

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

The *Liver Patient Education Guide* (this book) can be found electronically on the University of Michigan Health Transplant Center website at **UofMHealth.org/medical-services/transplant/liver-transplant-patient-care-guide**.

For general information about the University of Michigan Health Transplant Center and to learn about our doctors, please visit **UofMHealth.org/transplant**.

University of Michigan Health 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?

Patients who wish to participate will be issued a **MyUofMHealth.org** activation code. There are two ways to get an activation 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 Hepatitis – An inflammation in the liver that lasts less than six months.

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

Acute Tubular Necrosis (ATN) – Reversible kidney damage resulting in delayed kidney function. Among other factors, it may be caused by the quality of 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. Provision of the law includes 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.

Alcoholic Cirrhosis – A chronic inflammation of the liver caused by excessive alcohol intake. People who quit drinking can significantly improve liver function in as little as six months.

Alcoholic Hepatitis – An inflammation of the liver caused by alcohol.

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 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.

Alpha-1 Antitrypsin Deficiency – A hereditary disease that may lead to hepatitis and cirrhosis.

Alphafetoprotein (AFP) – An abnormal protein that may be found in liver cancer. AFP levels that are slightly abnormal may be in those with chronic hepatitis or cirrhosis.

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

Anatomy – The structure of the body and the relationship of the parts of the body.

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. Some antibodies, like the hepatitis C antibody, are not effective in neutralizing the organism and are not markers of recovery.

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

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.

Ascites – Accumulation of fluid in the abdominal cavity, most commonly a result of cirrhosis.

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.

Autoimmune Hepatitis (AIH) – A form of liver inflammation in which the body's immune system attacks liver cells.

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

Baraclude® (entecavir) – an orally administered drug for the treatment of hepatitis B.

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

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

Benign – Benign indicates not malignant; not recurrent; favorable for recovery.

Bile – A fluid produced by the liver, stored in the gall bladder, and released into the small intestine to help absorb dietary fats.

Bile Ducts – The tubes through which bile flows.

Bile Leak – A hole in the bile duct system causing bile to spill into the abdominal cavity.

Biliary Atresia – A disease of young children that prevents proper development of the main bile ducts connecting the liver to the intestinal tract, resulting in obstruction and cirrhosis of the liver usually within the first year of life.

Biliary Stenosis – The narrowing or constriction of a bile duct.

Biliary Tree – All passageways inside and outside the liver that carry bile to the intestines.

Bilirubin – Bile pigments. Increased bilirubin levels cause yellowing of the eyes and skin (jaundice) and may be a sign of liver disease or bile duct abnormalities.

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 a microscope.

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

Blood Urea Nitrogen – A by-product of protein breakdown in the body.

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 the doctor. Machines may maintain functions such as heartbeat and breathing for a few days, but not permanently.

Budd-Chiari – Clotting of the hepatic vein which is the main vein leaving the liver.

BUN – Stands for blood urea nitrogen, a waste product normally secreted by the kidney. BUN values represent how well the kidneys function.

Carcinoma – A malignant new growth; a type of cancer.

Cardiac – Having to do with the heart.

Cessation – The act of ceasing; halt.

Cholangiocarcinoma – A primary malignant tumor (cancer) of the liver originating in bile duct cells.

Cholestasis – A blockage of bile in the liver or bile ducts.

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

Chronic Hepatitis – Hepatitis infection that lasts longer than six months.

Chronic Rejection – Slow failure of the transplanted organ.

Cirrhosis – An advanced stage of liver disease in which functioning liver cells are reduced in numbers and surrounded by scar tissue. Cirrhosis may be caused by viruses, alcohol, inherited metabolic diseases or drugs.

Cirrhotic – Pertaining to or characterized by cirrhosis.

CMV (Cytomegalovirus) – 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% – patients pay 20% of the doctor's bill and insurance pays 80%.

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.

Copayment (copay) – A flat fee that a person pays for healthcare services in addition to what the insurance company pays, for example, a \$10 copayment 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.

Cryptogenic Cirrhosis – A cirrhosis of obscure or unknown origin.

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.

Deficiency – A lack or a defect.

Delayed Function – A condition in which the transplanted organ does not work well right after the transplant.

Department of Health and Human Services (HHS) – The department of the federal government 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 waste from the body when kidneys are failing. See *hemodialysis*.

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

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.

Diuretic – An agent that increases the output of urine.

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 – Generally refers to the dissolved form of a mineral such as sodium, potassium, magnesium, chlorine, etc.

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.

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

Entecavir – also known as Baraclude® for treatment of hepatitis B.

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. Fibrosis in the liver is usually a result of long-standing injury and precedes cirrhosis.

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 those 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.

Gastroenterologist – A doctor who specializes in the treatment of diseases of the digestive tract, including the liver.

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.

Glycogen – The chief carbohydrate storage material.

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 is usually measured in one-, three- and five-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.

HAV – The abbreviation for the hepatitis A virus.

HBV – The abbreviation for the hepatitis B virus.

HCV – The abbreviation for the hepatitis C virus.

HCV Genotype – Hepatitis C can be divided into six genotypes (1 – 6). Each genotype can be divided into subtypes (a, b, c...). Type 1 is most common and accounts for 70% of hepatitis C infections in the United States. Patients with genotype 1 have lower response to treatment than patients with genotypes 2 or 3.

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 are referred to a specialist.

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

Hemochromatosis – An inherited condition that causes the body to absorb and store too much iron.

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

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

Hepatic – Having to do with, or referring to, the liver.

Hepatic Artery – The hepatic artery is one of the primary blood vessels that supplies blood to the liver.

Hepatic Encephalopathy – A condition usually occurring secondarily to advanced disease of the liver which is marked by disturbances of consciousness which may progress to deep coma, psychiatric changes of varying degree, flapping tremor and increased ammonia levels.

