Benefits and Risks

Of a kidney/pancreas transplant

This chapter discusses the benefits as well as the risks of a kidney and/or pancreas transplant. The complications of transplant and signs and symptoms of rejection are also discussed. Lifestyle tips are offered to prolong the life of your new transplant.
Benefits of a Kidney Transplant

In most cases, people with a kidney transplant are healthier and live longer than people on dialysis. Most transplant recipients have better life satisfaction, better emotional and physical well-being and are more likely to be able to return to work than people on dialysis.

**Benefits of a kidney transplant include:**

- In general, fewer complications compared to dialysis, such as:
  - Anemia (gets better).
  - Cardiovascular disease.
  - Left ventricular hypertrophy (thickening of the heart muscle).
  - Uremic neuropathy (which can cause “restless legs,” memory problems, sensory and motor nerve damage, sexual dysfunction and other problems).
  - Dialysis blood access complications.

- A greater freedom to travel. It is much easier to pack medications and take a list of transplant precautions than to coordinate dialysis visits when you travel.
• More time for you. At first, you will be very busy after your transplant following a structured medical regimen. This involves taking medications, coming to medical visits, and checking blood tests. Over time you will have fewer visits and more time for yourself.

• Fewer limits on what you can eat and drink.

Benefits of a Pancreas Transplant

In general, people who have a pancreas transplant have a better quality of life than diabetics. The pancreas recipients usually have a normal blood sugar and can avoid or prevent the progression or complications of diabetes.

The benefits of a pancreas transplant are:

• Freedom from daily insulin injections.

• Prevention of life-threatening reactions (insulin reactions/hypoglycemic reactions).

• Prevention of diabetic acidosis and coma.
• Potential stabilization of retinopathy (damage to the retina). This is more likely to happen after 3 years of a successful transplant.

• Stabilization of sensory and motor nerve damage, such as:
  – Numbness/tingling in the hands/feet.
  – Lowered ability to feel hot/cold.
  – Lowered ability to sense pain.
  – Motor strength – some improvement.

**Measuring Transplant Results**

One measurement of transplant success is the percent of patients who survive one year after transplant. About 97 percent of transplant recipients are living 1 year after their surgery. For those who don’t survive the first year after transplant, the cause of death is often related to pre-transplant disease or medical diagnosis.

**In the first year after transplant, the causes of death include:**

• Cardiovascular disease (includes death from heart attacks, strokes, vascular disease, and congestive heart failure).

• Infections.
• Surgical complications.
• Cancer.

Another measurement of transplant success is the percent of patients that are not on dialysis 1 year after transplant (called 1-year graft survival). Nationwide, the 1-year graft survival rate for a cadaveric kidney transplant is 90 percent and a living related kidney transplant is 94 percent.

Complications and Risks

Major complications are seen in about 5 percent of kidney recipients and about 10 percent of kidney/pancreas recipients. Most other recipients will have relatively minor complications. Most transplant recipients will have at least 1 complication after kidney/pancreas transplantation. While complications are most often seen during the first 3 months after a transplant, they can occur in many forms and at any time, and often require re-hospitalization to treat. It is important to follow the medical plan and keep all appointments. This allows identification and treatment of problems in a timely manner.
Some of the medical complications you may have:

- **Delayed graft function of the kidney:** Sometimes the kidney can be in a “state of shock” after the transplant. It is a condition that often resolves over several days or weeks. You may require dialysis while waiting for the kidney to begin to function. This happens to about 10 to 30 percent of transplant recipients. About 2 percent of cadaver kidney transplants never work at all.

- **Rejection:** Rejection is the body’s natural response to the foreign transplanted pancreas or kidney. You will need anti-rejection (immunosuppressive) medications to prevent your body’s immune system from rejecting the new pancreas or kidney. Maintain therapeutic levels of your medications to reduce the risk of rejection. Rejection of the kidney and pancreas can occur any time after your transplant. It is more common in the first 3 months. Most episodes of early rejection (90 percent) can be reversed. For later rejections, after 6 months, the success rate in treating is not as high. In general, the success rate in treating rejection is related to taking all your medicine and close follow-up with your doctor.
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Signs and symptoms of kidney rejection are:

– Increased blood levels of creatinine.
– Weight gain.
– Fluid retention.
– Decrease in urine output.
– Fever.
– Pain or swelling over the transplant site.
– Flu-like symptoms: fatigue, aches, fever.

Signs and symptoms of pancreas rejection are:

– Elevation in the serum amylase or lipase.
– If bladder-drained, reduction in urinary amylase.
– Flu-like symptoms: fatigue, aches, fever.
– Elevated glucose levels (this is a late sign).
– Sometimes pain or swelling over the transplant site (rare).

A biopsy is the only sure way to diagnose rejection. Routine biopsies will be performed to monitor the condition or status of the graft.
• **Chronic Allograft Nephropathy**
  (also called chronic rejection): The cause of chronic allograft nephropathy is not well understood but accounts for the slow decline and eventual loss of kidney function. Signs are usually subtle. Your doctor often detects chronic allograft nephropathy before you notice any symptoms.

