

Want to Learn More or Share Resources With Your Family and Friends?

The Kidney and Pancreas Patient Education Guide (this book) can be found electronically on the University of Michigan Transplant Center website at www.UofMHealth.org/medical-services/transplant/kidney-and-pancreas-transplant-patient-care-guide. In addition, a condensed version of this book, Spanish and Arabic materials and donor education materials can be found at that link.

For general information about the University of Michigan Transplant Center, please visit www.UofMHealth.org/transplant.

Michigan Medicine Patient Portal

What is MyUofMHealth.org?

MyUofMHealth.org offers patients personalized and secure online access to portions of their medical records. It enables you to securely use the internet to help manage and receive information about your health. With **MyUofMHealth.org**, you can use the internet to:

- Request medical appointments.
- View your health summary from the **MyUofMHealth.org** electronic health record.
- View test results.
- Request prescription renewals.
- Access trusted health information resources.
- Communicate electronically and securely with your medical care team.

How Do I Sign Up?

We encourage all patients to use the patient portal. You will need a **MyUofMHealth.org** activation code to get started. There are two ways to get the code. Patients can get an activation code after their clinic visit or they can request an activation code by completing the online request form located on the **MyUofMHealth.org** website. This code will enable you to login and create your own username and password.

Who Do I Contact if I Have Further Questions?

You may e-mail HIM-PatientPortal@med.umich.edu, or you can call the Health Information Management Department at (734) 615-0872, Monday-Friday, 8 a.m.-5 p.m.

Glossary of Terms

Absorption – The degree and speed at which a drug enters the bloodstream from the small intestine.

Acute rejection – The body’s attempt to destroy the transplanted organ. Acute rejection usually occurs in the first year after transplant.

Acute renal failure – Reversible kidney damage.

Acute tubular necrosis (ATN) – Reversible kidney damage resulting in delayed kidney function. Among other factors, it may be caused by the quality of the donor organ, the time the organ was stored before transplantation, or medications used to prevent rejection.

ADA – Americans with Disabilities Act of 1990.

Administrative fee – An amount of money charged by an organization handling fundraising money.

Adverse reaction – An unintended side effect from a drug.

Advocacy organization – A group that helps someone get what they need or want, promotes a certain point of view, or pleads the case of another.

Affordable Care Act – A Healthcare Reform law that was passed in 2010, aimed at improving the quality of healthcare and health insurance, and providing more Americans with affordable healthcare coverage. Provisions of the law include allowing children to stay on their parents’ insurance until the age of 26, reducing the Part D coverage gap, eliminating pre-existing clauses, and expanding Medicaid coverage. For those patients purchasing health coverage on the exchange (also called marketplace), premium assistance via tax credits is offered, as are cost-sharing subsidies for those who qualify.

Albumin – A protein made by the liver.

Alkaline Phosphatase – An enzyme that may be increased in some liver and bile duct diseases.

Allocation – The process of determining how organs are distributed. Allocation includes the system of policies and guidelines that are followed to ensure that organs and tissues are distributed fairly to those waiting for them.

Allograft – An organ or tissue that is transplanted from one creature to another of the same species, such as human to human. An example would be a transplanted kidney.

ALT (SGPT) – The abbreviation for alanine aminotransferase, an enzyme found in high levels in the blood when the liver is inflamed.

Anesthetic – Medication that reduces pain by dulling sensations.

Antibody – A substance produced by the body in response to an infection. Antibodies help fight infections, thus producing immunity to the infecting organism.

Antigen – A foreign substance, such as a transplanted organ, that triggers the body to try to destroy (reject) it.

Antigen match – The process of comparing the blood from the donor and recipient to ensure they are compatible.

Anti-rejection drugs (immunosuppressive drugs) – Drugs that reduce the body's ability to reject the transplanted organ.

Arteriogram – An x-ray of an artery after a dye has been injected.

AST (SGOT) – The abbreviation for aspartate aminotransferase, an enzyme found in high levels in the blood when the liver is inflamed.

Asymptomatic – Free of symptoms.

Bacteria – Small organisms (germs) that can cause disease.

Beneficiary – The person who receives the benefits of an insurance policy.

Benefits – Services that are paid for by an insurance policy.

Bioavailability – A measure of how much of an administered drug is absorbed into the bloodstream, actually reaching the intended site of action in the body. For example, medicine is absorbed from the GI tract, travels through the bloodstream, and reaches the organ tissues, where it works to fight infection, prevent rejection, etc.

Biopsy – A procedure where a sample of tissue is removed from the body by a needle so it can be examined under the microscope.

Bladder – The part of the urinary tract that receives urine from the kidneys and stores it until urination.

Blood vessels – The veins, arteries, and capillaries through which blood flows. Blood vessels can be donated and transplanted.

Brain death – When the brain has permanently stopped working, as determined by a doctor. Machines may maintain functions such as heartbeat and breathing for a few days, but not permanently.

BUN – BUN stands for Blood Urea Nitrogen, a waste product normally secreted by the kidney. BUN values represent how well the kidneys function.

Calcium – A silvery, moderately hard metallic element that is found in the earth's crust and is a basic component of most animals and plants.

Cardiac – Having to do with the heart.

Cessation – The act of ceasing; halt.

Cholesterol – A pearly fat-like substance found within the body.

Chronic – A condition that develops slowly and lasts for a long time, perhaps for the rest of the patient's life, for example, kidney failure.

Chronic rejection – Slow failure of the transplanted organ.

CMV (Cytomegalo Virus) – A virus infection that is very common in transplant recipients; it can affect the lungs and other organs as well; a member of the family of herpes viruses.

Coagulation – Blood clotting.

Coalition on Donation – A non-profit alliance of health and science professionals, transplant patients and voluntary health and transplant organizations. The Coalition works to increase public awareness of the critical organ shortage, to create a greater willingness and greater commitment to organ and tissue donation.

Co-insurance – A percentage of money insured persons must pay toward a service insurance will cover. A typical amount is 20 percent – patients pay 20 percent of the doctor's bill and insurance pays 80 percent.

Cold ischemia time – The time an organ is without blood circulation – from the time of removal of the organ from the donor to the time the organ is transplanted into the recipient.

Continuous Ambulatory Peritoneal Dialysis (CAPD) – A form of dialysis using an abdominally placed catheter with a glucose solution the patient performs at home.

Co-payment (co-pay) – A flat fee that a person pays for healthcare services in addition to what the insurance company pays. For example, a \$10 co-payment for each visit to the doctor.

Corticosteroid – A hormone produced by the body but given as a synthetic (manufactured) medicine to suppress the body’s normal reaction (immune response) to infection and foreign tissue, such as a transplanted organ. Prednisone is an example of a synthetic hormone.

Coverage date – The day insurance benefits begin.

Covered benefit – A service that an insurance company will provide payment toward.

Creatinine – A substance found in blood and urine; it results from normal body chemical reactions; high blood creatinine levels are a sign of depressed kidney function.

Criteria (medical criteria) – A set of standards, or conditions, that must be met.

Crossmatch – A test to see if the recipient has developed antibody against the donor to ensure the recipient’s immune system would not attack the transplanted organ. The crossmatch must be negative for the transplant to be done.

Deceased donor – An individual who has recently died of causes that do not affect the function of an organ to be transplanted. Either the person or the person’s family has generously offered organs and/or tissues for transplantation.

Deductible – A fixed amount of money that must be paid for covered healthcare expenses before the insurance company starts to pay. This is usually a yearly amount of \$250, \$500, \$1,000 or more.

Delayed function – A condition in which the transplanted organ does not work well right after the transplant. Many kidneys have a delay before they begin to function well. Kidneys can sometimes take as long as three weeks to “wake up.” Sometimes a kidney recipient needs dialysis until the kidney starts to work.

Department of Health and Human Services (HHS) – The department of the Federal Government that is responsible for health-related programs and issues, including overseeing the OPTN and SRTR contracts and developing organ, tissue and bone marrow donation programs.

Dependents – Those persons who also receive insurance benefits on an insurance policy, for instance, a spouse or child.

Diabetes – A disease in which patients have high levels of sugar in their blood.

Dialysis – The use of a machine to correct the balance of fluids and chemicals in the body and to remove wastes from the body when kidneys are failing. (See hemodialysis.)

Diastolic blood pressure – The bottom number in blood pressure readings (80 in a blood pressure of 120/80), which indicates the pressure in the arteries when the heart is at rest.

Dietitian – An individual who has training in the areas of diet and nutrition.

Disability (disabled) – A considerable limitation in major life activity that cannot be helped with the use of a corrective device or medication. A disabled person is someone who is unable to perform the necessary functions of many jobs with or without reasonable modification.

Disability Determination Service – A state agency that reviews eligibility for vocational rehabilitation.

Disability insurance – A type of insurance that provides an income if illness or injury prevents a person from being able to work for an extended period of time.

DNA – The abbreviation for deoxyribonucleic acid, the substance that is the building block of all living things.

Donor – Someone from whom an organ or tissue is removed for transplantation.

Donor card – A document that indicates a person's wish to be an organ donor.

Donor pool – A group of people eligible to donate an organ.

Durable power of attorney – A legal document in which someone is named to make medical decisions for a person when they are unable to speak for themselves.

Edema – Swelling caused when the body retains too much fluid, also called “water weight.”

Electrocardiogram – A recording of the electrical activity of the heart.

Electrolyte – Any of various ions, such as sodium, potassium or chloride required by cells to regulate the electric charge and flow of water molecules across the cell membrane.

ELISA – A blood test used to measure the presence of hepatitis C antibodies in blood.

Encephalopathy – Damage to the brain and central nervous system caused by toxins not filtered out of the blood by the liver.

End-stage organ disease – A disease that leads to permanent failure of an organ.

End-stage renal disease (ESRD) – kidney disease that is not reversible.

Enzyme – Cellular proteins that begin or assist chemical reactions within the body.

Epivir HBV – Also known as Lamivudine for treatment of hepatitis B.

Evidence of insurability – Proof that a person is healthy enough for a particular insurance company to insure them.

Exclusion – Medical services that are not paid for by an insurance policy.

Experimental – New treatments, procedures or drugs that are being tested. Insurance companies usually do not pay for anything considered experimental.

Federally mandated – Required by Federal law.

Fibrosis – Scarring.

Focal Segmental Glomerulosclerosis (FSGS) – A type of kidney disease where patients can present with edema (fluid retention), proteinuria (protein in the urine), low serum albumin and high serum cholesterol.

Foreign body – An entity that enters the body that is not supposed to be there, such as a germ, a piece of glass, a splinter, or a transplanted organ or tissue. The body normally attacks or tries to reject a foreign body to prevent further injury.

Foundation – An institution that provides funds for causes, issues, groups, people, etc. A foundation often has a particular interest or interests and solicits donations from those who support these interests. Some foundations help patients and their families with medical expenses.

Fulminant – Happening very quickly and with intensity, for example, fulminant liver failure or fulminant infection.

Fungal disease – An infection that usually occurs in patients during treatment with steroids or immunosuppressants. Examples of fungal infections include candida, aspergillus, and histoplasmosis, which tend to be systemic infections.

Gallbladder – A muscular sac attached to the liver which stores bile.

Gender – The particular sex of an individual; male or female.

Genetic – Referring to heredity, birth or origin.

Gingival Hypertrophy – The enlargement of the gums, a common side effect of cyclosporine therapy, which can be managed with good oral hygiene.

Glucose – A type of sugar found in the blood.

Graft – A transplanted organ or tissue.

Graft survival rate – The percentage of patients who have functioning transplanted organs (grafts) at a certain point in time. The data are usually measured in 1-, 3- and 5-year time periods.

Grant – An amount of money given as a gift, usually for a specific use.

Group insurance – Typically offered through employers, although unions, professional associations and other organizations also offer group insurance. Most, if not all, of the premium is paid by the employer.

Gynecology – A medical specialty focusing on a woman's reproductive organs.

Health maintenance organization (HMO) – An insurance plan where employers pay a fixed monthly fee for services, regardless of the level of care. Patients must usually see a primary care physician, then be referred to a specialist.

Hemoglobin – The oxygen carrying the pigment in red blood cells.

Hematocrit – A measure of the red blood cell content of blood.

Hemodialysis – A treatment for kidney failure whereby the patient's blood is passed through a machine to remove excess fluid and wastes. The procedure usually takes about 3 to 4 hours per session and is usually done three times per week.

Hemorrhage – A rapid loss of a large amount of blood; excessive bleeding.

