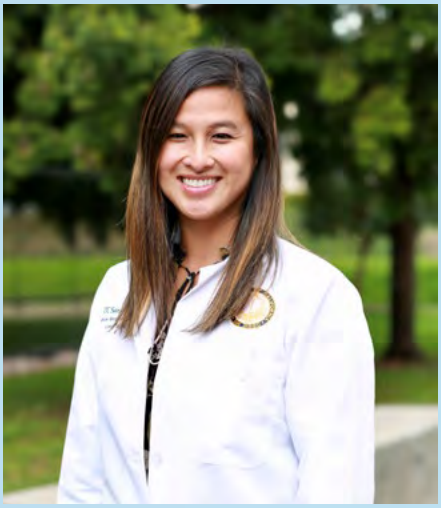
A Day in the Life of a Liver Transplant Coordinator

By: Cynthia (Cyndy) Collins, MSN, FNP-BC; Eunice (Ong) Manzano, MSN, FNP-C, PNP; Joanie Salotti, MSN, ANP, CCTC; Kelly Dobbins, BSN, RN, CCTC, Donovan Benedicto BScN, RN

Living from the heart a path is chosen,
We search through others only to discover ourselves.
Along the way, we listen, we touch, we care, we heal and we grieve.
Empowered through compassion and conviction,
Keeping the vision of the future in sight,
Transplant nurses continue on their journey.

- Joanie Salotti, MSN, CCTC



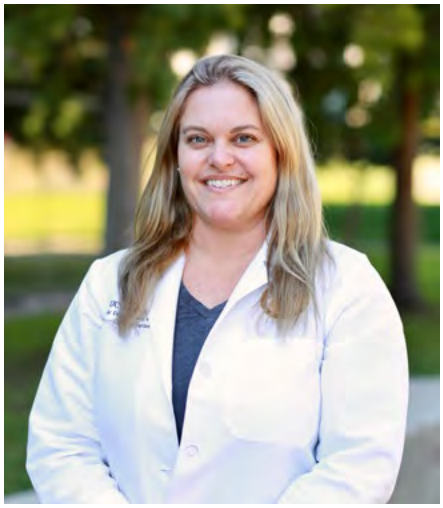
Eunice (Ong) Manzano, MSN, FNP-C, PNP
is a Nurse Practitioner on the Liver Transplant Team at UC San Diego Health. She earned her MSN/NP from the University of San Diego. She has worked with UC San Diego for 10 years, 5 of which were dedicated to the liver transplant program. She received Rookie of the Year 2009 and Nurse of the Year 2012 for her PCU department under the management of Dorothy Macavinta and Beverly Kress. She is also active in the Filipino American Community as the Co-President of the San Diego Fil-Am Youth Foundation and serves as one of the Board of Directors for the Fil-Am Humanitarian Foundation. She enjoys traveling with her husband Renato (Ren), and two young children Erin (3y) and Ethan (1y).

Transplant coordinators are registered nurses or advance practice nurses who have at least 5 years of experience as a registered nurse and a strong interest in organ transplant. Requirements for becoming a liver transplant coordinator vary depending on institution. Experience working as a nurse on a transplant floor or an intensive care unit is helpful and may be a pre-requisite in some institutions. Professional organizations that transplant coordinators may be members of include - the International Transplant Nurses Society and North American Transplant Coordinators Organization (NATCO) both of which focus on professional development opportunities for transplant nurses and other transplant professionals through education and training. Nurses may become certified as Clinical Transplant Coordinators (CCTC) or Clinical Procurement Transplant Coordinators (CCPTC).

Liver transplant coordinators provide care for critically ill patients with liver disease along the continuum of care.

We see it all - critically ill patients awaiting a new liver, the loss of a patient on the waitlist or post-transplant, patients requiring second or third transplants, disappointment when patients do not adhere to recommended medical regimen resulting in worsening disease, graft rejection, or perhaps loss of a graft. We share joyful moments and excitement with our patients when we call them to inform them of a potential liver offer. We see tears of joy from the caregivers and patients after the transplant is completed. Transplant nursing can be grueling, but most of us would not trade it for any other specialty because of these special LIFE-CHANGING moments.

