



# Liver disease and **transplant.**

Expert care for people with liver disease

**It's how we  
treat people.**

## **Why choose DC VA Medical Center and MedStar Georgetown Transplant Institute?**

If you've been diagnosed with liver disease, choosing an experienced, multidisciplinary team of liver specialists with access to the latest diagnostic tools and medical and surgical treatment options is the first step towards managing your condition and living a healthier life. The Institute is Washington, D.C.'s largest academic liver disease treatment program and the area's leading liver transplant program. Hospitals from all across the country refer their complex cases to us because our team has more experience and better outcomes caring for these patients. We make receiving care and communication with our team convenient.

## What does that mean to you?

- Our specialists are experts in the treatment of all types of liver disease and national leaders in the development of new treatments.
- If you need a liver transplant, our survival rates are better than other area hospitals.
- You'll receive care tailored to your needs from a multidisciplinary team of specialists who will guide you through each step of your diagnosis and treatment.
- You'll have access to the latest technology for the diagnosis and treatment of liver disease, including non-invasive liver fibrosis measurement, the latest endoscopic therapies, and cutting-edge surgical techniques, including minimally invasive and robotically-assisted surgery.
- Your team will include any additional specialists needed to treat your condition, including gastroenterologists, radiologists, oncologists, and pathologists, all in one place.
- You'll have access to promising new treatments through the wide range of clinical trials available at the Institute.

## Conditions we treat

We treat all acute and chronic liver diseases, from early-stage disease to end-stage disease, including:

- Cirrhosis
- Hepatitis B and C
- Autoimmune hepatitis and other autoimmune liver diseases
- Fatty liver disease
- Alcoholic liver disease
- Liver cancer
- Benign liver tumors and cysts
- Bile duct tumors
- Genetic liver diseases
- Primary biliary cholangitis and primary sclerosing cholangitis

We offer the full spectrum of treatments for liver disease, from medical management to surgery, including tumor removal and liver transplant if needed. Our goal is to do everything possible to avoid a transplant when possible, but if you do need a transplant, you're in good hands with our experienced team of experts.

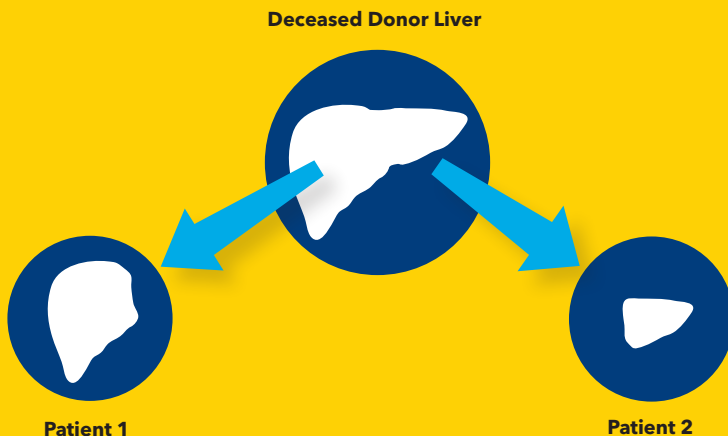
## Leaders in liver transplantation

Our surgeons collectively have decades of experience and are international leaders in the field. We offer a wide range of transplant options with superior outcomes:

- **Deceased donor whole organ transplants:** This is the most common type of liver transplant, where the liver from a deceased organ donor is transplanted into a recipient. Most candidates for liver transplant receive an organ based on their priority on a national waiting list.
- **Split liver transplant:** This procedure may be appropriate for certain patients. During this procedure, a liver from a deceased donor is divided and transplanted into more than one patient. The approach works because each segment can regenerate in a short period of time. We perform more split liver transplants than many other programs in the nation.
- **Living donor transplants:** A portion of a donor liver is transplanted into a carefully-matched recipient. The liver then regenerates in both the donor and recipient so both have a fully functioning liver in time.
- **Domino transplants:** In a domino transplant, a patient with metabolic liver disease receives a liver from a donor. His or her liver, which can function normally in a person without the metabolic disease for many years, is then transplanted in a patient in need of a new liver.

