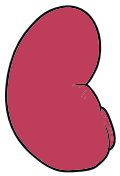
Careers in Donation and Transplantation

Medical

Career	Description
Physicians 	Physicians diagnose and treat diseases that may result in organ failure, provide treatment and prescribe medication for individuals who are waiting for an organ transplant or have undergone organ transplantation. **Education**: Doctor of Medicine with specialty programs and certification based on field of study.
Transplant Surgeons 	Transplant surgeons specialize in the transplantation of particular organs. They also remove organs from donors. **Education**: Doctor of Medicine, residency in general surgery, then a fellowship to specialize in transplant of specified organs.
Pharmacists 	Pharmacists work closely with a patient and their medical team to minimize side effects and organ rejection. **Education**: Doctoral or professional degree in pharmacy.
Nephrologists 	Nephrologists are medical doctors who specialize in kidney care and treatment. **Education**: Graduate from medical school and complete a three-year residency in internal medicine.
Radiologists 	Radiologists understand and do x-ray therapies and determine the best uses of these technologies in the medical care of donors and transplant recipients. **Education**: Doctorate program; emphasis on biology, chemistry, and physics.
Nurses 	This is a broad group of professionals that perform many tasks within the scope of organ donation and transplantation. They assist physicians in treating organ transplant patients and assist in surgery during organ and tissue recovery and transplantation. These nurses typically have critical care experience. **Education**: Licensing exam to become a registered nurse (RN); many positions require a bachelor's degree in nursing (BSN) or Master's program to be a Nurse Practitioner (NP).
Recovery and Processing Technicians	Recovery technicians perform surgical techniques to recover tissues such as skin, bone, and other tissues. Processing technicians then cut, disinfect, and size the tissues for their necessary purposes and package and preserve them for storage and shipment. **Education**: Many positions require some college, but most training is done on the job.

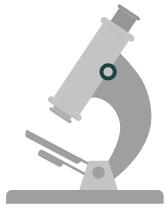
Career	Description
Dialysis Technicians 	Dialysis technicians oversee the process of safely administering dialysis to kidney patients. Patients with failing kidneys who are waiting for a transplant can do dialysis to keep their bodies cleansed of impurities that the kidneys would normally help eliminate. **Education**: Vocational schools, technical schools, or community colleges that offer dialysis certificate programs ; additional state certification.
Physical Therapists 	Physical therapists develop and help administer exercise programs that help organ recipients recover their physical strength and resume their normal activities as much as possible. **Education**: Doctorate program in physical therapy.
Immunologists 	Immunologists study and research the body's immune system, and help develop ways for the body to more effectively accept a transplanted organ with fewer side effects. **Education**: Doctor of Medicine with specialty training in immunology.
Lab Technicians 	Trained in life sciences, these professionals help catalog, store, and test tissues, blood samples, and other medical information. **Education**: Varying levels of education based on position in the lab. Most require certification and some college-- usually an associate's or bachelor's degree.
Dietitians and Nutritionists 	They study how diet and nutrition affect overall health. Nutritionists can help organ recipients and people on dialysis maintain a diet that will help them maintain or regain their health. **Education:** Bachelor's degree in health or nutrition and a certification exam.

Administration & Social Work

Career	Description
Social Workers 	Social workers work with transplant patients and living donors to provide counseling and education. They provide information on services and resources, and perform psychosocial evaluation as needed. **Education**: Master in Social Work

Career	Description
Donor Family Advocates 	Donor family advocates support grieving families while advocating for the potential donor and recipients. **Education:** Varies--preferred background or degree in medical, social work, or other related field.
Procurement Coordinators 	Procurement coordinators (or eligibility specialists) are members of recovery organizations who are responsible for evaluating potential donor eligibility, discussing donation with family members, and managing the donor prior to the organ or tissue recovery process. **Education:** Bachelor's degree, RN, or equivalent experience in medical field
Transplant Coordinators 	Transplant coordinators are members of the transplant center staff who are responsible for managing the care and progress of potential transplant recipients before, during, and after the transplant. **Education:** RN or other nursing degree.