Hepatitis – Inflammation of the liver caused by viruses, infections, chemicals or drugs.

Hepatitis A – A form of acute, self limiting hepatitis that is transmitted via contaminated food or water. Hepatitis A does not progress to chronic infection and will not lead to cirrhosis.

Hepatitis B – Inflammation in the liver caused by the hepatitis B virus.

Hepatitis B Surface Antibody (Anti-HBs) – A marker of immunity to hepatitis B infection. Immunity can be acquired from vaccine or a previous hepatitis B infection.

Hepatitis Be Antigen (HBeAg) – A marker that can be detected through a blood test. Presence of HBeAg is an indication that the hepatitis B virus is actively multiplying.

Hepatitis B Surface Antigen (HBsAg) – A marker of hepatitis B infection. Test for HBsAg is used to screen for HBV infections. Further tests are needed to determine if the virus is active.

Hepatitis B DNA (HBV DNA) – The marker of active hepatitis B infection.

Hepatitis C – Inflammation of the liver caused by the hepatitis C virus.

Hepatitis C Antibody (anti-HCV) – This is a marker of hepatitis C infection. Presence of anti-HCV is usually an indication of active HCV infection. However, anti-HCV can also be detected in individuals who have recovered from hepatitis C.

Hepatitis C RNA (HCV RNA) – A marker of active hepatitis C infection.

Hepatocellular Carcinoma (HCC) – Liver cancer, which starts in the cells of the liver.

Hepatologist – A doctor who specializes in the treatment of liver diseases.

Hepatomegaly – An enlarged liver.

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 infection that can include serious infections, blindness, some types of cancers and neurological conditions such as senility.

Hypertension – See *high blood pressure*.

Illicit – Forbidden by custom or law; unlawful.

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, azathioprine (Imuran), cyclosporine (Sandimmune®, Neoral®), mycophenolate mofetil (CellCept®) and tacrolimus (Prograf®, FK506).

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 decision 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.

Interferon – A protein that is made by the body in response to virus infections. Interferon is approved for the treatment of chronic hepatitis B and chronic hepatitis C.

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.

ISHAK Score – A scoring system for liver biopsies that incorporates measures of necrosis, inflammation and fibrosis. Score ranges from 0 (zero) to 6 (six) with zero indicating no fibrosis and six indicating cirrhosis, probable or definite.

Jaundice – A yellow discoloration of the skin caused by the buildup of bile pigments in the blood. Jaundice may be caused by liver diseases or obstruction of bile ducts. Rarely, jaundice may be caused by excessive breakdown of red blood cells.

Kidneys – A pair of organs that remove waste 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.

Lactulose/kristalose – A medication used for hepatic encephalopathy. This medication changes bacteria in the gut and increases bowel movements. (Please refer to page 21 in the Pre-Liver section for information on this medication.)

Lamivudine (Epivir HBV®) – An orally administered drug for the treatment of hepatitis B infection.

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 waste from the blood. The liver can be donated and transplanted. Living donors can give part of their liver.

Liver Biopsy – A procedure to remove a small piece of the liver by inserting a needle through the right upper abdomen. The liver tissue is examined under a microscope to assess the integrity of the liver cells.

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 biologic 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.

Malignant – Malignant indicates the tendency of a cancer or tumor either to invade the surrounding tissues, to destroy or replace the tissues previously present, or to metastasize (spread to other parts of the body). Not all malignant tumors cause death in patients.

Malignancy – A growth that has become malignant. See *malignant*.

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 also is 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 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.

Metabolic Liver Disease – Liver enzyme deficiencies that prevent carbohydrate, fat, protein and vitamin metabolism, which can lead to cirrhosis of the liver or result in serious diseases in other organs and tissues.

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 sale of human organs.

Nonalcoholic Fatty Liver Disease (NAFLD) – An accumulation of fat in the liver which can range from simple steatosis to NASH.

Nonalcoholic Steatohepatitis (NASH) – Inflammation of the liver associated with the accumulation of fat in the liver which causes damage to the liver.

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 work after being transplanted into a recipient.

OPO Service Area – Each 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 varies 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 1984, 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).

Out-of-Pocket Expenses – The portion of health costs that must be paid by the insured person per year, including deductibles, copayments 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.

Peritoneal Dialysis – A method of purifying the blood by flushing the abdominal cavity with a dilute salt 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 Liver Disease – An inherited disorder characterized by lesions throughout the liver.

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

Portal Hypertension – Higher than normal pressure within the vessels of the liver. Left untreated, this may result in development of collateral vessels in the esophagus, stomach and intestines, which may rupture leading to bleeding (variceal bleeding) and ascites.

Potassium – A mineral essential for body function.

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.

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 an 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.

Primary Biliary Cirrhosis (PBC) – Chronic liver disease that causes slow, progressive destruction of the bile ducts.

Primary Sclerosing Cholangitis (PSC) – A disease in which the bile ducts inside and outside the liver become narrowed due to inflammation and scarring.

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.

Recombinant Immunoblot Assay (RIBA) – A blood test used to detect the presence of hepatitis C antibodies. This is a second line test used to confirm an ELISA/EIA test result. Used to determine if the individual has been truly exposed to hepatitis C.

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.

Ribavirin – An orally administered antiviral drug that when used in combination with interferon can suppress the hepatitis C virus and reduce liver damage.

Risk Pools – High-risk health insurance plans, called risk pools, have become an important safety net for individuals who are denied health insurance because of a medical condition. About 30 states operate risk pools to provide health coverage for individuals who, because of their physical condition, are unable to purchase health insurance at any price.

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 physician 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 1984, 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 three years or until graft failure or death. MMFR (Minneapolis Medical Research Foundation) operates the SRTR under contract with the federal government.

Second Opinion – A medical opinion provided by a second physician 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.