Having more transplant options means there are more ways for our patients to get a needed liver as quickly as possible.

### Split liver transplant



# Understanding the transplant process

The first step is talking with our clinical transplant coordinators. The coordinator will review your medical history and, if a liver transplant is an option for you, schedule your evaluation with the transplant team.

## Evaluation

The goal of the evaluation is to assure your readiness to receive long-term benefit from a liver transplant. During the evaluation you will be seen by multiple members of our team.

The evaluation includes a physical exam and several tests and assessments, many of which can be completed at a location near your home:

- **General health exam:** Routine screening tests to evaluate your overall health
- **Lab tests:** Blood and urine tests to measure the condition of your organs, including your liver
- **Imaging tests:** Magnetic resonance imaging (MRI) or computerized tomography (CT scan) of your liver to assess the extent of your liver disease
- **Heart tests:** Assessment of the health of your cardiovascular system
- **Psychological evaluation:** An assessment to assure that you understand the risks and benefits of a liver transplant and are prepared to undertake the lifetime commitment needed
- **Addiction counseling:** Help with ending alcohol, drug, or tobacco addictions, if needed
- **Physical therapy:** Evaluation by a physical therapist who will put together a plan to help you maintain strength and endurance so that the process of surgery and recovery goes as smoothly as possible

Some tests will be done during the evaluation, and our transplant team may schedule other tests separately. The health information gathered during the evaluation is used to create your profile and determine where you'll be placed on the national waiting list.

During your evaluation, you'll meet with members of the transplant team to learn about each step of the process and your medical team's responsibilities. You'll also learn about living donor organ donation and talk about ways to find a living donor.

After the evaluation is complete, the team will meet to determine our recommended best treatment option for you and then work with you to follow the treatment path.

## Waiting for a new organ

While you're waiting for an organ to become available, our team will be in constant communication with you and will care for you so you're in the best health possible when it comes time for your transplant.

## Living donation

The wait for a deceased donor liver can range from days to several months, so it's worth exploring all possibilities to shorten your wait. For some patients living donation is an option. Living donation has many benefits:

- Less time on the waiting list
- Laparoscopic-assisted donor surgery option reduces pain and recovery time by nearly half for your donor
- Improved long-term outcomes and quicker recovery for the transplant recipient
- Flexibility to schedule your transplant when it's convenient for you and your donor

During your wait, you'll need to stay in regular contact with your transplant coordinator and share any changes in your health (even a cold). We also need to know if you change physicians, or have new contact information. In addition, we need to know about your travel plans so we can reach you if an organ becomes available.

## How your place on the waiting list is determined

In general, a donor is matched to a potential recipient based on several factors:

- Blood type
- Degree of medical urgency
- Body size

Your ranking on the national liver donor list is determined using your MELD-Na (Model for End-Stage Liver Disease Sodium) score. The MELD-Na score is based on a formula that is very accurate for predicting who is the sickest and needs an organ the soonest to survive.

## The transplant

If a whole liver from a deceased donor becomes available, there are several steps that happen before the organ is accepted:

- The transplant coordinator contacts you to make sure that there have been no recent changes in your health. The coordinator will review certain donor aspects with you and make sure that your questions are answered.
- If the organ is compatible, you'll come to the hospital, undergo a brief physical examination, be prepared for surgery, and will ultimately be taken to the operating room.
- While the steps above are happening, the organ is evaluated. If it's accepted by the transplant team, it's removed from the donor and transported to the hospital. Then, a transplant surgeon re-examines the liver to ensure that it's suitable for a transplant.

Liver transplant surgery is done using general anesthesia. The anesthesiologist will be available to review your health history and appraise your readiness to undergo anesthesia. The transplant surgeon accesses your liver through an incision across your abdomen. There are different approaches to liver transplant, so the location and length of your incision may be different from someone else's.

The surgeon removes your liver, puts the donor's liver in its place, and reattaches your blood vessels and bile ducts to the new liver.

