Transplant Learning Conference

Session will begin at 8:20 AM

The Transplant Institute

Disclosure- Nurse CE Accreditation

Disclosures to Participants

Methodist Health System is accredited as a provider of continuing nursing professional development by the American Nurses Credentialing Center's Commission on Accreditation.

Activity Title: Transplant Learning Conference - MDMC 5/21/2024

Learning outcome: Participants will self-report knowledge gained and have utilized skills learned to identify a practice problem, formulate a working PICOT question, search for and appraise the evidence, as well as develop a plan to carry the project forward over the next 6 months to 1 year.

Requirements for Successful Completion:

To receive contact hours for this continuing education activity, the participant must:

- \boxtimes Attend the entire activity
- \boxtimes Completion/submission of evaluation form

Once successful completion has been verified, a "Certificate of Successful Completion" will be awarded for <u>6.75</u> contact hours.

Conflicts of Interest:

The activity's Nurse Planner has determined that no one who has the ability to control the content of this CNE activity – planning committee members and presenters/authors/content reviewers – has a conflict of interest.



Nurse Post-Survey



The Transplant Institute

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Social Work Accreditation





Transplant Learning Conference - MDMC 5/21/2024 has

been approved for continuing education credit for Social Workers, LPCs and LMFTs by the Texas Chapter of the National Association of Social Workers.

Requirements for Successful Completion:

To receive contact hours for this continuing education activity, the participant must:

- \boxtimes Attend the entire activity
- \boxtimes Completion/submission of evaluation form

Once successful completion has been verified, a "Certificate of Successful Completion" will be awarded for <u>7</u> hour(s) of continuing education





Conference Overview

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TIME	ACTIVITY
8:00 AM	Registration and Breakfast
8:20 AM	Welcome
8:30 AM	Transplant Process Overview; Evaluation, Psych and Social Review Process, Financial Criteria and Barriers
9:30 AM	Multidisciplinary Approach to Infectious Disease and Liver Disease in ESRD Patients
10:30 AM	BREAK
10:45 AM	High BMI + ESRD: Transplant Surgeon Overview, Weight Management Resources, and Bariatric Surgeon Approach + Panel Discussion
12:00 PM	LUNCH
12:45 PM	Dialysis Access and Fistula Options for Dialysis Patients; Surgeon and Interventional Radiologist Approach
1:45 PM	BREAK
2:00 PM	Practical Solutions to Overcoming Racial Inequities in Transplantation, from Evaluation, Donation, to Surgery + Panel Discussion
3:30 PM	Living Donor Transplant + Surgery Video
3:45 PM	Transplant Resources and General Q & A
4.00 PM	Program Conclusion



Thank you to our sponsors

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human health care











Transplant at Methodist Dallas Medical Center

Sarah Nicholas, RN Transplant Program Manager





The Transplant Institute

About Us





- Multidisciplinary Team Specializing In:
 - Kidney, Liver and Pancreas Transplantation
 - Living Donor Kidney Transplantation
 - Hepatology, Biliary and Pancreatic Disease Management
 - Hepatobiliary Surgery
 - Dialysis Access

Medical Team:

- 6 Surgeons
- 8 Transplant Hepatologists
- 5 Transplant Nephrologists
- 1 Transplant Infectious Disease
- 16 Locations, Across Texas & Puerto Rico
 - Kidney Offices: Amarillo, Dallas, Mayaguez, San Juan, Waco
- Specialized Transplant Administration Leadership



- 12 Advance Practice Providers
- 7 Kidney Transplant Coordinators
- Specialized Inpatient Nursing Team

Our Kidney Transplant Team





Surgeons

- Richard Dickerman, MD, FACS
- Carlos Fasola, MD, FACS
- Christie Gooden, MD MPH
- Lori Kautzman, MD, FACS
- Alejandro Mejia, MD, CPE, FACS
- Vichin Puri, MD, FACS

Infectious Disease

• Edward Dominguez, MD

Transplant Nephrologists

DNA

- Jose Castillo-Lugo, MD
- Wael Hanna, MD
- Kosunarty Fa, MD
- Muhammad Qureshi, MD
- Ruben Velez, MD (Puerto Rico)

DRG

Amna Ilahe, MD



Methodist Transplant Stats/Milestones

The Transplant Institute



- Deceased donor kidney transplant June 12, 1981
- Kidney/Pancreas transplant September 7, 1986
- Pancreas (alone) transplant March 17, 1990
- Triple organ transplant (worldwide) Heart/Kidney/Pancreas February 13, 1992
- Laparoscopic living kidney donor recovery July 14, 1999
- Liver/Kidney transplant May 6, 2003
- Paired Transplant July 10, 2013
- Total transplants (as of 5/15/2024)







Kidney – 3815

Pancreas – 244

Liver - 1224

The Transplant Institute



New Kidney Transplant Applications
 + Online Application

- Transplant Education Videos
- Transplant Support Group
- Dialysis Center Lobby Days + Staff In-Service
- TxAccess



Home | Information Center | Kidney Transplant Application

Methodist Dallas Medical Center Recipient Application for Organ Transplant

All pages must be filled out completely and signed in order to process your application. If your application is incomplete, it will be returned to you, which will delay the processing of your request. For assistance in filling out your application, please call 214-947-1800.

Kidney Transplant Application

- Complete Online Form Below
 - OR Download and Print (English) (Español)

For assistance in filling out your application, please call 214-947-1800 or toll-free 1-800-284-2185

Application for Organ Transplant			
Application for (ones	k ell organs that apply):		
() Kidney	Pancreas	U	er/Kidney
Possible donor soun			
Uving Related	C Uving Universited	 Deceased Donor 	Paired Donor Exchange
Who referred you to I	Methodist7		
Physician	Insurance	Sair	C Other
Primary diagnosis			
levarryle dabeter, 1905,	hypertension)		
PHY SICIAN AI	ND DIALYSIS CE	NTER INFORM	ATION

https://www.theliverinstitutetx.com/~/information-center/kidney-transplant-application/



The Transplant Institute



- New Kidney Transplant Applications
- Transplant Education Videos
- Transplant Support Group
- Dialysis Center Lobby Days + Staff In-Service
- TxAccess

Your Guide to Kidney Transplantation

Welcome to the Transplant Institute at Methodist Dallas Medical Center. We're here to keep you informed during every step of the transplant process. Watch our video series to learn more about what to expect with a kidnev transplant.



