

DR. MARK STURDEVANT, ASSOCIATE PROFESSOR DIVISION OF TRANSPLANT SURGERY

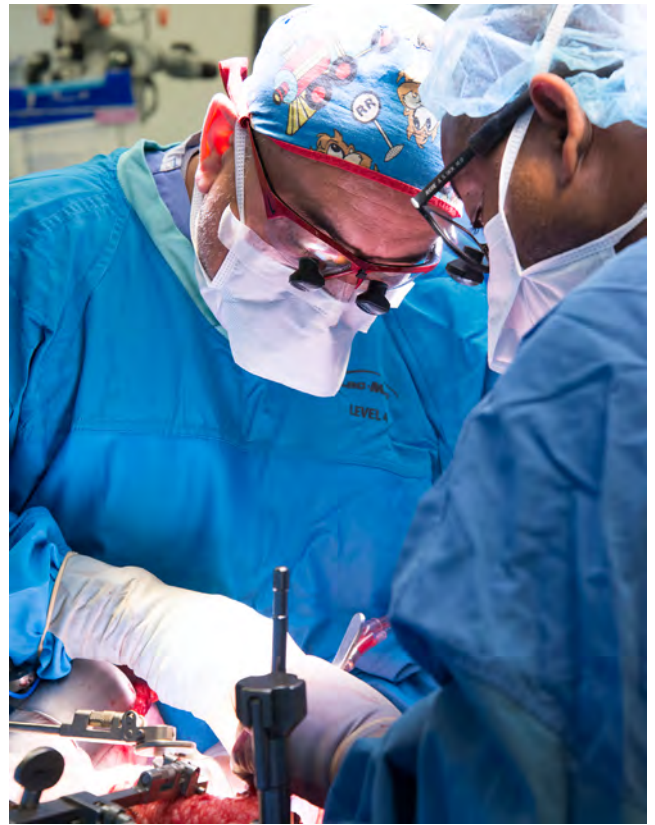


Dr. Mark
Sturdevant

The UW Medicine liver transplant service, initiated in 1990 by Dr. [James Perkins](#) and led by Dr. [Jorge Reyes](#) since 2004, is the largest program of its kind in the Pacific Northwest and has been recognized as having higher than expected patient outcomes by the Surgical Registry of Transplant Recipients. However, the dire need of critically ill patients requiring liver replacement provides a constant stimulus to this UW Medicine surgical division to develop clinical innovation and accessibility to transplant. Well over 1,000 Americans die annually on the liver transplant waiting list and many regions of the country have a waitlist mortality upwards of 20%. In order to expand its utilization of deceased donors, the UW Medicine liver transplant group has recently been at the forefront of emerging concepts and technologies such as the utilization of advanced hypothermic liver preservation (LIVERguard™) and the use of COVID positive deceased donors. Dr. [Reyes](#) collaborated with [Ajit Limaye](#), Director of UW Medicine's Solid Organ Transplant Infectious Disease Program, to write impactful guidance papers which played a prominent role in establishing evidence-based practice internationally. The division's dedication to the establishment of a living donor liver transplant (LDLT) program is also starting to increase transplant accessibility to UW Medicine patients in a significant manner. As program director, Dr. [Mark Sturdevant](#) has reinvigorated the LDLT program along with Dr. [Ramasamy Bakthavatsalam](#), Dr. [Kiran Bambha](#), Associate Professor, Department of Medicine, and [Winnie Hu](#), ARNP. Since August 2020, 28 adult-to-adult LDLTs have been performed, including the [region's first LDLT for metastatic colorectal cancer](#), and UW Medicine is now one of only six centers nationwide to have performed more than two LDLT procedures monthly in 2022. Close collaborations with Dr. [Patrick Healey](#) from Seattle Children's Hospital (SCH) and the UW Medicine hepatobiliary group (Drs. [Raymond Yeung](#), [Jim Park](#), and [Jonathan Sham](#)) have optimized care for liver donors, increased the LDLT activity at SCH, and have advanced the role and concept of transplant [oncology](#) at UW Medicine.



If you are interested in learning how you can support **liver transplant**, please click [here](#) or email Jeannie Stuyvesant, senior director for philanthropy, at jstuy@uw.edu.