## Following the transplant

After your liver transplant, you will:

- Immediately receive anti-rejection medications
- Stay in the intensive care unit for a few days. Most patients are able to get out of bed within the first couple days, as well as start taking liquids by mouth. Doctors and nurses will monitor the function of your new liver and help you recover. They will also test your liver function frequently to confirm that the new liver is working optimally. The transplant team will always include an attending surgeon, a nurse practitioner, a transplant surgical fellow, and a pharmacist. Additional team members may include a nutritionist, social worker, residents, and students. During these visits, the team will review your medications, laboratory results, test results, and perform a short history and physical exam.
- Spend one to two weeks in the hospital. Once you are stable, you will recuperate in a transplant recovery unit where everyone is specially trained to care for transplant patients.
- Learn about post-transplant care from the nursing staff and prepare for discharge. Some of the topics they will cover include medications and side effects, signs and symptoms to look for at home, how to reach the team, and frequency of office visits after discharge. Your inpatient nurse practitioner or physician's assistant will help arrange all of your discharge medications, supplies, and follow-up appointments in the transplant clinic for outpatient appointments.
- Continue to be monitored closely by the transplant team. Your care can be transitioned back to the VA within 8 to 12 weeks after surgery. We will also coordinate your care with your doctor in the referring VA where you live.

### Did you know?

Caring for pets needs to be limited after a transplant. While you may keep pets, we ask you to find someone else to clean up after the animal or care for the litter box. You can feed and pet animals, although cats should be declawed. This restriction typically lasts six months after the transplant.

In the case of birds, the risk of infection is high enough that we do not recommend keeping and caring for any type of bird following transplant.





**Atoosa Rabiee, MD, VA Medical Director of Solid Organ Transplant, and Jessica Davis, MD, VA Director for liver transplantation**

- Have frequent checkups as you continue recovering. Your transplant team will design a checkup schedule just for you. The first visit after transplant is always within a few days of your discharge. You are then seen in clinic weekly, until your wound has healed and your labs have stabilized. You may undergo blood tests once a week at first, but these will become less frequent throughout the recovery process. With time, the number of visits will decrease and you will continue follow up with your primary care provider.
- Take medications to prevent rejection and infections. Your doctor will help you find ways to manage any medication-related side effects.
- Walk without assistance and eat regular food when you go home after transplant in most cases. You are not confined to your home after discharge, but we recommend avoiding crowded public places (trains, planes, buses, the mall, etc.) for the first three months.
- Avoid lifting heavy objects (no more than 10 pounds for the first three months), strenuous physical activity for the first six weeks, and driving for at least four weeks.
- Not consume any alcohol

# Your medications

This overview provides information on the types of medications you'll be taking after your transplant. You'll receive a handbook that includes all the details you'll need to know about your medications before you leave the hospital and instructions tailored to the specific medications you've been prescribed.

It is important to make sure you always have enough medication on hand. Missed doses of medications will lead to rejection and possible loss of your liver graft. Call your pharmacy for refills at least two weeks before you run out of medicine.

- If you are MORE than four hours late for your rejection medications:
  - SKIP the missed dose
  - Take the next dose at your normal schedule
- If you are LESS than four hours late for your rejection medications:
  - Take your dose immediately
- NEVER double up doses of your medications.
- If you ever miss a dose because you feel too ill to take it, call the liver transplant coordinators:
  - Carole Daley, RN, **202-745-8000, ext. 57413**
  - Crystal Fitzhugh, RN, **202-745-8000, ext. 56709**
- Do not take any herbals, supplements, or over-the-counter medicines without asking your transplant physician first.
- DO NOT take Advil™, Motrin™, Aleve™, ibuprofen, or naproxen, which are also called nonsteroidal anti-inflammatory drugs. You can take Tylenol™ (acetaminophen), but do not take more than 2000 milligrams in a day (five extra strength or seven regular strength Tylenol).