Scan the QR code with your smartphone camera to view the video guide to kidney transplantation.

 Transplant evaluation process
 From lab work and tests to our selection committee, learn how
 our team evaluates patients for a possible kidney transplant.

2. Insurance and financial expectations Get to know more about insurance and financial considerations and what happens during your evaluation consultations.

3. Your transplant team Learn about the many medical professionals who will serve as your care team during your transplant journey.

 Transplant operation
 After our center receives a kidney that may be a match for
 you, know what to expect before, during, and after surgery.

 Living organ donor Get an overview of the transplant process for both you and your donor if you choose a living donor kidney transplant.

> For more information visit MethodistHealthSystem.org/Kidney

The Transplant Institute

1411 N. Beckley Ave., Pavilion III, Ste. 261, Dallas, TX 75203 214-947-1800 • Toll-Free: 800-284-2185 • Fax: 214-947-1828

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The Transplant Institute



- New Kidney Transplant Applications
- Transplant Education Videos
- Transplant Support Group
- Dialysis Center Lobby Days + Staff In-Service
- TxAccess





Transplant Support Group

Organ transplants can affect a person's body and life in many ways. Adjusting to these changes is often easier with the help of people who have had similar experiences. Join us at The Transplant Institute for our monthly support group.

When: Every 3rd Monday of the month Time: 6:00 PM - 7:30 PM CST Where: 2nd Floor - Transplant Large Conference Room, 1411 N Beckley Ave, Pavilion 3, Dallas, TX 75203 or Virtual via Zoom Zoom Meeting Information: Zoom.us/j/93691909269 Meeting ID: 936 9190 9269 Phone: 888 788 0099 (US Toll Free)



• New Kidney Transplant Applications

- Transplant Education Videos
- Transplant Support Group
- Dialysis Center Lobby Days + Staff In-Service
- TxAccess













Have Questions About Kidney Transplantation?

The Methodist Dallas Medical Center transplant team will be in the lobby to provide education and help answer questions.

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TxAccess

New Kidney Transplant Applications

Dialysis Center Lobby Days + Staff In-Service

Transplant Education Videos

Transplant Support Group

The Transplant Institute METHODIST DALLAS



CareDx

TxAccess^{*}

Join us for 30-minute Q&As to learn how TxAccess can save you time and improve communication with transplant centers.

We are offering bimonthly sessions throughout 2024, so please find a time that works best for you.

Whether you're new to or already familiar with TxAccess, these sessions will demonstrate some new features that can streamline your work and help you identify patients that you want to track more closely.

What is TxAccess?

TxAccess is a free information dashboard from the transplant programs you refer to. It gives you accurate and up-to-date information on where your patient is on their journey from referral to transplant. Some features include:

- Information on transplant status and whether patients are active, inactive, or closed.

- Email alerts when something has changed at the transplant program

- When your patient has an upcoming appointment - A checklist of what tests still need to be completed

I'm a current user of TxAccess-why should I join a session?

We've added many new features and have many recommendations to get the most out of the service. For example:

- Write reports out of TxAccess for your monthly reviews
- Personalize which patients you see on the dashboard

- Track on changes need your immediate attention

- If you work at more than one center, filter your patients by center!

Please join us during any of the following 30-minute sessions.

January	April	July	October
Wednesday 1/10, 3 PM ET	Wednesday 4/3, 3 PM ET	Wednesday 7/10, 3 PM ET	Wednesday 10/2, 3 PM ET
Thursday 1/18, 2 PM ET	Thursday 4/11, 2 PM ET	Thursday 7/11, 2 PM ET	Thursday 10/10, 2 PM ET
Febuary	May	August	November
Wednesday 2/7, 3 PM ET	Wednesday 5/1, 3 PM ET	Wednesday 8/7, 3 PM ET	Wednesday 11/6, 3 PM ET
Thursday 2/15, 2 PM ET	Thursday 5/9, 2 PM ET	Thursday 8/15, 2 PM ET	Thursday 11/14, 2 PM
March	June	September	December
Wednesday 3/6, 3 PM ET	Wednesday 6/5, 3 PM ET	Wednesday 9/4, 3 PM ET	Wednesday 12/4, 3 PM ET
Thursday 3/14, 2 PM ET	Thursday 6/13, 2 PM ET	Thursday 9/12, 2 PM ET	Thursday 12/12, 2 PM ET

Looked at TxAccess Lately?

Register for a webinar by following the link below or using the QR code.















6 Sammons Tower















Transplant Process Overview and Evaluation

Kosunarty Fa, MD Transplant Nephrologist





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What are the benefits of transplant?

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USRDS: Expected remaining years of life in prevalent patients with ESRD

	ESRD patients, 2019			
	Dialysis		Transplant	
Age	Female	Male	Female	Male
40-44	10.2	11.1	29.7	28.0
45-49	9.1	9.6	25.8	24.1
50-54	7.8	8.1	22.1	20.5
55-59	6.8	6.9	18.7	17.1
60-64	5.9	5.8	15.5	14.1
65-69	5.0	4.8	12.6	11.5
70-74	4.2	4.1	10.1	9.3
75-79	3.7	3.5	8.2ª	7.5ª
80-84	3.2	2.9		
85+	2.6	2.4		

• Live longer and healthier

- Better Quality of Life
- No longer need time consuming dialysis
- Less restricted diet
- Less health care expenditure



Goals:

- By 2025: 80% incident ESRD pts receive either home dialysis or transplant
- Remove financial barriers for living kidney donor
- Modernizing organ procurement system to reduce discarded organs
- Encourage development of artificial kidney
- By 2030: Reduce incident of ESRD by 25%, double number of kidney organ for transplant
- Restructure payment models to incentive prevention, home therapy and transplant

Payment Models:

- ETC (ESRD Treatment Choice mandatory)
 - Financial incentives for ESRD facilities and clinician to pursue home dialysis and transplant
 - From 01/01/2021 06/30/2027
- KCF (Kidney Care First) and CKCC (Comprehensive Kidney Care Contracting) voluntary

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SRTR :

Kidney Transplant	Waitlisted (%)	Transplanted (%)
AA	32	14
White	36	62

- 30% of donor kidneys go unused each year
- 2023: Only 28,000 transplant performed in 90,000 people waitlisted
- 09/2023, Biden administration signed a law that prohibits UNOS from being the sole contractor for the country's Organ Procurement & Transplant Network.
- The Biden administration is taking concrete steps to remove racial bias when calculating wait times , removing race based calculation of eGFR

Increasing Organ Transplant Access Model (IOTA) 5/8/2024





- CMS unveiled new mandatory model proposal
- 6 year model to start 01/01/2025
- Purpose:
 - To increase access to life-saving kidney transplant for patients living with kidney disease
 - To reduce Medicare Expenditure
 - To increase equitable access to kidney transplant
 - CMS will partner with transplant hospitals selected to participate in the model to support their access

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MODEL GOALS

The model would provide incentives for transplant hospitals to promote the following goals:



Maximize the use of deceased donor kidneys.