Herpes – A family of viruses that infect humans; herpes simplex causes lip and genital sores; herpes zoster causes shingles.

High blood pressure (hypertension) – High blood pressure occurs when the force of the blood pushing against the walls of the blood vessels is higher than normal because the blood vessels have either become less able to stretch or have gotten smaller. High blood pressure causes the heart to pump harder to move blood through the body. High blood pressure can cause kidney failure and heart disease if not treated.

Hirsutism – An excessive increase in hair growth. It is a common side effect of some drugs and can be controlled with waxing, hair removal creams or shaving.

Human immunodeficiency virus (HIV) – A virus that destroys cells in the immune system, resulting in the eventual inability of the body to fight off infections, toxins, poisons, or diseases. HIV causes AIDS (acquired immunodeficiency syndrome), a late stage of the HIV infections that can include serious infections, blindness, some types of cancers and neurological conditions such as senility.

Hydronephrosis – A back flow and accumulation of urine in the kidney.

Hyperglycemia – An abnormally increased content of sugar in the blood.

Hypertension – See high blood pressure.

Hypoglycemia – An abnormally diminished content of sugar in the blood.

Immunity – The ability of the body to recognize harmful or foreign substances and eliminate them without injury to itself.

Immune System – A system within the body that continually monitors for harmful or foreign substances that may damage the body.

Immunosuppression – The artificial suppression of the immune response, usually through drugs, so that the body will not reject a transplanted organ or tissue. Drugs commonly used to suppress the immune system after transplant include prednisone, cyclosporine (Neoral[®], Gengraf[®]), mycophenolate mofetil (Cellcept[®], Myfortic[®]), tacrolimus (Prograf[®], Envarsus XR[®]), everolimus (Zortress[®]) and sirolimus (Rapamune[®]).

Immunosuppressive – Relating to the weakening or reducing of the immune system's response to foreign material. Immunosuppressive drugs reduce the immune system's ability to reject a transplanted organ.

Infection – A condition that occurs when a foreign substance enters the body, causing the immune system to fight the intruder. Transplant recipients can get infections more easily because their immune systems are suppressed. It is more difficult for them to recover from infection, such as a urinary tract infection, colds and the flu.

Inflammation – A tissue reaction to irritation, infections or injury marked by localized heat, swelling, pain, redness, and sometimes loss of function.

Informed consent – The process of reaching an agreement based on a full disclosure and full understanding of what will take place. Informed consent often refers to the process by which one makes decisions regarding medical procedures, including the decisions to donate the organs of a loved one.

Inpatient treatment – Treatment in the hospital involving at least one overnight stay.

Insurance benefits – Services paid for by an insurance company.

Intensive care unit (ICU) – A unit in the hospital that has highly technical and sophisticated monitoring devices and equipment for seriously ill patients. The staff is specially trained to take care of these patients who are often critically ill or recovering from surgery.

Interventional Radiology – An area in the hospital where certain procedures are done.

Intravenous (IV) – Within a vein or veins; usually refers to medication or fluids that are infused into a vein through a plastic catheter (narrow tube) or “line” inserted into the vein.

Investigational – A drug or procedure that is in a research phase and has not yet been approved for patient use by the Federal Drug Administration (FDA). Insurance companies normally do not pay for investigational drugs or procedures.

Kidneys – A pair of organs that remove wastes from the body through the production of urine. The blood supply in the body passes through the kidneys about 20 times every hour. Kidneys can be donated from living or deceased donors and transplanted into patients with kidney failure.

Kidney Toxicity – Pertains to substances that would be poisonous or damaging to the kidneys.

Leukocyte – A white blood cell.

Lifetime maximum – The total amount of money an insurance company will pay out for covered expenses during the insured’s lifetime. Typical amounts are \$150,000, up to \$5,000,000. Once the insured has reached the lifetime maximum, they no longer have insurance benefits. It is important for patients to know how their insurance dollars are being spent.

Liver – The liver is located in the upper right abdomen and is a spongy mass of wedge-shaped lobes. The liver secretes bile which aids in digestion, helps process proteins, carbohydrates and fats, and stores substances like vitamins. The liver also removes wastes from the blood. The liver can be donated and transplanted. Living donors can give part of their liver.

Liver enzymes – Substances produced by the liver and released into the blood; these are measured to assess liver function.

Liver Failure – A condition in which the liver no longer carries out, or adequately carries out, its functions in the body. Liver failure may present as fatigue, jaundice, swelling (retention of fluid in the legs and abdomen), bleeding from the stomach and mouth, confusion, and decreased levels of consciousness (encephalopathy).

Living related donor (LRD) – A family member who donates a kidney or part of a lung, liver, or pancreas to another family member, such as a sister, or a parent to a child.

Living unrelated donor – A person who is not related by blood, who donates a kidney or part of a lung, liver, or pancreas to another person, such as a husband who donates to a wife.

Managed care – A term used to describe insurance programs that try to control health costs by limiting unnecessary treatment. Health maintenance organizations (HMOs), preferred provider organizations (PPOs) and point-of-service (POS) plans and utilization review are all forms of managed care.

Match – The degree of compatibility, or likeliness, between the donor and the recipient.

Medicaid – A partnership between the federal government and individual states to share the cost of medical coverage for welfare recipients and to allow states to provide the same coverage to low-income workers not eligible for welfare. Programs vary greatly from state to state.

Medically necessary – A specific healthcare service or supply that your insurance company has determined is required for your medical treatment and is also the most efficient and economical way to provide that service. Examples would be having a minor surgical procedure performed in the doctor’s office instead of staying overnight in a hospital, or renting rather than buying a piece of medical equipment.

Medicare – The Federal Government program that provides hospital and medical insurance through Social Security taxes to people aged 65 and over, those who have permanent kidney failure, and certain people with disabilities.

Medicare – approved facility – A facility that meets Medicare standards for the number of transplants they do and the quality of patient outcomes.

Medigap policy (MedSupp, Medicare supplementary) – Private insurance that helps cover some of the gaps in Medicare coverage.

Metabolism – A general term applied to the chemical processes taking place in the body.

Mortality – Death (mortality rate = death rate).

Multiple listing – Being on the organ transplant waiting list at more than one transplant center.

National Organ Transplant Act (NOTA) – Passed by Congress in 1984, NOTA initiated the development of a national system for organ sharing and a scientific registry to collect and report transplant data. It also outlawed the sales of human organs.

Nephrectomy – Surgical removal of a kidney.

Nephrologist – A medical doctor that specializes in kidney disease.

Nephropathy – Disease of the kidneys.

Nephrotic syndrome – A group of symptoms including protein in the urine, low blood protein levels, and swelling.

Noncompliance – Failure to follow the instructions of the medical team, such as not taking medicines properly or not attending clinic appointments. Noncompliance can lead to the failure of a transplanted organ.

Nonfunction – A condition in which a transplant organ fails to “wake up” (work) after being transplanted into a recipient. In the case of a kidney transplant, the recipient will return to dialysis and/or undergo another transplant.

Non-Steroidal Anti-Inflammatory Drug (NSAID) – A group of pain relievers that should not be used by kidney patients.

OPO service area – Each organ procurement organization, OPO, provides organ procurement services for transplant centers throughout the United States. An OPO service area can include a portion of a city, a portion of a state or an entire state. OPOs distribute organs according to established allocation policy.

Orally – By mouth.

Organ – A part of the body, made up of various types of tissues, that performs a particular function. Transplantable organs are the heart, liver, lungs, kidneys, pancreas and intestines.

Organ donation – To give an organ, such as a kidney, to someone in need of that organ, or to have organs removed for transplantation after death.

Organ preservation – Donated organs require special methods of preservation to keep them viable between removal and transplantation. Without preservation, the organs will deteriorate. The length of time organs and tissues can be kept outside the body vary depending on the organ, the preservation solution and the preservation method (pump or cold storage). Common preservation times vary from two to four hours for lungs to 48 hours for kidneys.

Organ procurement or organ recovery – The act of surgically removing an organ from a donor for transplantation.

Organ Procurement and Transplantation Network (OPTN) – In 1987, Congress passed the National Organ Transplant Act (NOTA) that mandated the establishment of the OPTN and Scientific Registry of Transplant Recipients. The purpose of the OPTN is to improve the effectiveness of the Nation's organ procurement, donation and transplantation system by increasing the availability of and access to donor organs for patients with end-stage organ failure. OPTN members include transplant centers, OPOs, histocompatibility laboratories, voluntary healthcare organizations and the public. UNOS contracts with the Federal Government to operate OPTN.

Organ procurement organization (OPO) – OPOs serve as the vital link between the donor and recipient and are responsible for the identification of donors and the removal, preservation and transportation of organs for transplantation. OPOs also collect data on deceased donors for the Scientific Registry. As a resource to the community, OPOs engage in public and professional education on the critical need for organ donation. Currently, there are 58 OPOs around the country. All are OPTN members.

Organ rejection – An attempt by the immune system to reject or destroy what it recognizes to be a “foreign” presence (for example, a transplanted liver).

Osteoporosis – A disorder in which the bones become increasingly porous, brittle and subject to fracture from the loss of calcium.

Out-of-pocket expenses – The portion of health costs that must be paid by the insured person per year, including deductibles, co-payments and co-insurance.

Outpatient care (ambulatory care) - Medical testing or treatment done without an overnight hospital stay, performed in a hospital setting or doctor's office.

Pancreas – A large elongated internal organ situated behind the stomach which produces digestive enzymes and insulin.

Pancreas After Kidney (PAK) – This designation refers to receiving a pancreas transplant after the recipient has previously received a kidney transplant.

Pancreas Transplant Alone (PTA) – This designation refers to a patient receiving a pancreas transplant who is not planned to receive a kidney transplant.

Peritoneal dialysis – A method of purifying the blood by flushing the abdominal cavity with a prescribed solution.

Placebo (Dummy) – An inactive substance with no direct medical benefits. Often used in clinical trials to determine if the test drug is safe and effective.

Platelet – A small blood cell needed for normal blood clotting.

Polycystic Kidney Disease – An inherited disorder characterized by lesions throughout the kidney which can lead to kidney failure.

Pool – A group of people or objects with a similar characteristic or function.

Potassium – An electrolyte that is essential to muscle and other cells in the body.

Potential transplant recipient – A transplant candidate who has been ranked by the OPTN computer match program as the person to whom an organ from a specific deceased organ donor is to be offered.

PRA (panel reactive antibody) – A panel reactive antibody screening test tells which antibodies a recipient has that would cause a reaction against certain donors.

Pre-authorization (pre-certification) – The process of notifying and getting approval from your insurance company before you proceed with an elective (non-emergency) medical procedure. If the insurance plan requires pre-certification and it is not obtained, the insured will be responsible for a larger portion of the cost.

Pre-existing condition – Any disease, illness, sickness or condition that was diagnosed or treated by a provider (insurance company) in the 12 months before the start date of insurance coverage; also, anything that caused symptoms in those 12 months that causes the insured to seek medical care.

Preferred provider organization (PPO) – A group of hospitals or physicians who have signed a contract with a particular insurance company to provide care to their members, usually at a discount. With a PPO plan, the cost of care is usually lower if the insured uses one of the designated providers.

Premium – Amount paid to an insurance company for providing medical or disability coverage under a contract.

Private health plan – An insurance policy obtained by an individual, not through an employer.

Procurement - The surgical procedure of removing a donated organ or tissue.

Prophylactic medication – Medication that helps prevent disease.

Protein – The fundamental building blocks of all living things.

Pulmonary – Having to do with, or pertaining to, the lungs.

Recipient – A person who has received a transplant.

Recovery or retrieval – The surgical procedure of removing an organ or tissue from a donor.

Rejection – When the body attacks a transplanted organ or tissue because it reacts to the organ or tissue as a foreign object. Anti-rejection (immunosuppressive) drugs help prevent rejection.

Renal – Have to do with, or referring to, the kidneys.

Re-transplantation – Due to rejection or failure of a transplant organ, some patients receive another transplant after having returned to the waiting list.

Routine referral – Hospitals are required on or before each death to call the OPO in order to determine suitability for organ, eye and tissue donation. The OPO, in consultation with the patient's attending doctor or his or her designee, will determine the suitability for donation.

Sarcoidosis – A systemic disease of unknown origin; involves inflammation that produces lumps of cells in various organs of the body.