Liver transplantation is a second chance at life and the beginning of a new journey for the recipient. Behind every liver transplant, there is a nurse transplant coordinator working as part of a multidisciplinary team providing care to the patient at different junctures along the way. Pre-transplant nurse coordinators are responsible for coordinating the care of newly referred patients to

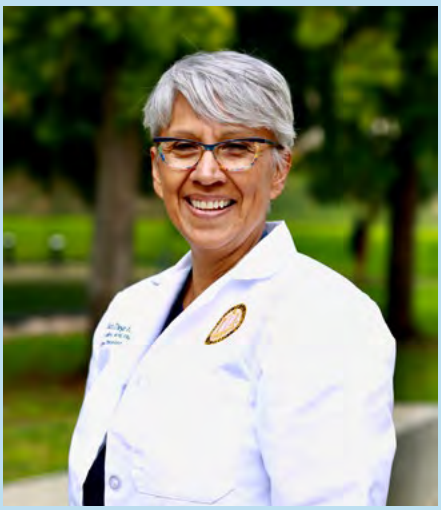


Kelly Dobbins, BSN, RN, CCTC graduated in 1998 from Georgetown University School of Nursing with Bachelors in Science of Nursing. Her first nursing job was at UC San Diego Health in the CCU/ MICU as a new grad. She then worked Surgical/Trauma and Burn ICU before transitioning to Liver Transplant. She is a Certified Clinic Transplant Coordinator and has attended NATCO conferences and Region 5 meetings, collaborating with other transplant professionals. She provides education to both staff and patients/ families about Liver Transplantation. She has been with UCSD Liver Transplant for 8 years.

liver transplant. This process involves working with referring providers, transplant hepatologists, transplant surgeons, the patient and families to determine medical suitability for transplant. The pre-transplant nurse coordinator guides the patient through the entire evaluation process. A very close relationship cultivates during this process as patients and their families become new members of the transplant team.

Liver disease leading to cirrhosis may be caused by different illnesses. Hepatitis C is still the most common cause of cirrhosis in the United States.

Diseases which may lead to cirrhosis and required consideration for liver transplant include: chronic hepatitis C, alcohol related liver disease meeting UCSD liver transplant sobriety requirements, nonalcoholic fatty liver disease, primary biliary cholangitis, secondary biliary cirrhosis including but not limited to Caroli's disease, primary sclerosing cholangitis, choledochal cyst, progressive familial intrahepatic cholestasis, biliary atresisa, biliary hypoplasia, chronic hepatitis B +/- D, autoimmune hepatitis, drug induced liver injury, acute liver failure, Alpha 1 Anti-Trypsin, Wilson's disease, hemochromatosis, cystic fibrosis, urea-cycle defects, glycogen storage disease, metabolic disorders, hepatocellular carcinoma (HCC), fibrolamellar HCC, hepatic hemangioendothelioma, noncarcinoid pancreatic neuro-endocrine tumors confined to the liver, Budd-Chiari Syndorme, giant hepatic hemangioma, trauma, and hepatic adenoma.



Cynthia (Cyndy) Collins, MSN, FNP-BC is a Nurse Practitioner on the Liver Transplant Team at UC San Diego Health. She earned her master's degree/NP from University of San Diego. She has over 30 years of experience as a Registered Nurse and over 10 years of experience as a Nurse Practitioner.

She joined the Liver Transplant team at UC San Diego Health in 2008. In addition to being a pre-liver transplant Nurse Practitioner, her experience includes management of post-liver transplant in adults, pre- and post-kidney transplant in pediatric and adult patients. Additionally, she has many years of experience in management including regional director for dialysis centers in Southern California. Most recently she participated in the 12th Annual Evidence Based Practice Institute: Consortium for Nursing Excellence in San Diego on a project geared to raise immunization rates in patients awaiting liver transplantation. She loves to travel to foreign countries, walks on the beach, hiking, Soul Cycle and Orange Theory.

