-effects from the Immunosuppression medications, such as diarrhoea, constipation, nausea, vomiting, high sugar (glucose) levels or high potassium levels (e.g. Cyclosporin). . These side-effects may affect your food intake. Possible side-effects to the medications are listed under the medications. Note: You may experience some or none of these side-effects.

- **Mycophenolate mofetil (Cellcept)**

Can cause diarrhoea, constipation, nausea and vomiting, small frequent snacks may be better tolerated.

- **Tacrolimus (Prograff, FK-506**)

May cause increased blood sugar (glucose) levels.

- **Cyclosporine (Neoral/ Sandimmune)**

May cause potassium (K+) retention & increase blood K+ levels. If so, avoid eating large amounts of foods high in K+ e.g. Fruit, dried fruit, fruit juice, vegetable juices, cocoa and chocolate.
Cyclosporine can also contribute to increased blood fat levels e.g. Cholesterol and triglycerides and increased blood pressure.

- **Azathioprine (Imuran / azaThioprine)**

In some people this may cause nausea & vomiting. Small frequent snacks may be better tolerated. It is recommended that this medication be taken with food.

Snack ideas to help relieve nausea:

- Nausea (feeling sick), is a common side effect of some anti-rejection medications.
- Nausea and vomiting can prevent you from eating properly.
- If these continue, talk with your doctor or nurse about anti-nausea medication.

Some ideas that may help with nausea:

- Avoid missing meals. An empty stomach can make nausea worse. Eat small amounts, often and eat slowly.
- Try 6 - 8 smaller meals each day instead of three larger ones.
- Try ‘cold’ foods, as these have milder tastes and smell. For example: sandwiches, salads, puddings such as creamed rice and blancmange, yoghurts, tinned fruit or jelly.

- Snack on dry biscuits, toast and crackers.
- Avoid spicy or fatty foods.
- Eat when you are not feeling nauseous or tired.

Protein

During the first 6 weeks after your transplant, your protein intake is important to help promote wound healing and prevent muscle loss associated with high dose immune-suppressants. If your kidney is functioning sub-optimally you many need to restrict protein and should discuss this with your dietitian.

Blood glucose levels

You may experience high glucose (sugar) levels as a consequence of the immunosuppressant therapy. Glucose is produced from digestion from digesting foods that contain carbohydrates.

To help control blood glucose levels:

1. Eat meals regularly and set a specific time between meals (3 - 4 hours between each meal) and avoid skipping meals.
2. Eat carbohydrate foods that are high in fibre
3. Avoid eating large quantities of Sugar rich foods such as soft drink, juice biscuits, cakes, sweets and candies.

In the first few weeks after your kidney transplant the level of minerals in your blood may be different. Your doctor will know this by your blood tests. You may need extra magnesium, and more or less of potassium and phosphate.

Phosphate

Is found high in protein rich foods such as meats, fish, chicken, eggs dairy, nuts and seeds. Good sources of phosphate include cheese, yoghurt, milk, soymilk, custard, ice-cream, wholemeal, wholegrain breads / cereals, wheat and oat bran, wholemeal pasta and flour, starchy beans and legumes, nuts, seeds and lean meats.

Magnesium

Is found in green leafy vegetables, nuts, seeds and whole grains.

Good sources of magnesium include:

1. Green vegetables like spinach, broccoli, green Chinese vegetables, leeks, zucchini, peas, cabbage, and asparagus.
2. Wholegrain breads / cereals, wheat / oat bran.
3. Starch beans and legumes; nuts and seeds.
4. Soy milk.
5. Seafood and fish (especially fresh water).
6. Yeast extracts.

Snack ideas high in Magnesium and Phosphate

1. Muesli (with nuts, seeds, wheat germ) with milk or yoghurt.
2. Wholegrain toast with peanut paste.
3. Baked beans on wholemeal toast.
4. Tinned salmon, rice cakes/crackers with cheese.
5. Handful of raw or roasted nuts / seeds.