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

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

Steatosis – Accumulation of fat in the liver; known as fatty liver.

Steatohepatitis – Fat in the liver (steatosis) with the presence of inflammation or hepatitis.

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 transplanted 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; the 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 due 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.

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 to 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 recipients.

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

T-Tube – A tube placed in the bile duct that allows bile to drain into a bag outside the body.

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 given to simulate immunity to infections, organisms (such as bacteria) and viruses.

Varices (Esophageal) – Swollen veins at the bottom of the esophagus, near the stomach – a common condition caused by increased pressure in the liver. Varices can ulcerate and bleed.

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.

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 Health Transplant Center is pleased to offer two types of visits – clinic (in-person) and virtual (over video).

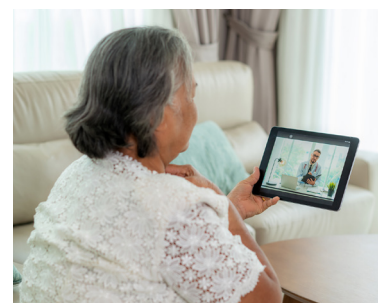
Both options are available with most providers at the Transplant Center for many pre- and post-transplant appointments. If you are interested in a virtual visit, you must have access to the University of Michigan Health patient portal. Information on the portal and gaining access can be found on page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

University of Michigan Health currently cannot offer video visits for patients outside of Michigan. For more information, please feel free to contact us.

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



1. Clinic (in-person)



2. Virtual (over video)

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 **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 University of Michigan Health at **(734) 936-4000**.

Lodging

Michigan Medicine Lodging helps patients and families find overnight lodging during their time at Michigan Medicine. We know finding the right accommodations can be challenging so the Michigan Medicine Lodging team is here to help. Michigan Medicine Lodging can handle your lodging needs so you can focus on yourself while being treated at Michigan Medicine.

Reservation Services

Best Rates for Rooms that Meet Your Needs: Our team members will work with you to match your preferences with a local lodging option at the best rates possible. For example, if a complimentary breakfast, handicapped-accessibility or shuttle service is a priority for your family, we will work with you to find the best option to meet your needs.

Onsite Reservations for Med Inn: We make all of the reservations for our 30-room on-site Med Inn hotel.

Partnership with Area Hotels and Motels: Michigan Medicine Lodging also partners with more than 30 hotels and motels in the area (currently in Ann Arbor, Brighton and Livonia) to provide uniquely tailored services matched to your specific needs. Based on your information and preferences, we will make your reservations, provide you with information about hotel amenities, give directions to the hotel and answer any questions you may have. Michigan Medicine Lodging can help you make arrangements with many hotels and organizations, often at a better rate than what you might otherwise receive.

Contact Us

For assistance with lodging reservations, contact Michigan Medicine Lodging at **(800) 544-8684** or **(734) 936-0100**. You may also complete an reservation request form online at **[UofMHealth.org/patient-visitor-guide/michigan-medicine-lodging](https://www.uofmhealth.org/patient-visitor-guide/michigan-medicine-lodging)**.

Guest Assistance Program

The Guest Assistance Program (GAP) is a part of the Department of Social work that assists both adult and pediatric patients with navigation of non-medical needs they may face. Our dedicated social workers problem-solve, research community resources, and assist with the coordination of various needs that arise during medical treatment. We focus solely on barriers to care – things that would keep patients from maintaining treatment or appointments that would impact their health.

Phone: (734) 764-6893 ; toll-free: (800) 888-9825

Website: UofMHealth.org/patient-visitor-guide/guest-assistance-program

Hours: Monday - Friday, 9 a.m. - 4:30 p.m.

Liver Peer Mentor Program

The University of Michigan Health Transplant Liver 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.

The Peer Mentor Program is entirely voluntary. 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 Health Transplant Center. To inquire about meeting with a peer mentor, please talk to your nurse coordinator or social worker.



Raising Funds to Cover Medical Expenses

If the out-of-pocket costs are 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.helphopelive.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**
3249 W. Sarazen's Cir, Suite 100
Memphis, Tennessee 38125
(800) 489-3863 toll-free
(901) 684-1128 fax
www.transplants.org

Transplant-Related Websites

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

The official website of the University of Michigan Health Transplant Center provides 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.

- **Gift of Life Michigan**

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 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.

- **Extra Help for Medicare**

**www.socialsecurity.gov/extrahelp
(800) 772-1213**

A low-income subsidy set up through the federal government to help with Part D premiums and copays.

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 you Patient Advocate or doctor decide what kind of health care you want.

.....

.....

.....

.....

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

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.

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.

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

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.

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's telephone number _____

Resources | 31

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.