Create greater equity in access to a kidney transplant by addressing social determinants of health and other barriers to care.



Improve care coordination and patient-centeredness in the kidney transplant process.



Reduce Medicare expenditures.



Improve quality of care before, during and after transplantation.



Identify more living donors and assist potential living donors through the donation process.







- Deceased donor
- Living donor

Kidney Allocation System (KAS)

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- Goal is longevity matching
- Point System







- Estimated Post Transplant Survival (EPTS) Score
 - Age
 - Length of time on dialysis
 - Having received a previous transplant (any organ)
 - Current diagnosis of diabetes
- Qualification date begins with first date of dialysis or listing date if pre dialysis







CPRA calculation Points as follows:

0-19%	= 0		
	0.00	85-89%	= 4.05
20-29%	= 0.08	90-94%	= 6.71
30-39%	= 0.21	050/	- 10 9 2
40-49%	= 0.34	95%0	- 10.82
	- 0.40	96%	= 12.17
50-59%	= 0.48	97%	= 17.30
60-69%	= 0.81	000/-	-24.40
70-74%	= 1.09	9070	- 24.40
	— 1 FO	99%	= 50.09
/5-/9%	- 1.58	100%	= 202.10
80-84%	= 2.46		







Kidney Donor Profile Index (KDPI) - percentage

- Age
- Height/Weight
- Ethnicity
- Brain death vs DCD
- Stroke
- History of HTN/DM
- Hep C history
- Serum creatinine

How Long Will I Wait?

- Blood Types
 - •A
 - ()
 - •B
 - AB
- Percent Reactive Antibody (PRA)











KDPI >85%

- Kidneys will only be allocated to those who have consented
- Sign a consent
- Should increase opportunity for organ offer
- Will be pumped and biopsied



Patients must have:

- End Stage Renal Disease; eGFR or Creatinine clearance ≤ 20 or on maintenance dialysis
- Freedom from other serious diseases/infection
- Adequate financial resources
 - Able to pay for medications, office visits, lodging (if applicable)
- Psychologically stable
- Stable environment with a support network



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Inclusion criteria – PANCREAS OR PANCREAS AFTER KIDNEY (PAK)

- Must be insulin dependent
- Type I or II diabetes
- Body Mass Index (BMI) up to 30
- Age restrictions generally 55 y/o or less
- No Smoking
- Must permit blood transfusions





- Active cancer (Avg. 2-5 years disease-free interval required for transplant)
- Active or chronic infection
- Irreversible cardiovascular disease
- Biopsy proven cirrhosis (kidney only)
- Current drug or substance abuse
- Irresolvable situations limiting post transplant care/meds
- Morbid obesity







Smoking strongly discouraged in all;

Required to Quit:

- Any cardiac or vascular events (MI, PVD, Carotid Disease, amputations)
- Cardiac or Vascular Interventions (angioplasties/stents/peripheral bypasses, etc.)
- Pancreas Transplant
- Diabetic



Kidney Transplant and Weight





- Individual based on body habitus
- Concern for wound healing
- May require wound vac post transplant







at the level of the upper thigh crease (Dashed line)

upper thigh











- Unrelated
- Paired



Pediatric Enbloc Donors





- Generally under 2 years of age
- Dependent on size/weight of donor
- May be determined in the Operating Room
- Transplanted together





Patients must meet strict criteria:

- Never converted to active AIDS virus
- Viral load must be very low (<20 or undetectable for 6 months)
- CD4 count just right ($\geq 200/mL$ for the past 6 months)
- Must be on antiviral medication
- Must be followed by an Infectious Diseases doctor


- Patients consenting to accepting Hep B and/or C positive donors when they are Hep B or C negative (or previously treated)
- Hep B and/or C treatment is initiated when patient seroconverts

Transplant Process

- Application
- Insurance Approval
- Prescreening (Coordinator)
- Scheduling
- Health Screenings
- Selection Committee
- Listing
- Annuals





Methodist Health System Watch later Subscribe TRANSPLANT APPLICATION provide Dialysis center MORE VIDEOS Transplant Evaluation Process Financial Insurance coordinator Verification MORE VIDEOS 0:36 / 3:59 • Insuran cc 🦛 VouTube

Basic Workup Testing

All patients undergo:

- Basic Blood Work
- Tissue Typing
- Serology Testing
- Chest X-Ray
- EKG
- Echocardiogram
- Abdominal Sonogram (or CT of the abdomen)
- Psychosocial Evaluation
- Dietitian Consult
- Nephrology Consult
- Surgery Consult
- Infectious Disease Consult









Additional Testing





- Patients > 45- colonoscopy
- Patient >55, Diabetic or Other Risks Factors- Cardiac Consult
- Men over 40 PSA
- Women
 - Pap Smear
 - Mammogram (over age 40)
- Smokers PFTs
- Other Tests



Goals

- Objective assessment; optimize candidates for transplant
- Waitlist management quantify risk of WL mortality related to frailty
- Reduce LOS
- Improve post-transplant outcomes- readmission rates

Frailty Assessment Tool

The Transplant Institute



Full

Tandem

Semi

Tandem

(89) 33



Selection Committee





- Meets every Friday
- Made up of Transplant Team
- Potential Outcomes
 - Accepted
 - Denied
 - Further Evaluation

Notification of Outcomes





Transplant Evaluation: Financial & Psychosocial Review Process

LaDonna Robinson, LMSW Manager Transplant Business Operations

Randy Hunter, PhD Transplant Psychologist







Program receives application Intake coordinator processes the application

- The intake process is not complete, if the application is missing any of the required documents, such as:
 - o 2728
 - legible insurance cards
 - social security card
 - identification card
- You will have 30 days to turn in those documents or will have to start the process all over again.