The first living donor liver transplant between unrelated adults in the Pacific Northwest. The surgical team included Drs. Jorge Reyes (left) and André Dick.



Surgeons Mark Sturdevant, left, and Ramasamy Bakthavatsalam prepare the liver for the region's first LDLT for metastatic colorectal cancer.
Photo credit: Winnie Hu | UW Medicine

PEDIATRIC TRANSPLANT PROGRAM

DR. PATRICK HEALEY, PROFESSOR
DIVISION OF TRANSPLANT SURGERY



Dr. Patrick Healey

Clinical decisions and practices continue to evolve during the COVID-19 pandemic, presenting new and uncertain challenges to transplant programs across the US. In 2021, the United Network for Organ Sharing (UNOS) introduced new allocation policies that significantly changed the way deceased donor organs are allocated to patients on the waiting list. Despite these external challenges, 2021 was one of our pediatric program's busiest years, performing 66 organ transplants in children and placing Seattle Children's Hospital (SCH) at #6 nationally in pediatric transplant activity across all programs. With these changes, we have increased our focus on living donor (LD) transplant in our Kidney and Liver Transplant Programs.

In 2021, 45 abdominal organ transplants were performed by our pediatric team. This included 14 liver transplants, one intestine transplant, and a program-high 30 kidney transplants. Nine of the kidney transplants were LD transplants, making SCH #2 in the US.

The LD programs at Children's are a true collaboration with the UW Medicine adult transplant programs. Donor evaluation, surgery, and care is provided by the UW Medicine transplant team, and the donated organ is transported from UW Medicine to SCH after removal. These procedures are performed simultaneously and require meticulous coordination between the two teams. Since inception of the combined LD kidney program in 2003, over 125 children have been able to receive LD transplants with excellent outcomes. Patient and graft survival outcomes reported by the Scientific Registry for Transplant Recipients (SRTR) reveal 100% survival at one-year and three-years post-transplant.

To increase LD kidney transplant possibilities, we participate in Kidney Paired Donor (KPD) Exchange programs with UW Medicine for children who do not have compatible blood types with their intended donor. In KPD exchange, the child is matched with a compatible donor to receive a living donor kidney, and the child's intended donor donates to the recipient paired with that donor. This has resulted in three additional LD kidney transplants that otherwise would not have been possible.

Liver transplant activity has also benefited from the growth of the UW Medicine Living Donor Liver Transplant Program, resulting in three child LD transplants so far in 2022. To date, over 330 children have received liver transplants, with 13 being LD transplants. We have seen 93% overall graft survival in our liver transplant recipients, with 100% survival outcomes in our LD recipients.

These increased volumes and excellent outcomes are the result of highly organized collaborations between the UW Medicine and SCH teams, as well as highly skilled surgery, transplant physician, anesthesia, nursing and social work team members committed to achieving the best outcomes for our children in need of transplant.



If you are interested in learning how you can support **pediatric transplant**, please [click here](#) or email Jeannie Stuyvesant, senior director for philanthropy, at jstuy@uw.edu.

HEART TRANSPLANT PROGRAM

DR. JAY PAL, PROFESSOR
DIVISION OF CARDIOTHORACIC SURGERY



Dr. Jay Pal

The **Heart Transplant Program** at UW Medicine has a long and storied career. The program has performed over 1,100 transplant procedures, with survival better than the national average. In fact, patients are more likely to be transplanted at UW, with lower waitlist mortality, than the national average, as reported by the Scientific Registry for Transplant Recipients (SRTR). In addition to heart transplantation, UW provides the full spectrum of advanced heart failure treatments, including extracorporeal membrane oxygenation (ECMO), left ventricular assist device (LVAD), and Total Artificial Heart. Furthermore, the faculty in cardiology and cardiac surgery who specialize in the treatment of advanced heart failure are national leaders in clinical care and translational research.

Three surgeons in the Division of Cardiothoracic Surgery focus on heart transplantation and LVAD implantation: Drs. **Jeffrey Keenan**, Assistant Professor, **Maziar Khorsandi**, Assistant Professor, and **Jay Pal**, Professor. Interestingly, all three obtained their cardiothoracic or transplant training at Duke University. These surgeons work together to ensure all heart failure patients are cared for by surgeons with specialty training in these advanced techniques.