Science

Career	Description
Chemists 	Chemists are scientists who study chemicals and their interactions. They can be involved in developing medications to treat patients. **Education**: Most chemists obtain at least a bachelor's degree in chemistry, though many go on to master's degrees and PhDs.
Pharmacologists 	Pharmacologists are scientists who deal with the preparations, uses, and effects of medications. **Education:** Either a Doctor of Medicine or a PhD. in pharmacology or other related field.
Researchers 	Researchers include chemists, biologists, radiologists, and others with training and/or experience in life sciences. They help develop new drug treatments, methods of recovery and transplantation, and treatment methods for organ and tissue recipients. **Education:** Most researchers are required to have at least a bachelor's degree, though master's degrees are required in some fields. For those looking to lead research, a doctorate is usually required.

Interviews with Local Professionals

The following are informational interviews with local professionals in the donation and transplantation field.

JUSTIN

DONATION SPECIALIST at VisionGift

1. WHAT'S YOUR DAY-TO-DAY WORK LIKE?

We take calls and process cases 24/7, 365 days a year from all over Oregon, Southwest Washington, and Idaho. Donation specialists are in the building 24 hours a day, in 12 hour shifts. After VisionGift has been notified of a death by a hospital, medical examiner, hospice worker, etc., I take over cases regarding potential cornea donors and coordinate what needs to be done to determine if someone is eligible to donate cornea and/or tissue and to facilitate actual donation. I check the Registry to see if a potential donor had registered with the DMV or online. I read medical records, call the donor's family, and consult with doctors.

2. WHAT SKILLS WOULD YOU SAY ARE IMPORTANT FOR YOUR JOB?

I think the biggest skill is multitasking—being able to coordinate a lot of different types of work at the same time. You might have five to seven active cases per shift, and each one of them needs your attention, such as reading electronic records sent by the hospital and getting details from the doctor to determine if someone can be a donor. A lot of the job is managing your time as well as you can, while also, during what can be a stressful time, paying close attention to detail.

3. WHERE DID YOU LEARN THE SKILLS NEEDED FOR YOUR JOB?

It helps to have a general medical background, especially courses in general anatomy, or to have had an internship in a hospital or ER. Many people in the field are at some stage of pursuing or entering medical school. But there is a lot of on-the-job learning, so above all it's important to be able to dive in and learn a lot, quickly.

4. WHAT ROLES DO SPEAKING AND LISTENING HAVE IN YOUR JOB?

People skills are important because I am talking to many different kinds of people on the phone. For example, I need to sympathize with the grieving family, for whom it might be the worst day of their life. I have to be comfortable with medical terminology, so I can speak comfortably with busy doctors and nurses, to determine if donation is possible. Meanwhile, I am also talking to a courier, trying to help them to deliver tissue.

TUCKER

RECOVERY TECHNICIAN at VisionGift

1. WHAT'S YOUR DAY-TO-DAY WORK LIKE?

We first confer with the donation specialists, who coordinate donation. Recovery technicians go out into the field and actually perform the recovery. This includes a blood draw for the purpose of testing, a physical inspection to look for any contraindications to donation; then we excise the tissue. We may do some further processing when we get back to the lab. After that, there is standard paperwork, and looking more closely at the tissue we've recovered through testing and specular microscopy. Travel is common; it's not unusual to be in Astoria one day, and Pendleton the next.

2. WHAT SKILLS WOULD YOU SAY ARE IMPORTANT FOR YOUR JOB?

I have to be able to adapt quickly – to really think on my feet. A lot of times I'll be sent out on recovery and get good details from the coordinators, but they of course can't know everything that's happening on the ground. I have to be able to adapt to whatever situation I encounter. It helps to have a clinical mindset, staying focused on clinical and medical records.

As far as schooling goes, anatomy and physiology are important, as is medical terminology. Recovery technicians should also have fairly steady hands – and good attention to detail.

JOSH

PROCESSING TECHNICIAN at VisionGift

1. WHAT'S YOUR DAY-TO-DAY WORK LIKE?

Processing technicians begin the day by looking at the scheduled surgeries for which we need to prepare tissue. Using instruments, we split the cornea into different thicknesses according to what a transplant surgeon has requested. For example, if the surgeon needs to replace only a diseased endothelial layer, we cut the cornea down to maybe 100 microns; the surgeons can then transplant just that healthy endothelial layer which we have prepared. Preparation is a really, really delicate procedure and it takes practice and expertise. We perform thousands a year, and this saves surgeons time in the operating room. The prepared tissue is then sent on to the surgery center.

