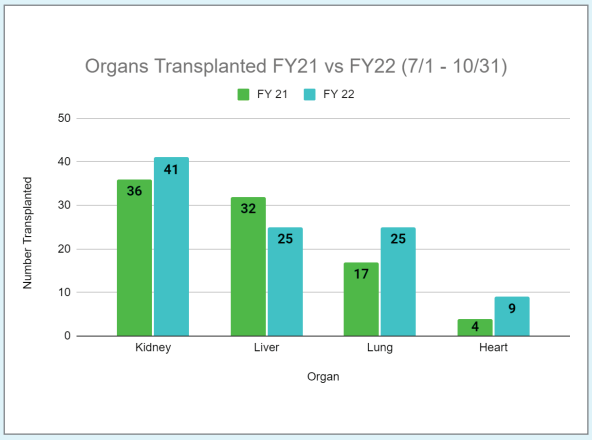
Transplant Rounds
NEWSLETTER
Baylor St. Luke's Medical Center
Baylor College of Medicine
NOV 2021

In This Issue:

Transplant by the Numbers

SUSAN BOURGEOIS, MSN, RN, CCRN-K, CPHQ, CCTN, CENP
Director of Transplant Quality — Patient Safety
Baylor St. Luke's Medical Center



Transplant Hot Topics: Evolving Role of Anesthesia in Transplant Care

JAMES M. ANTON, MD
ASSOCIATE PROFESSOR AND CHAIR, BAYLOR COLLEGE OF MEDICINE, DEPARTMENT OF ANESTHESIOLOGY
CHIEF, DIVISION OF CARDIOVASCULAR ANESTHESIA & CRITICAL CARE MEDICINE, TEXAS HEART INSTITUTE, BAYLOR ST. LUKE'S MEDICAL CENTER

On average, more than 35,000 solid organ transplants are performed in the United States annually. Over the past two decades, improvements in perioperative management have led to substantial reductions in morbidity and mortality rates as well as increases in graft survival rates following heart, lung, liver, and kidney transplants.

In 2011, the Organ Procurement and Transplant Network/United Network for Organ Sharing incorporated guidelines for the Director of Liver Transplant Anesthesia. This landmark change was designed to establish responsibility and accountability in the field of liver transplant anesthesia; however, the true significance of the guidelines was to highlight the contribution of transplant anesthetic care to patient outcomes.

Also in 2011, anesthesiologists who cared for transplant patients created an informal society allowing participants to share information designed to improve donor and recipient care. The intent of this society was to encourage and foster innovation in the fields of abdominal and thoracic transplantation as well as intensive care. Three guiding principles were developed by membership:

1. To provide a common meeting ground for scientific development
2. To increase anesthesia presence in related collegial transplant societies and organizations
3. To advocate for the professional interests of transplant anesthesiologists.

Officially incorporated in 2016 as the Society for the Advancement of Transplant Anesthesia (SATA), SATA endorses the concept that integrating the anesthesiologist into all aspects of transplant patient care and policy development ultimately benefits the best interests of patients and solid organ transplant programs. To advance this mission, SATA has prioritized the following missions:

1. Expanding opportunities for shared scholarship
2. Develop model education and training curricula
3. Professional standards and practice guidelines
4. Support career development
5. Develop continuing medical education activities
6. Consulting services for program development
7. Membership – to expand and diversify the membership base
8. Nominations – to recruit and nominate candidates for elective offices in SATA
9. Professional development – to improve the quality of clinical practice through the promulgation of perioperative management guidelines
10. Program – to oversee content for symposia
11. Publications – publication of the official Newsletter and other publications of SATA

To further this mission, in 2017 SATA worked with physicians from around the world to launch the first global Federation of transplant anesthesia societies. The mission was to create closer relationships among transplant anesthesiologists from across the globe. The Federation is home to an international joint society that aims to increase interaction among members from all global geographic areas.

Patients undergoing solid organ transplantation remain at high risk for perioperative morbidity and mortality. Recent evidence shows that intraoperative anesthetic management may affect allograft function and improve postoperative outcomes. Anesthesiologists dedicated to the care of both donors and transplant recipients have organized to share data and best practices and establish standards of care. A multidisciplinary team-based care model centered on preservation of allograft function and management of recipient comorbidities maximizes the success of solid organ transplantation.

Quality Corner: Proposed OPTN Enhancements to Transplant Program Monitoring System (Public Comment 8/3/2021 – 9/30/2021)

SUSAN BOURGEOIS, MSN, RN, CCRN-K, CPHQ, CCTN, CENP
DIRECTOR OF TRANSPLANT QUALITY—PATIENT SAFETY, BAYLOR ST. LUKE'S MEDICAL CENTER

The Membership and Professional Standards Committee (MPSC) of the United Network for Organ Sharing (UNOS) reviews transplant center performance under the authority of the Organ Procurement and Transplantation Network (OPTN). Currently, the MPSC uses a single metric, one-year post-transplant graft and patient survival, for identifying underperforming transplant centers. These criteria have been in the OPTN Bylaws since as early as 1987.