Insurance Benefits and transplant coverage are verified by Transplant Financial Coordinator (TFC) for financial clearance

- This process depends on the insurance company.
- PCP referral requirement can cause delay



Approved Coverage

An approval letter will be sent to patient, dialysis center and nephrologist



Out-of- network or patient does not have transplant coverage

If the patient's insurance is out-of- network or patient does not have transplant coverage, transplant financial will notify our Transplant Business Coordinators (TBC/Social Workers) and close the referral.

A denial letter will be sent to the patient, dialysis center and referring nephrologist.



Next steps:

• Transplant Coordinator (TC) does a telephone pre-screening with patient and reviews patient's records

• Schedulers coordinate with patient to schedule evaluation appointments

Letter is sent to the patient with appointment details



- Citizenship Status
 - (US Citizen, permanent resident, undocumented, Work VISA and green card).
- Martial Status
- Education
 - Assessing for reading comprehension.
- Employment
 - Ability to afford post-transplant medications and/or health insurance.
 - Plan to cover expenses while off work.
 - Financial Concerns
- Insurance Resources/Disability
- Caregiver Support
- Substance use & mental health history
- MPOA
- Dialysis Compliance



Primary aim of a "psychosocial evaluation" is to hopefully ensure that a kidney transplant will be of benefit to life expectancy and to quality of life.



How can we help a patient be transplanted? Identify potential psychosocial barriers to a successful transplant outcome

- Numerous studies have shown significant associations between being clinically depressed and having higher death and DCGF rates (Lentine, et al, 2018, Gaynor et al, 2014, Novak, et al, 2010, Zelle, et al, 2012)
- Depression in CKD has shown to be associated with multiple poor outcomes including increased mortality and hospital rates, poorer treatment compliance, and quality of life (Bautovich, et al 2014)
- Pretransplant depression, substance misuse, and nonadherence are associated with poorer transplant outcomes.
 Depression, smoking, and high levels of opioid use are associated with reduced post-transplant survival (Baily, et at, 2021)
- 25% of post-transplant patients have depressive symptoms, rates comparable to hemodialysis population (Chicot, et. Al, 2014)
- 21% of adult recipients from 39 publications of post-transplant kidney recipients reported symptoms related with PTSD (Nash, et al, 2022)
- Depression in kidney transplant recipients is more common than the general population (8%) (Veater, et al, 2016)
- Depression affects up to 60% of solid-organ recipients and is independently associated with mortality (Corbett et al, 2013)
- Cognitive impairment is common in ESRD, including kidney transplant recipients. Study of 56 post-transplant patients found 30% had cognitive impairment, depression (12. 5%) and anxiety (27%) (Golenia et al, 2023)
- Verbal memory and executive functioning skills can be affected by fatigue, depression, sleep disturbances, and anxiety (Pasquale, et al, 2020)



- History of emotional, mental, personality disorders—potential to affect compliance and ability to cope post-transplant
- Mental status/insight/understanding/motivation/"maturity"
- History of medical adherence/nonadherence
- History of toxic habits



Clinical Interview

Administration of assessment tools

- GAD-7 (Generalized Anxiety Disorder)
- PHQ-9 (Patient Health Questionnaire)
- ACE (Adverse Childhood Experience Questionnaire)
- CAGE/substance use issues
- MMPI-2
- Frontal Assessment Battery
- Trails Part A and B

Collateral Assessments: Records review, dialysis nurses, Social Workers, physicians





- Referral for individual therapy pre- and/or post surgery
- Referral for psychiatric evaluation (situational vs. chronic)
- Referral for substance use treatment
- Schedule f/u pre-surgery if further evaluation is warranted
- Schedule f/u post-surgery as appropriate
- Encourage participation in Transplant Support Group
- Screen for anxiety and depression every 6-12 months

Q&A Discussion Panel





Sarah Nicholas, RN Transplant Program Manager



LaDonna Robinson, LMSW Manager Business Operations



Kosunarty Fa, MD Transplant Nephrologist



Randy Hunter, PhD Transplant Psychologist





Infectious Diseases in Transplantation



Edward A. Dominguez, MD, FACP FIDSA Medical Director, Organ Transplant Infectious Diseases

Methodist Dallas Medical Center











Role of Infectious Disease Transplant Service

- BK virus
- COVID-19



Role of Infectious Disease Service





Role of Infectious Disease Service



- Pre-transplant risk evaluation
 - Prior infection history
 - Risk for latent infections (e.g. TB, strongyloidiasis)
 - Pre-transplant vaccination (e.g. COVID; VZV; pneumococcus; RSV; HBV)
 - Discussion of increased-risk donor options (e.g. HCV mismatch)
- Peri-transplant infectious disease management
 - Prophylaxis for PJP, CMV, fungi
 - Adjustment of HIV therapy, if indicated
 - Management of reactivated infections (e.g. HSV, shingles)
- Post-transplant infection
 - Monitor recipients of high-risk donors
 - Manage new or ongoing infection issues

Post-transplant Infections, Jan 2017-Apr 2021

The Transplant Institute





- Positivity rate

—— Test volumes

Data from Quest Laboratories, US.

Timeline of Post-transplant Infections





Lower risk		< 4weeks	1-6 months	7-12 months	> 12 months
Greater risk		nosocomial, technical, donor/recipient	activation of latent infections, relapsed, residual, opportunistic infections		community acquired
Viral	CMV				
	Hepatitis B virus (HBV)				
	Herpes simplex virus (HSV)				
	Human herpesvirus 6 (HHV6) and 7 (HHV7)				
	PTLD				
	Varicella zoster				
	Donor-derived viruses				
Fungal	Aspergillus				
	Candida species (non albicans)				
	Pneumocystis jirovecii				
Bacterial	Listeria monocytogenes				
	Nocardia species				
	Mycobacterium tuberculosis				
Parasitic	Strongyloides stercoralis				
	Toxoplasma gondii				

Adapted from Fishman JA. Infection in organ transplantation. *Am J of Transplant*. 2017;17(4):856-879.