Scientific Registry of Transplant Recipients (SRTR) – In 1987, Congress passed the National Organ Transplant Act that mandated the establishment of the Organ Procurement and Transplantation Network and SRTR. The purpose of the SRTR is to provide ongoing research to evaluate information about donors, transplant candidates and recipients, as well as patient and graft survival rates. The SRTR contains historical data from October 1, 1987 to the present. The registry tracks all transplant patients from the time of transplant through hospital discharge, and then annually for up to 3 years or until graft failure or death. URREA (University Renal Research and Education Association) operates the SRTR under contract with the Federal Government.

Second opinion – A medical opinion provided by a second doctor or medical expert after one doctor has provided a diagnosis or recommended treatment to an individual.

Sensitized – Being immunized, or able to mount an immune response, against an antigen by previous exposure to that antigen.

Seroconversion – The loss of an antigen and the development of detectable antibodies to the antigen.

Shingles – A herpes infection (Herpes Zoster) that usually affects a nerve, causing pain in one area of the body.

Side effect – An unintended reaction to a drug.

Simultaneous Pancreas Kidney (SPK) – This designation refers to a patient who is receiving a pancreas and a kidney transplant in the same surgical session.

Social Security Administration – A Federal Government program best known for its retirement benefits. The Social Security Administration also administers disability benefits. The monthly benefit is determined by the salary of the individual and the number of years covered by the program.

Sodium – A component of table salt (sodium chloride) an electrolyte that is the main salt in blood.

Spend down – For disabled people who have higher incomes but cannot pay their medical bills. Under this program, a person pays part of his or her monthly medical expenses (the spend down), then Medicaid steps in and pays the rest. Eligibility is determined on a case by case basis.

Status – Indicates the degree of medical urgency for patients on the waiting list for a liver transplant.

Stent – A small expandable tube used for inserting into a blocked vessel or other part of the body.

Stricture or stenosis – A narrowing of passage in the body.

Supplemental policy (Medigap policy) – An insurance policy offered by private insurance companies, not the Government, designated to pay for some of the costs that Medicare does not cover. These policies have limited coverage for medications.

Survival rates – Survival rates indicate what percentage of patients are still living or grafts (organs) still functioning after a certain amount of time. Survival rates are used in developing organ allocation policy. Because survival rates improve with technological and scientific advances, policies that reflect and respond to these advances are expected to improve survival rates.

Systolic blood pressure – The top number in blood pressure readings (120 in a blood pressure of 120/80). It measures the maximum pressure exerted when the heart contracts.

Termination of benefits – Health insurance benefits stop when an individual has reached the lifetime maximum amount or when an individual is no longer eligible for the plan to nonpayment of premiums or leaving his or her job.

Thoracic – Referring to the heart, lungs or chest.

Thrush – A fungus infection in the mouth.

Tissue – An organization of similar cells that perform a special function. Examples of tissues that can be transplanted are blood, bones, corneas, heart valves, ligaments, veins and tendons.

Tissue typing – A blood test (performed before transplantation) to evaluate the closeness of tissue match between the kidney donor's organ and the kidney recipient's HLA antigens.

Transmission – The transfer of an infection from one person to another.

Transplant, transplantation – To transfer a section of tissue or complete organ from its original position to a new position, for example to transfer a healthy organ from one person's body to the body of a person in need of a new organ.

Transplant candidate – An individual who has been identified as medically suited to benefit from an organ transplant and has been placed on the waiting list by the transplant program.

Transplant physician – A doctor who provides non-surgical care and treatment to transplant patients before and after transplant.

Transplant program – A component within a transplant hospital which provides transplantation of a particular type of organ.

Transplant recipient – A person who has received an organ transplant.

Transplant surgeon – A doctor who provides surgical care to transplant patients.

Triglycerides – A form of fat that the body makes from sugar, alcohol, and excess calories.

Ultrasound – The use of ultrasonic waves for diagnostic or therapeutic purposes, specifically to image an internal body structure.

United Network for Organ Sharing (UNOS) – A nationwide umbrella for the transplant community; a non-profit organization that administers and maintains the Nation's organ transplant waiting list under contract with the Health Resources and Services Administration of the U.S. Department of Health and Human Services. Located in Richmond, Virginia, UNOS also brings together medical professionals, transplant recipients and donor families to develop organ transplantation policy.

Urinary tract infection (UTI) – An infection of one or more parts of the urinary tract.

Usual and customary (U&C) fee – The fee that providers, of similar training and experience, charge for a service in a particular geographical area. If a provider charges more than the U&C fee, insurance companies may limit their payment to the level of the U&C, leaving the patient responsible for the balance due.

Vaccine – A preparation that improves immunity to a particular disease.

Vascular – Referring to blood vessels and circulation.

Ventilator – A machine that forces air into the patient's respiratory system when the patient is not able to breathe properly.

Virus – A microscopic particle that can only survive by invading other living things, usually causing illness.

Wagener's Disease – A form of vasculitis that affects the lungs, kidneys and other organs which can lead to kidney failure.

Waiting list (waiting pool) – After evaluation at the transplant center, a patient is added to the national waiting list by the transplant center or organ procurement organization. Lists are specific to each organ type: heart, lung, kidney, liver, pancreas, intestines. Each time a donor organ becomes available, the UNOS computer generates a new list of potential recipients.

White blood cell – White blood cells are the basic building blocks of the body's immune system.

Wilson's Disease – An inherited disorder in which excessive amounts of copper accumulate in the body.

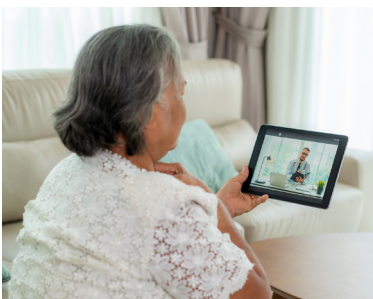
Clinic and Virtual Visits

The University of Michigan Transplant Center is pleased to offer two types of visits:

1. Clinic (in-person)



2. Virtual (over video)



Both options are available with most providers at the Transplant Center for many pre- and post-transplant appointments. If you are interested in a virtual visit, you must have access to the Michigan Medicine patient portal. Information on the portal and gaining access can be found on page 1 of this section.

Michigan Medicine currently cannot offer video visits for patients outside of Michigan.

For questions about this or any updates, please feel free to contact us.

To schedule any type of visit or for questions, please contact the Transplant Center at **(800) 333-9013**.

Parking and Getting to Appointments

Our patients and visitors may park in the convenient patient and visitor parking structure (P2 and P3) attached to the Taubman Center outpatient building and University Hospital. Handicapped parking spaces are clearly marked and available on each level of the structure near the patient elevators. The parking structure is staffed 24 hours a day, seven days a week. Multiple day parking passes are available for family members staying with us for an extended period of time. Patients can validate their parking ticket in any outpatient clinic or at the nurses station on any inpatient unit to qualify for a reduced daily parking fee of \$3 if parked for more than eight hours. Less than eight hours is \$3 and does not require validation.

Parking information can be found online at www.UofMHealth.org/parking.

Patients and primary caregivers whose income falls below federal poverty guidelines may qualify for a lesser parking fee. This program is administered by the Guest Assistance Program [University Hospital, Room 2B203, telephone: **(734) 764-6893** or **(800) 888-9825**].



Reception and information centers are located at all entrances to the hospitals and outpatient clinic areas. When you arrive, customer service personnel at these stations will gladly show you how to get to your doctor's office or appointment location. In addition, help telephones are located throughout the hospital. If you or your family members require special assistance, wheelchairs, child strollers, stretchers, escorts, or valet parking are available at the main entrance and drop off areas at University Hospital, the Rogel Cancer Center, Frankel Cardiovascular Center, and C.S. Mott Children's Hospital and Von Voigtlander Women's Hospital.

For more information, please call Michigan Medicine at **(734) 936-4000**.

Michigan Medicine Patient and Visitor Accommodations Program

Patients and family members are encouraged to contact the Patient and Visitor Accommodations Program for help in finding and making reservations. Many hotels give a better rate when reservations are made through this program. For assistance with reservations please call **(800) 544-8684** (toll free) or **(734) 936-0135**.

There are multiple lodging options available for family members while you are in the hospital or staying in the area.

- **Med Inn** is within the University Hospital complex. There is a high demand, and there are limited rooms available, which are reserved for patients and family members of ICU patients. The cost is \$80 for one bed, \$85 for two beds or \$99 for a suite.
- **Local hotels** sometimes offer discounts for family members of patients. The cost of local hotels range from \$50 to \$110 per night.
- **Transplant House** may be an ideal option if the family plans to stay in the area for a night, or a week or more. Transplant House is a community living arrangement where the family has their own bedroom and they share the common areas of the home, such as the living room, dining room, kitchen and bathrooms. Advantages of Transplant House can be the relaxed home-like atmosphere and the opportunity to meet other families in similar circumstances. The cost is approximately \$25 per night for two people sharing one bedroom. Transplant House is located about six blocks from the hospital and has bus shuttle availability each day from the North Ingalls building at the corner of North Ingalls and Catherine streets. Arrangements for a stay at the Transplant House must be made through your social worker.

More details on available accommodations can be found at www.med.umich.edu/hotels/profiles.

Raising Funds to Cover Medical Expenses

If the out-of-pocket costs seem to be more than you would be able to afford, you may wish to consider raising funds to help cover the medical costs. Organizations are available to assist you and your family with fundraising for medical treatments. They often have information designed to help families with the process. The contact information for some of the organizations that work with transplant patients and families is shown below.

- **Help Hope Live**
Two Radnor Corporate Center
100 Matsonford Road, Suite 100
Radnor, PA 19087
(800) 642-8399 toll-free
(610) 535-6106 fax
www.helpohpelive.org
- **Children's Organ Transplant Association**
2501 West COTA Drive
Bloomington, Indiana 47403
(800) 366-2682 toll-free
(812) 336-8885 fax
www.cota.org
- **National Foundation for Transplants**
5350 Poplar Avenue, Suite 850
Memphis, Tennessee 38119
(800) 489-3863 toll-free
(901) 684-1128 fax
www.transplants.org

Transplant-related Websites

- **University of Michigan Transplant Center**
www.UofMHealth.org/transplant

The official website of the University of Michigan Transplant Center geared to provide patients with information regarding the Transplant Center and the transplant process for all solid organ programs.

- **Scientific Registry of Transplant Recipients (SRTR)**
www.srtr.org

The Scientific Registry of Transplant Recipients (SRTR) provides ongoing research to evaluate information and tracks all transplant patients from the time of transplant through discharge, then annually, until graft failure or death.

- **United Network for Organ Sharing (UNOS)**
www.unos.org

United Network for Organ Sharing is a non-profit, scientific, and educational organization that administers the Organ Procurement and Transplantation Network (OPTN), collects and maintains its data, and serves the transplant community.

- **National Living Donor Assistance Center**
www.livingdonorassistance.org

A federal grant program that provides reimbursement for travel, lodging and meals for people being evaluated for or undergoing living organ donation.

- **Gift of Life Michigan (GOLM)**
www.giftoflifemichigan.org

Gift of Life Michigan (GOLM) is the only non-profit full-service organ and tissue recovery agency in Michigan since 1971. As an organization, Gift of Life Michigan acts as an intermediary between the donor hospital and the recipient transplant center providing all the services necessary for organ, tissue and eye donation.

- **Transplant Living**
www.transplantliving.org

Transplant Living is a website supported by the United Network for Organ Sharing and is promoted as your prescription for transplant information.

- **Organ Procurement and Transplantation Network (OPTN)**
www.optn.transplant.hrsa.gov

The Organ Procurement and Transplantation Network (OPTN) is a unique public-private partnership that is committed to improving the effectiveness of the nation's organ procurement, donation and transplantation system.

- **National Kidney Foundation of Michigan**
www.nkfm.org

The National Kidney Foundation of Michigan is the local chapter of a national organization that exists to prevent kidney disease and to improve the quality of life for those living with kidney disease.

- **The Gift of a Lifetime; Organ and Tissue Transplantation in America**
www.organtransplants.org

This site weaves together information about donation and transplantation with real world stories of transplant recipients, donors and healthcare professionals.

Durable Power of Attorney for Health Care (DPOA-HC)

CHOOSE A PATIENT ADVOCATE

I, (print your name),
living at....., and being of sound
mind, voluntarily choose a Patient Advocate to make care, custody, and medical treatment decisions for me. This durable
power of attorney for health care is only effective when I am unable to make my own medical decisions. I understand I
may change my mind at any time by communicating in any manner that this designation does not reflect my wishes.