We also do a lot of ancillary things. For example, we spend one-on-one time with corneal transplant surgeons; if they are interested in pursuing research on anything, from suturing to developing new transplant techniques, we work with them.

As a manager, I do a lot of technical writing. Because our procedures are constantly changing, I want those procedures to reflect the most accurate and efficient procedures available.

2. WHAT SKILLS WOULD YOU SAY ARE IMPORTANT FOR YOUR JOB?

Attention to detail and manual dexterity. Very fine motor skills are probably the most essential skill, just because we're dealing with such small amounts of tissue. We use an operating scope; everything is magnified so little tiny movements are very dramatic on this delicate tissue. Some of this can be taught – for example, how to rest and hold your stands so that you are as stable as possible. Being able to work well with others is important - we don't work in silos. Because we have surgeons coming in from all over the country and world to visit our facility, it is important to have interpersonal skills.

MALIA
RECOVERY COORDINATOR at Solvita

1. WHAT'S YOUR DAY-TO-DAY WORK LIKE?

Every day is different! Coordinators really have two different jobs. One is in the operating room, where we perform the donor recovery procedures. If we are on call, we may be in the operating room all day and night, because a recovery typically takes around three to five hours, depending on what grafts we are recovering. Then, there is our "desk" job, where we are obtaining medical records and getting the charts ready to send to our medical directors for transplant approval.

2. WHAT SKILLS WOULD YOU SAY ARE IMPORTANT FOR YOUR JOB?

Multi-tasking and organizational skills are probably the skills that we use most. Oftentimes, we will be in the operating room performing a recovery, while we may also be on the phone trying to work with families and screen potential donors.

We have to solve problems all the time! We are in a race against the clock. For example, VisionGift may call and say, "We have a time-sensitive donor, what time do we have to get all the paperwork done?" We have to factor where the donor is, what time of day it is (does traffic matter?), what time a funeral home or the medical examiner's office might close, etc. To top it off, we may have two recovery procedures going on. It's a constant balancing act, and we do whatever it takes to make it work for every donor and their family.

WRITING SKILLS
Most of our writing is done with filling out the recovery process on the chart. We have to do a diagram of the physical exam and record every time and tissue taken.

SPEAKING AND LISTENING SKILLS
We have to communicate well with the call center at the eye bank, as well as with our coworkers. If we miss a detail or are not clear on something, we could lose the opportunity for someone to become a tissue donor.

MATH SKILLS
On every donor, we have to do an algorithm to determine how much fluid they got prior to death. We scan medical records and look for blood products and crystalloids (liters of saline, for example). Conversions of pounds to kilograms and centimeters to inches are used on a daily basis. We also have to calculate time, for example, from death to the recovery procedure.

3. WHERE DID YOU LEARN THE SKILLS NEEDED FOR YOUR JOB?

I have a Bachelor's degree in biology. That gave me a good base, but most of my profession is all on-the-job training. For example, I had to learn a lot about medical terminology! Recovery coordinators must be accredited by the American Association of Tissue Banks.

ERIN
RECOVERY COORDINATOR at Solvita

1. WHAT'S YOUR DAY-TO-DAY WORK LIKE?

There are many variables that present themselves every single day, which is just one aspect that I love about this career. From the actual cases themselves, to balancing timeframes in order to be able to recover the donors in a given day, and to being able to work on our donor charts; it is diverse every single day. The day may start out relaxing and slow, then many cases will appear and it will be an "all hands on deck" approach in order to make the recoveries a success!

2. WHAT SKILLS WOULD YOU SAY ARE IMPORTANT FOR YOUR JOB?

Multi-tasking is a must. We also all have to be problem solvers here! When one is the primary coordinator on call, one can get very overwhelmed with cases forming and keeping them separate, coordinating the travel time for the donors to arrive at the office, etc. It helps to have each other as sounding boards to problem-solve and come up with plans for the days and nights when we get busy. It is truly a team effort in this office.

