

Center for Transplant Services Pre-Transplant Education



HEART LUNG VASCULAR INSTITUTE

www.utmedicalcenter.org



Toll Free 1-877-UT-CARES (1-877-882-2737)
www.utmedicalcenter.org

Transplant Services Patient Guide

Transplant Team:

- Mitchell Goldman, MD, Chief of Transplant
- Oscar Grandas, MD, Kidney/Pancreas Program Director
- Kathie Collins, RN, Program Coordinator
- Karen Hensley, RN, Post-transplant Coordinator
- Susan Noe, RN, Pre-transplant Coordinator
- Rebecca Jarvis, RN, Pre-transplant Coordinator
- Debra Winston, BS, Social Services
- Lori Lusby, MSW, Social Services
- Kris Haley, Receptionist
- Deanna Wentworth, PharmD, Pharmacist
- Libby Reed, Dietitian
- Urath Suresh, MD, Transplant Nephrologist
- Denise Rivers, MD, Transplant Nephrologist
- Maricarmen Malagon-Rogers, MD, Pediatric Transplant Nephrologist

History

In 1985, the University of Tennessee Medical Center began its kidney transplant program, which has grown tremendously over the years and performs pediatric and adult transplants from both living and deceased donors. The Medical Center's first kidney/pancreas transplant was performed successfully in June 2005.

Selecting Transplant Candidates

Transplant candidates undergo a thorough evaluation process that begins with a referral by a nephrologist or endocrinologist. After a referral is made, candidates must attend the "Introduction to Transplant" session at the Medical Center. The pre-transplant coordinator continues testing and works with social services, financial coordinators, transplant surgeons, and referring physicians to evaluate and assess a

candidate's status. The final step involves an evaluation by the transplant surgeon.

Diagnostic testing can include: A chest x-ray, an EKG, and a Pap smear and mammogram for all females. Candidates may also be required to receive further testing, such as: Cardiac stress test, VCUG (bladder test), Pulmonary Function Test (PFT), colonoscopy, and dental screening. Additional testing may be required for any abnormal test results. Laboratory testing is also conducted on all candidates. Tests include: Basic chemistry, complete blood count, urinalysis, ABO typing (blood group), tissue typing, virals, clotting studies, and a TB skin test.

All candidates must not drink alcohol, smoke cigarettes, or use recreational drugs. Candidates who smoke must complete a smoking cessation class, and any candidate who has a history of drug or alcohol abuse must agree to random drug and alcohol screens. If a drug or alcohol screen is positive, the candidate's evaluation process is discontinued immediately. Those individuals will not be reconsidered for a transplant until a six-month period of compliance and random drug or alcohol screens are negative.

United Network for Organ Sharing

The United Network for Organ Sharing (UNOS) coordinates the nation's organ transplant system by facilitating organ recovery and placement of life-saving organs. UNOS maintains the national waiting list as well as donor and recipient information. UNOS, located in Richmond, VA, is contracted by the U.S. Department of Health and Human Services; local organ procurement organizations must operate under UNOS authority. The organ procurement organization for the Knoxville region is Tennessee Donor Services.

The Wait List and How It Works

The organ waiting list includes a person's name, blood type, antigens (tissue typing), antibody level (PRA), and the name of the listing transplant center. All the information is stored in the UNOS database until a donor becomes available. When an organ becomes available, the donor's information is also entered into the database to generate a list of matches. Candidates may only be listed in one transplant center per state.

There are several factors that determine which candidate receives an organ when one becomes available. The candidate's ABO blood type, the match with the donor, the length of time on the waiting list and the percentage of antibodies are involved in the process. A candidate's wait for an organ begins when he is added to the UNOS list. This period of time is important because it serves as a basis for selecting a candidate. When several candidates are an equal match for one donor, the one who has been on the list longer is offered the organ.

Candidates are placed on the UNOS list after all required diagnostic tests and the evaluations by the transplant coordinator, social services, financial coordinator, and the transplant surgeon have been completed. Additionally, approvals from insurance and the transplant panel must also be on file. The candidate, nephrologist and dialysis clinic will be notified when they are added to the UNOS list.

Once registered with UNOS, a candidate must remain compliant with dialysis, medications, and other medical treatments in order to stay on the list. It is also important to have a PRA test each month and notify the transplant team of any change in medical condition. When an organ becomes available, the surgeon, nephrologist, and candidate make the final decision about the transplant.

Candidates may be refused a transplant because of non-compliance, recent surgeries or hospitalizations, current or recent infection (example: urinary tract infection), chronic open wounds, unreported changes in medical condition, positive crossmatch, or Body Mass Index (BMI) greater than 35 or less than 19.

Glossary

ABO: ABO is the blood type, such as A, B, AB, or O. An Rh factor of positive or negative does not matter with transplantation. Blood group A can receive from an A or O. Blood group B can receive from a B or O. Blood group AB can receive from an A, B, or O; however, blood group O can only receive from an O.

Antigens: Tissue typing is a blood test performed by the transplant lab that determines what antigens or proteins are attached to cells and tissues. Antigens help the immune system recognize "self" from "non-self." Immunosuppression helps to prevent rejection from occurring. Everyone has six antigens – three from each parent.

Antibodies: Antibodies are proteins produced indirectly by memory cells when the immune system has been exposed to "non-self" by viruses, bacteria, previous blood transfusions, pregnancies, or transplants. A Percent Reactive Antibodies (PRA) test is used to measure antibodies. Test results range from 0 to 100 percent. Individuals with a high PRA have more difficulty finding a donor. PRA testing is done monthly, and for those on dialysis it can be completed in the dialysis center.