I want the person named below to be my Patient Advocate and to be able to make medical decisions for me when I cannot
make them myself. I have talked to my advocate(s) and have provided them with a copy of this directive.

PATIENT ADVOCATE

Name..... Relationship.....

Address..... City..... State..... Zip.....

Telephone Number.....

If that person is not available, or cannot serve, I want this person to be my **FIRST ALTERNATE PATIENT ADVOCATE.**

Name..... Relationship.....

Address..... City..... State.....

Telephone Number.....

If that person is not available, or cannot serve, I want this person to be my **SECOND ALTERNATE PATIENT ADVOCATE.**

Name..... Relationship.....

Address..... City..... State..... Zip.....

Telephone Number.....

PROVIDERS: PLEASE RETAIN A COPY OF ALL PAGES FOR THE MEDICAL RECORD.

GUIDELINES WORKSHEET

Life Support

Some people want to decide what types of life support treatments and medicines they get from doctors to help them live longer when they are sick. Read through all six choices and initial the one that best fits what you want or do not want to happen if you are very sick.

- I want doctors to do everything they think might help me. Even if I am very sick and I have little hope of getting better, *I want them to keep me alive for as long as they can.*
- I want doctors to do everything they think might help me, but, if I am very sick and I have little hope of getting better, *I do NOT want to stay on life support.*
- I want doctors to do everything they think might help me, but (*initial all that apply*):
 - I don't want doctors to restart my heart if it stops by using CPR.
 - I don't want a ventilator to pump air into my lungs if I cannot breathe on my own.
 - I don't want a dialysis machine to clean my blood if my kidneys stop working.
 - I don't want a feeding tube if I can't swallow.
 - I don't want a blood transfusion if I need blood.
- I don't want any life support treatment.
- I want my Patient Advocate to decide for me.
- I am not sure.
- Other

What Makes Life Worth Living?

Think about what makes life worth living for you. For example, being able to talk to your loved ones, being able to take care of yourself, or being able to live without being hooked up to machines. Under what circumstances would you say life is NOT worth living? (*initial all that apply*)

- If I will most likely not wake up from a coma.
- If I can't take care of myself.
- If I am in pain.
- If I cannot live without being hooked up to machines.
- I am not sure.
- Other

PROVIDERS: PLEASE RETAIN A COPY OF ALL PAGES FOR THE MEDICAL RECORD.

You must read and SIGN the following statement if you want to give your Patient Advocate the power to make medical decisions that might let you die when you are very sick:

I want my Patient Advocate named in this form to make decisions about life support and treatments that would allow me to die when I am very sick. When making those decisions, I want my Patient Advocate to follow the guidelines I have provided.

.....
Your Signature

.....
Date

POWER REGARDING MENTAL HEALTH TREATMENT (OPTIONAL)

I expressly authorize my Patient Advocate to make decisions concerning the following treatments if a physician and a mental health professional determine I cannot give informed consent for mental health care (*check one or more consistent with your wishes*):

- Outpatient therapy
- My admission as a formal voluntary patient to a hospital to receive inpatient mental health services. I have the right to give three days' notice of my intent to leave the hospital.
- My admission to a hospital to receive inpatient mental health services
- Psychotropic medication
- Electro-convulsive therapy (ECT)
- I give up my right to have a revocation effective immediately. If I revoke my designation, the revocation is effective 30 days from the date I communicate my intent to revoke. Even if I choose this option, I still have the right to give three days' notice of my intent to leave a hospital if I am a formal voluntary patient.

You must read and SIGN the following statement if you want to give your Patient Advocate the power to make decisions about your mental health care and treatment:

I want my Patient Advocate named in this form to make decisions about my mental health care and treatment. When making those decisions, I want my Patient Advocate to follow the guidelines I have provided.

.....
Your Signature

.....
Date

PROVIDERS: PLEASE RETAIN A COPY OF ALL PAGES FOR THE MEDICAL RECORD.

END OF LIFE PLANS

If you are dying, where would you like to be? At home? In the hospital? With only your family? With a religious or spiritual leader?

.....
.....
.....
.....

What Happens to Your Body After Death?

You may choose to donate your organs. If you let your Patient Advocate donate your organs, he or she will be able to make that decision only after your death.

..... I want to donate ALL of my organs.

..... I want to donate ONLY THESE organs:

.....
.....

..... I do NOT want to donate any of my organs.

..... I want my Patient Advocate to decide.

..... I am not sure.

Religion

Some religions do not allow certain treatments or medicines. If there are treatments that you do not want to have because of your religion, please write them down here.

.....
.....
.....
.....

Other Guidelines

Write down any other guidelines or thoughts you think might help your Patient Advocate or doctor decide what kind of health care you want.

.....
.....
.....
.....

PROVIDERS: PLEASE RETAIN A COPY OF ALL PAGES FOR THE MEDICAL RECORD.

Liability

It is my intent that no one involved in my care shall be liable for honoring my wishes as expressed in this designation or for following the directions of my Patient Advocate. Photocopies of this form can be relied upon as though they were originals.

YOUR SIGNATURE

I want the people I selected in the “Choose a Patient Advocate” section to be my Patient Advocate and Alternate Patient Advocate(s). I understand that this will let them make medical decisions for me when I cannot. I am making this decision because this is what I want, **NOT** because anyone forced me to.

Your SignatureDate.....

PRINT your name.....

Address..... City..... State Zip.....

STATEMENT REGARDING WITNESSES

I have chosen two adult witnesses who are not my spouse, parent, child, grandchild, brother or sister, and are not my presumptive heir or beneficiary at the time of witnessing. My witnesses are not my Patient Advocate(s). They are not my physician, or an employee of a health facility that is treating me; not an employee of my life or health insurance provider, or of a home for the aged where I reside, nor of a community mental health services program or hospital that is providing mental health services to me.

STATEMENT AND SIGNATURE OF WITNESSES

We sign below as witnesses. This Declaration was signed in our presence. The **PERSON SIGNING APPEARS** to be of sound mind, and to be making this designation voluntarily, without duress, fraud, or undue influence.

..... Witness signature Witness signature
..... Date Date

..... PRINT Witness's name PRINT Witness's name
-------------------------------	-------------------------------

..... Witness's telephone number Witness's telephone number
-------------------------------------	-------------------------------------

PROVIDERS: PLEASE RETAIN A COPY OF ALL PAGES FOR THE MEDICAL RECORD.

DURABLE POWER OF ATTORNEY FOR HEALTH CARE

ACCEPTANCE BY PATIENT ADVOCATE

I,(insert Patient Advocate's Name),
agree to be the Patient Advocate for(insert Patient's Name).

I accept the patient naming me Patient Advocate and I understand and agree to take reasonable steps to follow the desires and instructions of the patient. I also understand and agree that:

- (A) **This designation is not effective unless** the patient is unable to participate in medical or mental health treatment decisions.
- (B) **A Patient Advocate shall not exercise powers** concerning the patient's care, custody, and medical or mental health treatment that the patient, if the patient were able to participate in the decision, could not have exercised on his or her own behalf.
- (C) **A Patient Advocate CANNOT exercise powers for a pregnant patient** to withhold or withdraw treatment or make medical treatment decisions that would result in the pregnant patient's death.
- (D) **A Patient Advocate may make a decision to withhold or withdraw treatment** that would allow a patient to die only if the patient has expressed in a clear and convincing manner that the Patient Advocate is authorized to make such a decision, and that the patient acknowledges that such a decision could or would allow the patient's death.
- (E) **A Patient Advocate shall not receive compensation** for the performance of his or her authority, rights, and responsibilities, but a Patient Advocate may be reimbursed for actual and necessary expenses incurred in the performance of his or her authority, rights, and responsibilities.
- (F) **A Patient Advocate shall act in accordance with the standards of care** applicable to fiduciaries when acting for the patient and shall act consistent with the patient's best interests. The known desires of the patient expressed or evidenced while the patient is able to participate in medical or mental health treatment decisions are presumed to be in the patient's best interests.
- (G) **A patient may revoke his or her designation** at any time and in any manner sufficient to communicate an intent to revoke.
- (H) **A patient may waive his or her right to revoke the designation** as to the power to make mental health treatment decisions and, if such a waiver is made, his or her ability to revoke as to certain treatment will be delayed for up to 30 days.
- (I) **A Patient Advocate may revoke his or her acceptance** to the designation at any time and in any manner sufficient to communicate an intent to revoke.
- (J) **A patient admitted to a health facility or agency has the rights** enumerated in Section 20201 of the Public Health Code, Act No. 368 of the Public Acts of 1978, being section 333.20201 of the Michigan Compiled Laws.
- (K) **If the patient has designated the Patient Advocate to make an organ or body donation**, that authority will remain after the patient's death.

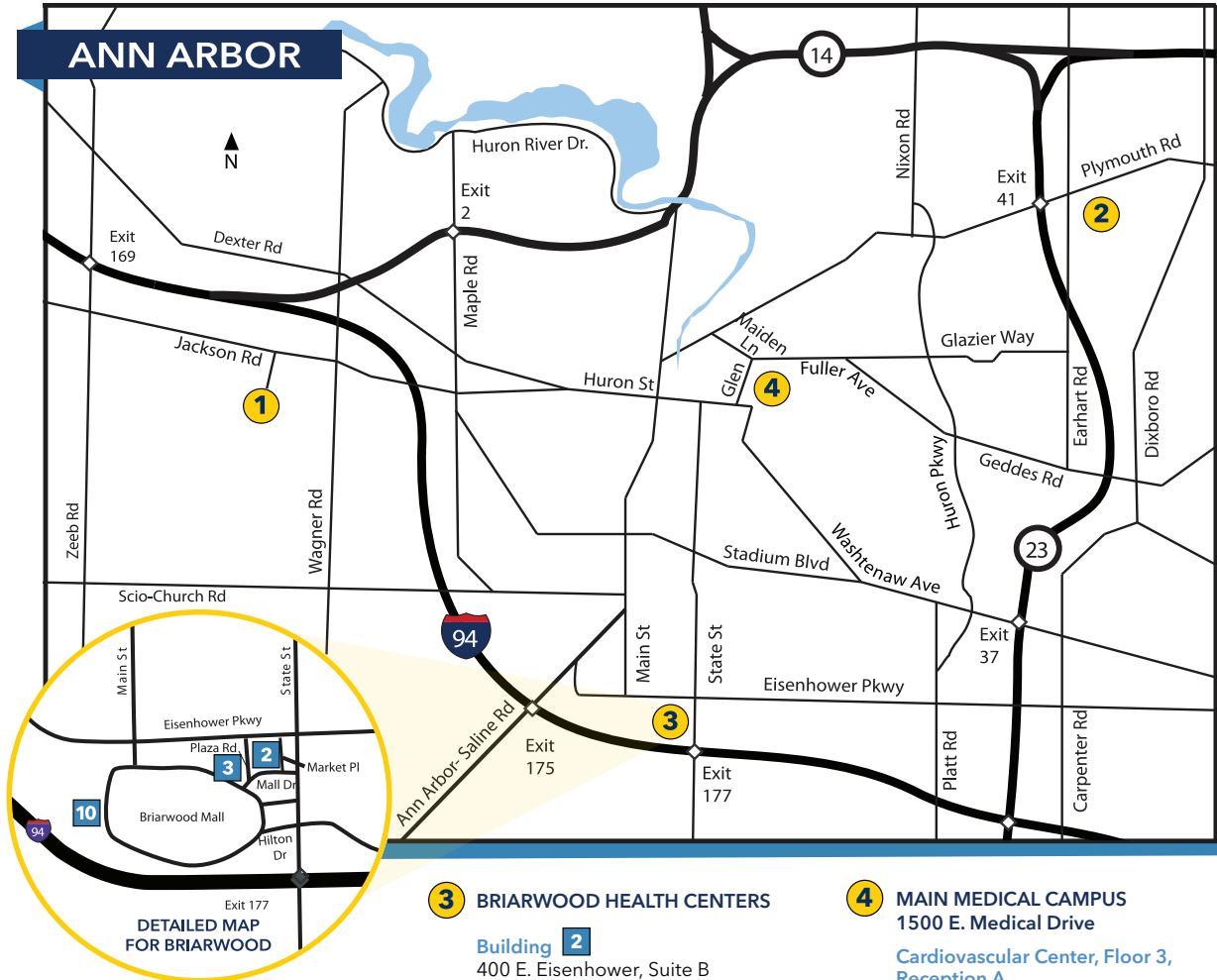
.....
Patient Advocate's Signature

.....
Date

PROVIDERS: PLEASE RETAIN A COPY OF ALL PAGES FOR THE MEDICAL RECORD.