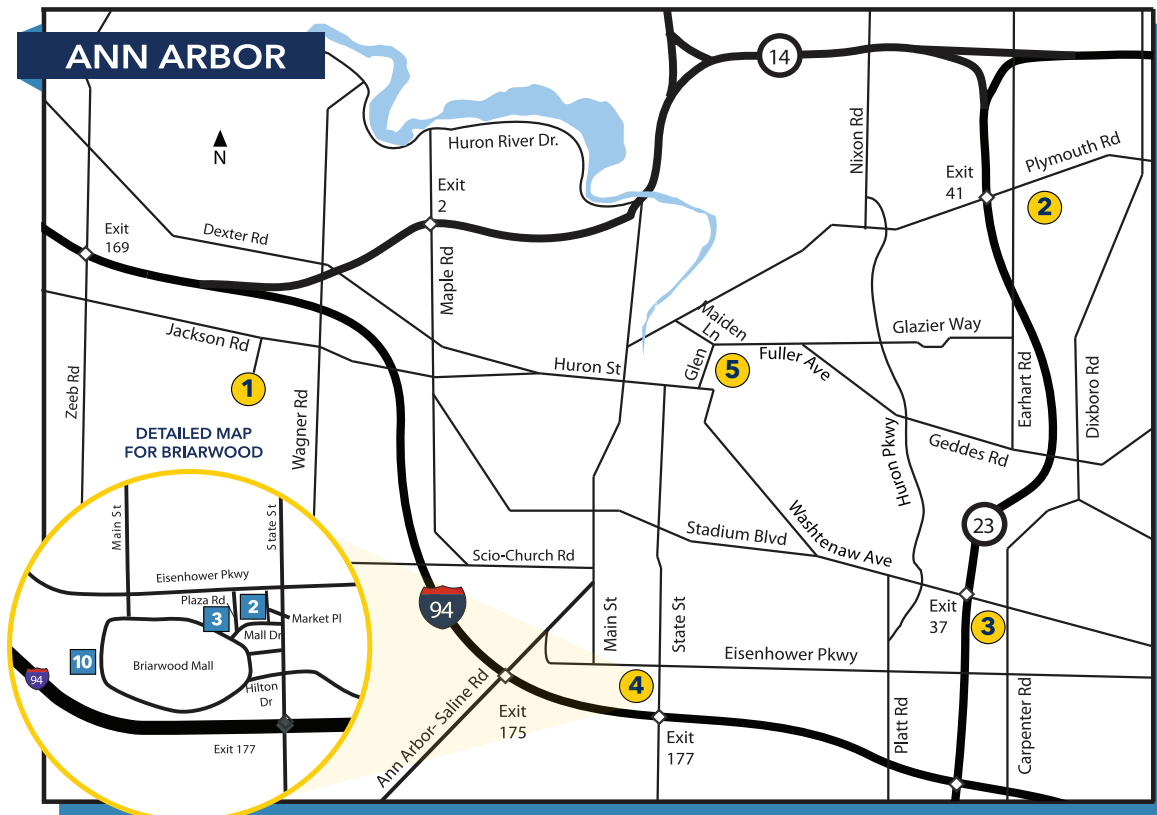
LABORATORY PATIENT SERVICE CENTERS



MLabs Patient Service Centers offer collection of specimens such as blood and urine for laboratory testing.

No appointment is necessary, but we recommend to call ahead to confirm current hours of operation and to schedule glucose tolerance testing.

Test results are available from your physician or the Michigan Medicine patient portal at <https://www.myuofmhealth.org>



1 WEST ANN ARBOR HEALTH CENTER
380 Parkland Plaza, Suite 130
Ann Arbor, MI 48103
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., Ann Arbor, MI 48109
Ph: 734.647.5685 **Fax:** 734.647.6457
Mon-Th 7am - 7:30pm
Fri 7am - 5:30pm
Sat 8am - 12:30pm

3 CARPENTER ROAD (Ann Arbor/Ypsi)
Packard Health Center
2650 Carpenter Rd., Ann Arbor, MI 48108
Ph: 734.998.0725 **Fax:** 734.998.0726
Mon-Fri 8am - 5:00pm

4 BRIARWOOD HEALTH CENTERS
Building 2
400 E. Eisenhower, Suite B.
Ann Arbor, MI 48108
Ph: 734.998.4413 **Fax:** 734.647.3718
Mon-Fri 8am - 3:30pm

Building 3
375 Briarwood Circle
Ann Arbor, MI 48108
Ph: 734.998.0284 **Fax:** 734.998.6502
Mon-Fri 7am - 2:30pm
(Closed 1st Tuesday of each month 7am - 10:30am)

Building 10
1801 Briarwood Circle
Ann Arbor, MI 48108
Ph: 734.913.0167 **Fax:** 734.998.4489
Mon-Fri 9:30am - 5:00pm
Sat 8:00am - Noon
(Closed 2nd Wednesday of each month 8am - 1pm)

5 MAIN MEDICAL CAMPUS
1500 E. Medical Drive, Ann Arbor, MI
Cardiovascular Center, Fl. 3, Recep. A
Ph: 734.232.5111 **Fax:** 734.232.5130
Mon-Fri 7am - 3pm

Children's & Women's Hospital, Fl. 2, Recep. B
Ph: 734.232.5672 **Fax:** 734.232.5682
Mon-Fri 7am - 6pm

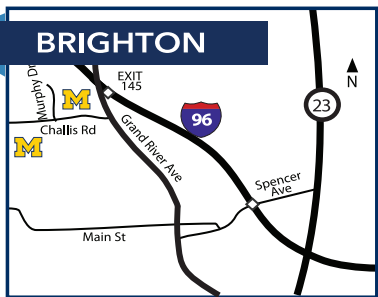
Cancer Center, Fl. B2, Recep. E
Ph: 734.647.8913 **Fax:** 734.647.8937
Mon-Fri 7am - 6pm

Taubman Center, Fl.1, Recep. D
Ph: 734.647.6304 **Fax:** 734.647.6779
Mon-Fri 7am - 6pm