## IMMUNOSUPPRESSANTS

- **Prograf or FK506 (tacrolimus):** This is the main immunosuppression medication you will be on for life. It keeps your new liver working and prevents rejection or your body's immune system from attacking your new liver. You can take this medication with or without food, every twelve hours.
- **Gengraf and Neoral (cyclosporine):** You may be on this medication instead of Prograf. It acts in a similar way to suppress the immune system. It is taken twice a day. Do not take this medication with grapefruit juice.
- **Cellcept and Myfortic (mycophenolate):** This medication helps prevent rejection of your transplanted organ. It is taken twice daily. Do not cut or crush the tablets.
- **Rapamune (sirolimus):** It is taken once a day and is available in tablet and liquid form.
- **Everolimus:** This medication helps prevent rejection of your transplanted organ.
- **Prednisone:** This steroid decreases the inflammation caused by your immune system. It is available in several strengths. It is a tablet usually taken once a day. Take as prescribed with food or milk to avoid an upset stomach.



## PROPHYLACTIC MEDICATIONS

- **Bactrim:** You will take this antibiotic post-transplant to prevent bacterial infections such as pneumonia.
- **Valcyte:** You will take this antiviral for three to six months post-transplant to prevent a viral infection known as cytomegalovirus (CMV) that can cause potentially fatal complications for post-transplant patients.
- **Nystatin:** You will take this antifungal for three months post-transplant to prevent fungal infections known as candida.



Other medications you may take include:

- Diuretics (for fluid retention or high blood pressure)
- Antihypertensives (to lower high blood pressure)
- Protonix and Prevacid (to help prevent stress ulcers)
- Multivitamins

## Meet the transplant team

You're the most important member of the transplant team, and you are supported by a large group of professionals who have been trained to meet the unique needs of transplant patients. The team shares a passion for giving each patient the best opportunity for a healthy, productive life.

**Transplant surgeon:** This doctor performs the transplant surgery. Initially, the surgeon participates in your evaluation—discussing the appropriateness of a transplant, including its significance, risks, and complications. After the transplant, the surgeon prescribes medications and monitors you closely. The surgeon works daily with the transplant hepatologist.

**Transplant hepatologist:** With an emphasis on transplantation, this doctor specializes in the care of patients who have liver disease. During your evaluation, you and the hepatologist will discuss the need for a liver transplant and the transplant process. The doctor will work with your referring physician to manage your liver disease before your transplant, as well as with your surgeon to manage the care of the new organ afterwards.

**Transplant anesthesiologist:** This doctor initially evaluates your suitability for a liver transplant from a heart and lung perspective.

**Transplant mental health psychologist:** The mental health psychologist assesses your ability to manage the stresses associated with waiting for and undergoing a transplant, and can provide support as you move through the process.

**Clinical transplant coordinator:** This trained transplant professional conducts the initial evaluation and provides educational support about the transplant process, transplant waiting lists, and your role in the transplant process before and after transplant. The transplant coordinator is your main contact and works with you and other members of the transplant team to coordinate your care, including all transplant surgery activities.

**Live donor coordinator:** This registered nurse educates you about the possible use of a live donor for your transplant. If a living donor is identified, this nurse becomes the donor's contact and coordinates the process.

**Transplant social worker:** The social worker helps to optimize your ability to cope with the possible stress of transplantation. The social worker evaluates your social support network and helps you and your family identify any resources you'll need to manage the non-medical issues related to your illness and transplant, such as insurance, income, or housing. The social worker also helps prepare you and your family to go home following transplantation.

**Post-transplant advanced practice clinician (NP or PA):** An advanced practice professional—either a nurse practitioner or physician's assistant—works with your transplant physician to coordinate your care. Before you leave the hospital, this team member will educate you about how to care for your new organ and manage your transplant medications. You'll be taught the signs and symptoms that might indicate organ rejection or infection. During follow-up visits, the post-transplant advanced practice clinician and your doctors will perform examinations, assess your condition, and adjust medications as necessary.

**Transplant pharmacist:** This specialized pharmacist is trained in the use of medications that transplant recipients need. This team member works closely with the clinical team to make sure you're getting the right medication dosage, minimize side effects, and identify potential drug interactions. The pharmacist will take part in the educational sessions you'll have before discharge and is available to answer questions about your medication regimen.