MLabs offers adult and pediatric blood drawing services through Michigan Medicine. No appointment is necessary for routine services; please call ahead to schedule glucose tolerance testing. Hours are subject to change without notice. Please do not contact the specimen collection facility or blood drawing station for test result information. Questions? Call 800.862.7284 or visit mlabs.umich.edu



1 WEST ANN ARBOR HEALTH CENTER
 380 Parkland Plaza, Suite 130
Ph: 734.232.9720 **Fax:** 734.232.9772
 Mon-Th 7am - 7pm
 Fri 7am - 5pm
 Sat 8am - Noon

2 EAST ANN ARBOR HEALTH CENTER
 4260 Plymouth Rd.
Ph: 734.647.5685 **Fax:** 734.647.6457
 Mon-Th 7am - 7:30pm
 Fri 7am - 5:30pm
 Sat 8am - 12:30pm

3 BRIARWOOD HEALTH CENTERS

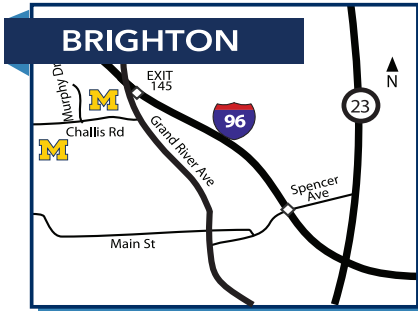
Building 2
 400 E. Eisenhower, Suite B
Ph: 734.998.4413 **Fax:** 734.647.3718
 Mon, Tue 8am - 6pm
 Wed-Fri 8am - 5pm

Building 3
 375 Briarwood Circle
Ph: 734.998.0284 **Fax:** 734.998.6502
 Mon, Tue, Th 7am - 5pm
 Wed 7am - 7pm
 Fri 7am - 4:30pm
 (Closed 1st Tuesday of each month 8am - 10:30am)

Building 10
 1801 Briarwood Circle
Ph: 734.913.0167 **Fax:** 734.998.4489
 Mon, Wed 8am - 7pm
 Tue, Th, Fri 8am - 5pm
 Sat 8am - Noon
 (Closed 2nd Wednesday of each month 8am - 1pm)

4 MAIN MEDICAL CAMPUS
 1500 E. Medical Drive
Cardiovascular Center, Floor 3, Reception A
Ph: 734.232.5111 **Fax:** 734.232.5130
 Mon-Fri 7am - 6pm
Children's & Women's Hospital, Reception B
Ph: 734-232-5672 **Fax:** 734.232.5682
 Mon-Fri 7am - 6pm
Cancer Center, Floor B2
Ph: 734.647.8913 **Fax:** 734.647.8937
 Mon-Fri 7am - 6pm
Taubman Center, Floor 1, Reception D
Ph: 734.647.6304 **Fax:** 734.647.6779
 Mon-Fri 7am - 6pm
Taubman Center, Floor 2, Reception H
Ph: 734.936.6781 **Fax:** 734.764.3225
 Mon-Fri 8:30am - 3:30pm
Taubman Center, Floor 3
Ph: 734.936.6760 **Fax:** 734.936.7419
 Mon-Fri 7am - 6pm

BLOOD DRAWING LOCATIONS



BRIGHTON HEALTH CENTER
8001 Challis Road
P: 810.494.2649
F: 810.494.2645

Mon - Th	7am - 7pm
Fri	7am - 5pm
Sat	8am - Noon

BRIGHTON CENTER FOR SPECIALTY CARE
7500 Challis Road
P: 810.263.4087
F: 810.263.4090

Mon - Fri	7am - 6pm
Sat	CLOSED



LIVONIA HEALTH CENTER
20321 Farmington Rd
P: 248-473-4350
F: 248-888-1390

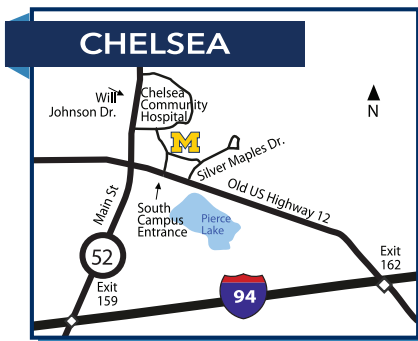
Mon, Wed, Th	8am - 6pm
Tue, Fri	8am - 5pm
Sat	8am - Noon

NORTHVILLE HEALTH CENTER
39901 Traditions Dr
(at 7 Mile & Haggerty)
P: 248-305-4640
F: 248-305-4642

Mon - Th	7am - 6pm
Fri	7am - 5pm
Sat	8am - Noon

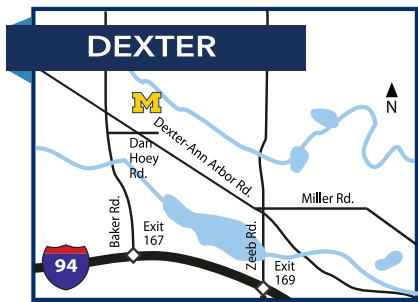
CANTON HEALTH CENTER
1051 North Canton Center Rd
P: 734.844.5280
F: 734.844.5288

Mon - Th	7am - 7:30pm
Fri	7am - 5pm
Sat	8am - Noon



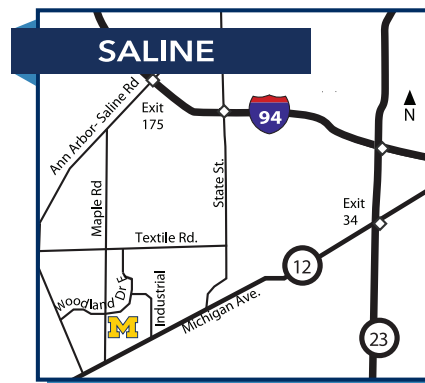
CHELSEA HEALTH CENTER
14700 E. Old U.S. 12
P: 734.475.4483
F: 734.433.4246

Mon	7:30am - 7pm
Tue	7:30am - 5:30pm
Wed	7:30am - 5:30pm
Th	7:30am - 7pm
Fri	7:30am - 5:30pm
Sat	8am - Noon



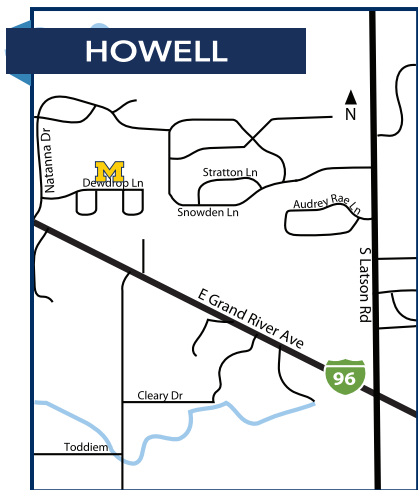
DEXTER HEALTH CENTER
7300 Dexter-Ann Arbor Rd
P: 734.426.1724
F: 734.426.2707

Mon	8am - 7pm
Tue	8am - 5pm
Wed	8am - 7pm
Th	8am - 5pm
Fri	8am - 5pm
Sat	8am - Noon



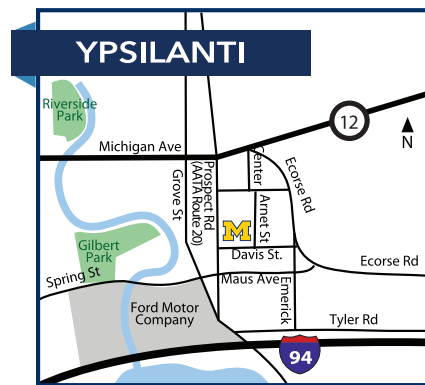
SALINE HEALTH CENTER
700 Woodland Dr E
P: 734.295.0022
F: 734.429.1156

Mon	8:30am - 6pm
Tue	8:30am - 7pm
Wed	8am - 5pm
Th	7:30am - 5pm
Fri	7:30am - 4:30pm



HOWELL HEALTH CENTER
3399 E Grand River Ave
P: 517.338.2058
F: 517.540.0203

Mon - Th	7:30am - 7pm
Fri	7:30am - 5pm
Sat	8am - Noon



YPSILANTI HEALTH CENTER
200 Arnet St
(entry drive off Davis St)
P: 734.544.3277
F: 734.544.3272

Mon - Fri	8am - 5pm
Sat	8am - Noon



SPECIALTY PHARMACY SERVICES: TRANSPLANT

What is Specialty/Transplant Pharmacy Services?

We specialize in providing outstanding customer service. As a comprehensive pharmacy program developed by the University of Michigan, the Specialty/Transplant Pharmacy ensures timely and continuous access to your critical transplant medications. We recognize the challenges transplant patients face with their medications and our experienced team is committed to supporting you with comprehensive care throughout the entire treatment process.

The Specialty/Transplant Pharmacy Services are unique from your neighborhood retail and mail-order pharmacies. We offer specialized mail-order distribution as well as clinical support, financial counseling and education services. In addition to all these services, our transplant patients have the advantage of enrolling in a pharmacy that is an extension of their specialized Michigan Medicine medical team. Using the Specialty/Transplant Pharmacy enhances patient care because we have access to complete medical records enabling accurate and efficient facilitation of your treatment plan. Our pharmacists are directly linked to your transplant care team, and we are dedicated to personally serving you.

Transplant patients can face significant challenges paying for their medications. Even with insurance coverage, some patients spend hundreds of dollars in medication co-pays each month. Due to the complexities of billing for specialty transplant medications, we offer financial counseling and insurance support services to help you navigate the details of your insurance, ensuring you are maximizing all available resources.

Patients can also face obstacles to acquiring their medication. Transplant medications are only needed by a small percentage of the population, so they are not always readily available at your local pharmacy. Specialty/Transplant Pharmacy specializes in transplant medications and is able to provide patients with commonly prescribed medications as well as those used less often. The Specialty/Transplant Pharmacy coordinates the efforts of professionals from across the medical center, including the University of Michigan Transplant Center and the Department of Pharmacy, to ensure prompt access to medications. Patients may also easily obtain answers about medication regimens and side effects.

Why Should I Use Specialty/Transplant Pharmacy Services?

The Specialty/Transplant Pharmacy is an extension of your Michigan Medicine transplant patient care team. We offer:

- Personalized service for all of your medication needs from a dedicated pharmacy care team of pharmacists, certified technicians, financial coordinators, and billing specialists.



- Direct access to pharmacists who specialize in transplant medications.
- Pharmacists on call 24 hours a day, seven days a week.
- Your choice of telephone or e-mail refill reminders to ensure you don't run out of your medication.
- Financial and insurance coverage counseling focused on minimizing your out-of-pocket expense.
- The medications you need after transplant will be delivered to you before you leave the hospital.
- Delivery of medications in unmarked, temperature-appropriate shipping containers to your home, office, or alternative location within Michigan at no extra charge.
- Care kits for specialty transplant prescriptions that includes comprehensive educational materials and medical supplies to help you manage the daily challenges of your transplant medication regimen.

Two Locations to Serve You

- East Ann Arbor Pharmacy
- Taubman Center Pharmacy

CONTACT US

Call 1-866-946-7695 for more info or to enroll with Michigan Medicine Specialty Pharmacy Services: Transplant

4260 Plymouth Road, Ann Arbor / 866-946-7695 / www.uofmhealth.org/specialty-pharmacy

Authorization for Transplant Mailings

New federal regulations became effective in April 2003 which are intended to protect the uses of a patient's medical information. We need your written permission to send you general mailings from the University of Michigan Transplant Center. The mailings may include newsletters, information on upcoming events, articles of interest to the transplant community and development information. If you wish to receive our general mailings, please provide your consent below.



I authorize the University of Michigan Transplant Center to add my name to its mailing list so I may receive Transplant Center newsletters and other mailings.

Patient Name: _____ CPI: _____

Patient Email Address: _____

Patient Signature: _____ Date: _____

Medical Emergency ID Tag

It is recommended that you wear a Medical Alert Tag in the form of a necklace or bracelet. You are free to buy them from whomever you please. The National Kidney Foundation of Michigan has them at a low cost to transplant patients. Ask your nurse for an order form (see example below).



