



A University Health System & UT Health Science Center Partnership | San Antonio

A Patients Guide to Liver Transplant

Welcome to the University Transplant Center at University Hospital in partnership with the University of Texas Health Science Center at San Antonio (UTHSCSA). You probably have many questions about liver transplants and the process necessary to receive one. This guide will hopefully answer many of those questions, and we encourage you to make notes and ask us any other questions you may have.

Our History

The Liver Transplant Program was started in 1992 by Glenn A. Half, M.D., who is now the Director of the University Transplant Center and Professor of Surgery at the University of Texas Health Science Center at San Antonio. Since then, we have performed over 1,100 liver transplants with excellent results. In 1997, we performed the first split-liver transplant in South Texas. This occurred when a liver from an adult donor was shared between a child and an adult. We also performed the first adult to adult living donor transplant in South Texas.

Our program has grown to be one of the largest transplant programs in volume in Texas, and we remain dedicated to excellence in the care of transplant patients.

The Liver

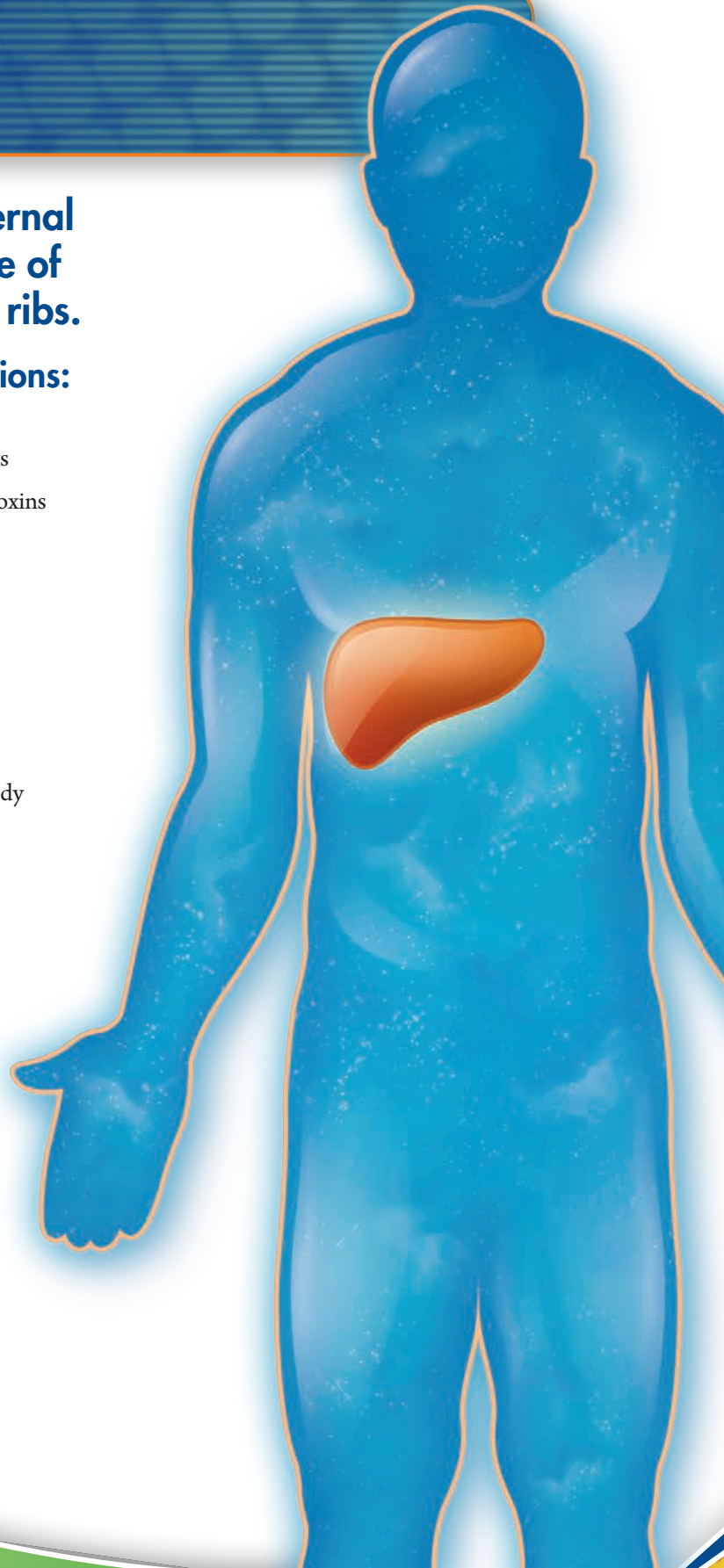
The liver, which is the largest internal organ, is located on the right side of the body and is protected by the ribs.

The liver performs many critical functions:

- Helps in digestion of food
- Helps distribute nutrients such as vitamins and minerals
- Helps clean your blood by removing medications and toxins
- Manufactures proteins that help your blood clot and promote healing

What happens when the liver is not working properly?

- Absorption of vitamins and nutrients is decreased
- Waste products are not efficiently removed from the body
- Proteins that help your blood clot are reduced
- Your body is unable to get needed nutrients to provide energy and promote healing



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Common Liver Diseases Requiring Transplant

- Hepatitis A, B, & C
- Fatty liver (NASH)-Non Alcoholic Steatohepatitis
- Autoimmune Hepatitis
- Alcoholic liver disease
- Liver Cancer
- Primary Biliary Cirrhosis (PBC)
- Primary Sclerosing Cholangitis (PSC)
- Sudden acute liver failure
- Cryptogenic cirrhosis

Common Symptoms of Liver Disease

Fatigue – extreme tiredness

Ascites – excess fluid in the abdomen

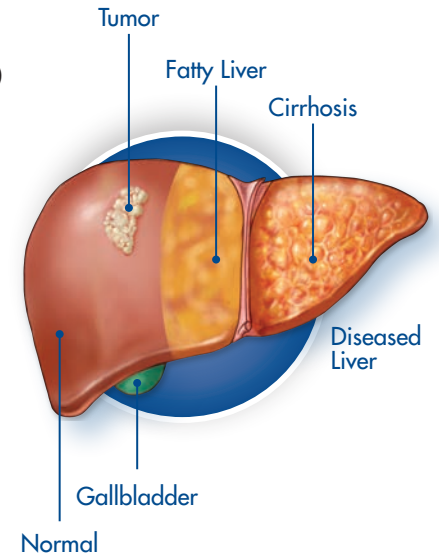
Encephalopathy – confusion from high ammonia level in your blood

Jaundice – yellow color seen in your eyes and/or your skin

Pruritis – uncontrolled itching of the skin

Edema – swelling in the feet and legs

Bleeding – from the esophagus, stomach or rectum



Why do people need liver transplants?