# MedStar Georgetown Transplant Institute liver disease and transplant team

## Surgeons



**Thomas Fishbein, MD**  
Executive Director and  
Transplant Surgeon



**Raffaele Girlanda, MD**  
Transplant Surgeon



**Juan Guerra, MD**  
Transplant Surgeon



**Jason Hawksworth, MD**  
Transplant and Hepatobiliary  
Surgeon



**Alexander Kroemer, MD**  
Transplant Surgeon



**Cal Matsumoto, MD**  
Transplant Surgeon



**Brian Nguyen, MD**  
Transplant and Hepatobiliary  
Surgeon



**Pejman Radkani, MD**  
Transplant and Hepatobiliary Surgeon



**Emily Winslow, MD**  
Regional Chief of  
Hepatopancreaticobiliary Surgery



## Hepatologists



**Rohit Satoskar, MD**  
Medical Director and  
Transplant Hepatologist



**Ahyoung Jacy Kim, MD**  
Transplant Hepatologist



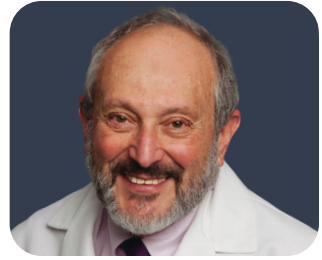
**Filipa Ligiero, MD**  
Transplant Hepatologist



**Kathleen Nilles, MD**  
Transplant Hepatologist



**Amol Rangnekar, MD**  
Transplant Hepatologist



**Coleman I. Smith, MD**  
Transplant Hepatologist



**Arul Thomas, MD**  
Transplant Hepatologist



**Dawn Torres, MD**  
Transplant Hepatologist

## DC VA Medical Team



**Jessica Davis, MD**  
VA Director for Liver  
Transplantation  
Transplant Hepatologist



**Atoosa Rabiee, MD**  
VA Medical Director of Solid  
Organ Transplant  
Transplant Hepatologist

# Frequently asked questions

## **What are the most common liver diseases?**

More than 100,000 people in the D.C. metro area have a serious liver condition; some 81,000 of those have hepatitis C. Besides chronic viral hepatitis B and C, other serious liver conditions include drug-induced liver injury, alcoholic liver disease, non-alcoholic fatty liver disease, chronic cholestatic syndromes, and liver and bile duct tumors.

## **When is liver transplantation an option?**

For many patients with end-stage liver disease, transplantation is an option. The decision to transplant is based on the patient's medical condition and quality of life.

## **What are my transplant options?**

In addition to the option of receiving a liver from a deceased organ donor, living donor liver transplantation can be another option. In this kind of transplant, a healthy person (family member, friend, co-worker, or non-directed donor) donates a portion of his or her liver to the transplant patient.

Doctors remove a portion of the donor's liver, remove the recipient's damaged liver, and attach the healthy partial liver in its place, where it begins to regenerate to normal size. The donor's liver quickly regenerates, too, and continues to function normally. Both procedures are performed at the same time in two adjacent operating rooms.

## **What are the advantages of living donor liver transplants?**

This kind of surgery can be scheduled and can be performed before the transplant recipient becomes extremely ill. The donor is thoroughly evaluated and their liver is known to be excellent in quality. These factors may lead to fewer complications, faster recovery, and good long-term results.

## **What is the success rate of liver transplants at DC VA/MedStar Georgetown Transplant Institute?**

Our success rate is one of the best in the region.

## **What factors should I consider when selecting a transplant program?**

Look at both the program's volume of transplants and its outcomes. Higher volumes mean the transplant team has more experience. Outcomes show how well patients do after their transplants.



## How do you prevent organ rejection?

Luckily, a number of very effective medications are available to prevent organ rejection. These medications suppress the immune system, which inhibits rejection of foreign tissue. After a liver transplant, recipients must take medications daily for the rest of their lives. Over time, less medication is required. It's also important to follow the transplant team's recommendations for keeping your new liver healthy and to make sure you come to all your follow-up appointments.