Taubman Center, Fl. 3
Ph: 734.936.6760 **Fax:** 734.936.7419
Mon-Fri 7am - 6pm

LABORATORY PATIENT SERVICE CENTERS

BRIGHTON



BRIGHTON HEALTH CENTER

8001 Challis Road
Brighton, MI 48116

P: 810.494.2649
F: 810.494.2645

Mon - Fri 7am - 3pm
Sat: Visit Bright Center
For Specialty Care

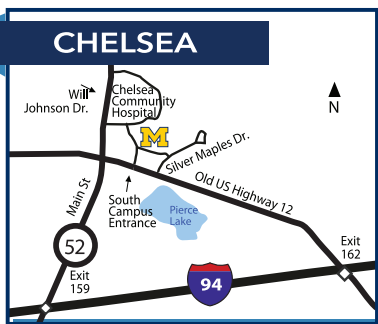
BRIGHTON CENTER FOR SPECIALTY CARE

7500 Challis Road
Brighton, MI 48116

P: 810.263.4087
F: 810.263.4090

Mon - Fri 7am - 6pm
Sat 7am - 4pm

CHELSEA



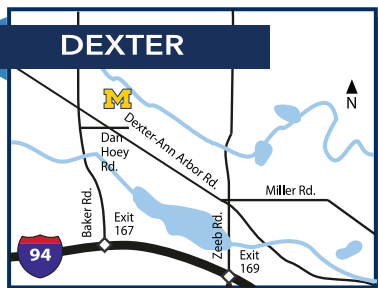
CHELSEA HEALTH CENTER

14700 E. Old U.S. 12
Chelsea, MI 48118

P: 734.475.4483
F: 734.433.4246

Mon - Fri 8am - 3:30pm
Sat 8am - Noon

DEXTER

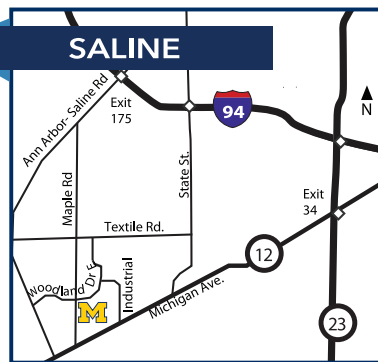


DEXTER HEALTH CENTER

7300 Dexter-Ann Arbor Rd
Dexter, MI 48130

TEMPORARILY CLOSED

SALINE

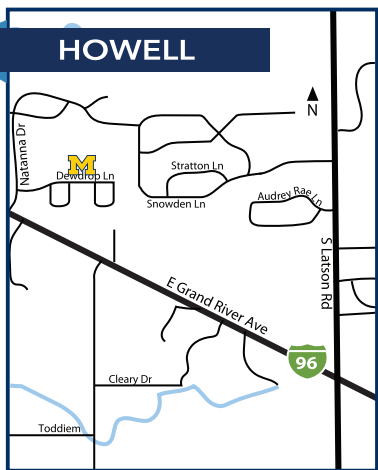


SALINE HEALTH CENTER

700 Woodland Dr E
Saline, MI 48176

TEMPORARILY CLOSED

HOWELL

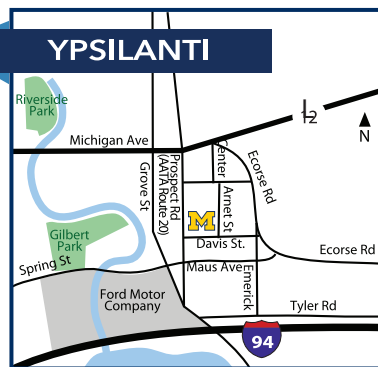


HOWELL HEALTH CENTER

3399 E Grand River Ave
Howell, MI 48843

TEMPORARILY CLOSED

YPSILANTI



YPSILANTI HEALTH CENTER

200 Arnet St.
Ypsilanti, MI 48198
(entry drive off Davis St)

P: 734.544.3277
F: 734.544.3272

Mon - Fri 9am - 5pm

Closed daily for lunch
between 12:30-1:00pm



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 Health, 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 University of Michigan Health 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 Health 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 University of Michigan Health 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 University of Michigan Health 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 Health 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 Health 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

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

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

One letter per box

Patient's Name																			
Modality*	L	I	V	E	R		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 carefully about including religious comments in your letter, as the religious background of the donor family is 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**.

Immunization Recommendations for Liver Transplant Recipients

VACCINE/INFECTION	WHO NEEDS IT	DOSAGE	COMMENTS
Influenza	All adults	Yearly	High dose recommended for those 65 and older.
Zoster (Shingrix) (to prevent shingles)	All adults with a history of chicken pox considering kidney transplantation	2 doses, two to six months apart	A blood test will be done to see if you have antibodies to chicken pox (varicella). If so, you should get this vaccine to prevent shingles.
Hepatitis B	If not already immune from vaccination or infection	2 doses, one month apart	HepB is preferred hepatitis B vaccine. blood tests will be done to see if you are already immune or had hepatitis B.
Hepatitis A	Adults with certain risk factors (although everyone should consider)	2 doses, at least 6 months apart	Especially important for those who often travel to countries with high rates of hepatitis A, or have other risk factors for getting hepatitis A.
COVID-19	Everyone	For latest recommendations, Visit cdc.gov/coronavirus	
Measles, Mumps, Rubella (MMR)	If not already immune from vaccination or infection	One or two boosters depending on response	This is a live vaccine and should not be given to patients with a suppressed immune system. An antibody test will be done to see if you need a booster.
Human Papilloma Virus	Recommended up to age 26, and considered for those between 26 and 45	2-3 doses depending on age at initial vaccination	
Tetanus (Tdap)	Everyone	Every 10 years, or during each pregnancy	
Pneumococcus (pneumonia)	Adults with chronic kidney failure	One dose of PCV20	Recommendations have been updated, and if you have already completed a series (PCV13 and two doses of PPSV23), no further vaccine is needed.
Varicella	Adults with no history of chicken pox and no antibodies to chicken pox	Two doses, 4-8 weeks apart	This is a live vaccine and should not be given to patients with a suppressed immune system. An antibody test will be done to see if you need this vaccine or the shingrix vaccine.

Continued on following page.

Immunization Recommendations for Liver Transplant Recipients (cont.)