Some diseases and medications can damage the liver. If the damage is severe and permanent, you may need a liver transplant.

Remember, a liver transplant is a treatment—not a cure!



Alberto Esparza
Liver Transplant Recipient
2007

The Transplant Team

The Transplant Team is a group of healthcare professionals who are here to assist you before and after your transplant; however, the most important decision maker is YOU.

Transplant Hepatologist

During your evaluation, you will meet with this doctor, who is a gastroenterologist that specializes in liver diseases. The Hepatologist will monitor your progress before and after your liver transplant.

Transplant Surgeons

One of your first appointments will be with one of the Transplant Surgeons. This is one of the doctors who may perform your liver transplant surgery.

Transplant Nurse Practitioners and Physician Assistants

These health care professionals work closely with the Hepatologists and Surgeons to evaluate your health both before and after your transplant.

Transplant Nurse Coordinators

The Transplant Nurse Coordinators are registered nurses.

- The Pre-Transplant Coordinators are responsible for setting up your transplant evaluation and keeping you informed of your progress toward transplantation.
- The Discharge Coordinators will be providing additional education and support while you are in the hospital.
- Post-Transplant Coordinators are responsible for your care in the Clinic and your yearly follow-up care.

Dietitians

Our Dietitians are available throughout the transplant process to provide nutritional advice to help you remain as healthy as possible. What you eat and drink is very important to your overall health and healing. You may meet with them during clinic visits or when in the hospital.

Transplant Clinic

After your transplant, our Clinic Nurses and staff will oversee your care throughout the transplant process.

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Transplant Social Workers

You will meet one or more of our Social Workers during the evaluation process. They can assist you with any non-medical issues before and after your transplant. They can also give you important information regarding Medicaid, Medicare and other insurance questions.

Transplant Financial Coordinators

Financial Coordinators will help you obtain pre-authorization for your evaluation exams and liver transplant surgery. They can also answer any questions you may have regarding your health care coverage.

Transplant Pharmacists

The Transplant Pharmacists specialize in filling the prescriptions you will need after your transplant. They are available to answer questions about your medications. Our on-site pharmacy carries the transplant medications that you will need.

Your Primary Care Physician and GI Doctor

In most cases, we expect you to continue keeping appointments with your personal doctors before and after your liver transplant. Your primary doctors are a very important part of your health care team and should be your point of care for any non-transplant related health issues, such as arthritis, back problems, diabetes, and the common cold. After your transplant medications have been adjusted, your primary doctor will manage your non-transplant related health care. We will be available if you or your doctors have any questions regarding your health.

Family and Friends

Transplantation is not for “loners.” The fact is that you can not go through this process alone. Everyone will come to a point where he or she needs help and encouragement to make the journey. The Transplant Team recognizes that a strong support team produces the best outcome and we, therefore, require you have a support system in place. This means that you must have family or friends that are willing and available to drive you to and from your appointments and take care of you before and after your transplant.

YOU

You are the most important part of this process. The success of your transplant is directly related to your compliance with the medications, clinic visits, and adherence to the rules set up by the Transplant Team. You must maintain a nutritious diet and keep a routine exercise program tailored to your physical abilities. Receiving a liver transplant is a lifetime commitment.



Gilberto Madrigal
Liver Transplant Recipient
2004

Your First Visit

You have been referred for a liver transplant assessment because you're experiencing some symptoms of liver failure.

The first visit to the transplant center will give you a chance to meet your Transplant Nurse Coordinator, a Transplant Surgeon, and the Transplant Clinic staff. It is a good time to have your questions about transplant and your disease answered. Usually, the only thing we will have you do other than meet with us is have your blood drawn to determine your blood type, your liver and immune system function, and screens for infectious diseases, which will include Hepatitis and HIV. Occasionally, when you live a long distance away, we will schedule your first visit along with a full evaluation. This would take three to four days and is done for your convenience.

At the end of your first visit, you will generally know if we will be proceeding with the liver transplant evaluation. We will arrange a series of appointments for you.

The evaluation is primarily done in San Antonio on an outpatient basis, so you and your support system will need to stay in San Antonio for 3 to 4 days. During this time, you will meet several members of the Transplant Team as well as have some medical tests. Our staff will talk with you about your illness, and you will have the opportunity to ask the Liver Transplant Team more about the program at University Transplant Center. Please discuss the dates you will be available to come for this evaluation during your first visit at the Transplant Center.

Pre-Transplant Evaluation

When you receive your appointment letter, you may be surprised by the number of exams scheduled. These tests are important because they help us learn more about your general health, as well as discover any potential problems you may be facing. Since we have a very tight appointment schedule, it is very important that you be on time to and keep all of your appointments. The more appointments that you miss, reschedule or cancel, the longer it will be before we can place you on the transplant list. If you miss or cancel appointments repeatedly, this is a sign that you may not be fully committed to a liver transplant. You must be aware that the transplant committee weighs heavily your commitment towards a liver transplant. After you complete your examinations and we review the results, we can determine if transplantation is an option for you.

Please notify your Nurse Coordinator at the first appointment of any dates you will not be available to come for testing.

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You may have many of the following exams and consults:

The evaluation process is very tiring and can be especially confusing; therefore we expect that you be accompanied by someone for support. You will be given a great amount of information during this time, and it helps to have someone else to help remember what was said. It is mandatory to have your family member or caregiver with you during the social work consult.