Medical Emergency ID Tag Program

Patient Name: _____
 Address: _____ City: _____ State: _____ Zip: _____
 Phone Number: (____) _____ County: _____ Email: _____

Please Select:

- Bracelet \$8.00
 Necklace \$8.00

Ship to:

- Patient
 Facility

Social Worker Name: _____

Unit Name: 5C Nursing, University of Michigan Med Ctr

Unit Address: 1500 E. Medical Center Dr.

City: Ann Arbor State: MI Zip: 48109

Phone Number: (800) 333-9013

Bracelet is 8" long. Please provide additional length required _____

One letter per box

Patient's Name																		
Modality*	K	I	D	N	E	Y		T	R	A	N	S	P	L	A	N	T	
Misc. Information**																		
Emergency Contact 1st Name & Phone	8	0	0	-	3	3	3	-	9	0	1	3						
Doctor's Last Name & Phone																		

* Hemodialysis, Peritoneal Dialysis, Transplant
 ** Drugs, Dyes, Diabetes, Heart Disease, Allergies, etc.
We cannot include DNR information

Do you receive Medicaid?
 (e.g. mihealth card, Healthy Michigan Plan, MICHild, etc.)
 Yes
 No

Return completed form with payment to the:
 National Kidney Foundation of Michigan
 1169 Oak Valley Drive | Ann Arbor MI 48108
 PHONE 734.222.9800 | FAX 833.292.6778
www.nkfm.org

Updated: 2/15/2022

OFFICE USE ONLY		
Check Number _____	Cash _____	Money Order _____
Date on Check _____	Date Received _____	Date Entered _____
Client # _____	Date Sent to Engraver _____	

Communicating With Your Donor Family

A transplant is a major surgical procedure and may take time before the person feels healthy again. It may take months and even years before someone is ready to send and /or receive correspondence from the donor family. It is normal to experience a wide range of feelings when communicating with or receiving information from a donor family. Those feelings may include excitement, guilt, anxiety or fear. We support you and whatever decision you make about communicating with your donor family. Some recipients may feel very happy to receive the correspondence from the donor family. Others may feel overwhelmed and find it difficult to express their thanks. Writing to your donor family does not mean you will get a response back. Some donor families may feel that writing about their loved one and their decision to donate helps them in their grieving process. Others choose not to write to the organ recipient.

If the donor family chooses to write they will send a letter to the Organ Procurement Organization, OPO. The OPO will then forward the letter to your transplant social worker. Your social worker will call you or see you in clinic before the letter is sent to you. Please know that often donor families include a photograph of the donor. Your social worker will talk with you about whether a photo is included. It is common for recipients to imagine what their donor looked like, how old they were, and how they died. Often the reality is different from what is imagined. Your transplant social worker is available to talk with you about your feelings regarding this sometimes emotional experience.

When the transplant recipient is a child, these issues can become more challenging for the child, parents/guardians and siblings. The information regarding the donor may be more difficult to process if the donor was also a child. It may impact each member of the family differently. Children have unique coping and adjustment needs. This process of learning about their organ donor may impact their behavior, sleep, school performance, and other social needs depending on their age. Your social worker can talk with you to make sure that you help your child learn about this information in developmentally appropriate ways. They can also provide the parents/guardians with adequate support about the process.

Writing to Your Donor Family

Have you ever wondered how you could thank the family that made your transplant possible?

The decision to write to your donor family is a personal choice. It may help you to know that donor families consistently express gratitude by hearing from their loved one's recipients. Some recipients will choose to write to their donor family and others will not. There is no time limit to write to your donor family but requires thoughtful consideration. Your transplant social worker is available to talk to you if you are having difficulty with your feelings. If you do not wish to write at this time, feel free to wait or have a family member write on your behalf. You may also consider sending a Thank You or Thinking of You card. Writing to your donor family does not mean you will get a response back as some donor families never write.

Suggestions:

- Write about yourself – your hobbies, family, friends, interests, etc. Please consider not including religious comments in your letter, as the religious background of the donor family may be unknown.
- Write about your personal transplant experience – how long you waited, how the transplant affected your life.
- Thank the family for your Gift of Life and express your sympathy to them for their loss.
- Sign only your first name and do not include any identifying information.

Sending your correspondence:

- Place your card or letter in an envelope, unsealed.
- On a separate piece of paper write your full name, date of transplant and organ you received.
- Place all in an envelope and mail to: Gift of Life Michigan
3861 Research Park Drive
Ann Arbor, MI 48108

As time passes and if the donor family and recipient both agree, they can correspond directly and/or meet in person. These arrangements are made through Gift of Life and both parties must sign a release of information form.

Please contact Gift of Life Michigan if you have any questions at **(734) 922-1028**.

Importance of Having a Local Nephrologist

The University of Michigan Transplant Center requires that all patient who are six months post-transplant have a local nephrologist that they see on a regular basis. Typically patients return to their referring nephrologist. However, if for some reason you do not want to go back to that doctor, we do ask that you find another nephrologist close to your home. If you do not have a local nephrologist, please let us know and we can help you find someone in your area. In addition to your local nephrologist, you will also see your University of Michigan transplant nephrologist one to two times a year.

Reasons we require you to have a local nephrologist:

- If you get sick and are admitted to a local hospital, your local nephrologist will be aware of your transplant and have regular and ongoing communication with the UofM transplant team. This will help make sure you receive the best care possible in your community or local hospital.
- Your local nephrologist wants to see you. They were there from the start and want to see how you are doing after transplant.
- We want to provide the best care possible to you. Having strong relationships with nephrologists across the state allows us and them to keep you and your kidney healthy.
- If you cannot get to Ann Arbor, it is important to have someone in your community that knows you and your health history. Your nephrologist and our team can communicate over the phone and determine what is best for you.

Policy Regarding New Patient Evaluations at the Outreach Clinics

Our outreach clinics are intended to provide a closer geographic clinic location for patients who live a long distance from Ann Arbor. We provide both new patient evaluations and annual pre kidney transplant update visits at our outreach locations. Post-transplant clinics are also available quarterly at outreach locations.

Once we receive a referral for a new evaluation, we will offer new patients the option of coming to an outreach clinic for evaluation based on their geographic location. Some new evaluation patients may be required to come to Ann Arbor for their evaluation. Some examples may be:

- A new evaluation patient has 4 or more years of dialysis time
- A new evaluation patient who has a previously closed evaluation
- A new evaluation patient who wants to coordinate their evaluation with other testing on the Ann Arbor campus
- A new evaluation patient who previously missed their evaluation appointment at an outreach clinic

Policy Regarding Pre-Kidney Transplant Visits for Patients Seen in the Outreach Clinics

For patients who were seen for their transplant evaluation at an outreach clinic, some of your annual pre-kidney transplant visits may be in Ann Arbor. Making the trip to Ann Arbor will give you and your support person the opportunity to see our outpatient clinic, become familiar with the Ann Arbor hospital campus and know the driving route from your home to the hospital.

After you have had one pre-kidney transplant clinic visit in Ann Arbor, the remainder of your pre kidney transplant update visits can be at the outreach clinics UNLESS the team requires that you come to Ann Arbor for a medical, surgical or psychosocial reason. Your coordinator will talk with you about your pre kidney transplant clinic appointment plan.

The University of Michigan Transplant Center has four outreach clinics throughout Michigan.*

- **Kalamazoo**
Fresenius Medical Care
527 E. Michigan Avenue
Kalamazoo, MI 49007
- **Lansing**
Sparrow Medical Group Nephrology
1200 E. Michigan Ave., Suite 700
Lansing, MI 48912
- **Midland**
MidMichigan Health
Campus Ridge Building
4401 Campus Ridge, Suite LL0130
Midland, MI 48640
- **Rochester Hills**
Michigan Kidney Consultants
Wellpointe Medical Building
1701 South Blvd. East, Suite 320
Rochester Hills, MI 48307

**As of March 2020*

Kidney Peer Mentor Program

The University of Michigan Transplant Kidney Peer Mentor Program is based on the concept of looking to your peers to learn from their experiences. The mentors of the program are patients who have already successfully gone through transplant. Many find it helpful and reassuring to talk with those that have first-hand knowledge about the transplant experience.

The word mentor refers to one who is an advisor or teacher. The peer mentors play many different roles. They listen to fellow patients, strive to instill confidence, provide encouragement and help patients confront challenging issues and emotions. Mentors are expected to maintain confidentiality of patient information.

Peer Mentor Program Goals

- Provide information, guidance and emotional support to those involved in the transplant process
- Offer a network of peers to help those experiencing the process to not feel alone
- Encourage patients to stay active before and after transplant

What is the Role of the Peer Mentor?

After peer mentors go through training, they work closely with the University of Michigan Transplant Center Outreach Program. In their role, peer mentors enhance patient care by:

- Providing peer support. Mentors provide patients with support through telephone calls, visits, mail or e-mail.
- Participating in Transplant Expos at dialysis centers across Michigan and speaking with patients considering transplant or those currently on the waitlist.
- Answering questions and sharing their story at the Kidney Transplant Patient Education Class.
- Providing helpful transplant information. Mentors share their own experiences from a peer perspective. This one-on-one communication with another transplant patient offers both an individualized and highly personal account of the transplant process.
- Helping patients work with the transplant team. The importance of working well with the transplant team is important. Because of their personal experience, mentors can help patients learn the best ways to interact productively with the transplant team.

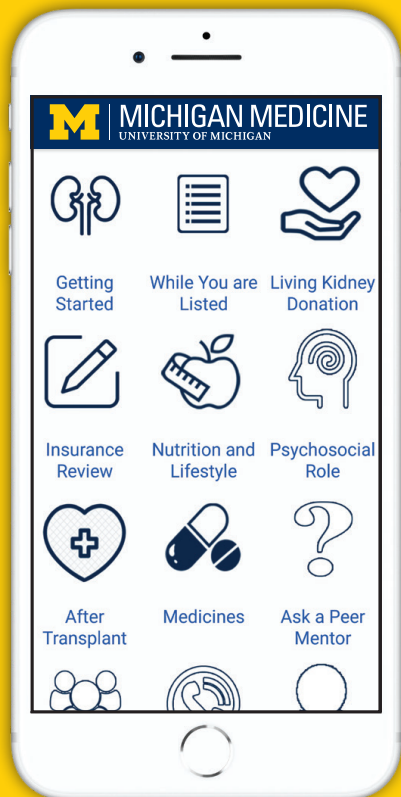
- Providing support and encouragement to comply with taking prescribed medications. Strict compliance with medications is critical to a positive outcome for transplantation. Mentors offer support and encouragement in this process.
- Teaching the community about organ donation and sharing their personal experience.

The Mentor Program is entirely voluntary and is offered to all transplant candidates and their families during the formal evaluation phase. Patients may join or leave the mentoring program at any time during the transplant process without affecting the care provided by the University of Michigan Transplant Center, its staff or physicians.

To inquire about meeting with a peer mentor, please talk to your nurse coordinator or social worker.

Kidney Transplant Mobile App

Check out the
Kidney Transplant Education app
for Android and iOS devices.



MICHIGAN MEDICINE
UNIVERSITY OF MICHIGAN
TRANSPLANT CENTER

The app features pre- and post-transplant information for recipients, donors, caregivers, and more.

It also offers an easy way to reach the Transplant Center or ask our Peer Mentors about their transplant experience.

Download Today!



Scan the QR code or search the App Store or Google Play for "Kidney Transplant Education" to download.

Stories for patients *by* patients.



Learn more about kidney transplants directly from those who have experienced it.



Available on Amazon for \$13.99.
Scan the QR code to purchase your copy today!



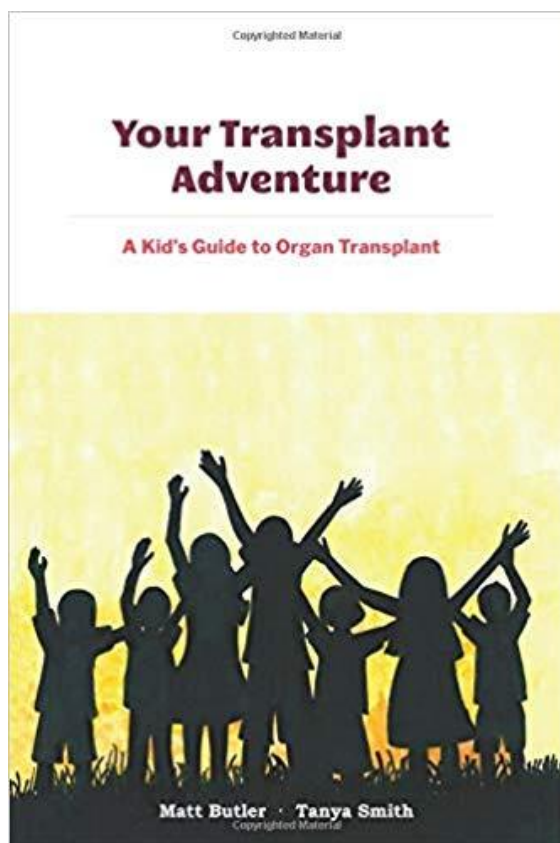
Children's Book on Transplant



MICHIGAN MEDICINE
UNIVERSITY OF MICHIGAN

TRANSPLANT CENTER

This picture book was created for young children who are in need of a solid organ transplant.