Cross Match: A cross match is a blood test. This is done with all potential transplants when an organ comes available. Your antibodies are mixed with the donor cells. If your antibodies attack the donor's cells, this is a positive cross match. If you have a positive

cross match, you can not receive the organ. We know the same response will happen in your body and you will reject the organ. If your antibodies do not attack the donor cells, you can receive the organ.

Medicines

Patients who receive a donated organ must take medicines known as immunosuppressants (or anti-rejection medicines). These medicines must be taken correctly for the life of the transplanted organ. Typically, a combination of three medicines is used: Cyclosporine (Gengraf/Neoral) or Prograf, Cellcept or Myfortic, and Prednisone. Knowing the facts about your medication is very important to your health and safety.

Anti-Rejection Medication

Cyclosporine (Gengraf/Neoral): Side effects include but are not limited to increased blood pressure, increased cholesterol, tremors, swelling of the gums, excessive hair growth, kidney or liver dysfunction, high risk of infection, increased risk for cancers (especially skin cancers), and headache.

Prograf: Side effects include but are not limited to increased blood sugars, increased cholesterol, tremors, numbness and tingling of hands and feet, hair loss, kidney or liver dysfunction, increased risk of infections, increased risk for cancer (especially skin cancers), and headache.

Cellcept or Myfortic: Side effects include but are not limited to upset stomach (nausea, vomiting, and/or diarrhea), decreased white blood cell count, increased risk of infection, and increased risk for cancers (especially skin cancers).

Prednisone: Side effects include but are not limited to upset stomach (including ulcers), increased appetite,

increased fat deposits (including neck, back, and face), swelling, changes in bones and joints, sensitivity to the sun (including skin cancers, acne, and cataracts), increases in blood sugar, mood swings, increased risk for infection, and increases in cholesterol.

Medication Costs

Transplant anti-rejection medications are very expensive. The three anti-rejection medications' combined cost falls between \$1400 and \$2100 per month based on the average discharge dose. Your insurance will pay a portion of this, but most patients will have some out-of-pocket expenses. Out-of-pocket expenses will be discussed on an individual basis.

1st Kidney Transplant Medication \$\$	
Gengraf – 200mg by mouth twice daily	\$ 660.60
Cellcept – 1000mg by mouth twice daily	\$ 777.60
Prednisone – 20mg by mouth once daily	\$ 6.00
Total Cash Price for 1-month supply	\$1444.20

-OR-

Medicare Part B Coverage (patient pays 20%)	\$ 288.84
--	------------------

2nd Kidney Transplant Medication \$\$	
Prograf – 5mg by mouth twice daily	\$1280.40
Cellcept – 1000mg by mouth twice daily	\$ 777.60
Predisone – 20mg by mouth once daily	\$ 6.00
Total cash price for 1-month supply:	\$2064.00

-OR-

Medicare Part B Coverage (patient pays 20%)	\$ 412.80
--	------------------

• All prices based on AWP for a 1-month supply

• AWP = Average Wholesale Price

Cost of Antiviral Therapy

Antiviral therapy is used to prevent CMV (Cytomegalovirus) infection for 3 to 6 months post-transplant.

Ganciclovir (Cytovene) – 1000mg by mouth three times daily 1-month supply (AWP 2006)	\$1614.28
--	------------------

-OR-

Valganciclovir (Valcyte) – 900mg by mouth once daily 1-month supply (AWP 2006)	\$2081.99
---	------------------

Ganciclovir is available as a generic. If you have private prescription coverage or Medicare Part D, the co-pay will be less than a brand name. If you develop an active CMV infection the therapy will change, which may mean double the cost of your antiviral medication.

Medicare

What does Medicare cover and for how long? Part A of Medicare will cover services you receive while in the hospital; Part B partially covers your physicians' bills, clinic services, and laboratory testing. It will also cover 80% of the anti-rejection medications. Part D is a prescription coverage plan; this will help you with the cost of your medications not covered by part B. If you are 65 or over and eligible for Medicare, 80% of your transplant medications will be covered for the life of the organ. If you receive Medicare based on your End Stage Renal Disease (ESRD) only, you will lose your Medicare coverage 3 years after the transplant. You may be eligible again if you restart dialysis, are re-transplanted or you are 65 years old. If you have Medicare based on any conditions other than ESRD, you will not lose it after the 3 years.

Types of Donors

Living Related Donors

A living related donor is a person who steps forward as a potential donor who is related to you by blood. They must be 18 years old or older in order to be a donor.

Living Non-Related Donors

A living non-related donor is a person who steps forward as a potential donor who is not related to you by blood. They must also be 18 years old or older.

Deceased Donors

A deceased donor is a person who has had a brain injury and has been declared brain dead.

All potential donors go through a series of tests and screenings for any serious infections or health hazards to make sure they are a good candidate. A living donor kidney transplant is the best option and has the most successful outcome. **A transplant is not a cure for kidney disease or diabetes; it is a form of treatment like dialysis and insulin.**

Risks

There are many risks associated with a kidney, pancreas, or kidney/pancreas transplant just as there are with any surgery. Some of these risks include: A non-functioning kidney or pancreas, infections, malignancies, surgical complications, blood transfusions, dialysis after surgery, or increased blood sugar.

Benefits

There are also many benefits to a kidney, pancreas, or kidney/pancreas transplant. A kidney transplant can slow down cardiovascular disease and can give you freedom from dialysis, fluid and renal dietary restrictions. Along with benefits to kidney transplants, there are also benefits to a pancreas transplant. A pancreas transplant can give you freedom from insulin and diabetic dietary restrictions. A transplant also decreases progression of diabetic complications such as neuropathy (numbness and tingling), retinopathy (visual changes), peripheral vascular disease (poor