**Things that you can do to prolong the life of your kidney graft:**

- Maintain correct immunosuppression levels. Learn what your target goal is and partner with your doctor to track your levels.
- Take all of your medications as prescribed. Learn the names of your medications and why they are prescribed.
- Maintain blood pressure control: systolic < 130 and diastolic < 85.
- Reduce your cholesterol level, if needed. These are the target levels:
  - Total cholesterol < 200mg/dl.
  - LDL cholesterol < 130mg/dl, especially if you have cardiac/vascular disease.
  - HDL cholesterol > 40mg/dl.
  - Triglycerides < 150mg/dl.
- **Learn how to monitor your kidney function by learning what creatinine blood level is normal for you.** Log these creatinine values in “My Transplant Log” section and watch for changes. If you notice creatinine levels rising, please alert your health care provider.

  Blood creatinine normal range is 0.8 to 1.2.

- **Learn how to monitor your pancreas function by learning what blood sugar level is normal for you.** Log these values in “My Transplant Log” section and watch for changes. If you notice blood sugar levels rising, please alert your health care provider.

  Blood sugar normal range is 80 to 120.

- **Infection:** The anti-rejection medications you will be taking will lower your immune defense system. This will always make you more susceptible to infections. Your risk is highest in the first 6 months after transplantation when your doses of anti-rejection medications are highest.
Your risk is also higher during periods of rejection, when you are treated with additional anti-rejection medications. Infection may be bacterial, viral, or fungal and may be life-threatening if not treated.

- **Cancer**: Immunosuppressive therapy may increase the risk of some types of malignancies:
  - **Skin cancer**: Skin cancer may occur up to 20 times more often in the post-transplant recipient than in the general population. It tends to take a more aggressive course.

  **Types of skin cancer most often seen:**
  - Squamous cell carcinoma.
  - Melanomas.
  - Kaposi’s sarcoma.

- **Lymphomas**: Most post-transplant lymphomas are of the non-Hodgkin’s type or may also be called post transplant lymphoproliferative disease (PTLD). Early signs may include: fever, sore throat, body aches, and enlarged lymph nodes. Drenching night sweats and weight loss are later symptoms.
• **Joint and bone disease**: Long-term use of prednisone may cause weakening of bones or deterioration of joints. It often affects the knees, hips and spine. You may be prescribed medications to minimize bone loss. Patients receiving a kidney and pancreas transplant may also have problems with foot fractures that are not related to bone loss.

• **Low blood bicarbonate**: Pancreas transplant recipients that are bladder-drained lose about 1 liter of bicarbonate fluid from the pancreas into the bladder each day. This is normal and expected. However, it changes the pH of the bladder and may account for a higher incidence of urinary tract infections. It also causes a low blood pH (acidosis), which can make people nauseated. Bicarbonate supplements will correct the acidosis.

• **Medication side effects**: See the “Medications” section of this transplant guide.
Some surgery complications you may have include:

- **Blood clots**
  - Blood clots may develop in the deep veins, usually in the legs due to sluggish blood flow while you are inactive during surgery or after surgery.
  - Anti-clotting medications may then be needed for treatment.
  - Depending on the location and size of the blood clot, more aggressive treatment may be needed such as surgical removal.
  - If the blood clot is in the blood vessels in the lungs, you may need supplemental oxygen or breathing support.
  - A blood clot can also form in the blood vessels that supply your kidney graft or pancreas graft. These may injure your kidney/pancreas to such an extent that kidney/pancreas function would be diminished or lost.
− After surgery, you will be taking aspirin to reduce the risk of blood clots. You will also need to wear compression stockings while you are in bed until you are able to increase your activity level.

• **Bleeding**
  − If the blood loss is small, you may not require any treatment.
  − A blood transfusion may be required.
  − If rapid and large blood loss occurs, you may need another surgery and it is possible there may be organ injury or even death.

• **Lymphocele**
  − Lymph vessels are blood vessels that carry water and proteins out of tissues back to the veins.
  − Lymph vessels are very tiny and are often cut during surgery. Sometimes this causes lymph fluid to collect. This is called a lymphocele.
– Most of the time no treatment is needed, but occasionally it may press against a vein or the ureter (urine drainage tube).

– If the lymphocele blocks blood or urine flow it needs to be drained. The lymphocele is usually drained with a needle. If the fluid returns, a small tube may be placed in the lymphocele.

• **Urine leak**

  – A urine leak may occur if the ureter begins to pull away from the bladder.

  – If you develop a urine leak, you may have an increased level of pain at the surgery site or fluid coming out of the wound.

  – Insertion of a Foley catheter to drain the bladder and reduce pressure at the site of the leak may be all that is required. However, surgical repair is often needed.
• Renal artery stenosis
  - Renal artery stenosis is a narrowing of the blood vessel that supplies the kidney graft and usually occurs a while after the transplant.
  - If the blood flow to the graft is compromised, then an angioplasty (procedure to dilate the artery) or stent placed in the artery may be required.

• Urine reflux
  - Urine may flow backwards from the bladder to the kidney or pancreas graft.
  - Frequent voiding is recommended to help prevent this from occurring. Void every 2 hours during the day and just before going to bed.
  - Reflux may increase the risk for infection in the transplant.
Questions?

Your questions are important. Call your transplant coordinator during business hours.

Transplant Services
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