Potassium

Is found in fruit, vegetables and dairy foods. Good sources of potassium include:

1. Dried fruits, fruit cake, fruit bars, fruit loaf.
2. Fruit or vegetable juices or nectars.
3. Potato crisps, potato chips.
4. Tomato based pastes, sauces and purees.
5. Chocolate.
6. Beans.

Fluids

Your fluid requirements after a kidney transplant are increased to assist the kidney in filtering wastes and clearing out toxins. Your Doctor will let you know how much you should drink each day. No more fluid restrictions.

Safe foods and food hygiene

The drugs used to prevent rejection also suppress your immune system. You are more at risk of picking up a food-borne infection in the first 4 weeks after your transplant and may still be at risk for a time after. Key ways to decrease this risk are cooking foods well, using good food hygiene and avoiding high-risk foods.

Avoid high risk foods such as:

1. Raw, undercooked seafood and meats.
2. Cold cooked chicken (bought whole, portions, sliced or diced).
3. Cold deli meats (cooked or uncooked, packaged or unpackaged).
4. Foods containing raw eggs.
5. Raw and smoked ‘ready to eat’ seafood and ‘ready-to-eat’ peeled prawns.
6. Canned or prepared fruits, vegetables, or salads that are sold ready to eat "refrigerated".
7. Brain, liver, liver, and kidneys.
8. Soft and semi-soft cheeses.
9. Machine-made ice cream.
10. Unpasteurized dairy products such cheeses and yoghurts made from raw milk.

Safe food handling

1. Always wash hands well with soap and water and dry thoroughly before eating and before and after handling foods.
2. Wash all kitchen utensils and food preparation surfaces with hot water and soap. Dry thoroughly, especially after contact with raw poultry, meat, and seafood.
3. Remove outside leaves of leafy vegetables and rinse leaves individually.
4. Do not eat foods from damaged or faulty containers.

Food storage

1. Separate raw and cooked foods while purchasing, storing and preparing foods.
2. Store raw meats below other foods in the refrigerator.
3. Refrigerate or freeze perishable foods as soon as possible.
4. Cover stored foods.
5. Do not wait for cooked foods to cool refrigerate or freeze after the steam has gone.
6. Defrost foods in the refrigerator or microwave – not at room temperature.
7. Do not refreeze uncooked foods that have already been defrosted.
8. Leftover foods should be consumed within 48 hours unless frozen.
9. Store eggs in the refrigerator.

Cooking and reheating foods

1. Eat foods at their original temperature. Eat cold foods cold and hot foods hot.
2. Reheat food until steaming hot throughout (above 60 degrees Celsius).

Eating out

1. Ask for food to be freshly prepared.
2. Do not buy food whose storage and expiry dates are unknown, or which is exposed.

In the long term (approximately after 6 weeks)

Healthy lifestyle

It is very important that you have a healthy lifestyle to help ensure your kidney function is stable and to improve control and reduce your risk of developing diabetes, obesity and heart disease. It is very important that you enjoy a nutritious diet and regular exercise.
If you are overweight/ obese, losing 5-10% of your body weight will substantially reduce your risk of illness and improve your management of existing conditions

Eat a balanced diet

Enjoy a wide variety of foods from each of the 5 food groups: bread and cereals, fruit, vegetables, dairy and meat or meat alternatives.
Healthy eating is about choosing foods that will give you all the nutrients you need for good health while limiting the kinds of foods that will increase your blood cholesterol, weight and risk of chronic disease.

Protein

You will not need to eat as much protein as initially after your transplant. The amount of protein you require is similar to that recommended for the general population. If you experience chronic rejection, a dietary protein restriction may be helpful. Your dietitian can advise you on how much you will require.

Carbohydrates

1. Carbohydrate is found in foods such as breads and cereals, rice, pasta, fruits and fruit juice, starchy vegetables such as potato, milk, yoghurt, soft drink, cordial, cakes and biscuits.
2. These foods are converted to glucose (sugar) which enters the bloodstream.
3. If you have diabetes it is especially important to try and maintain good blood glucose levels. To assist this try to have regular meals which include small amounts of carbohydrate, don't skip meals and avoid eating lots of concentrated sources of carbohydrate such as soft drink, cordial, cakes or biscuits. At meal times choose nutritious carbohydrates such as wholegrain breads and cereals, fruit and low fat milk and yoghurts.
4. Low glycemic index carbohydrates are also useful to help stabilise blood glucose levels and can assist in weight control, these include wholegrain bread, sweet potato and oats.