- Chest x-ray helps determine if your lungs and heart are healthy.
- Electrocardiogram (EKG or ECG) provides us an electrical rhythm of your heart.
- Cardiac stress test is a test where your heart rate is increased (by medicine or exercise) and shows how well your heart works under stress.
- Echocardiogram is an ultrasound of your heart that will show how well your heart “pumps.”
- CT (CAT) scan is a computerized image showing the size and shape of your liver and major blood vessels.
- MRI (magnetic resonance imaging) also lets us see inside your abdomen to evaluate your liver and vessels.
- Pulmonary Function Tests (PFTs) are breathing tests which reveal how well your lungs are working.
- Upper Endoscopy is a scope which looks at your esophagus and your stomach.
- Colonoscopy is a scope which examines your rectum and colon.
- Liver biopsy is when a small piece of your liver is removed with a needle (not always performed).
- Extensive lab work including drug and alcohol screening.
- Dental consult to make sure any source of infection is cleared before transplant (this service may or may not be covered by your insurance).
- Cardiologist consult to review all of your heart tests to make sure transplant surgery is safe for you.
- Social Work consult to determine if you and your family are ready for transplant.
- Psychiatric consult as needed or recommended by the Transplant Team.
- Dietary consult to help you plan for proper food choices and any dietary restrictions your disease may require.



Letha Duff
Liver Transplant Recipient
2006

Liver Transplant

Alcohol and Drugs

Alcohol and illegal drug use in persons with liver disease can cause further damage to the liver and is unhealthy. Because of this, we perform random drug and alcohol screening on ALL patients. If you test positive for alcohol and/or illegal drugs, you will not be considered for a liver transplant evaluation until you are drug free for six months. If you are on the liver transplant waiting list and test positive for alcohol or illegal drugs, you will be placed on inactive status or removed from the liver transplant waiting list for six months and you will lose any time you have accumulated. You will be required to attend counseling for drug and alcohol abuse, and we will continue to perform random drug tests throughout the transplant process. If you are called to submit a random drug and alcohol screening, you will have 24 hours to complete the needed test, or it will be assumed it is positive and needed actions will be taken.

Results of Assessment

After the assessment, you will return home. The Transplant Team will review your test results and determine the risks and benefits of transplantation for you at a selection meeting. A decision will be made if this is the right time for your name to be placed on the waiting list or if recommendation for additional testing or information is needed to make a decision. You will be informed of this decision within ten days of the committee meeting. Your referring physician will continue to monitor you and will receive the summary and outcome of your assessment. He or she will keep the Liver Transplant Team informed about your condition. Some patients are too well for transplant, and they will be reassessed if their condition changes. It is also possible to have medical problems, such as severe heart disease, large tumors, or significant obesity, which make transplantation too risky. If transplantation is recommended, you will have the final decision on whether your name is added to the waiting list.



Jayne Tumlinson
Liver Transplant Recipient
2006

How do I get on the transplant list?

After the committee has decided you are a good candidate your medical records will be sent to your insurance carrier for final approval. Once the insurance has consented to fund your transplant, you will be notified to have lab work drawn. Your lab results will determine your place on the transplant list.

What is the waiting list?

The federal government created a national computerized network called UNOS (United Network of Organ Sharing) which regulates the distribution of all organs in the United States. Texas is divided into regions called Organ Procurement Organizations (OPO). Individual transplant centers are located within OPO's and usually acquire their livers within that OPO. All patients are listed according to a national point system and their blood type. The points are determined by the severity of the liver disease and the amount of time on the waiting list. Wait time for a liver transplant in the state of Texas is not significantly different between liver transplant programs.

For more information about wait lists and transplants you can go to the UNOS website at www.UNOS.org

What is MELD?

The Model for End-Stage Liver Disease (MELD) is a numerical scale, ranging from 6 (less ill) to 40 (gravely ill), used for liver transplant candidates age 12 and older. It gives each person a 'score' (number) based on how urgently he or she needs a liver transplant within the next three months. The number is calculated by a formula using three routine lab test results:

- Bilirubin, which measures how effectively the liver excretes bile
- INR (prothrombin time), which measures the liver's ability to make blood clotting factors
- Creatinine, which measures kidney function (Impaired kidney function is often associated with severe liver disease.)

For additional information on MELD scoring you may go to www.UNOS.org

Factors affecting transplant wait time:

The time you must wait for a transplant depends on your MELD score, blood type, availability of suitable organs in our donation service area and your compliance to get new lab work done when requested.

The time spent waiting can be the most stressful phase of the transplant for both the patient and the caregivers because there is so much uncertainty. You could wait for several months or several years. We cannot predict how long you will have to wait for a suitable liver to become available. Remember, you may feel very bad and still have a low MELD score. The score is based on your lab work results only and does not always reflect how bad you feel.

Congratulations!

You are on the list... now what?

- Attend our pre-transplant class
- Stay as healthy as you can
- Keep in touch with the Transplant Team
- Exercise regularly and follow your recommended diet
- Keep your follow-up appointments with the Transplant Clinic
- Continue to attend drug, alcohol and smoking counseling if necessary
- Notify your Transplant Coordinator of any telephone, address, and insurance changes
- Carry a pager or cell phone and provide us with as many contact numbers as possible
- Have a small suitcase packed with toiletries, robe, and slippers, etc.
- Plan for financial expenses during the time you will need to be in San Antonio. This means you will need to pay for accommodations, food, transportation, and initial medication cost upon discharge
- Remember that this time is stressful for both you and your care-givers. Discuss these issues with your Transplant Team, your clergy, social worker, or counselor. There are many support groups that may help provide help during this time

Changes in Listing Status

Factors that will change your listing status include:

- Loss or change in your insurance
- Non-compliance
- Positive alcohol or drug tests
- Outdated MELD labs
- Loss of contact with the program
- An illness which would result in a poor transplant outcome
- Loss of support system

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While you Wait

You will continue:

- To see your referring doctors
- To have routine medical checkups with the Transplant Physicians
- To have blood work done on a regular basis
- To remain abstinent from illegal drugs and alcohol
- To be compliant with yearly testing and consults as requested by the Transplant Team

Most Important

Find interesting activities to keep yourself occupied and busy:

- Work, relax, read, listen to music, join a support group, volunteer to help a community organization, plan fun things to do, spend time with friends and family: **LIVE LIFE!!**

Costs and Accommodation

Some recipients are fortunate and live close to the Transplant Center, but most patients must travel for their transplant. Travel can be expensive, especially if separate visits are required for assessment, transplant, and outpatient clinic appointments. As well as maintaining your permanent residence at home, you may need funds to afford temporary accommodation near the Transplant Center. Additional costs include food, personal expenses such as medications, and transportation. Your insurance carrier may cover some of these expenses; contact your case manager or insurance company to see if you have these benefits. During the waiting period, we encourage you to think about who will accompany you to the hospital at the time of transplant, where they will stay, and the cost to you once you are discharged from the hospital. Family members and friends who decide to stay in San Antonio should budget a minimum of \$500 for each person. This budget covers only the basic cost for food, accommodation, and local travel expenses.