Dr. Jeffrey Keenan carries a donor heart from the Organ Care System to the recipient for a transplant procedure.

Although the basic techniques of heart transplantation are more than 50 years old, several recent developments have led to rapid advancements in the field. In particular, the ability to transplant heart from patients who have died a circulatory death, as well as the use of ex-vivo perfusion systems to transport organs, has allowed more patients to receive heart transplants in 2021 than ever before. With similar advances in LVAD therapy, patients with advanced heart failure are living longer, more normal lives than could have been imagined just a few years ago.



If you are interested in learning how you can support **heart transplant**, please [click here](#) or email Jeannie Stuyvesant, senior director for philanthropy, at jstuy@uw.edu.

DR. CALLISTUS DITAH, FELLOW CARDIOTHORACIC SURGERY



Dr. Callistus Ditah

The capacity to intervene on the human condition is an experience so satiating that I wish everyone had the opportunity to examine and judge in their lifetime. Having occasions to do this as a career is something I've neither adjusted nor commanded the comprehension to explain. As I reflect on my life's journey so far, the privilege afforded to me and my colleagues by our patients can only be measured

by the joy of going to bed, mostly tired, but comforted by the notion of rising early with another opportunity to interact with patients burdened by Cardiothoracic derangements—the prospect of exploring ways to heal “a broken heart.” This fact alone, is necessary and sufficient.

“Before us is a true hero, one whose parting gift of life will change others forever... she loved everyone around her, was a fan of Justin Bieber and always protected her friends...” I was captivated by this moment for a few extra seconds. *“Scalpel please,”* I murmured... and this marked my first human organ procurement.

This hospital was only a short ride from the airport where our plane was parked, waiting our return. We were there to procure a heart for transplantation. Absorbed by this experience, and for the first time in my career, I felt overwhelmed with privilege. To be part of this transaction, between two humans, on different paths in a fragile life. Parties who knew not of each other and considered no recompense. Howbeit, these two were only moments and a few surgical anastomoses away from being “connected at heart.”

As I returned, I agreed—it is okay to allow yourself to be swayed, and by so doing, become emotionally invested in the lives of your patients. It is healthy, and should be free of rub, something I've learned from my mentors at the University of Washington. I try to remind myself of these principles as necessary, yet with understanding that as a cardiac surgeon, perforce, celerity and precision must be accounted.

I was conscious of our patient, waiting for us at home in Seattle, and most vividly, his countenance. Earlier that morning, he shared his background with me, how engaged he had been with his community, his goals, and what it would mean to be able to get a shot at life again, an opportunity to think clearly, love and cry. How then could I employ levity toward this moment? During that conversation, I shared the prospects of a new heart by the end of the day, but as regulations usually stipulate, I couldn't share more.

Now at the procurement theatre, I voided my mind and two juxtaposing futures became apparent. Our team was fighting for these two patients in that moment and no one else mattered. Maybe the interracial nature of this transaction between our donor and recipient approbated more, in my eyes. Fast forward to several days later as our patient was getting ready to go home, he looked full of life. This experience held meaning to our team. It was pure, simple, and worked well for our donor and recipient.



Top: Dr. Ditah performing a heart transplant.

Bottom left: Drs. Chris Burke, Scott DeRoo, and Callistus Ditah (left to right) in the operating room.

Bottom right: Procured heart on the way to being transplanted.

Photo credit: Callistus Ditah

DR. MICHAEL MULLIGAN, PROFESSOR & CHIEF DIVISION OF CARDIOTHORACIC SURGERY



Dr. Michael Mulligan

It may be surprising to learn that the person who completed his 1,000th lung transplant on July 7, 2019, did not always set out to be a transplant surgeon. In fact, Dr. Michael Mulligan, Professor & Chief, Cardiothoracic Surgery, thought he would be a family care provider in Vermont, where he would spend his days skiing and seeing patients. But life had other plans, and during a medical school anatomy class, Dr. Mulligan's mentors saw a special talent and directed him to