BK Virus









- Polyoma DNA virus
- Monitor using PCR plasma
- 75% of general population with latent infection



RARELY: pneumonitis; meningoencephalitis; retinitis



- Decrease immunosuppression, starting with antimetabolite agent (e.g. Cellcept, Myfortic)
 - Many patients will respond to this alone within several months
- IVIG infusion every 3 weeks for 4 treatments
- Leflunomide
- Cidofovir
- No role for flouroquinolones
- Re-transplant in extreme cases





COVID-19



COVID in Transplantation



Transplant recipients

- Higher risk of acquiring COVID
- Higher risk of transmitting COVID
- Higher risk of severe and fatal COVID
- Recipients have COVID screening at time of transplant
- Living donors have COVID screening at least 3 days before transplant
- Defer transplant if symptomatic test is positive and cycle time is low no consensus on how long to wait
- Donors with asymptomatic positive COVID test may be able to donate each case is unique
- <u>Treatment after transplant</u>: avoid Paxlovid, prefer molnupiravir (Lagevrio) fewer drug-drug interactions.



- Vaccinate with monovalent vaccine (mRNA: Pfizer and Moderna; protein subunit: Novavax)
- If unable to vaccinate recipient, consider vaccinating household members
- Vaccination is OK but not as effective wait until post-transplant month 6, if possible
- Vaccinate living donors at least two weeks before donation





Thank You!



Liver and Kidney Transplant: Treatment for Liver Disease and ESRD

Héctor E. Nazario, MD Transplant Hepatologist Hepatology Medical Director







- Founded in 2003. More than 1,100 liver transplants since 2003.
- 13 satellite clinics in Texas.
- Provide specialized transplant services and management of patients with complex liver diseases in areas or regions that lack these services





- Inflammation of the liver generates no or very few symptoms.
- Liver Function Tests may be normal or slightly elevated.
- Dialysis patients will often have normal values for these tests despite having liver disease





- Viral hepatitis (Hepatitis C)
- Alcohol hepatitis
- Fatty liver.
- Autoimmune liver diseases
- Genetic and metabolic diseases that affect and inflame the liver.
- Prevalence of hepatitis C is 2% in the general population and 8-10% in dialysis patients.







- Transmitted through contact with blood or body secretions infected with the virus.
- Curable
- Affects the kidneys and other organs, not just the liver
- Can cause deterioration of kidney function and severe kidney failure requiring dialysis
- Antivirals cure 98-99% of patients
- Antivirals are equally safe and effective in kidney and dialysis patients






- Cure hepatitis C in patients on the kidney transplant list to prevent further damage to the liver
- Hepatitis C can be treated after kidney, liver or combined transplant.
- Patient can receive a donor infected with Hepatitis C, and be treated after the transplant









- It may also be due to alcohol consumption.
- Metabolic syndrome
- Diabetes, obesity, hypertension, hyperlipidemia
- Same risk factors for cardiovascular and kidney disease.
- High prevalence of fatty liver in dialysis patients.













Questions

Liver Disease- Cirrhosis









www.med.utah.edu www.olympus-sis.com

Common Manifestations of Cirrhosis



- Most have no symptoms.
- Only 2-5% show clinical symptoms of decompensation.
- Ascites
- Edema/fluid retention
- Jaundice
- Gastrointestinal bleeding (varicose veins)
- Encephalopathy
- Liver cancer



Common Manifestations of Cirrhosis







© Elsevier 2006. Bacon, O'Grady, Di Bisceglie and Lake: Comprehensive Clinical Hepatology, 2nd edition





Common Manifestations of Cirrhosis

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Questions

Liver Transplant









Liver and Kidney Transplant

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Differences

Liver Transplant

- Same studies for evaluation
- Waitlist ranking is based on MELD score
 - Severity is measured by laboratory values.
- Larger and more extensive surgery
- The cirrhotic liver is removed
- Donor liver is placed in usual anatomical location. (orthotopic)

Kidney Transplant

- Same studies for evaluation
- Waitlist "Ranking" based on time on waiting list, time on dialysis and other factors.
- Less extensive surgery.
- Dysfunctional kidneys are not removed.
- Donor kidney is placed in another place in the body. (heterotopic)





- Both organs are transplanted in the same surgery
- Same immunosuppressants
- Collaboration in management between nephrologists and transplant hepatologists.
- Longer post-operative recovery than kidney transplant.
- Patient and organ survival similar to single organ transplant.





- Patient has to be evaluated in person by surgeons.
- Based on (MELD) score, patient would need to be close to transplant center for some time before surgery.
- Patient remains in/near Dallas for 2-3 months for post-operative appointments.
- Lifelong post-transplant management by a team of transplant doctors.







- Chronic liver diseases are very common in dialysis patients.
- Cirrhosis is often discovered during kidney transplant evaluation.
- Combined liver/kidney transplant patients have excellent results.











Edward Dominguez, MD Transplant Infectious Disease Specialist



Hector Nazario, MD Transplant Hepatologist







Kidney Transplant Education Video Series:

Transplant Evaluation Process



Click Video Image for Link





Kidney Transplant Education Video Series:

Insurance and Financial Expectations



Click Video Image for Link





Kidney Transplant Education Video Series:

Transplant Team



Click Video Image for Link



Obesity and the Transplant Surgeon My Ode to the Fat Bottomed Girl

Christie Gooden, MD FACS Abdominal Transplant and General Surgeon











What it is?

What it isn't?

Does it Really Matter For Transplant?

Is there a Better Way?



What IT IS?

Body Mass Index-Most Popular Marker of Obesity





Obesity reduces life expectancy

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Years of Life Lost Due to Obesity

Why is obesity unhealthy?

Cardiovascular Hypertension Congestive heart failure Cor pulmonale Varicose veins Pulmonary embolism Coronary artery disease Endocrine Metabolic syndrome Type 2 diabetes mellitus Dyslipidemia Polycystic ovary syndrome, androgenicity Amenorrhea, infertility, menstrual disorders Musculoskeletal Hyperuricemia and gout Immobility Osteoarthritis (knees and hips) Low back pain Carpal tunnel syndrome Integument Striae distensae (stretch marks) Stasis pigmentation of legs Lymphedema Cellulitis Intertrigo, carbuncles Acanthosis nigricans Acrochordon (skin tags) Hidradenitis suppurativa

Respiratory Dyspnea Obstructive sleep apnea Hypoventilation syndrome Pickwickian syndrome Asthma Gastrointestinal Gastroesophageal reflux disease Nonalcoholic fatty liver disease Cholelithiasis Hernias Colon cancer Genitourinary Urinary stress incontinence Obesity-related glomerulopathy End-stage renal disease Hypogonadism (male) Breast and uterine cancer Pregnancy complications Neurologic Stroke Idiopathic intracranial hypertension Meralgia paresthetica Dementia **Psychologic** Depression and low self-esteem Body image disturbance Social stigmatization



What IT ISN'T?