IMMUNIZATION	TYPE	SAFE IN TYP PATIENT?	DURATION	PRECAUTIONS	COMMENTS
TRAVEL IMMUNIZATIONS					
Cholera	Protein Toxin Lipopolysaccharide	Yes	3 mos.		For travel to endemic areas
Meningococcal	Capsular Polysaccharide	Yes	5 years		Recommended for asplenic patients or for travel to endemic areas
Rabies	Inactivated Whole Virus	Yes			Post-exposure prophylaxis
Small Pox (Vaccinia)	Live, Attenuated Virus	No (unless there has been a direct exposure)		May be transmitted from vaccine to close contact*. Rash or other symptoms may develop.	Contraindicated. Transplant patients should avoid contact with the vaccinee's site of vaccination.
Typhoid	Live, Attenuated Virus	No			Live oral contraindicated; inactivated subcutaneous vaccine may be acceptable for travelers to endemic areas
Yellow Fever	Live, Attenuated Virus	No			Contraindicated

*Contact CDC at (404) 639-1870 if *eczema vaccinatum* develops.

Michigan Transplant Center Policy #321

Tobacco Cessation Policy



I. POLICY STATEMENT

The University of Michigan Adult Liver Transplant Program requires tobacco use cessation of all patients listed for liver transplantation.

II. PURPOSE

The purpose of this policy is to describe our requirement for tobacco use cessation, to describe resources available to support tobacco cessation among candidates for liver transplantation, and to provide guidelines for enforcement of the policy and the response to noncompliance with the tobacco cessation policy.

In addition, the policy document provides justification for the policy from the best available medical evidence about tobacco use among transplant patients.

III. DEFINITIONS

Tobacco use: Active use of any amount or frequency of any tobacco product (including inhaled and smokeless products)

Cotinine: Metabolite of nicotine that may be measured in the serum or urine and used to confirm exposure to tobacco products. Subjects who are using tobacco or a high dose nicotine patch will have detectable cotinine in the urine and serum.

Anabasine: Tobacco products contain two alkaloids, nor nicotine and anabasine. The presence of anabasine in the urine at > 10 ng/ml indicates active tobacco use and is used to confirm active tobacco product use (Anabasine positive) versus high dose nicotine patch (Anabasine negative). This test is a send out to Mayo labs

Tobacco Consultation Service (TCS): Comprehensive UM program providing support for tobacco cessation

IV. STANDARDS

A. Tobacco Cessation Education

1. All patients evaluated for liver transplantation at the University of Michigan will be informed of the program requirement that all individuals listed for liver transplantation within our program must not engage in the use of any tobacco product (inhaled, smokeless, e-cigarettes or nicotine supplementation) prior to or after liver transplantation.
2. Active use of any tobacco product of any amount or frequency is considered a relative contraindication to active listing for liver transplantation. However, in cases where patients are urgently evaluated for liver transplantation (fulminant hepatic failure or acute decompensation of chronic liver disease) and have not had time to demonstrate compliance with tobacco use cessation, the treating physicians may proceed with evaluation and listing as clinically indicated. Tobacco cessation education and enforcement in these unique cases will be deferred to the post-transplant period.
3. Patients using tobacco products at the time of evaluation for liver transplantation will be referred to the University of Michigan MHealthy Tobacco Consultation Service (phone 734-998-6222, fax 734-998-2191, email – quitsmoking@med.umich.edu, <http://hr.umich.edu/mhealthy/programs/tobacco/consultation/>) or their local smoking cessation program.
4. Tobacco product users with psychiatric co-morbidity/ substance abuse or those who have failed prior cessation efforts should be considered for treatment through the UMHS Adult Addiction Treatment Services at East Ann Arbor. Referrals can be made by calling the intake coordinator at 2-0465 or via MiChart referral.
5. Consult to Transplant Psychiatry/Dr. Winder for additional support in current medical therapies prescribed for assistance in quitting the use of tobacco.

B. Tobacco Cessation Enforcement

1. All patients with a history of tobacco use are expected to report to the transplant center (via their pre-transplant nurse, liver transplant coordinator or transplant social worker) when they have quit tobacco use.
2. Tobacco use cessation will be confirmed by measurement of a serum cotinine level on a case-by-case basis. A negative cotinine test may be required for placement on the waiting list, and testing will be performed if there is any suspicion of continued use.
3. Documentation of a positive serum cotinine test is consistent with either tobacco or nicotine use. A urine anabasine level can be obtained to confirm active tobacco use. Subjects with a positive serum or urine cotinine level requires two consecutive negative tests over a minimum of 2 weeks or longer to be considered for active listing for liver transplantation. The serum cotinine test can be done at any laboratory while the urine anabasine test is a send out to MAYO labs from UMHS.

4. Evidence of relapsed tobacco use – documented by patient or family admission, and confirmed by serum cotinine test – will potentially prevent listing of a candidate in the evaluation process, and is grounds for placing a listed patient in inactive status, until tobacco use cessation is documented with at least one negative serum cotinine test.

V. EXHIBIT

A. General population

In the general population, smoking is a well-recognized risk factor for heart disease, stroke, peripheral vascular disease, kidney disease, peptic ulcer disease, lung disease, and cancer. Smoking increases the risk of all-cause mortality and contributes to approximately 5 million premature deaths per year. In 2000, smoking accounted for 4.83 million deaths worldwide. Based on prevalence of 30%, the World Health Organization has estimated that smoking will kill 8 million people a year by 2030.

B. Liver transplant recipients

1. Mortality and Morbidity

Among liver transplant recipients, smoking is associated with an increased overall mortality, cardiovascular-related mortality, and sepsis-related mortality in a retrospective study of 136 patients from Scotland. Self-reported smokers had a similar 1-year survival to patients who denied smoking, but those who reported smoking had a higher mean length of hospital stay and significantly higher hospital charges. Smokers were also found to have a higher incidence of ascites and encephalopathy at referral to the transplantation program. There was, however, no elevation in Model for End-Stage Liver Disease score or Child-Turcotte-Pugh score.

2. Biliary Complications

Data from our institution showed that active smokers had a 92% higher rate of biliary complication rates compared with lifetime nonsmokers (HR, 1.92; 95% CI, 1.07–3.43). Smoking clearly portends a significant risk of biliary complications following liver transplantation (LT).