READING SKILLS

I read through donor referral worksheets, medical records, and the medical/social histories of our donors. Even though I've been in tissue banking for seven years, I am still constantly teaching and re-teaching myself medical terms, as well; so I reference a lot of medical web sites.

WRITING SKILLS

During a case, we hand-write everything we observe during our physical assessment of our donors, as well as everything else that needs to be documented during the length of the entire case. After a case, we write letters to the donor's family members thanking them for the gift of donation, and letters to the donor's primary care physicians to follow-up and confirm pertinent medical history. When family members call in to find out more about recipient information on their loved ones, we will write them letters and send them tables explaining the age, gender, and type of surgery/graft utilized. Those are my favorite letters to write.

SPEAKING AND LISTENING SKILLS

Effective speaking and listening skills are important in order to convey the importance of what we do here every day, without being too harsh or reactive. I also get a chance to use my speaking skills with Donate Life Northwest! I have the chance to give presentations to high schools, and colleges. I table booths at health fairs. I get to explain the donation and registration process in ways that all audiences can understand.

MATH SKILLS

We have strict timelines in which recoveries need to commence by, so we are simply calculating times with every case in order to ensure that we are making that correct initial incision time. We serologically test each donor for infectious diseases. Depending on the weight, height, and amount of blood products and other fluids the person received before specific timeframes of death, they could be plasma-diluted, meaning their blood was too dilute to confirm the infectious diseases we tested for; so we have to confirm that they were not plasma-diluted through calculations before the tissue can be released for transplant.

3. WHERE DID YOU LEARN THE SKILLS NEEDED FOR YOUR JOB?

I first started at a tissue bank in Seattle, in distribution. Then, I became a recovery and processing technician. Next, I moved here to Portland, and became a recovery coordinator. I think it has definitely helped me a lot to have worked in three different aspects of tissue banking in order to see the bigger picture! I received my Bachelors of Science in nutrition; having the anatomy and physiology under my belt assisted a lot. Honestly, though, if someone is interested in tissue banking and has a general love and knowledge of anatomy, and being part of someone's last wish and ultimate gift, they will succeed in this job. All the training is done on the job. I also am a Certified Tissue Banking Specialist certified through the American Association of Tissue Banks.

CHRISTINE

ORGAN DONATION SPECIALIST at Cascade Life Alliance

1. WHAT'S YOUR DAY-TO-DAY WORK LIKE?

The most common way to describe a typical workday is that there is no typical workday! We are responsible for responding to any potential organ donor within the state of Oregon, Southwest Washington and Southwest Idaho.

First we evaluate, over the phone, whether the patient meets the basic criteria* to be evaluated as a potential organ donor. If they do, we usually go to that hospital to evaluate their medical history, and to determine if they are medically appropriate to be an organ donor in the event of their death.

After the patient is declared brain dead, we approach the family to discuss the donation options. We offer the family information in a compassionate and supportive manner. We let them know that many families see this as a way for something positive to come from their loss and to help with their grief. Many of the patients have already made the decision to donate by registering as an organ and tissue donor. If a patient is a registered donor, we inform the family of their loved one's legally binding authorization for donation. The authorization for donation is completed with the family and the process of donation is explained.

As we proceed with the donation process, we evaluate all the organs – heart, liver, lungs, kidney, and pancreas. Not every organ is necessarily going to be suitable for transplant, but we evaluate each one to determine if it can be placed with a recipient. We enter the donor's age, height, weight, blood type, and the hospital location into the UNOS national computer system. This generates a computerized potential recipient list which we are obligated to follow as we offer those organs. It takes us the better part of 18-24 hours before we're then ready to coordinate one to four surgical teams to travel to the donor patient and perform the recovery surgery.

Once the transplantable organs are recovered, we coordinate the transplantation to the transplant centers. So that's a "typical" day on call! We also have days where we're not on call, but we're in the office, or out in the hospitals, educating nurses and physicians about the donation process.

*See Advanced Readings to learn more about the criteria for organ donation.