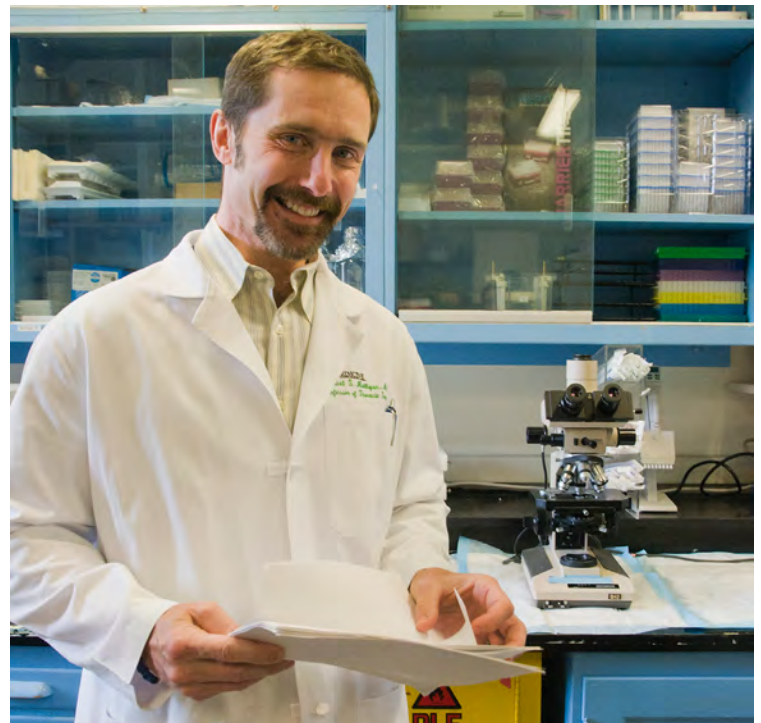
the field of surgery. With a strength in research and an interest in thoracic surgery, transplant became a natural fit. Upon graduation, Dr. Mulligan received several high-profile job offers, but elected to come to the University of Washington (UW) where academic medicine and a promising lung transplant program would give him the opportunity to build a clinical and research program of his own.

And build a program he did. Prior to his arrival, the UW did approximately 12 lung transplants a year. Now, UW Medicine is home to the only lung transplant program in the Northwest. Serving five states – Washington, Alaska, Idaho, Montana and Oregon – it has one of the highest volumes and some of the best outcomes in the United States. Of the 60 transplants completed annually, Dr. Mulligan does approximately 57 or 58. He is always on call, and has “spent many a night in a van being retrieved from the snowy northwest, picked up from airstrips when on vacation, airlifted from the base of Mt. Rainier, and was almost shot down by a fighter jet on 9/11” – all to get back in time for a transplant. In fact, for the first 10 years, Dr. Mulligan would be retrieved from anywhere in the continental US if lungs were available for transplant.

Having been immersed in the lung transplant process from donor to recipient operation for over two decades, coupled with his extensive bench research on primary graft dysfunction, Dr. Mulligan has witnessed firsthand longitudinal results about what makes a lung transplantation successful. In fact, he has garnered so much knowledge that he wrote the consensus opinion for the [International Society of Heart and Lung Transplantation](#) on maximizing the use of donated organs. This document describes “how to evaluate organs in the field using a system of prescribed behaviors and maneuvers to see whether things are safe – essentially an instruction manual on how to do this in the field and what the numbers mean so this is exportable and transferrable knowledge.” Says Dr. Mulligan, “I’ve always been very self-critical, so I’ve learned to identify organs that can be salvaged or may have been a bit marginal but function very well.” These learnings have become even more important in the last two years as COVID-19 ravaged lungs and caused acute respiratory distress syndrome, greatly increasing the demand and urgency for lung transplantation.

Dr. Mulligan's breadth of experience has also led to research and clinical advancements including the newly announced clinical trials in lung transplantation. This project will be “composed of seven multicenter pods with three institutions in each, so 21 transplant programs represented that will be part of the National Lung Transplant Research Consortium that will capture more than half of the lung transplants done in North America, and it will be a think tank with five years of funding that will lead to a clinical trials network that will be without precedence.” Dr. Mulligan lobbied for eight years to get project funding, and says of his success, “This will be one of my bigger legacy pieces having fought for so long to get it established and to actually see it happen before I retire has been very gratifying.”