Personally, I Hate BMI...It Tells Me Nothing

The Transplant Institute





5 feet 9 inches tall and 172 pounds



5 foot 7, weighs 145 pounds

BMI Doesn't...





- Take Sex And Age Into Account
- Differentiate Between Fat And Muscle
- Look At Localized Body Fat
- Take Into Account Weight Distribution













Does it Really Matter for Transplant?

Classic Kidney Position







Fat Distribution Matters





- The vessels we sew to are in the back
- We are coming in from the front
- Increased depth, Increased difficulty



The Problem with Pannus



- Poor Wound Healing
- Seen with rapid weight loss
- Panniculectomy?
 - Sores, Yeast Infections
 - Decrease complications
 - Case by Case









Wound infections and hernias	Delayed graft function	Longer length of stay
New onset diabetes after transplant	Increased Cardiac Risks*	Weight gain due to steroids

Tran MH¹, Foster CE¹, Kalantar-Zadeh K¹, Ichii H¹. Kidney transplantation in obese patients. World J Transplant. 2016 Mar 24;6(1):135-43.







BIAI Alone Would Prevent The Low Risk Patient From the List!

- BMI 32
 - All Belly
- Highest Risk of Cardiac Complications

- BMI 37
 - All Hips and Thighs
- Lowest risk of Cardiac Complications



Is There a Better Way?





- 1. Chang JH, Mushailov V, Mohan S. Obesity and kidney transplantation. Curr Opin Organ Transplant. 2023 Apr 1;28(2):149-155. doi: 10.1097/MOT.000000000001050. Epub 2023 Jan 31. PMID: 36752277.
- 2. Mohammed Hossain,¹ Obesity and listing for renal transplantation: weighing the evidence for a growing problem. <u>Clin Kidney J</u>. 2017 Oct; 10(5): 703–708.
- 3. Gill JS, Lan J, Dong J. et al. The survival benefit of kidney transplantation in obese patients. Am J Transplant 2013; 13: 2083–2090
- 4. Sanne A. E. Peters, PhD, et al. Sex Differences in the Association Between Measures of General and Central Adiposity and the Risk of Myocardial Infarction: Results From the UK Biobank. Volume 7, Issue 5, March 2018 https://doi.org/10.1161/JAHA.117.008507

Transplant Program Differences







So, How Do We Better Serve The Fat-Bottom Girls?







^aAll obese transplant candidates should undergo cardiovascular screening (see text) ^bDecision to proceed may rely on the expertise of the individual transplant centers

Trust. Methodist.

Mohammed Hossain,¹Obesity and listing for renal transplantation: weighing the evidence for a growing problem. Clin Kidney J. 2017 Oct; 10(5): 703–708.












What do you tell your patients?





- Obesity can be a barrier to transplant
 Depends on the program
 KNOW YOUR AREA PROGRAM PRACTICES
- Pre-Transplant Bariatric Surgery Reduces lifelong obesity risks Reduces post-surgical risks Increase chance of getting listed NOT ALL SURGEONS TAKE OUR PATIENTS





- •For better or worse, BMI is the primary marker for obesity
- Elevated BMI can keep a pt from being transplanted Weight Loss Surgery can help Benefits outweigh the risks Knowing your area programs can help facilitate

Yes, A Holistic Approach



- Waist Circumference
- had no impact on graft outcomes
- Whereas higher WC was an independent risk factor for graft failure
 - Not mortality
- Waist circumference to height ratio

Weight Management Resources – **To Achieve Transplant**

Sachin S. Kukreja MD FASMBS FPD



BARIATRICS & GENERAL SURGERY



Disclosures

- Intuitive Surgical
- Boehringer Laboratories
- Apollo Endosurgery
- Conmed



The Agenda

5, initial impressions

- Review the Medical and Surgical Options for Weight Loss
- Analyze the Expected Outcomes
- Summarize the Kidney Transplant Data
- Panniculectomy





Edmonton Obesity Staging System (EOSS)



Sharma AM, et al. Int J Obes (Lond). 2009;33:289-295.

What's out there – as of today....

Options _____

- Phentermine (Adipex) GLP-1 analogs
- Phentermine/Topamax (Qysmia)
- Orlistat (Alli)
- Bupropion/naltrexone

(Wellbutrin)

- Liraglutide (**Saxenda**)
- Semaglutide (Ozempic / Wegovy)
- Tirzepatide (Mounjaro / Zepbound)



Before we add meds....

...Let's look at the meds our patient already takes.

- Anti-hypertensives
 - Especially B-blockers
- DM medications
 - Insulin, sulfonylureas, thiazolidinediones
- Hormonal therapies
 - Glucocorticoids, injectable progestin

- Anti -Seizure medications
 - Gabapentin, valproate, pregabalin
- TCA (amitriptyline, doxepin), SSRI (paroxetine) SNRI (venlafaxine) MAOI and more
- Mood stabilizers
 - Lithium, gabapentin, valproate, carbamazepine
- Migraine medications



Before we add meds....

...Let's look at the meds our patient already takes.

- Antipsychotics
- Chemotherapy/immunomodulators
 - Tamoxifen, methotrexate, aromatase inhibitors
- Some HAART meds may also see lipodystrophy



Phentermine (Adipex)

- Mechanism of Action
 - Increases release of norepinephrine and blocks its re-uptake
- Side Effects/Cautions
 - Dry mouth, palpitations, insomnia, ASCVD, atrial fibrillation, HTN
 - MAOI, TCA interactions
 - Potential for abuse
 - Hyperthyroidism
- 6 month use then a drug holiday
- Average Weight Loss ~6.4 kg (14.11 lbs)
- Average Cost \$ (\$35/month)



Amphetamine





Phentermine

BMJ 1968; 1:352-354 JAMA. 2014; Jan;311(1)74-83



Phentermine - Topiramate ER (Qysmia)

- Mechanism of Action
 - Norepinephrine ↑
 - Topiramate increases inhibition of GABA-A
- Side Effects/Cautions
 - Teratogenicity cleft defects
 - Paresthesia
 - Memory lapses, fatigue
 - Kidney stones
 - Temporary seizure risk on discontinuation
- No drug holiday required
- Average Cost \$\$ (Avg 135/month)