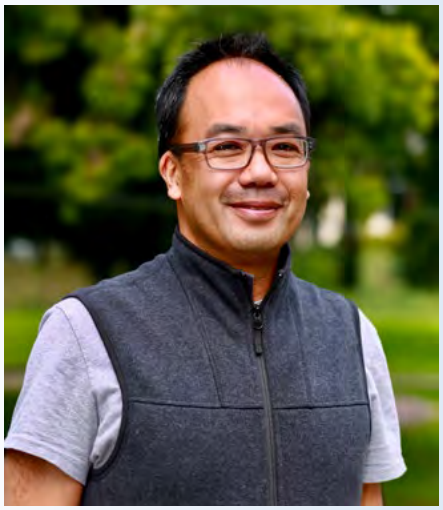
At UC San Diego Health, the transplant evaluation process begins with an initial clinic visit in the outpatient transplant clinic located at Chancellor Park in La Jolla. At the initial visit, the patient meets the entire transplant team which includes the transplant nurse coordinator, surgeon, transplant hepatologist, transplant social worker and transplant registered dietitian. All patients considered for liver transplant must have a caregiver and a solid post transplant care plan. A caregiver may be a friend or family member that is invested in caring for the patient before and after transplant. Caregivers commit to attending clinic appointments with the patient, are aware of changes in medical management, ensure the patient is taking their medication correctly and safely, and is the transplant team's frontline in verbalizing any changes in the patient status while at home. Other eligibility criteria include: adequate insurance coverage, the patient is free of concomitant end organ disease that would portend poor post-operative prognosis including significant cardiovascular, pulmonary, neurologic or hematologic diagnosis except in cases where good outcomes can be obtained from multiorgan transplant, and meets psychosocial requirements.

Once the evaluation is complete, the patient is presented to the selection committee which consists of a multidisciplinary team. Together the team reaches a decision regarding a patient's transplant candidacy. Once a patient is approved for transplant and the team has obtained financial authorization, they are added to the UNOS (United Network Organ Sharing) waitlist. Once listed, the patient is medically managed by the pre-transplant nurse practitioner and hepatologist for complications associated with end stage liver disease (ESLD), such as – hepatic encephalopathy (HE), ascites, esophageal varices (EV) and hepatocellular carcinoma (HCC). The frequency of appointments in the outpatient liver transplant clinic is determined by the severity of the patient's illness. Patients with liver disease often times are required to make lifestyle modifications such as following a low sodium diet and increasing dietary protein. The pre-transplant nurse practitioner and dietician work together to optimize the patient's nutritional intake during this entire process. Nutrition is a very important component in preparing a patient for liver transplant. Patients waiting for a liver transplant are encouraged to remain as physically active as possible.

Patients are generally referred for liver transplant evaluation when they have a MELD (Model of End Stage Liver Disease) of 15 or greater. The MELD score is calculated using the patient's sodium, total bilirubin, creatinine and INR level. The MELD score ranges from 6-40 and is used to rank the degree of illness. The higher the MELD score, the sicker the patient. MELD scores accurately predict 3 month mortality for most patients with cirrhosis, although it may underestimate the risks of mortality and waiting list dropout for patients with Hepatocellular Carcinoma (HCC) and other disease processes. A subset of patients may be eligible for MELD exception points. MELD exception points may be given to patients with treatment responsive Hepatocellular Carcinoma (HCC), Hepatopulmonary Syndrome (HPS), metabolic diseases resulting in end stage organ disease, Polycystic Kidney Disease (PKD) and other disease processes. MELD exception points can boost a patient's MELD score allowing them to be more competitive on the waitlist with a higher MELD score.

Organs are allocated to the patients with the highest MELD score on the waitlist.

Other factors that affect organ allocation include, blood type, body size, donor's age, proximity to donor hospital and the supply and demand of livers in the region the patient is listed in. It is difficult to predict how long a patient may have to wait for a transplant. Blood group O is the most common type of blood group and patient's with blood type O may have a longer wait time then other blood types. Transplant nurse coordinators are on a weekly call rotation taking liver donor



Donovan Benedicto, BScN, RN
is a clinical Nurse 2 at UC San Diego Health. He earned his BScN at McMaster University in Canada. He has been a Registered Nurse for 23 years. He has previously worked in adult/child and Emergency Room psychiatric nursing, Trauma RN, telemetry/IMU. His past accomplishments include: Bayview Employee of the Year 2001, Certificate of Excellency in Direct Practice 2001 from the Psychiatric Nurses Association, Nursing Excellence Awards UCSD 2009 and 2013, 11W Compassionate Care Recipient Award 2014, Preceptor Recognition from Azuza University 2016, and Father of the Year (in the eyes of his wife Alicia, and two young daughters Kaia and Malaea).

and patient calls 24 hours a day, 7 days a week. The nurse transplant coordinator screens all liver offers and reviews potential donors and recipients with the surgeon. Once an organ is accepted, the transplant nurse coordinator, ensures that all is coordinated for the transplant.