Reducing salt

1. Reducing the salt in your diet can help in reducing high blood pressure and maintaining a good fluid balance.
2. There is usually enough salt in natural foods to meet our daily needs.
3. Avoid adding salt to your food and avoid eating foods that are high in salt.
4. Choose reduced salt products.

Calcium

1. Bone mineral density loss can be a significant problem for some post transplantation. It is very important to include calcium rich foods in your diet, to help keep bones strong.
2. Dairy products are the richest source of calcium,
3. Low fat varieties have just as much calcium as full fat products.
4. Other sources include fortified soy products, fish with bones (for e.g. salmon or sardines), vegetables (for e.g. broccoli) and almonds.

Weight gain

Weight gain can be an issue for some people post-transplant, due to an increase in appetite caused by medications an improved sense of wellbeing. To avoid gaining too much weight after transplant, it's important that you limit foods high in sugar and fats. These include:

1. Soft drinks, cordials, fruit juice, sugar
2. Sweets, chocolate, biscuits, cakes, pastries
3. Sugar, honey, jam
4. Butter, margarine, oils
5. Pies, Pastries, deep fried foods, fatty meats, such as salami, sausage
6. Full cream dairy products such as milk, cheese

Try low calorie or low fat options instead!

Blood cholesterol and Triglycerides

Cholesterol is a type of fat found in everyone's blood. Your body makes the amount of cholesterol you need. Cholesterol can also be obtained from food. Immunosuppression medications can also contribute to high cholesterol levels. If you have high levels of cholesterol (especially triglyceride) in your blood this can lead to heart disease.

Good fats (Polyunsaturated and Monounsaturated Fats)	**Fat you can consume in moderation**	**Bad fats** (Saturated Fats – increase blood cholesterol and triglycerides)
Olive oil (Omega 9) Avocadoes, olives nuts: cashews, macadamia Fish oil (Omega 3)	Organic gee and lard Coconut oil (Natural Fat)	Solid vegetable cooking fat (Omega 6 Fat)
Nutrients	Immediate status (up to the first 8 weeks after kidney transplantation)	Chronic condition (after the first 8 weeks of kidney transplantation)
Protein	1.3/1.5 g/kg standard weight or adjusted weight.	0.8- 1 g/kg standard weight or adjusted weight, the percentage depends on the protein status in the body (muscle mass and serum albumin level).
Calories	30.35 calories/kg standard weight or adjusted weight. Or basal metabolic energy 1.3 and may increase in the event of complications after kidney transplantation.	Adjusts energy to maintain ideal weight.
Carbohydrates	50%-60% of total calories and determining the amount of simple sugars in the case of high blood sugar as well as in the case of regulating body weight.	50-60% of total calories and focus on complex sugars. Eat 25-30 g of fibre daily.
Fats	25%-35% of total calories.	25%-35% of total calories are from saturated fats and reduce trans fats as much as possible.
Potassium	2000-4000 mg daily if the level of potassium in the blood increases.	Do not specify the amount unless the level of potassium in the blood increases.

Sodium	The amount of sodium is determined in cases of high blood pressure or fluid retention in the body less than 2 mg.	2000-4000 mg daily in case of high blood pressure or fluid retention in the body.
Calcium	1200-1500 mg daily.	1200-1500 mg daily.
Liquids	It only determines the construction of the working condition of the transplanted kidney, and in general it does not determine.	It is determined only based on the working condition of the transplanted kidney and in general is not determined.