		Conquer Trial at 56 Weeks	
	Avg Wt loss	Achieved 5% or more loss	Achieved 10% or more loss
Placebo (994 pts)	-1.2% (1.4 kg)	21%	7%
7.5/46 mg (498 pts)	-7.8% (8.1 kg)	62%	37%
15/92 mg (995 pts)	-9.8% (10.2 kg)	70%	48%



Naltrexone and Bupropion ER (Contrave)

- Mechanism of Action
 - Bupropion ↑ Dopamine and Norepi
 - Naltrexone blocks opioid receptor
- Side Effects/Cautions
 - Insomnia, mood changes, † BP
 - GI upset ***
 - Opiate interference/Alcohol interference
 - Seizure disorder
- Average Weight Loss
 - 21% of people lost 10% or more in trials (7% placebo)
- Average Cost \$\$\$ (167/month)











Liraglutide (Saxenda)

- Daily GLP-1 medication injection
- Mechanism of Action
 - Delays gastric emptying, decreases appetite.
 - Amplifies/mimics ileal break
- Side Effects/Cautions
 - MEN2, FMTC, pancreatitis, gastroparesis, nausea, reflux, constipation common
- Average Weight Loss 1/3 of study participants lost 10% or more
- Average Cost \$\$\$\$ (1400/month)

	Wt loss (56 weeks)	5% loss or more	10% loss or more
Placebo	2.8 ± 6.5 kg	27.1%	10.6%
Liraglutide	8.4 ± 7.3 kg	63.2%	33.1%





Liraglutide SCALE-Diabetes Trial



JAMA 2015;314(7);687-699



Semaglutide (Ozempic / Wegovy)

- Weekly GLP-1 medication injection
- Side effect profile similar to liraglutide
- Average weight Loss 15% at 6 month
- Cost \$\$\$\$ (1000/month)



Percent Weight Loss

1000

N Engl J Med 2021; 384:989-



Oral Semaglutide (Rybelsus)

- Phase III trials completed
 - 50 mg daily dosing
- Average weight loss at 1 year
 - 15.1% TBWL
 - 1/3 of study participants lost > 20% TBWL
- Not yet FDA approved for weight loss indication





Tirzepatide (Mounjaro / Zepbound)

- Mechanism of Action
 - ↑ GLP-1 and GIP production
- Side effect profile like other GLP-1 injectable medications
 - ↑ rates of diarrhea
- Average Weight Loss
 - Half of study participants lost at least 20% total body weight
- Average Cost \$\$\$\$ (550/month)*





Retatrutide*

- Mechanism of Action
 - GLP-1, GIP, and Glucagan agonist







- Orbera Gastric Balloon
 - Cash Pay









• Endoscopic Sleeve Gastroplasty









• Sleeve Gastrectomy (VSG)











• Roux en Y Gastric Bypass (RYGB)











 Biliopancreatic Diversion with Duodenal Switch (BPD-DS)



Sleeve Gastrectomy and RYGB*



Hormonal changes after Bariatric Surgery

	Band	Sleeve	RYGB	BPD	DS
Ghrelin	-/↑	$\downarrow\downarrow$	\downarrow	-/↑	$\downarrow\downarrow$
GLP1	-	1	1	1	\uparrow
GIP	-	↑/-	\downarrow	\downarrow	\downarrow
РҮҮ	-	↑/-	1	1	1
ССК	-	↑/-	↑/-	unkn	unkn
OXM	-	1	1	1	1
Leptin	\rightarrow	\downarrow	\downarrow	unkn	unkn
Bile Acid	unkn	1	1	unkn	unkn



Sleeve Gastrectomy

- MC Operation Performed
- Grehlin Reduction
- Gastric Restriction
- 10-20% increase in heartburn
- Low risk of leak
- 20% get revision within 7 years*
- Steroids ok





Roux en Y Gastric Bypass

- Data since 1961
- Multiple Mechanisms of Action
- 95% reduction in reflux
- Leaks are high, but easier
- Weight Regain is tricky
- Steroids and NSAIDS off the table



What are the Expected Outcomes?

- Bariatrics is one of the beststudied areas of medicine
- 44 year old AA Female
 - NIDDM
 - HTN
 - ESRD on HD





Immediate Post Op Considerations

• Pain Control

- Narcotic minimization/elimination
- Diet
 - Liquids x 2 weeks
- Volume Status
 - Tenuous
- DM and BP Management
 - Quick resolution of these issues

Blood Thinners

- Resume in 48 hours
- NOAC?
- Peritoneal Dialysis
 - Hold for 3 days
 - ¹/₂ volume for 3 days
 - Resume at 1 week



The MBSAQIP Liabilities



What are the Expected Outcomes?



Risk Factors: 40.89 (BMI), 44.00 (Age), Female, Black or African American (Race), No (Hispanic Ethnicity), Severe Systemic Disease, Non-Insulin, HTN, Dialysis




What are the Expected Outcomes?



CONTRACTOR CONTRACTOR

12

What are the Expected Outcomes?

Risk Factors: 40.89 (BMI), 44.00 (Age), Female, Black or African American (Race), No (Hispanic Ethnicity), Severe Systemic Disease, Non-Insulin, HTN, Dialysis



Let's Talk Transplant and Bariatrics

• Obese patients have reduced graft and survival rates (esp > 65)

• The issues that we address in bariatric surgery are the same issues that complicate transplant surgery





Let's Talk Transplant and Bariatrics

Medical Weight Loss Limitations

- Renal diet
- Limited exercise tolerance
- Dialysis-related fatigue
- Hemodynamic concerns





Transplant and Bariatric Partnership

- Bariatric Surgery Results In
 - Weight Loss
 - Diabetes Improvement
 - HTN Improvement
 - Fat Reduction

- Worse Kidney Transplant Outcomes with
 - Obese
 - Diabetics
 - High Blood Pressure
 - Increased Subcutaneous Fat



Medicare Rules for Bariatric Surgery

- BMI 35kg/m2, with Comorbidities
 - DM (A1c > 6.5%), HTN (3 Rx), FLD, Osteoarthritis (not joint candidate), OSA on CPAP (AHI > 35)
- No Revision
- Failed weight loss attempts
- Psychological clearance
- Non-smoker (12 months)





Contraindications for Bariatric Surgery

- Prohibitive cardiac risk
- Severe COPD
- Non-compliance with medical treatments
- Smokers
- Psychological/psychiatric conditions
- Significant eating disorders
- Hepatic inflammation, portal HTN, ascites





Role of Panniculectomy

- Hangs below the pubis
- > 18 months from Weight Loss
- Weight loss stable x 6 months
- Chronic intertrigo or Difficulty ambulating