Once you're discharged from the hospital, you will be required to return to the clinic weekly for follow-up care. These travel costs should be included in your budget. A variety of accommodations are available in San Antonio, ranging from motels to hotels near University Hospital and the surrounding area. Check the link below for help finding a place to stay: www.VisitSanAntonio.com



Anastacio Coronado
Liver Transplant Recipient
2005

Self-Care While Waiting

Nutrition

Poor nutrition is a common problem for patients with liver disease, and almost all patients are malnourished at the time of transplant. Emphasis is placed on maintaining good nutrition to keep you as well nourished as possible. Patients who are better nourished generally have fewer complications, spend less time on the ventilator in the Intensive Care Unit after surgery, and have a shorter recovery time. In addition, good nutrition combined with an exercise program helps you maintain a reasonable quality of life during the waiting period. You may have problems with fluid build-up in the abdomen (ascites) and legs (edema). It's recommended that all patients follow a low-salt diet to help prevent fluid from building up. You may also need to adjust your energy level and protein intake to prevent undesirable weight changes or muscle loss. The Transplant Dietitian is available to help assess your food habits and suggest strategies for symptom management together with general nutritional advice.

Exercise

Physical fitness is very important as you wait for your liver transplant. It is difficult to remain active when you're feeling poorly, but this must remain a priority. Patients who are in better condition generally have shorter recovery times and fewer complications following surgery. "Working out" at a gym may be unrealistic. Light exercises, such as lifting cans of soup or small weights, are good ways to get exercise done at home. While on the waiting list, walking is the best exercise to maintain your health and fitness. You can start by going for a 5-10 minute walk outside or in a nearby mall. Aim to increase the time you spend walking by one minute every day you walk. Your ultimate goal is to walk for 30 minutes, 3 times each week. Try to walk at a pace that gets you slightly short of breath, but still able to talk. This level of activity is generally safe for people with health problems, including heart and liver disease. Don't walk immediately following a big meal, or on days that are extremely cold, hot or humid. Stop exercising if you feel dizzy, nauseated, or unusually short of breath. Maintaining your physical health is important before transplantation. You'll benefit physically and mentally by keeping your body in good shape. Try your best to fit exercise into your daily routine by getting your family and friends to join you. Perseverance now will pay off later. Please remember you must consult your healthcare provider before starting any new exercise program.

Gilberto Briones
Liver Transplant Recipient
1999



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Contacting the Transplant Team

Despite the uncertainty of the waiting period, we encourage you to lead as normal a life as possible. Your Transplant Nurse Coordinator is available if you have any questions or concerns. You may, however, contact any member of the Transplant Team at any time. Continue to see your local doctor or specialist who can also communicate with our Transplant Team in order to provide you with the best care. Please remember that you or a family member must inform your Transplant Nurse Coordinator or Transplant Team of any admission or discharge from the hospital. The waiting period during the transplant process can be a difficult time. Clear, direct, and honest communication among all family members will help reduce frustration and tension. If you or your family experience significant difficulty with coping during the waiting period, please get help from a local, qualified health professional or contact the Transplant Team's Social Worker.

Contacting Your Coordinator:

Call (210) 567-5777

The administrative staff in the Transplant Office will answer all calls for the Transplant Nurse Coordinators between 8:00 a.m. and 5:00 p.m., Monday through Friday, except holidays. The Transplant Nurse Coordinators will answer these calls at their earliest convenience, usually the same day that you call. The Transplant Office number is (210) 567-5777.

For non-emergencies, during weekends, holidays, or after hours, call the Transplant Office at (210) 567-5777, and your call will be answered by our recording device. Leave your name and telephone number where you can be reached. Try to be as specific as possible when you leave your message on the recorder. Your call will be returned within 24 hours or during the next business day.

In an Emergency: CALL 911

In the event of a life threatening emergency, such as chest pain, coma, breathing problems, or bleeding, call 911 and they will take you to the nearest hospital emergency room. You and your family can always ask the physicians in the emergency room to call the University Transplant Center. DO NOT try to drive to University Hospital in an emergency.



Dwayne Hancock
Liver Transplant Recipient
2005

Medications Before Transplantation

Before your transplant you may be on a wide variety of medications. The medicines will try to control the symptoms associated with your liver disease. Generally patients who have liver disease may be on the following medications:

Diuretics

These medications will help remove extra fluid from your body. They are used to control ascites and swelling in the legs and feet. Examples: Aldactone (Spironolactone®), Lasix (Furosemide®).

High blood pressure

Although you may not have high blood pressure, patients with liver disease often have increased pressure in the circulation of blood in the gastrointestinal tract. This may cause small blood vessels to burst in the gastrointestinal tract. You may vomit blood or pass blood in your stool. Certain medications decrease the blood pressure in your GI tract. Example: Inderal (Propranolol®).

Antibiotics

If you have ascites, you may be at risk of developing an infection in the fluid. If you have ascites we will start antibiotics to reduce the risk. Example: Cipro® once a week.

Ulcer medications

These medications control the over production of stomach acids. Examples: Protonix®, Prilosec®, Prevacid®, Zantac®, and Nexium®.

Vitamins

With liver disease, you may have difficulty absorbing vitamins and minerals; therefore, we often recommend supplemental vitamins.

Medications to decrease confusion

When the liver is damaged, the body is unable to remove toxins, especially ammonia. Increased ammonia levels can cause confusion, fatigue, disorientation and in extreme cases even coma and death. We give certain laxatives to decrease ammonia levels in the intestine. Examples: Lactulose[®], Enulose[®], Kristalose[®], Flagyl[®], Xiphaxin[®].