This responsibility involves notifying all departments and personnel who will be involved in the transplant, including coordinating ground or air transport for the surgical team and organ.

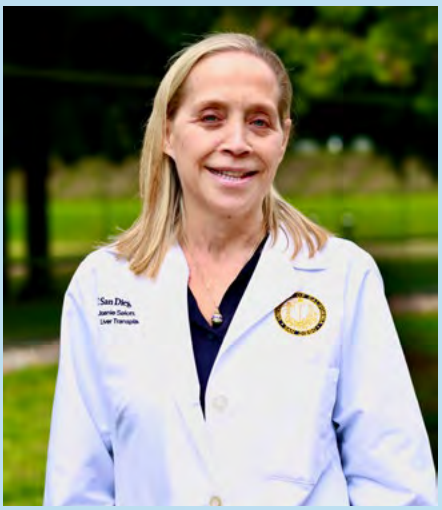
Given the organ shortage, patients listed for liver transplant are given an option to accept Hepatitis C (HCV) organs. HCV infection is curable with a short course of medications. Utilization of HCV-positive donors can increase the supply of high-quality grafts and subsequently decrease patient's time on the waiting list. During the pre-evaluation phase, potential transplant recipients are informed of the benefits and potential risks of accepting Hepatitis C organs and are given an option to consent for HCV organs.

Additionally, potential transplant recipients are given the option of accepting PHS Increased Risk organ (PHS IR). This designation identifies donors at increased risk of transmitting Hepatitis B (HBV), Hepatitis C (HCV) and HIV (Human Immunodeficiency Virus) base on donor characteristics that could place the potential recipient at increased risk of disease transmission. PHS organs are viable and of high quality often coming from young and otherwise healthy donors. Post-transplant graft and patient survival with increased risk organs is equal to or better than that with non-increased risk organs (Understanding HIV HBV HCV risks from increased risk donors, 2017). It is estimated that the risk of disease transmission is ~ 1/1000. The benefit to the patient of accepting a PHS organ is receiving a high quality organ, decreasing time on the waitlist and decreasing waitlist mortality.

Living liver donation is another option for listed liver patients with a lower, stable MELD score to avoid the longer wait time. Individuals that are generally 18-55 years old, with overall good physical and mental health, not being pressured, coerced or receiving financial incentive to donate may sign up to be a living donor for a family or friend listed on the liver waitlist. A separate evaluation process takes place for living donors.

Patients awaiting a transplant understand the unspoken language of cirrhosis – the fear of the next complication, developing liver cancer, or becoming too ill to receive a transplant, is forever on their minds. It is common practice for nurse transplant coordinators to remind patients, "don't forget to have your bag packed and your phone charged and ready." Patients anxiously await that one special call – the call with the gift of life on the other end. A tidal wave of emotions is now let loose in the patient's mind, so much so that patients frequently need direct instructions, often repeated several times. Due to this overwhelming process, the patient and caregiver rely heavily on the nurse transplant coordinator as their guide, as they are told to come to the hospital for what is to be their second chance at life.

The post- operative phase is a complex and emotional time in a patient's life. After the surgery, patients begin their second journey trying to process what they have gone through and what had to happen in order to receive a new liver. The transplant recipient often may grieve and shed tears for the donor family and their loved ones. There is joy, joy that they have survived their transplant, and that their new liver is functioning properly. There is acceptance and determination to work hard to take good care of this new liver they have received. Once the patient has been transplanted, the care transitions from the pre-transplant nurse coordinator to the post-liver transplant nurse coordinator. The post-transplant nurse coordinator role begins immediately after transplant with inpatient discharge teaching, which carries over after discharge with twice weekly multidisciplinary team visits and twice weekly labs in the outpatient setting. The transplant nurse coordinator sees and recognizes the flood of emotions that the newly transplanted patient goes through.