Currently, the MPSC and the transplant community seek to modify the OPTN Bylaws to create a more holistic approach to evaluation of transplant program performance. Proposed new metrics are intended to evaluate both pre-transplant and post-transplant aspects of patient care.

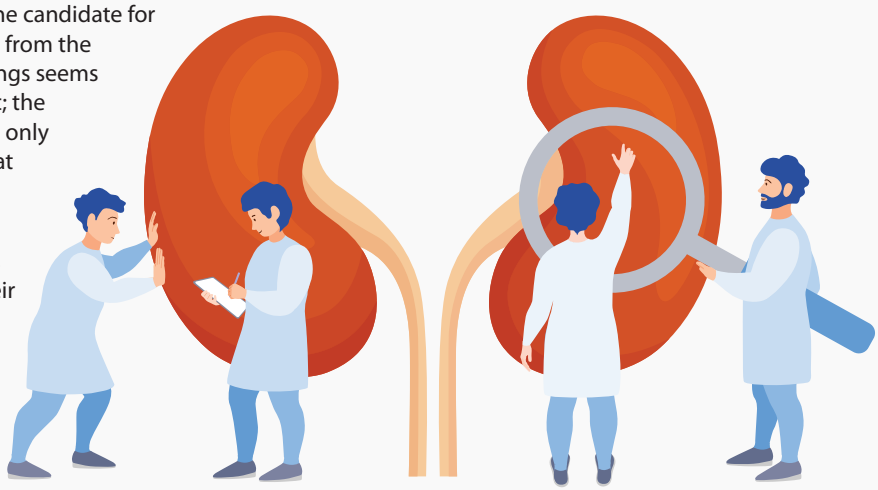
The OPTN Systems Performance Committee provided recommendations to the MPSC across four areas for transplant programs and organ procurement organizations. The proposal is intended to develop a review of member performance through all phases of transplantation—not just transplant survival. The MPSC establishes new pre-transplant and post-transplant metrics and sets boundaries for each. Under the proposal, a transplant program will enter review if it fails to meet any of the thresholds set for each metric.

The MPSC identified two main areas for review along the transplant continuum—waitlist management and post-transplant outcomes. The waitlist management metrics include waitlist patient care and organ offer acceptance practices, and the post-transplant metrics include 90-day graft survival and one-year graft survival. Public comment was closed 9/30/2021, with predominantly positive comments. The UNOS Board of Directors will vote on the proposal in December 2021, and, if the proposal passes, the new metrics will become effective in January 2022 and monitoring will begin in real-time moving forward (the new metrics will not be applied retroactively). Proposed new metrics are shown in the table below:

The offer acceptance model is the most complex of the models built by the Scientific Registry of Transplant Recipients (SRTR) for transplant center data reports. The model adjusts for an extensive number of donor factors and recipient factors, sequence number of the candidate for which the offer is received, and candidate's distance from the donor hospital. One of the biggest misunderstandings seems to be around which offers are included in the metric; the MPSC feels it is important to note that programs are only evaluated on offers they receive and decline and that another program accepts and transplants.

PROPOSED NEW METRICS

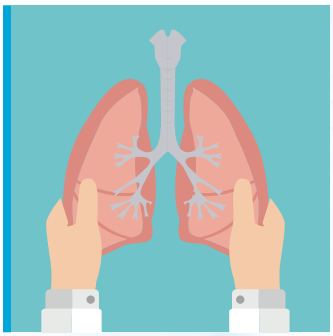
Metric	Benefit
Pre-Transplant Mortality Rate	Waitlist Patient Care and Management
Organ Acceptance Practices	Waitlist Patient Care and Management
90-day Graft Survival	Post-Transplant Recipient Outcomes



Offers are not included if the organ offered is not eventually transplanted. If a program never receives an offer due to the use of offer filters that screen their candidates off the match run, the program's organ offer acceptance rate is not impacted.

If the UNOS Board approves the new metrics, the MPSC will establish new boundaries for compliance, and a new era in transplant program performance monitoring will begin.