DO NOT TAKE

The following over the counter or prescription medications should NOT be used for patients with liver disease:

Over the Counter

- Fenoprofen (Nalfon[®])
- Flurbiprofen (Ansaid[®])
- Ibuprofen (Motrin[®], Advil[®])
- Ketoprofen (Orudis[®])
- Naproxen (Naprosyn[®])
- Naproxen Sodium (Aleve[®], Anaprox[®])
- Herbal drugs that have not been approved by the transplant doctors

Prescription

You can take Tylenol[®] and Tylenol[®] with codeine (Vicodin[®]) at recommended doses only. You should inform your doctors of all the medications you take, and bring a list of the medications and the dose you are taking to every doctor appointment.

What happens when I get called for my transplant?

A Transplant Coordinator will call you at the phone numbers you provide us, such as your cell, work or home. We will ask you to come to the hospital as quickly and safely as possible. Please be sure to bring your health insurance information with you to the hospital. Plan to be on your way to the hospital within one hour after we call you. Do not eat or drink after we call you unless we tell you otherwise. You must make your own travel arrangements. If you will be flying to San Antonio, make as many plans as possible to know your flight schedules and airlines. You will need to have enough money on hand to buy airline tickets or gasoline for the trip plus money for food and lodging for family members accompanying you to the hospital. The Transplant Team has no resources to help with these expenses. We encourage you to have a designated driver and a back up plan for transportation to the hospital. Assign one family member the task of calling the rest of your family and friends. Bring your medications and medical records.

Getting the Call

What to Bring:

Pack a small suitcase or have a list ready of what you need to pack:

- Sleep wear, shoes/slippers, robe
- Personal hygiene items
- List of medications you currently take
- List of important conditions or surgery
- Important phone numbers/next of kin
- Copy of directive or living will

What not to bring?

- Money
- Credit cards
- Jewelry
- Flowers/plants/pets
- Fresh fruit/vegetables
- Children under 14 years of age
- A large suitcase
- Clothes

Heather Michelson
Liver Transplant Recipient
2007



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Once you arrive at the hospital, report to the 12th floor Transplant Area

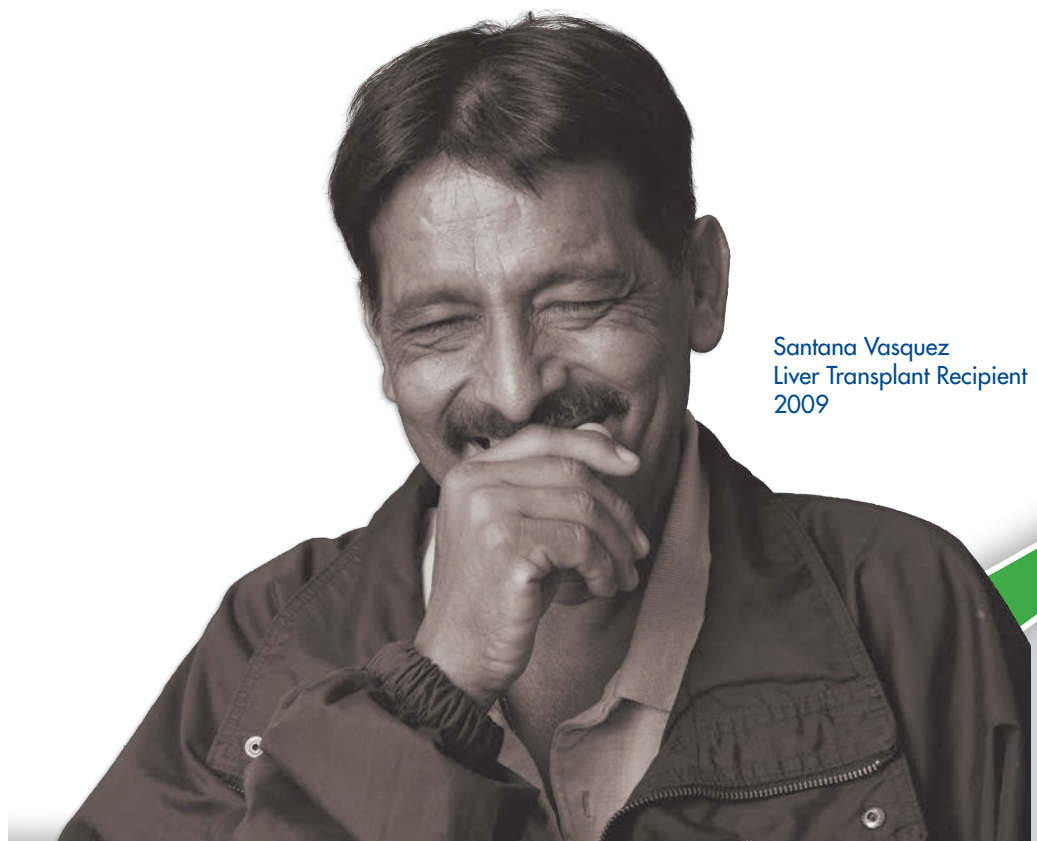
All of our transplant rooms are private, single patient rooms. Once you arrive there will be a lot of activity, including having the following examinations for the surgery:

- Physical examination by one of the doctors
- Blood work
- Chest x-ray
- Electrocardiogram (EKG)
- The nurses will place an IV (plastic catheter) in your vein for fluids and medications to be given
- The doctor will have you sign a consent to do the surgery and will be able to answer you questions

We may cancel your transplant surgery and we will send you home if:

- You have any signs of infection
- The donor liver has any problems
- A new medical problem exists
- Positive drug or alcohol test

The Transplant Surgeons will have this information before they take you to the operating room.



Santana Vasquez
Liver Transplant Recipient
2009

Liver Transplant Surgery

While you are being prepared for surgery, the Transplant Team will be retrieving the donated liver.

Most livers come from a cadaveric donor (from a deceased person). Unlike other organs, the liver does not have to be a perfect match, but it must be from the same or compatible blood type. There is some consideration given to the donor liver size compared to your body size. We evaluate every donor liver by donor history, lab results, visual exam and biopsy, if indicated, to determine if the liver is right for you. It is possible the liver will not be suitable for transplant; in this case the surgery is canceled. If this happens, you will be sent home. Once confirmed that the liver is suitable for transplant, you will be taken to the operating room. You will meet the doctor who will give you medication to relax and make you sleep with anesthesia during the operation. The transplant surgery usually lasts three to five hours, and you may need to have blood products during the surgery. On the average, most patients require four units of blood. The surgical incision is shaped like a boomerang under your rib cage. Your old liver is removed and the new donor liver is attached to your blood vessels and bile ducts. Your family will wait in a room close to the operating room, and someone from the staff will keep them informed of your progress. The Transplant Surgeon will speak to your family once the surgery is complete.