Joanie Salotti, MSN, AFP, CCTC
is a nurse practitioner with the liver transplant team. She has been with UC San Diego for 25 years; 18 years with liver transplant and 7 years as a SICU-trauma nurse. Joanie earned her Bachelors of Science in Nursing at the University of Texas Medical Branch and her MSN/NP at the University of San Diego. She is a certified clinical transplant coordinator.

Transplant recipients and their families are anxious to learn what to do, what to expect, and how to live their life after transplant. Commonly, newly transplanted patients fear doing something wrong that could potentially harm their new liver. The fear of taking a medication late or missing a medication can way heavy on their minds. The use of steroids is still considered the mainstay of immunosuppression following liver transplantation. Steroids can often times accentuate the emotions a transplant recipient is experiencing.

Transplanted patients will occasionally need to be reminded that their caregiver is not only their family member or friend, but an integral part of the team. The nurse coordinators educate the patient as well as their caregivers about transplant medications and signs/symptoms of rejection and infection. Despite some patients wanting immediate independency, transplant recipients need to be accepting of help from others at this time, as they may have limited understanding of post-liver transplant course and will need an additional support person to help internalize and process all the changes liver transplantation involves. Eventually, the goal is for the transplanted patient to do everything on their own and to live the life they were scared to dream of while waiting for their new liver.

The nurse coordinator's role not only serves as patient educator or support system for both patient and caregiver, the coordinator monitors lab results frequently and vigilantly watches for any signs of possible rejection or infection, which may be reflected in abnormal liver function test s and complete blood counts. The coordinator will also communicate clinical findings with the surgeon, hepatologist, and pharmacist to assess the need for immunosuppressant dose adjustments, and if so, will relay plan with patient and caregiver.

The coordinator encourages and supports the patient from post-op day one and throughout the post-transplant journey. Our experience has shown that the liver transplant recipient is grateful for each new day, sunrise, sunset, and shared moments with family members.

Transplant nurses are there for every phase – to provide the medical care, to answer the ongoing questions, provide reassurance but also provide instruction, guidance and rules. Some important reminders after transplant include: complete alcohol and tobacco abstinence, avoiding over the counter medications and herbal medications, and avoiding excessive acetaminophen use. Additionally, protecting oneself from the sun is very important in the post-transplant.

The liver recipient has embarked on the next great journey of life. Post-transplant patients are reminded that the journey has just begun - "Don't look at your progress day-to-day; rather, week-to-week and then, month -to-month. There will be good days, and there will be days of struggle. But your liver coordinator will always be there."

Pictured from left to right: Hannah Schumann, RN; Eunice Manzano, NP; Teresa Geisinger, NP; Tina Misel, NP; Amy Honeycutt, RN; Joanie Salotti, NP; Natasha Mooney, RD; Kelly Dobbins, RN; Vanessa Mulsow, LCSW; Cyndy Collins, NP; Donovan Benedicto, RN

UC San Diego Health's nurse transplant coordinators are

Pre-liver transplant coordinators:

Joanie Salotti, NP, has worked at UCSD for 25 years and has dedicated 18 of these years to the liver transplant team. Joanie manages the UCSD-Sharp Coronado patients.

Eunice Manzano, NP, has worked at UC San Diego Health for 10 years and has dedicated the past 5 years to working on the liver transplant team.

Cyndy Collins, NP, has worked at UCSD for 13 years and has worked with the transplant team for 10 of those years.

Hannah Schumann, RN and Amy Honeycutt, RN recently joined the pre-transplant team.

Post-liver transplant coordinators:

Kelly Dobbins, BSN, RN has worked for UC San Diego Health for 14 years and has worked with the transplant team for 8 years.

Teresa Geisinger, NP has worked for UC San Diego Health for 1 year, managing both liver and kidney fresh-post transplant inpatient and outpatient.

Donovan Benedicto, RN has worked with UC San Diego Health for 12 years and has worked with the transplant team for 3 years.

Tina Misel, NP has worked at UC San Diego Health for 3 years and works closely with our long-term post-transplant patients.