Available on Amazon for \$12.99. Scan the QR code to purchase your copy today!

Two dedicated Social Workers at the University of Michigan Transplant Center created this book to give children and their families something to put them more at ease with the organ transplant process and to help them understand that they are not alone. This book is the perfect accompaniment for young children who may need a transplant, as well as for siblings and other family members who have questions and would appreciate some assistance on how to talk about the transplant process.

Summary of Tests for Kidney and Pancreas Transplant Patients

The charts below provide some basic information about blood and other tests that may be required related to transplantation.

Summary of Tests for Kidney and Pancreas Transplant Patients

Lab Test	Abbreviation	What They Are Used For
Cyclo levels	CsA	Monitors level of cyclosporine (Neoral) in blood, necessary to prevent rejection and avoid side effects
Tacro levels	Tacro	Monitors level of tacrolimus (Prograf) in blood, necessary to prevent rejection and avoid side effects
Rapa levels	Rapa	Monitors level of rapamycin (Sirolimus) in blood, necessary to prevent rejection and avoid side effects
Sodium	Na+	Monitors electrolyte balance
Potassium	K+	Monitors electrolyte balance
Chloride	Cl-	Monitors kidney function
Carbon Dioxide	CO ₂	Monitors acid levels
Blood Urea Nitrogen	BUN	Monitors kidney function related to protein intake and metabolism
Creatinine	Creat	Monitors kidney function
Glucose	GLUC	Monitors blood sugar
Protein	PROT	Monitors the combination of albumin and immunoglobulins (antibodies) in your blood
Albumin	ALB	Monitors the main protein made by the liver
Calcium	Ca ⁺⁺	Monitors metals needed for muscle function
Phosphorus	PO ₄	Monitors bone formation
Magnesium	Mg ⁺	Monitors muscle function

Summary of Tests for Kidney and Pancreas Transplant Patients (cont.)

Lab Test	Abbreviation	What They Are Used For
Amylase	Amyl	Monitors pancreatic enzymes
Lipase	Lip	Monitors pancreatic enzymes
Conjugated (Direct) Bilirubin	Cbili	Monitors liver function
Unconjugated (Indirect) Bilirubin	Ubili	Monitors liver function
Total Bilirubin	TBili	Monitors liver function
Alkaline Phosphatase	Alk Phos	Monitors liver function
Aspartate Aminotransferase	AST	Monitors liver function
Alanine Aminotransferase	ALT	Monitors liver function
Cholesterol	Chol	Monitors risk for heart disease
Triglycerides	Trig	Monitors levels of fat related molecules
High Density Lipid (good cholesterol)	HDL	Measures the level of lipids
Low Density Lipid (bad cholesterol)	LDL	Measure the level of lipids
Uric Acid	Uric	Measure the level of uric acid
Prothrombin Time	PT	Monitors blood clotting
International Normalized Ratio	INR	Ratio used to compare PT tests
Partial Thromboplastin Time	PTT	Monitors blood clotting
White Blood Cell Count	WBC	Monitors for infection and rejection
Hemoglobin	HGB	Monitors for blood loss, evaluates for anemia
Hematocrit	HCT	Monitors for blood loss, evaluates for anemia
Platelet Count	PLAT	Monitors bleeding tendencies

Frequently Asked Questions

Q: When can I return to work?

A: You can and should resume working as soon as you are physically able to do so. Most individuals can return to work between four and 12 weeks following transplant. You may ask the doctor when in clinic for specifics based on how you are doing and your job duties.

Q: When can I drive?

A: You may begin driving after you are off narcotic pain medications, you feel well enough to do so, and it has been at least three weeks since your operation. You should always wear your seatbelt for protection.

Q: When can I have sex?

A: You may resume sexual activity as soon as you feel comfortable doing so, keeping in mind the limitations on strenuous activity.

Q: When can I travel?

A: It is recommended that you do not travel for 12 weeks following surgery. It is imperative that you maintain your schedule of follow-up appointments and lab draws. Be mindful that the transplant team may need to communicate with you following their review of your lab results. Limited travel may be permitted if special arrangements are made before the travel.

Q: When can I have a baby?

A: Female transplant recipients are able to get pregnant and have a baby. Pregnancy is not recommended for the first two years after transplantation. All pregnancies in transplant recipients should be considered high-risk and planned and managed preferably by both the transplant physicians and high-risk obstetrician. For more information, please refer to “Pregnancy After Transplant” on page 14 of the Post-Transplant section.

Q: When can I adopt a baby?

A: There are no restrictions on adoption, however, you may require assistance during the first six weeks following transplant due to lifting restrictions.

Q: Are there foods I should not eat?

A: All patients should follow a low-salt, heart-healthy diet. No other restrictions apply, unless they are given specifically by the transplant team (e.g., low potassium). All patients should be aware that uncooked seafood or undercooked meat pose risks of disease. Do not eat raw fish, such as sushi or raw meat.

Q: Can I have grapefruit or grapefruit juice?

A: No, you cannot consume these if you are taking cyclosporine, tacrolimus or sirolimus because grapefruit interferes with blood levels of the medications. You should also avoid mixed fruit juices if they contain significant amount of grapefruit juice concentrate.

Q: What about other fruits or fruit juices?

A: You may drink orange, lemon, lime, tangerine, apple and cranberry juices. You should not eat star fruits because they may cause kidney toxicity in patients with poor kidney function. You should not eat pomelo because it is in the same family as grapefruit and it increases drug levels. For other fruits, very limited information is available. Some studies suggest that the following fruits may also cause fluctuations in drug levels: papaya, pomegranate and star fruit.

Q: What about citrus sodas?

A: Many citrus sodas include grapefruit juice concentrate at unknown quantity. It is hard to say how that will affect your medications. If they contain minimal amount of grapefruit juice for flavor only (such as grapefruit-flavored Sun-Drop and Fresca), they are unlikely to interfere with blood levels of cyclosporine, tacrolimus or sirolimus. However, if they contain significant amount of grapefruit juice concentrate, it is best to avoid them.

Q: Can I drink alcohol?

A: The use of alcohol is a personal decision. Although recent studies suggest that alcohol may have some health benefit if used in small amounts, drinking alcohol can be harmful for some people. Those who have heart failure, cardiomyopathy, high blood pressure, diabetes, arrhythmia (irregular heart rhythm), a history of sudden cardiac death or stroke, obesity, high triglycerides, or are taking medications should speak to their doctor before drinking alcohol. Also, if you are pregnant or have a history of alcoholism, you should not drink alcohol. If you do not already drink alcohol, you should not start drinking. If you drink alcohol, do so in moderation. Moderate drinking is defined as no more than one drink per day for women or lighter weight persons and no more than two drinks per day for men. One drink is equal to 2 oz. of hard liquor, 5 oz. of wine or 12 oz. of beer.

Q: What pets can I not have?

A: There are no absolute restrictions. As a general rule, cats, dogs and horses cause no concern. Be aware that intimate contact with cat or bird feces poses a risk of infection and these activities should be avoided or a mask worn, followed by washing your hands.

Q: Do I need to limit my activities?

A: For the first six weeks you should not lift anything over 10 pounds, which is approximately the weight of a gallon of milk. Do not do any straining or participate in sports for six weeks. In most cases, there are generally no restrictions after six weeks following surgery.

Q: Can I play sports?

A: Yes. There are no restrictions after the initial six week post operative period.

Q: Are there jobs I should not have?

A: You are encouraged to return to work and there are no restrictions regarding the type of work that can be done. We do recommend you follow universal health precautions, such as hand washing, if you work with small children who may be ill or work with animals in a pet shop or other setting.

Q: Can I be around children following their vaccination?

A: Transplant patients should avoid direct contact with persons who have received any live virus vaccines. Patients should also avoid direct contact with the body fluids (such as changing diapers) from a recently vaccinated individual. Examples of live virus vaccines include MMR (measles, mumps, rubella), small pox and chicken pox.

Q: Can I be around a person who has received the flu-mist vaccine?

A: The flu-mist vaccine is a live virus vaccine, therefore, transplant recipients should not be around a person who received the flu-mist vaccine for 21 days following the vaccination.

Q: How long do I have to drink 2 liters of fluids per day?

A: We recommend you drink two liters of fluid each day for four weeks, after which you should drink as thirsty.

Q: Do I need antibiotics before I see my dentist?

A: Organ transplantation is not an indication for antibiotics before dental care. Antibiotics may be appropriate if you have a prosthetic valve, a history of endocarditis, congenital heart disease, or a cardiac transplant with valvular disease. If you require antibiotics they will be prescribed at the discretion of your dentist.

Q: Can I do gardening?

A: Gardening is acceptable. We do recommend you wear gloves and wash your hands when finished and wear a HEPA filter mask when working with mulch or leaves.

Q: I am an organ donor. Can I get pregnant and is it acceptable?

A: Female organ donors are able to become pregnant. Pregnancy following organ donation is not a problem after the initial recovery period.

Q: Can I use deodorant?

A: Yes. Some trace aluminum can be found in antiperspirants which has caused some concern in specific patient populations. If you are concerned, please ask your doctor in clinic.

Q: Can I use the same hand towels as my family?

A: Yes. However, if a member of your family is ill you are advised to use universal health precautions.

Q: Can I use the same bar of soap as my family?

A: Yes. However, if a member of your family is ill you are advised to use universal health precautions.

Q: Can I drink milk and have other dairy products?

A: Yes. You need to include milk and eat dairy products in your daily diet.

Q: Do I need to wear a mask at all times following transplantation?

A: For more information on when a mask is recommended, please ask your transplant nurse coordinator.

Q: Can I take over-the-counter cold or cough medications?

A: Please contact your transplant nurse coordinator if you have questions.



Tobacco

fact sheet

Quitting Tobacco: Keys to Success

What is the affect of tobacco use in the U.S.?

Tobacco is to blame for 438,000 early deaths each year. In 2009, the American Cancer Society called tobacco use the most avoidable cause of early death. Tobacco accounts for at least 30 percent of all cancer deaths. Almost half of those who continue to smoke will die from a smoking related death. The best way to reduce your risk of getting cancer, or living a shorter life is to not start using tobacco. If you do smoke or chew, it is never too late to quit, no matter how long you have used tobacco.

If I plan to quit, what should I do?

You can quit on your own with a strong desire and by following a plan.

- Talk with your doctor.
- Set a quit date.
- Throw away lighters, ashtrays, or other items that remind you of tobacco.
- Ask family and friends for support.
- Keep busy.
- Exercise.



Did you know that using quit-smoking aids like the patch will double your chances of quitting?

Nicotine is found naturally in the tobacco plant. When you smoke a cigarette, nicotine releases chemicals in your brain within 7-10 seconds of the puff. These chemicals may cause you to feel good, more awake, and calmer. Nicotine does not cause cancer, unlike nail polish remover, lead, and rat poison which also are found in cigarette smoke.

What do I need to do to take care of myself?

Quitting is hard.

Remember to:

- Get enough sleep.
- Eat healthy foods.
- Drink water.
- Exercise.
- Reward yourself.
- Take your medicine as prescribed by your doctor or nurse.

Using quit-smoking aids like nicotine gum can help ease the unpleasant feelings people can have when they quit tobacco. A quitter may feel moody, experience headaches, hunger, and urges to smoke. The following is a list of approved quit aids.

Prescriptions

- Nicotine Nasal Spray
- Nicotine Inhaler
- Chantix
- Zyban

Over-the-Counter

- Nicotine Patch
- Nicotine Gum
- Nicotine Lozenge

What might make me start again?

