

Common Medications for Kidney Transplant Patients and Their Side Effects

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Kidney transplantation is a life-changing procedure for individuals suffering from end-stage renal disease. However, to ensure the long-term success of the transplant, patients must adhere to a strict regimen of medications. These drugs help prevent organ rejection, manage underlying health conditions, and reduce complications. Below, we explore the most commonly prescribed medications for kidney transplant recipients and their potential side effects.

1. Immunosuppressants

Immunosuppressants, also known as anti-rejection drugs, are crucial to prevent the body's immune system from attacking the transplanted kidney. These drugs must be taken for life to maintain transplant health.

Tacrolimus (Prograf, Advagraf, Envarsus XR)

Function: Suppresses the immune system to prevent organ rejection.

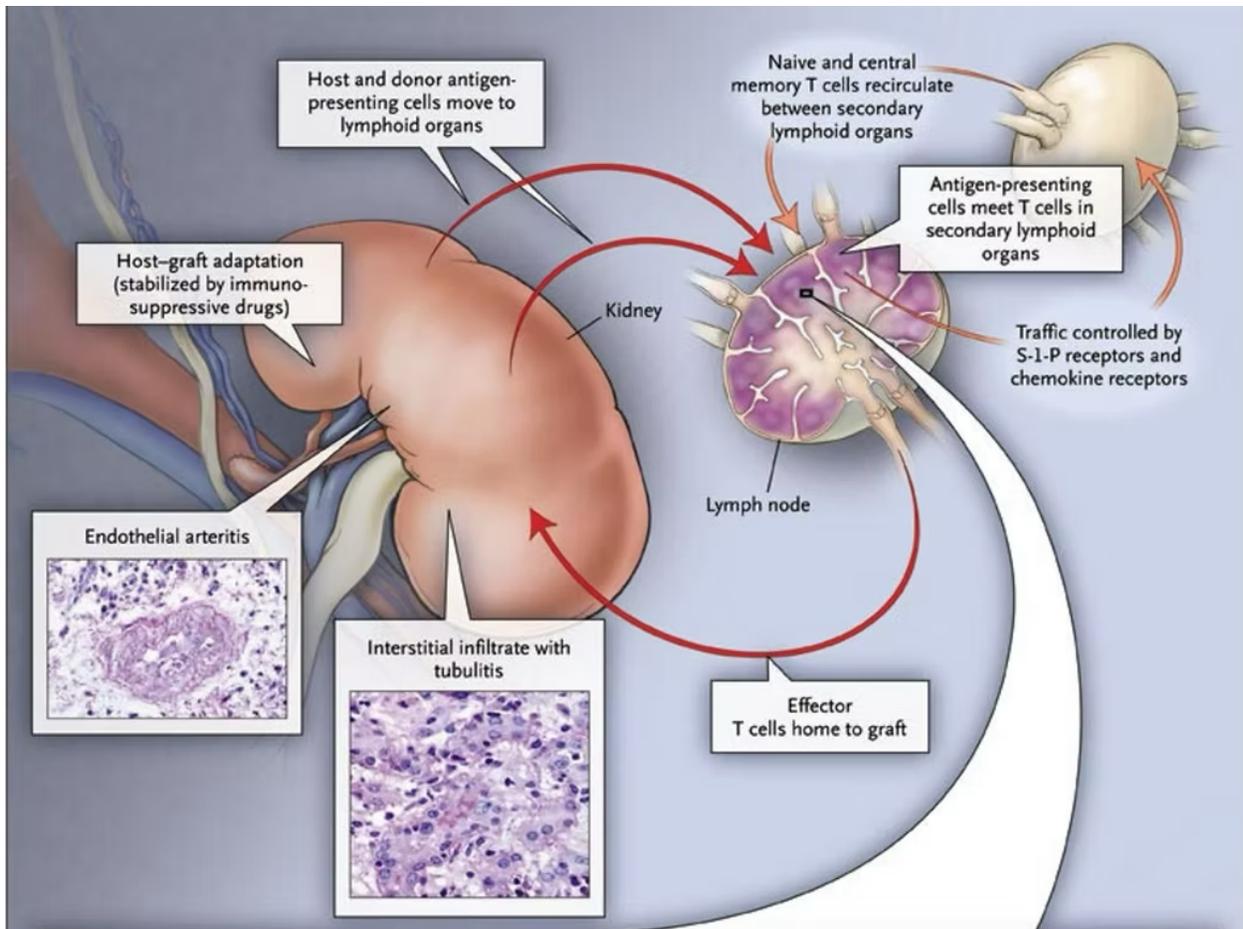
Side Effects:

- Increased risk of infections
- High blood pressure
- Kidney toxicity (nephrotoxicity)
- Diabetes or high blood sugar levels
- Tremors and neurological symptoms (headache, seizures)
- Nausea and gastrointestinal issues