After the Surgery

You will go directly to the Transplant Intensive Care Unit where you will spend the next two to three days. A flurry of activity occurs once in the ICU. The nurses and staff need this time to connect the different equipment you will need. Your family can see you one to two hours after the surgery. This is often a very frightening time for you and your family. There will be different machines, tubes and noises. You will have a tube in your mouth to help you breathe until you can breathe on your own (usually 24-48 hours). We will sedate you to keep you comfortable on the breathing machine and provide pain control. There will be machines that will monitor your pulse and blood pressure continuously. You will have tubes in your nose and bladder and catheters in your neck and wrist. You will have two to three small tubes in your abdomen that will help remove fluid that accumulates due to the surgery. As your health improves, you will find that there are fewer and fewer machines in your room. Some patients experience dreams, confusion, and the inability to focus on conversations for the first few days. The length of stay in the ICU varies from person to person. When your condition is stable, and you can breathe on your own, you will be transferred to a private room in the Transplant Telemetry Unit. Most patients are discharged from the hospital seven to ten days after surgery.

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During Your Hospital Stay

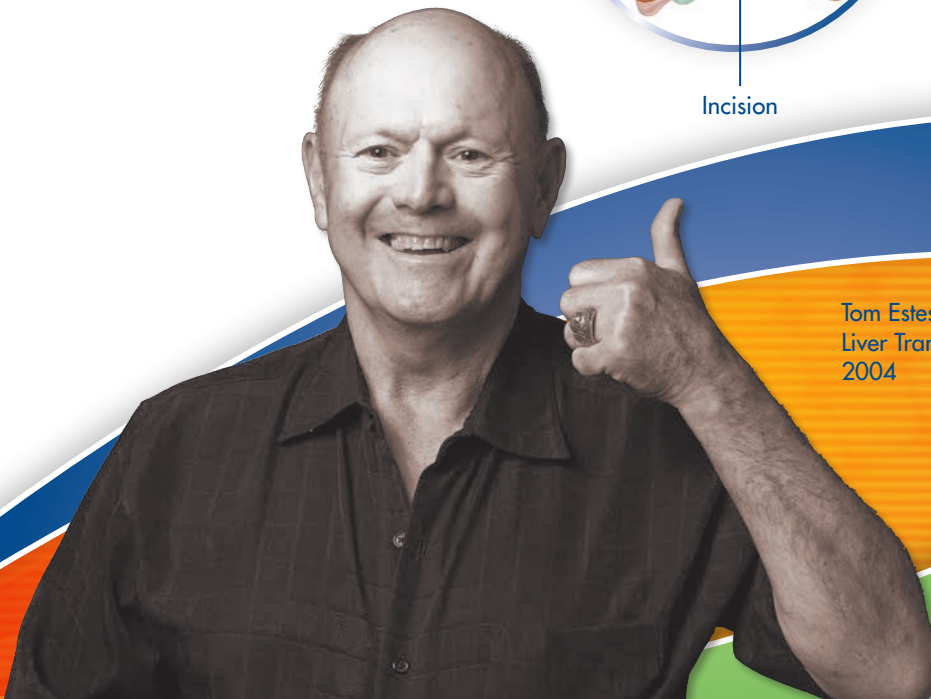
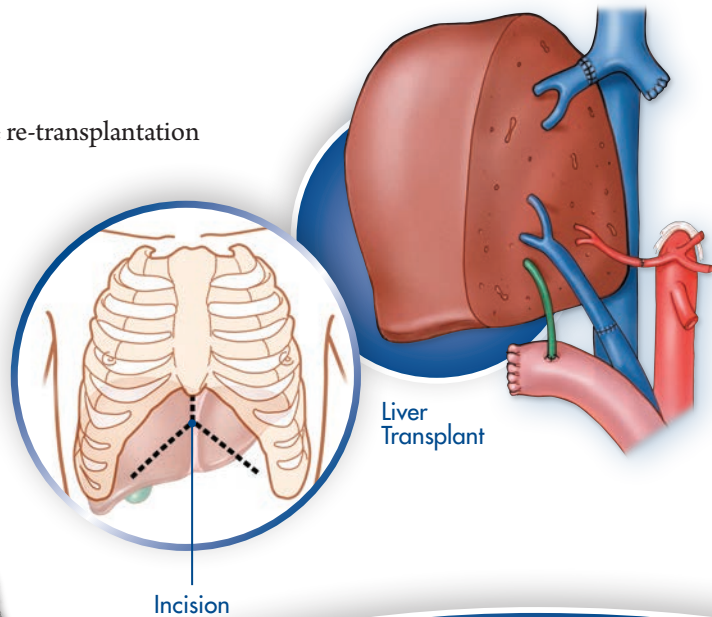
A multidisciplinary team will be responsible for your care. They meet daily and will visit you each day in your hospital room. They are dedicated to answering you and your family's questions and helping you recover as quickly as possible. The Discharge Coordinators will be teaching you and your family about how to care for yourself at home and what each medication is for, along with the side effects you may experience. You will also be seen by a Physical Therapist who will work with you to regain your strength. Your willingness to work hard is directly related to how well you will do after transplant.

Your family and friends will not be allowed to stay at the hospital and will be responsible for finding a place to sleep, food, and transportation. This is another thing you will need to plan for before the transplant.

Complications of Surgery

Remember that most transplant surgeries are successful; however, complications may occur after a liver transplant, including:

- Infections
- Bleeding
- Bile duct narrowing or leak
- Rejection
- Non-functioning donor liver which may require re-transplantation
- Clotted vessels
- Death



Tom Estes
Liver Transplant Recipient
2004

After Care

After we discharge you from the hospital, we will follow you closely in the Transplant Outpatient Clinic for the first three months.