3. Vascular Complications

Smoking is associated with a higher risk for developing vascular complications, especially arterial complications after liver transplantation. In patients with a history of cigarette smoking, incidence of vascular complications was higher than in those without history of cigarette smoking (17.8% v 8%, $P=0.02$). Having quit cigarette smoking 2 years before liver transplantation reduced the incidence of vascular complications by 58.6% (24.4% v 11.8%, $P=0.04$). The incidence of arterial complications was also higher in patients with a history of cigarette smoking compared with those without such history (13.5% v 4.8%, $P=0.015$). Cigarette smoking cessation for 2 years also reduced the risk of arterial complications by 77.6% (21.8% v 5.9%, $P=0.005$). However, the incidence of venous complications was not associated with cigarette smoking. Furthermore, there was no significant association between development of vascular complications and all other characteristics studied.

4. Post-transplant malignancy

At 10 years, the cumulative rate of malignancies was 12.7% in active smokers compared with 2.1% in nonsmokers ($P=0.019$). Tobacco use is also associated with a higher incidence of posttransplantation de novo noncutaneous neoplasms as well as solid organ (10.5% at 10 years) and hematologic malignancy (3.2% at 10 years), especially in those transplanted for primary sclerosing cholangitis and alcoholic liver disease.

C. Conclusion

Smoking has a negative impact upon health regardless of transplant status. Smoking status should be clearly defined when evaluating transplant candidacy and in counseling patients with cirrhosis. Efforts should be made to counsel all liver transplant recipients against smoking. Tobacco cessation aids, support and counseling should be provided to active smokers so that they can successfully quit smoking and stay free of nicotinic products prior to liver transplantation. This measure may decrease morbidity, length of hospitalization stay and vascular and biliary complications as well as improve overall post-transplant survival.

VI. REFERENCES

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Michigan Transplant Center Policy #323

Liver Transplant Program Alcohol and Substance Use Disorder Policy



I. POLICY STATEMENT

The University of Michigan Adult Liver Transplant Program will have consistent standards regarding the criteria process and evaluation of all candidates with a history of substance use disorder (SUD) for possible liver transplantation.

II. PURPOSE

The purpose of this policy is to provide a written protocol and process for the evaluation of individuals with a history of SUD in need of liver transplantation. A comprehensive and systematic approach to an individual patient's prior history of substance use will be undertaken. The steps involved with the evaluation, from completion of the substance use contract to signing release of information forms and correspondence with local mental health providers, will be standardized. The social work screening intake form and SIPAT will be completed for each patient. Alongside clinical judgment, the SIPAT gives structure to the psychosocial evaluation process and assists in risk stratification for negative outcomes post-transplant using 4 domains: patient readiness (5 items), social support system (3 items), psychological stability and psychopathology (10 items), and effect of substance use (5 items) with a total possible score of 120. Scores of 0-20 indicate a favorable candidate, 21-39 suggest a minimally acceptable risk profile, and scores 40-69 signal a poor candidate. A score ≥ 70 demonstrates particularly high risk. In addition to the score, several individual factors may directly impact the evaluation. Certain high-risk patients with psychiatric comorbidity may require evaluation by Transplant Psychiatry or Psychology.

III. DEFINITIONS

LTEM:	Liver Transplant evaluation meeting
MAPS:	Michigan Automated Prescription System
M-DOCC:	Michigan Depression Outreach & Collaborative Care
SIPAT:	Stanford Integrated Psychosocial Assessment of Transplant.
OTIS:	Organ Transplant Information System
DEA:	Drug Enforcement Agency
SUD:	Substance Use Disorders

IV. STANDARDS

A. Standards

1. All individuals undergoing evaluation in the program are interviewed by the Transplant Hepatologist and Surgeon to determine if they may be a candidate. All subjects proceeding with evaluation will also undergo an interview by one of the transplant social workers.
2. The Transplant Social Worker will complete their routine pre-transplant assessment which will include a templated note and a SIPAT score (1). The clinician completes the SIPAT in MiChart in its own tab (entitled "SIPAT for Transplant") in the "Flowsheets" section of the patient's chart. An abbreviated SIPAT is also visible in Social Work and Psychiatry/Psychology notes.
3. A signed release of information form for mental health records will be obtained by the Transplant Social Worker to facilitate ease of exchange of information.
4. At the clinic visit, Social Work completes the Substance Use in Liver Transplant form (see Exhibit A). This form explicitly discusses the prohibition of tobacco, drugs, alcohol, and other illicit substances. The Social Worker explains the details of the policy and obtains the signatures of the patient and a caregiver as evidence of awareness and consent.
5. [MAPS](#) is a system for entering, managing, and reporting Schedule II-V prescription data submitted by dispensers and prescribers to the State of Michigan as required by Michigan Public Act #231 of 2001. Using patient name and birthday, a MAPS report will be generated by mid-level providers as part of the pre-transplant evaluation. Any prescriber with a license and DEA number can register and request these reports. The report contains data about recent prescriptions written for and filled by the patient. A generated report remains viewable for 30 days by authorized personnel. Additional MAPS reports will be queried as needed.
6. At LTEM, Social Work presents a patient's psychosocial history (including substance use) the SIPAT score, and their clinical impressions and recommendations. Integrating this information, the committee may recommend that pre-transplant toxicological monitoring and formal treatment of SUD be incorporated in the patient's pre-transplant care.