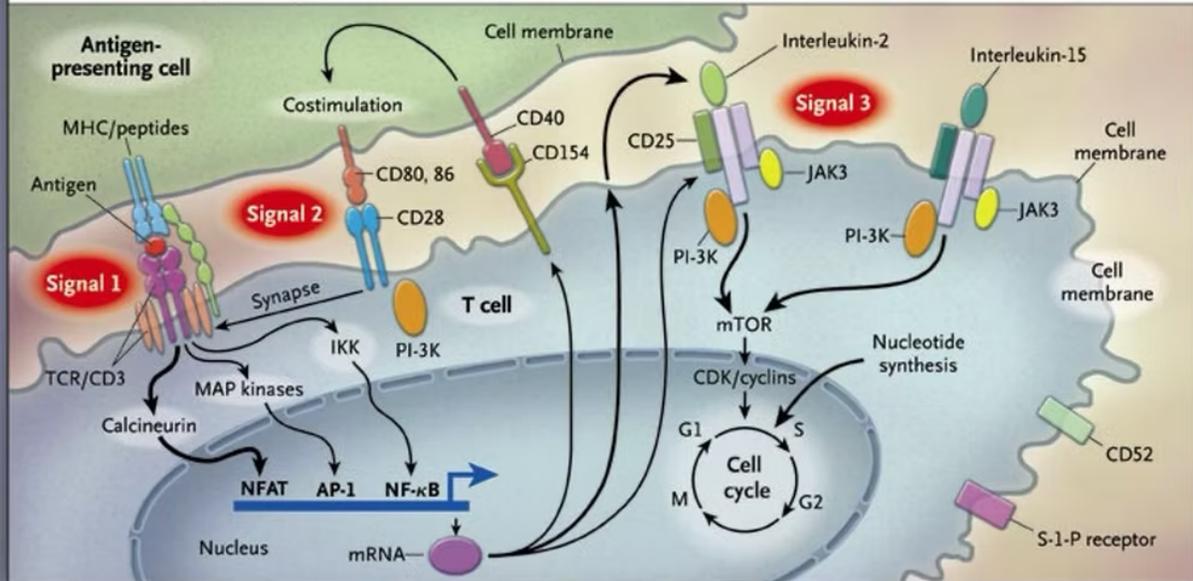
Cyclosporine (Neoral, Gengraf, Sandimmune)

Function: Another powerful immunosuppressant that prevents transplant rejection. Side Effects:

- Increased hair growth (hirsutism)
- Gum overgrowth (gingival hyperplasia)
- High blood pressure



T-cell activation through three signals



This is to illustrate the complexity of Anti-rejection medications for a kidney transplant. Amer A Belal, Alfonso H Santos Jr, Amir Kazory, Abhilash Koratala Providing care for kidney transplant recipients: An overview for generalists, World Journal of Nephrology, 14, 1, (2025).

- Kidney toxicity
- Increased cholesterol levels
- Risk of infections

Mycophenolate Mofetil (CellCept) / Mycophenolate Sodium (Myfortic)

Function: Inhibits the proliferation of immune cells that can attack the transplanted kidney.

Side Effects:

- Gastrointestinal issues (diarrhea, nausea, vomiting)
- Bone marrow suppression (leading to anemia, low white blood cell count, and risk of infections)
- Increased risk of certain cancers, such as skin cancer
- Birth defects if taken during pregnancy

Azathioprine (Imuran)

Function: Suppresses the immune system to reduce transplant rejection risk.

Side Effects:

- Increased risk of infections
- Suppression of bone marrow
- Liver toxicity
- Gastrointestinal disturbances
- Increased risk of developing certain cancers



Sirolimus (Rapamune) / Everolimus (Zortress, Certican)

Function: mTOR inhibitors that prevent immune cell activation and transplant rejection.

Side Effects:

- Delayed wound healing
- Increased risk of infections
- High cholesterol and triglycerides
- Mouth ulcers
- Lung inflammation (rare but serious)

2. Corticosteroids

Prednisone

Function: Reduces inflammation and immune response to prevent rejection. Side Effects:

- Weight gain and increased appetite
- High blood sugar and risk of diabetes

- Osteoporosis (bone thinning)
- Mood swings and psychological effects (anxiety, depression, mood instability)
- Increased risk of infections
- Cataracts and glaucoma (with long-term use)

3. Other Medications for Transplant Health

Since immunosuppressants weaken the immune system, transplant patients often take additional medications to prevent infections and manage other health risks.

Antibiotics (e.g., Trimethoprim/Sulfamethoxazole - Bactrim)

Function: Prevents bacterial infections, especially urinary tract infections (UTIs) and Pneumocystis pneumonia. Side Effects:

- Rash and allergic reactions
- Nausea and vomiting
- Increased sun sensitivity

Antiviral Medications (e.g., Valganciclovir - Valcyte)

Function: Prevents viral infections such as cytomegalovirus (CMV) in transplant recipients. Side Effects:

- Bone marrow suppression
- Nausea and diarrhea
- Risk of infections

Antifungal Medications (e.g., Fluconazole, Nystatin)

Function: Prevents fungal infections, particularly oral thrush. Side Effects:

- Nausea and gastrointestinal discomfort
- Liver toxicity (with long-term use)

Blood Pressure Medications (e.g., Lisinopril, Amlodipine, Metoprolol)

Function: Controls high blood pressure, which is common after transplantation. Side Effects:

- Dizziness and fatigue
- Swelling of the feet and ankles (with certain medications)
- Dry cough (common with ACE inhibitors)

Statins (e.g., Atorvastatin, Rosuvastatin)

Function: Lowers cholesterol, as transplant medications often increase lipid levels. Side Effects:

- Muscle pain and weakness
- Liver function abnormalities
- Gastrointestinal issues

Diabetes Medications (e.g., Insulin, Metformin, [SGLT2 inhibitors](#))

Function: Manages high blood sugar, which can be a side effect of immunosuppressants like Tacrolimus and Prednisone.

Side Effects:

- Low blood sugar (hypoglycemia)
- Gastrointestinal discomfort
- Increased risk of infections (with certain diabetes drugs)

Conclusion

Managing a kidney transplant requires a careful balance of medications to prevent rejection, control side effects, and maintain overall health. While these medications are essential for survival, they come with risks that require regular monitoring by a healthcare provider. Patients should work closely with their transplant team to manage side effects and optimize their long-term health.

If you have concerns about your medications, always consult your doctor before making any changes to your regimen. Staying informed and proactive is key to a successful kidney transplant journey.