RESEARCH



Research News:
Breathing Lung Transplantation

GABRIEL LOOR, M.D., FACC, FCCP
Associate Professor of Surgery (tenured), Cardiothoracic Transplant and Circulatory Support, Baylor College of Medicine
Michael E. DeBakey Department of Surgery, Surgical Director, Lung Transplant Program, Co-Chief, Section of Adult Cardiac Surgery, Baylor St. Luke's Medical Center, Texas Heart Institute, Physician Associate

Breathing lung transplantation is a description of a lung transplant performed using the Organ Care System Lung (OCS Lung). OCS Lung is a portable ex vivo lung perfusion (EVLP) device. It allows the lungs to be ventilated and perfused with blood throughout transportation. Dr. Gabriel Loor, Associate Professor at the Michael E. DeBakey Department of Surgery, has studied the use of OCS Lung for nearly a decade. Early research in the animal laboratory showed that lungs could be kept outside of the body for over 24 hours prior to transplantation. Lungs that were injured and likely to be turned down for transplant, could be resuscitated and improved on the device.

A lot has happened since the early days of animal lab research. The device is being used in clinical practice after the favorable outcomes observed in a randomized controlled human clinical trial (INSPIRE trial). We were the first to use the device in Texas and the first to use the device to procure a donation after circulatory death donor (DCD) procurement in the United States. Our team led the EXPAND trial which enrolled 93 patients receiving lungs that were turned down by other centers and that were resuscitated on the OCS Lung device. The one year survival outcomes were better than that predicted for standard donor lung transplantation. These human studies led to the FDA approval of the device. Dr. Loor and his laboratory collaborators at the Texas Heart Institute also received a research grant from the JLH Foundation to continue to identify biomarkers in the device that can predict a favorable outcome for the lung after transplant.

The BSLMC Lung Transplant program is a lead enroller in the post market approval registry to evaluate the real world utilization of the device since FDA approval. Dr. Loor performed one of the longest out of body lung transplants (18 hours) using the OCS device with excellent patient outcomes. Moreover, Dr. Mattar, Assistant Professor of Surgery, leads the procurement services for the heart and lung transplant program at BSLMC and has become a go to surgeon for OCS Lung procurements in the state of Texas. Dr. Mattar and clinical instructor Dr. Elsenousi are recognized as experts in the use of OCS and are often requested to help procure OCS Lungs for long distance travel to transplant centers outside of Texas. The future is bright for lung transplantation. Dr. Loor and his collaborators are investigating ways to harness the OCS technology to improve lung transplant outcomes and increase use of donor organs.

https://www.bcm.edu/news/dr-loor-awarded-jhl-foundation-funding-for-expand-ii-trial

https://pubmed.ncbi.nlm.nih.gov/31378427/

https://pubmed.ncbi.nlm.nih.gov/29650408/

https://pubmed.ncbi.nlm.nih.gov/29981183/

Pharmacist's Role in Solid Organ Transplantation

RAYMOND YAU, PHARM D
Clinical Pharmacist II, Liver Transplant/Hepatology, Department of Pharmacy

In the United States, there are approximately 35,000 solid organ transplants performed each year.
Of which, 100% requires the involvement of a clinical transplant pharmacist throughout the care of the patient. In order for transplant centers to be accredited, the United Network for Organ Sharing (UNOS) and the Centers for Medicare and Medicaid Services (CMS) require documentation of a clinical transplant pharmacist or a pharmacology expert to be involved on the multidisciplinary transplant team. This is unique in the United States, as this is the only area of pharmacy specialty with this requirement.

Traditionally, clinical transplant pharmacists are involved in rounding, providing medication education, dispensing medications, and utilizing tools to improve adherence. This involvement dates back to the 1970s. Today the role of the clinical transplant pharmacist has expanded into the pre-transplant, perioperative, and post-transplant periods.

In the pre-transplant period, pharmacists attend the multidisciplinary selection committee meetings and assist in evaluating the success of an organ transplant in a potential recipient by reviewing current medications and the risks associated with them, including but not limited to bleeding risk, potential drug interactions, mental health, chronic pain, drug allergies, drug absorption, and use of herbal or natural supplements. Additionally, the clinical transplant pharmacist can assist in determining induction or de-sensitizing therapies for those at high risk for rejection during the pre-transplant period.

In the perioperative period, the pharmacist works directly with the transplant team to provide recommendations on medication selections and dosages based on laboratory values, disease states, and improving allograft function. Monitoring drug interactions and immunosuppressive levels are an essential part of the pharmacists' role as ensuring efficacy and minimizing toxicity exponentially improves patient outcomes. When patients are ready to be discharged from the hospital, the transplant pharmacist will spend time reviewing medications and filling a weekly medication pillbox to help ensure comprehension and compliance. Additionally, the transplant pharmacists are also in a unique position to help precept and educate pharmacy/medical students and residents on immunosuppressive agents and how the use varies depending on the transplanted organ and institutional protocols.