7. In collaboration with Social Work, select patients with SUD and/or psychiatric disorders may require formal evaluation by Transplant Psychiatry or Psychology. These referrals should contain specific issues to be addressed and are initiated at LTEM or as a "Transplant Psychiatry or Transplant Psychologist" order in MiChart.
8. At minimum, all liver transplant candidates with a history of SUD, should undergo urine toxicology screens including urine ethyl glucuronide and Serum PEth approximately every 6 months and as needed. This process will be coordinated with clinic visits and routine outpatient lab draws for the medical hepatologists using a standing order in MiChart. In addition, toxicology will be obtained in hospitalized patients with unexplained mental status or behavioral changes.
9. Any individuals who are found to be in violation of the SUD policy will have their candidacy re-reviewed at the next LTEM and be immediately placed on hold. Transplant Social Work and/or Psychiatry or Psychology will contact patients with a possible violation of the policy to further explore the clinical circumstances. Additional monitoring, treatment or delisting will then be determined on a case-by-case basis at LTEM.

B. Pre-transplant Mental Health and Substance Use Disorder Treatment

1. The type and level of pre-transplant mental health evaluation and/or substance abuse evaluation will be individualized. The committee will determine the need for and type (inpatient vs. outpatient, local vs. outside) referral that will be made. Care coordination with mental health and/or SUD providers will be conducted by Transplant Social Work, Psychology, or Psychiatry when indicated.
2. A templated form will be sent to the local SUD counselor/ mental health provider for return to the transplant center. The form will summarize the provider's diagnostic impression, prognosis for sobriety and success with transplant, and patient response to treatment.
3. Using administrative assistants and MICHART, Social Work will track when patient letters were sent and the status of receiving the provider evaluation forms. The alarm clock function in OTIS will be used as reminders for Transplant Social work to contact individual patients/providers for updates.
4. Individual patients will be re-discussed LTEM as needed to determine their continued eligibility and appropriateness for transplantation after Transplant Social work has received interval assessments on their progress.

V. EXHIBIT

- A. Exhibit: [Contract](#)

VI. REFERENCES

Maldonado JR, Dubois HC, et al. The Stanford Integrated Psychosocial Assessment for Transplantation (SIPAT): a New tool for the psychosocial evaluation of pre-transplant candidates. *Psychosomatics* 2012; 53: 123-132.

Michigan Transplant Center Policy #323

Policy on Substance Use and Liver Transplantation



The University of Michigan Liver Transplant Program requires that all liver transplant candidates agree to abstain completely from tobacco, electronic cigarettes, alcohol, marijuana (including “medical” marijuana), and any illicit substances. Illicit substances include cocaine, heroin, hallucinogens, and controlled substances not prescribed by a physician or that are being used for non-medical purposes. Any use of any of these substances in any form is NOT ALLOWED under this policy. The information regarding a patient’s previous and current tobacco, drug, and alcohol use provided during the evaluation for a liver transplant at the University of Michigan must be correct. If in the future the Transplant Team finds that a patient has not been completely truthful, that patient may be removed from the transplant list.

Patients currently using tobacco products at the time of their transplant evaluation must discontinue use in order to be placed on the waiting list for transplant. We will assist you in identifying resources to help you discontinue use if necessary and the Transplant Team must be made aware of any nicotine-replacement therapy (patches, gum, lozenges) being used. If there is concern about ongoing tobacco use, urine testing for tobacco products will be performed. A positive test or refusal to have the test performed may prevent you from being placed on the transplant waiting list.

In addition, if in the future any patient, either waiting for a liver transplant on the University of Michigan list or currently being evaluated as a potential recipient of a liver transplant, is found to have consumed alcohol, marijuana, or used an illicit drug, that patient will be removed from the transplant list. A positive test for alcohol, marijuana, or illicit substances in the blood or urine of a patient is considered to be absolute evidence that the patient has violated this substance use policy. Patients must therefore be certain they do not ingest any alcohol of any kind, including cough medicines, over the counter medications, or “alcohol free” beers that contain small amounts of alcohol. A conviction for driving while intoxicated or impaired will similarly be considered to be a violation of this policy.

When requested, patients accepted for liver transplantation must agree to undergo random urine or blood screens for alcohol, marijuana, and illegal substances. Refusal to undergo such a test in the timeframe requested will be treated the same as a positive test and the patient will be removed from the transplant list.

I have read the above policy, questions about the policy have been answered to my satisfaction, and I understand the meaning of the policy. I agree to follow it. I have received a copy of this policy.

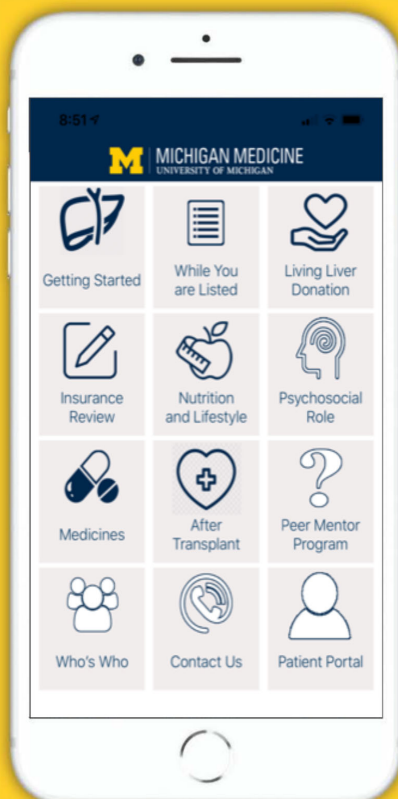
Patient signature _____ Date _____

Witness _____ Date _____

I have explained the above policy to _____ and answered any questions they or their family have asked.

Social Worker signature _____ Date _____

Check out the Liver Transplant Education App for Android and iOS devices.



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 check your personal transplant information via the Patient Portal or MELD score calculator.

Scan & Download!



Search the App Store or Google Play for "Liver Transplant Education" to download.

Available for smartphones and tablets.



Notes

[illegible]

Notes

[illegible]

Notes

[illegible]

Notes

[illegible]