Food group	**The most important nutrients**	**Food serving size**
Starches	Dietary carbohydrates, dietary fibre, vitamin E, vitamin B complex.	A slice of toast, half a cup of cooked rice, pasta, beans, or granulated Sri Lanka.
Fruit	Vitamin A, Vitamin C, Potassium and Dietary fibre.	Half a cup of whole fruit or equivalent.
Vegetable	Vitamin A, Vitamin C, Folic Acid, Iron, Potassium, Magnesium, Dietary Fibre.	Half a cup of cooked vegetables or a cup of fresh vegetables.
Meat and meat substitutes	Protein phosphorus, iron, zinc, vitamin B complex.	100 grams of cooked or cured meat, chicken, or 120 grams of fish, a cup of legumes, beans, lentils, etc.
Legumes (nuts and grains)	Vitamin E and dietary fibre.	30 grams of grains or nuts.
Milk and dairy products	Calcium, phosphorus vitamin B complex.	240 ml of milk, 30 grams of cheese or 200 grams of yogurt.
Fats	Essential fatty acids.	5 ml teaspoon.

1800 calorie diet, high protein, low carbohydrates, low salt

CHO=115 gm (~26%) **CHON= 130 gm (~29%)** **FAT= 90 gm (~45%)**

BREAKFAST **300 Cal** **Choose one point**	• 2-3 eggs + small whole meal bread + 2 tablespoons labneh + cucumber • Beans (no added salt) + 1 egg + whole meal bread • Oatmeal with milk + 1 scoop /1 tablespoon protein powder • Greek yogurt + 1 tablespoon honey + 10 nuts • 90g (3 tablespoons) cottage cheese + whole meal toast + tomato
LUNCH **500 Cal** **Choose one point**	• 150g grilled fish (palm-sized) + sautéed vegetables or vegetable soup + 1 roasted potato • 150g chicken breast + 10 tablespoons rice (2 scoops) + 1 large salad • 150g grilled, oven-baked, or stewed meat + 1 cup pasta + vegetable stew
SNACK **300 Cal** **Choose one point**	• Greek yogurt + 10-15 mixed nuts + cucumber/carrot • 1 cup milk + 3 cups popcorn + mixed vegetables • 1 apple or any other fruit + 1 tablespoon peanut butter + salad • 3 dates + yogurt + vegetables or salad
DINNER **400 Cal** **Choose one point**	• 120g grilled fish or chicken + vegetables + 5 tablespoons rice • 2 Eggs vegetable omelets + whole wheat bread • 100g tuna in water + salad + olive oil + 1/4 loaf of bread • 1 shawarma sandwich (oven-baked homemade) • ½ cup cooked lentils/legumes + vegetables + yogurt + 1 slice of bread

A 2200-calorie diet: high in protein, low in carbohydrates, low in salt

CHO=115 gm (~26%) CHON= 130 gm (~29%) FAT= 90 gm (~45%)

BREAKFAST **450 Cal** **Choose one point**	• 3-4 eggs + small whole meal bread + 2 tablespoons labneh + cucumber • A bowl of fava beans (no added salt) + 2 eggs + whole meal bread • Oatmeal with milk + 2 scoops/tablespoons of protein powder + a date • Greek yogurt + 3-4 tablespoons oatmeal/granola + a tablespoon of honey • • 150g (5-6 tablespoons) cottage cheese + whole meal toast + tomato
LUNCH **700 Cal** **Choose one point**	• 250g grilled fish (palm-sized) + sautéed vegetables or vegetable soup + a baked potato • 250g chicken breast + 10 tablespoons rice (2 scoops) + a large salad • 250g grilled, oven-baked, or stewed meat + 1 cup pasta + vegetable stew
SNACK **450 Cal** **Choose one point**	• Greek yogurt + a piece of fruit + 10 15 mixed nuts + cucumber/carrot • 1 cup high-protein milk + 1 piece of fruit + mixed vegetables • 1 apple or any other fruit + 1 tablespoon peanut butter + 2 rusks + salad • 3 dates + yogurt + vegetables or salad + 10 almonds / walnuts
DINNER **500 Cal** **Choose one point**	• 150g grilled fish or chicken + vegetables + 5 tablespoons rice • 2-4 egg omelets with vegetables + whole wheat bread • 120g tuna in water + salad + olive oil + 1/4 loaf of bread • 1 large healthy shawarma sandwich (oven baked homemade) • ½ cup cooked lentils/legumes + 2 eggs + vegetables + yogurt + 1 slice of bread

فقيه

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Fakeeh Care Group