In the post-transplant setting, the transplant pharmacist continues to be involved in an ambulatory setting as they monitor and adjust the patient's immunosuppressive therapy and other medications for various disease states. By doing so, the clinical transplant pharmacist is able to talk to and help personalize a medication dosing schedule to minimize the disruption to the patients' daily lives.

Staff Spotlight: CAROLYN ARNOLD, MS, BSN, BA, RN, CCTC

I'm Carolyn Arnold and I am a Program Coordinator at Baylor St. Luke's Medical Center.

I began my nursing career at St. Luke's more than 32 years ago, straight out of nursing school. I had the best experiences here during my nursing school clinical rotations and knew this is where I wanted to be. I started in the Cardiovascular Recovery Room (CVRR) and loved the fast pace, the camaraderie of the nurses and staff, and amazing learning opportunities. My work in the CVRR allowed me to care for critically ill patients on ventricular assist devices and pre- and post-transplant patients. I loved seeing transplant recipients have a second chance at a good quality of life and from then on, I was hooked on transplant!

I became a kidney transplant coordinator in 1994, where the close-knit family of transplant staff and relationships with patients furthered my love for transplantation. From there, I also worked in hepatology and with the lung transplant team, taking call and coming into the hospital when liver and lung transplants occurred. I've been in a Transplant Nursing Quality role of some kind since 1998, ever since data collection for transplantation went electronic, although my job title has changed periodically.

Because of my passion for organ donation awareness & transplantation, I also volunteer my time away from work to continue the mission of transplantation. I'm so thankful to have been involved with The Heart Exchange Support Group, Inc., for over 20 years, as a member of the board. They have had a great relationship with St. Luke's for the 35 years the organization has been in existence. This group of transplant recipients, caregivers and people with a special interest in transplant, is so inspirational. The Heart Exchange promotes organ donation through events, speaking opportunities, and promotional items. Even though COVID brought about many restrictions on volunteer opportunities, we are still able to support patients and staff in many ways.

NUTRITION TIPS

Good nutrition is extremely important throughout the transplant process and post-transplant to promote health and healing.

VICTORIA DERNEHL, MS, RD, LD
Renal Transplant Dietitian, Food and Nutrition Services

MAGNESIUM

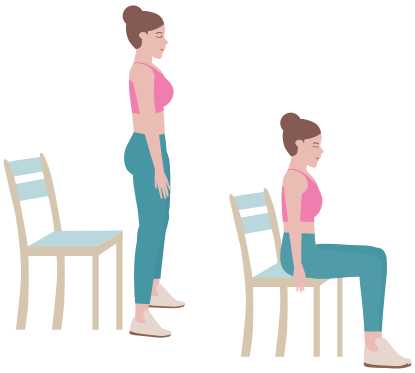
- **Some transplant medications can cause a release of magnesium in your urine, resulting in low magnesium levels.**
- **Magnesium plays a role in bone and heart health. It also promotes the building of healthy muscle and energy production.**
- **Speak with your transplant doctor or pharmacist regarding supplementation**
- **Sources of magnesium include: beans, spinach, unsalted nuts, whole grain bread and cereal, halibut, salmon**

EXERCISE TIPS

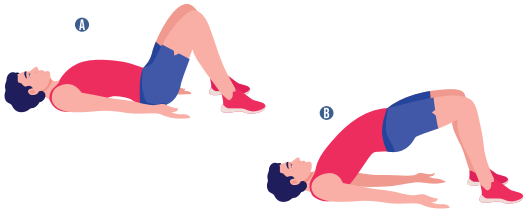
Exercise is an important part of the road to recovery, both pre-and post-transplant.

GIL SPITZ MS, CSCS
Exercise Physiologist, Liver Transplant Program
Baylor St. Luke's Medical Center

Focusing on functional, large muscle groups is the most efficient way to increase overall strength. The quadriceps, hamstrings and glutes represent our largest muscle mass. The chair-squat and the glute-bridge are some of the more accessible exercises, even for patients with limited strength and mobility.



CHAIR-SQUAT:
From a seated position, stand-up and return to seated position, controlling descent the entire way (X10).



GLUTE-BRIDGE:
Lying on the back with bent knees, raise hips until the thighs, hips and abdomen form a straight line. Return to the starting position (x10).

Save the Date

LifeGift Events:
The Key to Organ and Tissue Donation: Advancements & Innovation in Organ Donation and Transplantation

DECEMBER 8-9, 2021

- Audience: Hospital Partners and transplant Programs
- For more information, go to: https://www.lifegift.org/event/the-key-to-organ-and-tissue-donation/

Upcoming Events

Transplant Round Up

MARCH 23, 2022

Transplant Grand Rounds

MONTHLY

https://CommonSpirit-VirtualCareAnywhere.zoom.us/meeting/register/tJAtceCspjMjHtHiVJpUinsN-3M1m8EpZfdss