2. WHAT SKILLS WOULD YOU SAY ARE IMPORTANT FOR YOUR JOB?

The most important skill is being able to multi-task, and staying calm and focused in what is a really busy process. In between all the tasks that have to be completed, we are constantly interacting with hospital staff, and sharing as much information as we can about the donation process. Organ donation is such a rare occurrence in any hospital that we're always going to have lots of staff who want to come up and ask a question.

WRITING SKILLS

We do a lot of writing, mostly with letters and follow up. After we've finished a donor case, every staff person who was involved in the case – from the respiratory therapist to the pharmacist, to the nursing staff and the physicians – receives a follow up. We really want to recognize their effort and let them know how much we appreciate it. They helped save lives, and it would not have been possible without their efforts.

SPEAKING AND LISTENING SKILLS

This is 90 percent of the job! When we're talking with potential donor families, there's a lot of information we need to share with them, but it's equally important to really listen to them. As we are filling in the gaps of their medical history, they are sharing the story of their loved one. Yes, it's important for us to know what sort of surgeries they had, but it's equally important to know a little bit about them. It's important to let families have time to share that, to be able to listen, to give them space. This also helps them to start their grief process by sharing the story and the legacy that their loved one is leaving.

MATH SKILLS

We use a lot of everything, from plain old addition and subtraction to a lot of algebra. A lot of our job is to confirm and verify.

3. WHERE DID YOU LEARN THE SKILLS NEEDED FOR YOUR JOB?

Most of our staff has a critical care background. Most are nurses, but we also have some respiratory therapists or EMTs. I went to a nursing program that focused on collaborative learning. I was fortunate to work in intensive care units with a team approach, so everybody worked together. Working in critical care forces you to learn to prioritize what's most critical, how to think critically, and to be a continual learner. Within donation and transplant science and technology, so many things are always changing that there are several medical journals and web-based communities to keep us up to date. We have a specialty certification that requires ongoing education and has to be re-certified every three years.

DR. DOUZDJIAN

TRANSPLANT SURGEON & SURGICAL DIRECTOR at Legacy Good Samaritan Transplant Program

1. WHAT'S YOUR DAY-TO-DAY WORK LIKE?

It depends on the day. I know that on Mondays, I'll be going to the operating room, to check in on the donor surgeons performing a nephrectomy (kidney removal from a living donor). Once the kidney is available, I perform the transplant.

The second scenario – the deceased donor transplant – is much more complicated. I have no idea when or where they will occur… Typically I will get a call from Cascade Life Alliance, saying they have a potential organ donor. If I think the kidneys are viable to transplant, we make travel arrangements for me to go perform the recovery surgery, wherever that hospital is [within Oregon, Southern Washington, or Western Idaho].

I get back on the plane, come back, and typically the nephrologist would have made arrangements for whoever will receive the kidney to come in. Patients travel in from all over. I place the kidney in the recipient as well.

When I'm not involved in transplant, my work involves taking care of all the patients that were transplanted and evaluating potential candidates.

2. WHAT SKILLS WOULD YOU SAY ARE IMPORTANT FOR YOUR JOB?

Other than the obvious skills of doing the operations for which we've trained for 20 years…! I have to be very organized. I'm always reading charts and computer screens, or writing notes into [a computer database]. When I evaluate transplant patients I must create a report that details all of their medical problems, and then all the complications we could encounter… because of the waiting list times, it may be a year or two before I see that patient for their transplant, so that when I pull up those notes they must remind me of the conclusions I drew during the evaluation.

Problem solving is a lot of my work. Every 15 minutes, a nurse will walk into my office, put a chart on my desk, and ask "what are we going to do about this patient?" The question is, is this person a candidate for transplant? Do we need more tests, and what kind?

I am part of a committee that meets weekly to review every patient's files. This team includes nephrologists, nurses, social workers, dietitians, a psychologist… There is a great deal of speaking, listening, and decision-making.

3. WHERE DID YOU LEARN THE SKILLS NEEDED FOR YOUR JOB?

A transplant surgeon first needs three or four years of undergraduate education. Then, they are accepted to four years of medical school, plus a general surgery residency… that's about five years. After that, you specialize with a transplant surgery fellowship, maybe two to three years. Then you become a transplant surgeon! From there, you must keep up your skills with continuing education in order to keep your license.