During this time, your medications are monitored and changed. Your follow-up appointments are frequent at first (once a week for one to three months). When preparing your budget for the transplant time, you will need to consider the cost of transportation for these visits. Your appointments will eventually be less frequent (every six months to twice a year). Three to six months after transplant we start sharing responsibility of your care with your personal doctor. We strongly encourage you and your doctor to contact us with any questions or problems. It is vital that you maintain good contact with your primary care doctor and gastroenterologist before transplant so they can better help you after transplant.

Returning to Work

- Your health at the time of transplant and the type of job you have will determine how quickly you may return to work.
- Your Transplant Physician will let you know when you can resume your normal activities.
- Most patients return to work on a part-time basis then gradually increase to a full-time basis.

Joe Munoz
Liver Transplant Recipient
2006



Medications After Transplantation

The body tries to dispose of anything that it considers foreign. After your liver transplant, your body will try to reject your transplanted liver. In order to prevent rejection, we will give you medications called immunosuppressant medications that you will take for the rest of your life. These medications help the body control the cells that will try to reject your transplanted liver. These medications lower your immune system; this is the system in your body that helps you fight infection; therefore, you will be more susceptible to infections. With this knowledge, we will also give you medications that will help your body fight infections.

A successful liver transplant is often directly related to you and your ability to take medications correctly. You must take all your medications exactly the way the doctor orders them. Each one of the medicines help you keep your new liver healthy. If you stop taking your medications, you will reject your transplanted liver and may damage it beyond repair.

Patients that do not take their medications correctly are not considered for another transplant if their liver fails.

These are some of the medications you will take:

- **Immunosuppressant** — or “anti-rejection” — special medications that are designed to suppress (or lower) your immune system
- **Steroids** — first line of defense for rejection
- **Antibiotics** — help your body prevent bacterial infections
- **Antifungals** — help your body prevent fungal infections
- **Antivirals** — help your body prevent viral infections
- **Antihypertensive** — this medication, although used to treat high blood pressure, will improve blood flow to your liver
- **Diuretics** — help control fluid “water pill”
- **Vitamins and minerals**
- **Ulcer medications**
- **Insulin** — the drug therapy used to prevent rejection of your new liver can also affect your pancreas, making insulin replacement necessary and/or make your diabetes worse, requiring an increase in the amount you usually take

Don't forget to consult the various prescription programs at local pharmacies.

Liver Transplant

Research

Our Transplant Team is actively involved with research into new transplant techniques and new immunosuppressive medications. Due to our large number of patients and high success rates, we actively participate in ongoing research studies to advance transplant patient care. After your transplant, one of our Research Nurses may ask you to participate in a voluntary study.

Biorepository

The Transplant Center makes a collection of tissue related to kidney and liver disease. The tissue is donated by patients. Most is simply taken from excess tissue removed during transplants, kidney, or liver resections. You may be asked if you would like to donate samples to this collection known as a “biorepository” or “tissue bank.”



Tammy Johnson
Liver Transplant Recipient
2006

Contacting Your Donor Family

University Transplant Center strongly encourages written correspondence between organ donor families and transplant recipients. All correspondence is anonymous and identities are kept confidential.

Transplant recipients may want to contact the donor family to express their sincere gratitude and to learn about their donor. However, this is a very personal decision and your decision alone.

You may or may not hear from your donor family. Every donor family is different. Some donor families feel that writing about their loved one helps in the grieving process. Other families find writing about their loved one is too difficult.

For more information on how to contact your donor family, please call 1-888-336-9633 to speak to the Organ Donor Family Coordinator.



Naomi Aguilar
Liver Transplant Recipient
2008

Other Options

Living Related Donation

The living donation process involves a family member or a close friend who donates part of their liver to you. It is not without its risks, but it may be an option for you. Please ask your Transplant Coordinator for further information.

Hepatitis C Liver

Since the Hepatitis virus is in your blood, patients with Hepatitis C will always have the disease, even with a transplanted liver. We offer our patients the option to receive a liver from a deceased donor that has Hepatitis C, but not cirrhosis. We thoroughly inspect the liver and perform a liver biopsy to ensure that the liver is not damaged. Our experience with many Hepatitis C patients has shown that a liver from a Hepatitis C donor has no higher incidence of re-infecting the new liver than a donor liver without this disease. You can discuss this option with one of our Transplant Physicians.

Hepatitis B Liver

A liver from a donor who has previously had or been exposed to Hepatitis B and has no sign of cirrhosis is offered to recipients who have also been exposed to Hepatitis B and have developed antibodies to the disease.

Extended Criteria Donors

Donors with some extra risk are often considered for transplant into suitable recipients. If this type of donor organ is offered to you, a Transplant Coordinator and a Transplant Physician will discuss the risks and benefits with you. You will be given an option to accept or decline the organ.



Hollis Jeffries
Liver Transplant Recipient
2008

Other Treatment Options

TIPS* (Transjugular Intrahepatic Portosystemic Shunt)

This is a radiology procedure that re-routes blood flow in the liver and decreases portal blood pressure which causes varicies and ascites (helps decrease internal bleeding) by placing a shunt between two major blood vessels in the liver. Before the TIPS, you will have an abdominal ultrasound to make sure vessels in the liver are open. Before this procedure you will be given medications that will help you relax.

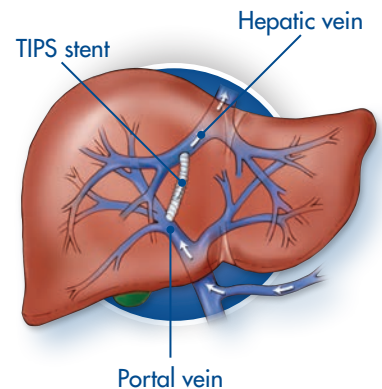
Hospital Stay: 1 to 2 days

Recovery Time: 2 to 6 weeks

Follow-up: Every 3 to 6 months with sonogram and possible adjustment of stent

Complications: May cause bleeding and/or increased ammonia levels which can lead to confusion, sleepiness, coma and death

**This procedure is sometimes used as a "bridge" to decrease liver failure complications.*



Heat Ablation (Radio Frequency Ablation)*

A hot probe is inserted through skin into the liver to control small tumors within the liver.