Below is a list of high risk times and ideas to deal with them:

1. Stress
 - Breathe deeply a few times, in through the nose and out through the mouth.
 - Use positive statements such as: “I am strong” or “I can get through this.”
2. After meals
 - Be active. Take a walk, wash the dishes, or play with your children or pets.
 - Brush your teeth or use mouthwash.
3. Alcohol
 - Find different ways to hang out with friends.
 - Choose not to go to the bar or drink alcohol the first 3-4 weeks after quitting.
4. Driving
 - Clean the inside of your car.
 - Put your list of reasons to quit where you can see them.
5. Morning Routine
 - Change the order of how you get ready for the day.
 - Eat breakfast if you usually don't.

**What are some benefits of quitting smoking?**

No matter how long you've been smoking, you can benefit from quitting.

- Quitting smoking increases your blood flow, energy level, and your general health.
- Your risk for heart disease is cut in half after only one year without smoking.
- Quitting smoking lowers the chance of breathing problems, as well as lung and other cancers.

Smoking Hurts Others

Each year secondhand smoke is to blame for as many as 3,000 lung cancer deaths and another 35,000 deaths due to heart disease in nonsmokers. Secondhand smoke can cause problems like chronic bronchitis, asthma attacks, and ear infections in both adults and children. Secondhand smoke can also cause sudden infant death syndrome (SIDS).

For Help:

The University of Michigan Health System's MHealthy Tobacco Consultation Service (TCS) works with employees, students, patients, and community members who wish to be free of tobacco. TCS offers support programs which address the physical, social, mental, and emotional issues accompanying tobacco use. We focus on unlearning tobacco habits and learning how to live tobacco-free again. Our services are free to U-M employees and UMHS patients with a doctor's referral. A fee is required for all others.

- **Web site:** www.mhealthy.umich.edu/tobacco
- **Email:** quitsmoking@med.umich.edu
- **Phone:** 734-998-6222 (99 T-OBAC)

Michigan Transplant Center Policy #103

Recommended Vaccines for Adult Solid Organ Transplant Candidates and Recipients



I. POLICY STATEMENT

To define the recommendations for vaccines for Adults Solid Organ Transplant Candidates and Recipients and to ensure vaccines based on specific exposure or risk when traveling. Note: Immunosuppressed patients are not to receive live virus vaccines.

II. PURPOSE

None.

III. DEFINITIONS

VIS forms: Vaccine information Sheets provided to the patient prior to immunization.

IV. STANDARDS

A. Key Points

- Vaccines tend to be more effective in patients who are not immunosuppressed. Thus, if possible vaccines should be given prior to transplantation. Nonetheless, with the exception of live vaccines, most vaccines still work in immunosuppressed patients.
- Live vaccines (e.g., Zostavax shingles vaccine, varicella vaccine, MMR, and some travel vaccines) are contraindicated in immunosuppressed patients and should not be given if transplant is expected in the next 4 weeks.
- Herpes zoster (shingles) is very common after transplantation. There are two zoster vaccines available: Zostavax (live zoster vaccine) and Shingrix (recombinant zoster vaccine). Transplant candidates and recipients ≥ 50 years of age should receive a zoster vaccine. Prior to transplant, Shingrix is recommended over Zostavax by the CDC and Michigan Medicine due to its superior efficacy. After transplant, Zostavax is contraindicated and Shingrix is recommended based on response rates and safety data. Patients who previously received Zostavax should be given Shingrix. Serious adverse events are rare after Shingrix, but 1-2 days of low grade fevers, shivering and flu like symptoms occur in a substantial minority of recipients.
- Influenza vaccination should be given every year regardless of recent transplantation. It is reasonable to wait 3-6 months after transplantation to administer other vaccines as response will be better. High dose influenza vaccine appears to be safe after transplantation and is recommended for those 65 years of age and older.
- Administration of vaccinations is done by trained medical personnel (MA/RN/LPN) in the clinic setting after providing VIS information (along with any additional information necessary ie: billing potential) to the patient. The operational process of vaccine administration can be found in the exhibit section of this policy.
- Due to incomplete vaccination coverage, outbreaks of measles have become more common and measles can be severe in immunocompromised persons. During the listing process, as part of routine screening patients should be checked for previous immunity to rubella, rubeola (measles), and mumps. (MiChart order "Rubeola Antibody IgG, Rubella antibody IgG, Mumps antibody IgG"). If patients are negative for any of the three viruses and not immunosuppressed, an additional dose of MMR should be administered. Patients with negative serologies can be vaccinated locally and a letter from the transplant center can be sent to the patient to describe options. Repeat serologies done at a minimum of 4-6 weeks after vaccination can be sent for any negative initial serology and if is still negative, a second dose can be administered. Candidates should be placed on hold for 4 weeks after receipt of MMR. Candidates in urgent need of transplant should not receive live vaccine since the risk of not receiving an organ outweighs the benefit of vaccination.

B. Routine vaccines

Vaccine	Pre-Vaccination Serology	Recommended before Transplant	Recommended after Transplant	Post-Vaccination Titer
Influenza (injectable) (High dose if ≥ 65 years)	no	yes (yearly)	yes (yearly) Nasal contraindicated	no
Hepatitis B ^a (3 doses over 6 months)	Hep B s Ag Hep B c Ab hep B s Ab	yes (if all serologies are neg)	yes	Yes >1 month after last dose (Quantitative Hep B s Ab)
Hepatitis A ^a (2 doses over 6 months)	Hep A total	yes	yes	no

(continues on following page)

(Routine vaccines, continued)

Vaccine	Pre-Vaccination Serology	Recommended before Transplant	Recommended after Transplant	Post-Vaccination Titer
Td (tetanus) ^b	no	yes	yes (every ten years)	no
<i>S. pneumonia</i> (PPSV23) ^c (PCV13) ^d	no	yes	yes	no
Varicella	yes or history of chicken pox ^e	yes if negative serology (contraindicated if immunosuppressed)	contraindicated	yes
Zoster (Shingrix) (50 years and older) ^f (2 doses over 2-6 months)	Indicated for varicella positive	yes	Yes; Shingrix only	no
Human Papilloma Virus ^g	no	yes	Efficacy unknown	No
MMR	Check Rubeola, Rubella, Mumps (IgG) all adults as part of listing process	Yes	No (live virus)	Yes 4-6 weeks after first dose and give second dose if negative

- a) Double dose Twinrix recommended for ESLD and liver transplant recipients. Higher dose (40 mcg) of Hep B vaccines recommended for dialysis patients.
- b) Tdap instead of Td on one occasion (includes pertussis)
- c) Adult transplant patients should get at least 2 doses of PPSV23 (Pneumovax) at least 5 years apart. If the 2nd dose was given before age 65, the patient should get a 3rd dose (last dose) at age 65 or older OR 5 years from the 2nd dose, whichever comes later.
- d) PCV13 (Prenvar) once for all immunosuppressed adults; cannot be given on the same day as the influenza vaccine and at least 8 weeks must elapse from PCV13 dose to PPSV23 vaccine; must wait one year after PPSV23 dose to give PCV13
- e) If the patient has a history of chicken pox or zoster, will not need varicella vaccine; two vaccinations 4 to 8 weeks apart recommended for those without history. Do not administer if transplant anticipated within 4 weeks.
- f) Shingrix should be given to candidates or recipients ≥ 50 years as a 2 dose series at 0 and 2-6 months. Zostavax is no longer recommended and is contraindicated after transplant. Patients who received Zostavax in the past should be given Shingrix.
- g) Recommended for males and females age 9 through 26 years old; 2-3 doses based on age at first vaccination, 3 doses for immunocompromised patients

C. Travel vaccines and vaccines indicated based on specific exposure or risk factors

Vaccine	Pre-Vaccination Serology	Recommended before Transplant	Recommended after Transplant	Post-Vaccination Titer	Indications
<i>N. meningitides</i> ^a (MCV4)	no	yes	yes	no	Travelers to endemic areas, asplenic patients, eculizumab recipients
Rabies	no	yes	yes	no	Post-exposure prophylaxis
Yellow fever	no	yes	Contraindicated	no	
Japanese Encephalitis	no	yes	yes	no	Travelers to endemic areas
Salmonella typhi (injectable)	no	yes	yes	no	Travelers to endemic areas
Salmonella typhi (oral)	no	yes	Contraindicated	no	

a) Initial two dose at least two months apart; revaccinate every 5 years for those with persistent risk (e.g., asplenia)

D. Vaccines for patients in need of or post splenectomy

1. *N. meningitides* (MCV4)
 - If first dose then 2 doses two months apart then booster every five years.
 - If received in the past: booster dose every 5 years
2. Serogroup B meningococcal vaccines (if available):
 - Bexsaro: two doses with second dose > 1 month after first dose
 - Trumenba: two doses with second dose 6 months after first dose
3. Pneumococcal vaccines
 - PCV13 (Prevnar) followed by PPSV23 (Pneumovax) 8 weeks later then repeat PPSV23 5 years after dose and again once after age 65 if 5 years since last dose have elapsed
4. Haemophilus influenza type b: one dose if not immunized during childhood (routine vaccination of children began in early 1990s)

V. EXHIBITS

A. Operational Process of Vaccine Administration

1. Order verification completed by MA/RN/LPN
2. Review patients immunization record in Mi chart (which includes immunizations from Michigan Care Improvement Registry (MCIR)) to ensure vaccine was not given elsewhere if patient cannot recall.
3. Obtain appropriate VIS form for vaccine
 - a) If vaccine is Shingrix, in addition to VIS provide patient with:
 - i. Shingrix Fact sheet form identifying cost of vaccine if insurance does not cover
 - ii. If patient still desires vaccine have patient sign the "Advance Beneficiary Notice of Noncoverage" (ABN). Scan ABN form into Media section in MiChart
4. Draw up vaccine
5. Provide VIS to patient prior to administration
6. Administer via route ordered
7. Inform patient if a 2nd or third dose of vaccine may be required for full effectiveness and if so in what time frame (e.g. HAV is given at 0 and 6 months, HBV given at 0, 1, and 6 months, Shingrix given at 0 and 2 to 6 months).

- B. [Shingrix Fact Sheet](#)
- C. [Advance Beneficiary Notice of Noncoverage \(ABN\)](#)
- D. **Patient Letter re: MMR** (available as [PDF](#) or [MS Word document](#))

VI. REFERENCES

- L. Danziger-Isakov, D. Kumar and the AST Infectious Disease Community of Practice. American Journal of Transplantation 2013;13:311-317
- MMWR Advisory Committee on Immunization Practices (ACIP) Recommended Immunization Schedules for Persons Aged 0 Through 18 Years and Adults Aged 19 Years and Older – United States, 2017 February 10, 2017 available at <http://www.cdc.gov/vaccines/schedules/hcp/adult.html>

PROGRAM:	ADULT TRANSPLANTATION	
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HISTORY:	ISSUED JUNE 13, 2019 (PREVIOUS VERSIONS: FEB. 13, 2019; JUNE 29, 2018; OCT. 12, 2015)	
KEYWORDS:	ROUTINE VACCINES, ADULT ORGAN TRANSPLANT, NEPHROLOGY, TRAVEL VACCINES, VACCINES, SPECIFIC EXPOSURE, RISK FACTORS, IMMUNIZATIONS	
FILE:	ALL_ADULT_VACCINES_103.PDF	

Requirements for Post-Kidney Transplant Care

Be Ready for the Call

- We have 1 hour to reach you with an offer
- Keep your phone number up to date with your coordinator
- Answer every call
- Always check your voicemail, and call back quickly
- Always keep your phone charged
- Always keep your phone on



Must Have At Least:

- 2 caregivers/drivers
- 24/7 care at home for 2 weeks
- Drivers to clinic visits

During your Transplant Inpatient Stay

- You and your caregiver will learn how to take care of your new kidney from your doctor, nurse, pharmacist and finance specialist
- You will need to pass an open book quiz about your new medication

In-Home Caregiver for 2 Weeks after Discharge

M	T	W	T	F	S	S
M	T	W	T	F	S	S



Labs

- Two times a week for 4 weeks, one time a week for 6 months
- Long-term monthly labs



Clinic Visits and Transportation

- All post-transplant visits are in Ann Arbor
- Patients are restricted from driving for 2-4 weeks
- Clinic visits are weekly for 4 weeks
- At 1 month post-transplant, clinic visits will be every 2 weeks for another 4 weeks



REMEMBER: If you have any complications, your hospital stay may be longer and your clinic visits more often.

Notes

Notes