Dr. Mulligan's years of hard work have made the UW Medicine lung transplant program what it is today, and he says it is the community that has kept him here for so long. With over 1,100 transplanted patients, it is not uncommon for him to go anywhere without bumping into a former patient or their grateful family members, an experience that was hugely impactful for his two young sons. Dr. Mulligan wants to continue to do as much good as possible and work now aims to “revitalize the ex vivo lung perfusion program so no one dies in our community needing a lung transplant.” Says Dr. Mulligan, “I want to do all, but it's important to teach others so the program can live on for the decades to come.”



Dr. Mulligan in his research lab.



If you are interested in learning how you can support **lung transplant**, please [click here](#) or email Jeannie Stuyvesant, senior director for philanthropy, at jstuy@uw.edu.

DR. RAMASAMY BAKTHAVATSALAM, PROFESSOR DIVISION OF TRANSPLANT SURGERY



Dr. Ramasamy
Bakthavatsalam

Since the initial kidney transplant procedure in January 1968, 4,000 kidney transplants have been performed at UW Medicine. This is truly a reflection of transplantation being the “Gift of Life,” acknowledging families who have lost loved ones donating their organs generously (deceased donors) or from the kindness of individuals donating part of their life (living donors) to end the suffering. This “Gift of Life” has motivated my surgical journey. My urological, vascular and transplant technical skills have guided my expertise to help many patients in need.

UW Medicine is the largest transplant program in the Pacific Northwest, receiving 1,000 patient referrals per year with more than 200 kidney transplants per year. We are one of the few programs in the country to maintain a consistent five star rating (two standard deviations above) for both rate of transplantation and kidney transplant outcomes as reported by the Scientific Registry for Transplant Recipients. The United Network for Organ Sharing selected our program for the COIIN (Collaborative Innovation and Improvement Network) Project as exemplary for other programs to share our best practices. This increase in the number of transplants while maintaining the best outcomes in the country was possible by careful and tireless work of the transplant team with the appropriate matching and usage of the available organs in recipients, thereby increasing the transplantation rate and avoiding dialysis and the associated morbidity and mortality.

The living donor potential is increasing due to education of our recipients and their families regarding the available options to donate:

1. Direct donation
2. Donor exchange (for positive cross match/incompatible blood type/age mismatch)
3. Internal swap/National Kidney Registry (NKR)
4. Altruistic donation and perpetuity chains
5. Therapeutic donors

Direct donation implies the living donor can directly donate to an intended recipient (relatives/family and friends). If the donor is found to be incompatible with the blood type or positive cross match they are entered into a swap with similar pairs and transplantation is facilitated. NKR is a national program where similar pairs participate and take part in a chain of transplants. We have successfully initiated perpetuity chains starting with altruistic donors and continuing the swaps amongst incompatible pairs. Therapeutic donors are donors who had the unfortunate circumstance of planned removal of their kidney for non-cancerous conditions which are successfully used for transplantation.

Most of our patients participate in research, either sponsored or independent, allowing our patients to experience new medications and technologies. As a result, our program is forefront in experience and expertise with these technologies.



If you are interested in learning how you can support **kidney transplant**, please [click](#) here or email Jeannie Stuyvesant, senior director for philanthropy, at jstuy@uw.edu.



Dr. Stephen Rayhill, Professor, Division of Transplant Surgery, performs a kidney transplant at UW Medical Center-Montlake.



David Drouillard after donating peripheral blood stem cells

DR. DAVID DROULLARD STEM CELL DONATION

In medical school, Dr. [David Drouillard](#), General Surgery R4, registered to be a stem cell donor at a “Be The Match” registration drive. *“I signed up and promptly forgot about it. Seven years later I received a phone call asking me to start the donation process - saying yes was the easiest decision I have made. Only a minority of registry members will ever be contacted to donate, so I encourage everyone to sign up at “Be The Match.” I’m grateful for the chance to donate, and to my co-residents for covering me during the all-day donation process.”*