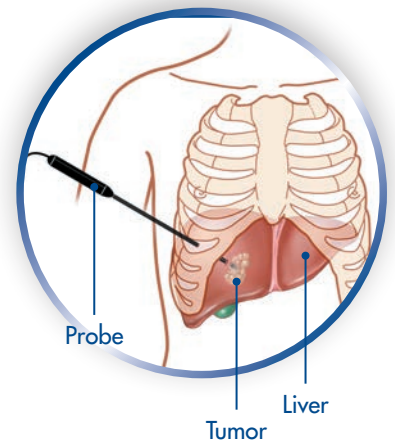
Hospital Stay: Outpatient or overnight

Recovery Time: 2 weeks

Follow-up: CAT scans and blood work every three months

Complications: Infection, bleeding, death

**This procedure is sometimes used as a "bridge" to slow the growth of small liver cancers until transplant becomes available.*



Chemoembolization

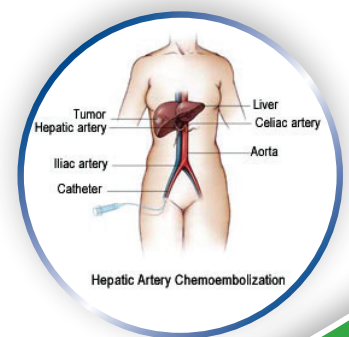
Chemoembolization delivers a high dose of cancer-killing drugs (chemotherapy) directly to the liver while depriving the tumor of its blood supply by blocking, or embolizing, the arteries feeding the tumor. Using imaging for guidance, the interventional radiologist threads a tiny catheter up the femoral artery in the groin into the blood vessels supplying the liver tumor. The embolic agents keep the chemotherapy drugs in the tumor by blocking the flow to other areas of the body. This allows for a higher dose of chemotherapy drugs to be used because less of the drug is able to circulate to the healthy cells in the body. Chemoembolization usually involves a hospital stay of two to four days. Patients typically have lower than normal energy levels for about a month afterwards.

Hospital Stay: Two to four days

Recovery Time: One month

Follow-up: CAT scans and blood work every three months

Complications: Infection, bleeding, death



Other Treatment Options

Stereotactic Body Radiotherapy (SBRT)

This high-precision technique delivers a large dose of radiation to a tumor while avoiding nearby normal tissues. It is a painless non-invasive outpatient procedure. Treatment is given in three to five sessions of approximately one hour each. Sessions are scheduled two times each week. During each session the patient is held very still in a custom fitting body mold. Every detail of treatment is directly verified by the physician and a medical physicist at each session. SBRT can be used for selected primary or metastatic tumors in the liver that are up to 6 cm in size. SBRT can be used to control small tumors and extend the window of opportunity for receiving a liver transplant.

Hospital Stay: None

Recovery Time: One day

Follow-up: CAT scans and blood work at one month and then every three months

Complications: A few hours after a treatment session some patients experience mild nausea. Fatigue is common on the day following treatment. Rare complications would be bowel perforation, pain with swallowing or worsening of liver function in patients with viral hepatitis which could result in death

Highly-Conformal Radiotherapy (HCRT)

Large daily doses of radiation are delivered just to the portion of the liver that contains the tumor while carefully avoiding other nearby tissues. It is a painless non-invasive outpatient procedure. Treatment is given in 10 to 25 sessions of approximately 30 minutes each. During each session the patient is held very still in a custom fitting body mold. This approach is appropriate for patients with large tumors or with a tumor growing into the major blood vessels. HCRT is sometimes used to clear the tumor from large blood vessels so that other treatments such as Transarterial Chemoembolization (TACE) can be performed afterward.

Hospital Stay: None

Recovery Time: 2 to 4 weeks

Follow-up: CAT scans and blood work every three months

Complications: Most patients will experience fatigue during the second half of their treatment course and for a few weeks after completion. May cause worsening of liver function or, rarely, liver failure resulting in death

Transplant Coverage Plan

All transplant programs at the University Transplant Center are covered by teams of Transplant Surgeons and Transplant Physicians who are available 24 hours a day, 7 days per week and 365 days a year for transplant patients, living donors and candidates for transplantation.

This coverage is established through call schedules that contain detailed rotation of responsibilities. The coverage responsibilities include but are not limited to:

- Addressing urgent patient care issues.
- Coverage and care for patients who are hospitalized.
- Reviewing information about donated organs and accepting or declining those organs.
- Assistance in managing the organ donor and the removal of donated organs.
- Transplant of those donated organs.

No transplant program at University Transplant Center is served by a single surgeon or single physician.

All surgeons and physicians maintained on the call schedule are credentialed to perform transplant services and are able to independently manage the care of transplant patients, including the transplant operation and procurement. Surgical call schedules include separate coverage for organ recovery to ensure a surgeon is always available on-site at the University Transplant Center if another surgeon is off-site for procurement.



Glenda Youngblood
Liver Transplant Recipient
2003



A University Health System & UT Health Science Center Partnership | San Antonio

General Information

University Hospital

4502 Medical Drive MS 18
San Antonio, Texas 78229

Office Telephone Numbers:

(210) 567-5777 or Toll free (888) 336-9633
Fax: (210) 358-8529

Office Hours:

8 a.m. to 5 p.m.
Monday through Friday
Closed on holidays and weekends

www.UniversityTransplantCenter.com

University Hospital Transplant Clinic

4502 Medical Drive
8th Floor, "B" Elevator
San Antonio, Texas 78229

Clinic Telephone Number:

(210) 358-4500

Clinic Hours:

8 a.m. to 4 p.m.
Monday through Friday
Closed on holidays and weekends

Useful Websites:

www.UNOS.org
www.LiverFoundation.org
www.Hepatitis-Central.com

Directions

From IH 10 West (northbound):

- Exit Medical Drive/Wurzbach.
- Take Frontage Road to Medical.
- Turn left onto Medical.
- Turn left into University Hospital entrance.
- Follow signs to visitor parking.

From IH 10 West (southbound):

- Exit Wurzbach.
- Turn right onto Wurzbach.
- Turn left on Medical Drive.
- University Hospital is on the right.
- Turn right at second entrance.
- Follow signs to visitor parking.

From NW Loop 410:

- Take Babcock exit.
- Head north on Babcock to Wurzbach (about three miles north of 410).
- Turn right on Wurzbach.
- Turn right onto Medical.
- University Hospital is on the right.
- Turn right at second entrance.
- Follow signs to visitor parking.