**Veteran John, liver transplant recipient, with Dr. Rabiee.**

**The Washington, D.C., DC VA/MedStar Georgetown Transplant Institute** provides evaluation, diagnosis, and treatment for patients suffering from a variety of liver disorders.

We make getting the care you need as easy as possible. Patients can use our secure, easy-to-use online VA portal, **Myhealth.va.gov**, to access medical records, set up appointments, check test results, email doctors, request prescription refills, share medical records with other doctors, and pay hospital and doctor bills.

**MedStar Georgetown University Hospital**

3800 Reservoir Rd., NW  
2nd Floor PHC  
Washington, DC 20007

**MedStar Washington Hospital Center**

110 Irving St., NW  
POB South, Ste. 215  
Washington, DC 20010

**Washington DC VA Medical Center**

50 Irving St., NW  
Washington, DC 20422



**Washington DC Fisher House**

50 Irving St., NW  
Washington, DC 20422



# VA Fisher House

"A HOME AWAY FROM HOME"

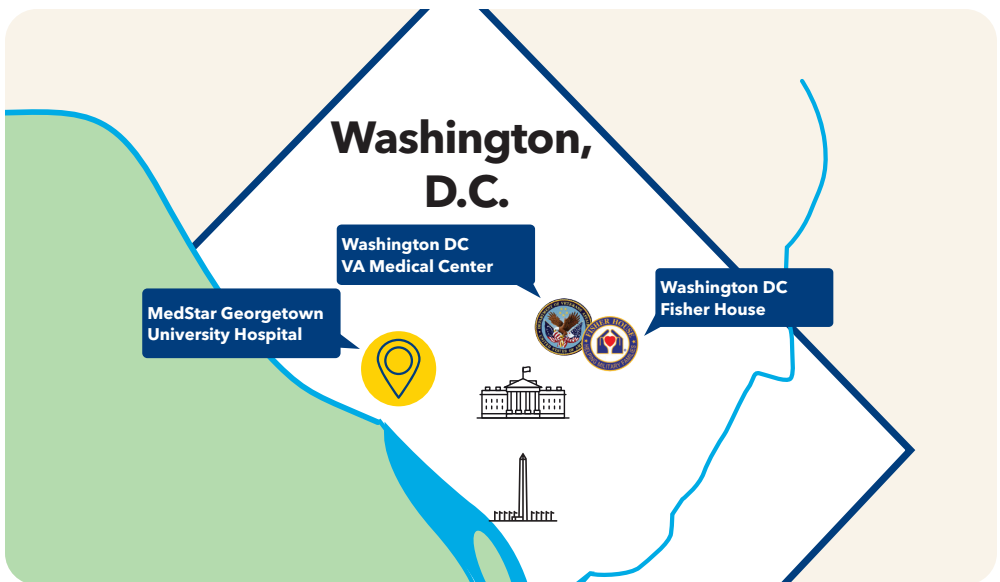
Fisher House provides high quality temporary lodging, at no charge, to families of veterans who are undergoing inpatient or extensive outpatient treatment at the Washington, D.C., Veterans Affairs Medical Center. Fisher House is considered to be a "home away from home" and offers a warm, compassionate environment and a sense of comfort while a loved one is undergoing medical treatment.

**Washington DC Fisher House**  
**50 Irving St., NW**  
**Washington, DC 20422**

Guests must be medically stable to care for themselves and/or family members independently, and must live 50 miles or more from the VA Medical Center. Referrals should be done in advance by the **Social Worker** or **Primary Care Physician** assigned to the patient.

In addition to a private bedroom, the house includes an in-room telephone; a TV/DVD player; in-room computer access and devices; a common kitchen; spacious common dining room; an inviting common family and living room; a common laundry facility; and outdoor pavilion.

For questions, please contact the Fisher House management at **202-745-2482**.



**VA**



U.S. Department  
of Veterans Affairs



MedStar Health

**MEDSTAR GEORGETOWN  
UNIVERSITY HOSPITAL**