Role of Panniculectomy

- 3-4 hours of GETA
- Risk of DVT/VTE, pulmonary complications, wound healing concerns
- Not cosmetic





Bariatric Surgery in ESRD Patients

- Weight Loss ranges from 30-72% EWL
- Mortality 2% (10x)
- Morbidity 7% (40x)

- Increases odds of being listed by 50%
- LSG in ESRD
 - Improves long-term KTx outcomes compared to BMI matched individuals
 - No increased transplant morbidity



Obesity and Bariatric Surgery in Kidney Transplantation: A Clinical Review (2021)



with cardiovascular and metabolic comorbidities and without previous bariatric procedures

Figure 1 Proposed algorithm for the management of obesity in patients with chronic kidney disease, candidates to kidney transplantation and in kidney transplant recipients. Bariatric surgery could have a benefit in lowering the decline in renal function in patients with chronic kidney disease stages 2-3, so that it could be anticipated even in absence of significant metabolic comorbidities. In referral centers, combined laparoscopic/robotic sleeve gastrectomy with kidney transplantation could be proposed in selected patients. BMI: Body mass index.





Collaborative Approach Toward Transplant Candidacy for Obese Patients with End-Stage Renal Disease (2024)



Collaborative Approach Toward Transplant Candidacy for Obese Patients with End-Stage Renal Disease (2024)



Dropped off

Referred to Bariatric Surgery

183

Bariatric Surgeries

completed

In Process

Collaborative Approach Toward Transplant Candidacy for Obese Patients with End-Stage Renal Disease (2024)



ERAL SURGERY



Collaborative Approach Toward Transplant Candidacy for Obese Patients with End-Stage Renal Disease (2024)

- 56% unable to complete workup
 - 4% MBS contraindicated
- RYGB for BMI 45kg/m^2
- LSG and RYGB reduced BMI, DM, HTN*
- 25% developed hypotension
- 4 dropouts after MBS
 - 2 Went elsewhere
 - 2 not medically fit for Tx





To Muddy the Waters

- Obesity Paradox?
- BMI is extremely limiting
 - Sarcopenia?
- BMI + skinfold thickness, waist circumference, muscle strength?
- MBS non-compliance = Tx noncompliance?





Weight Loss Series in ESRD: Surgical Options

Sachin S. Kukreja MD FASMBS FPD



GENERAL SURGERY

Weight Loss Series in ESRD: Surgical Options

Sachin S. Kukreja MD FASMBS FPD



BARIATRICS & GENERAL SURGERY



Weight Loss Series in ESRD: Surgical Options

Sachin S. Kukreja MD FASMBS FPD



BARIATRICS & GENERAL SURGERY





Collaborative Approach Toward Transplant Candidacy for Obese Patients with End-Stage Renal Disease. Levy, Shauna MD, FACS; Attia, Abdallah MD; Omar, Mahmoud MD; Langford, Nicole RN; Vijay, Adarsh MD, FACS; Jeon, Hoonbae MD, FACS; Galvani, Carlos MD, FACS; Killackey, Mary T MD, FACS; Paramesh, Anil S MD, MBA, FACS. Journal of the American College of Surgeons <u>238(4):p 561-572</u>, <u>April</u> 2024. | DOI: 10.1097/XCS.00000000000962

Obesity and bariatric surgery in kidney transplantation: A clinical review. <u>Massimiliano Veroux</u>, <u>Edoardo Mattone</u>, <u>Matteo Cavallo</u>, <u>Rossella</u> <u>Gioco</u>, <u>Daniela Corona</u>, <u>Alessio Volpicelli</u>, and <u>Pierfrancesco Veroux</u>. <u>World J Diabetes</u>. 2021 Sep 15; 12(9): 1563–1575.











Sachin Kukreja, MD Bariatric Surgery



Christie Gooden, MD Abdominal Transplant and General Surgeon



Bethany Carrasco, MCM, RD, LD Transplant Dietitian



Alicia Reeve, PharmD Pharmacist





Lunch Break

Session will resume at 12:45PM

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Dialysis Access

Christie Gooden, MD FACS Abdominal Transplant and General Surgeon





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Tag, you're it! is not the best patient care plan



Dialysis Access has an ownership problem

Surgeon?: general, vascular, transplant, cardiovascular Nephrologist?: general, interventional nephrology Interventional Radiology?



Also, a training problem

Not formalized Very dependent



Leads to, "access deserts"

Inconsistent outcomes Inability to set standards



Solution...

Team Approach

Dialysis Access: It Takes a Village

Christie Gooden, MD, MPH Abdominal Transplant and Dialysis Access Surgeon Methodist Dallas Transplant Institute

Who's in the Village?



Introducing...The Village People

Village Center: PATIENT



Role: Survivor

- Dialysis is Life-Saving
 - That doesn't mean they have to like it

Education is Key

- Acceptance
- Ownership
- Partnership

Village People: Nephrologist



Slow Progression of CKD to ESRD

Educate and Guide Patients

Develop Access Plan

ESKD Life Plan

- How many have heard of the "ESKD Life Plan"? (poll)
 - KDOQI Guideline
- Individualized plan: creation, contingency, succession and preservation
- Supposed to be done yearly and reviewed quarterly
- How many have seen it ?(poll)

Access Strategy	Access Strategy	Access Strategy
1. Radio-cephalic AVF (L)*	1. Preserve HD current vascular access	Note: Would be re- evaluated during time with transplant
2. Forearm loop graft (L)	2. Protect peripheral and central veins	Goal: to re-start HD with a functioning AV access
3. Brachiocephalic AVF (L)	 Re-evaluate once receives transplant 	
*Deceased donor transplant list	4. Evaluation for AV- access if transplant failing	

Village People: Surgeons

- Role: Provide Usable Access
- KDOQI: Right Patient, Right Access, Right Time
- Access is asking a vein to do something it was not born to do
 - Population: Older and sicker; Diabetics, PVD,
 - More hospitalizations=More IV's=Less Good Veins
- Educate Patients
- Communicate effectively with village members



Different Types of Fistulas



Different Types of Grafts







The Transplant Institute at Methodist Dallas

- Good Access Leads to Better Dialysis Which Improves Chance for Transplantation
- Two Abdominal Transplant Surgeons Dedicated to Access
 - Dr. Dickerman
 - Well-known in the DFW area for access expertise
 - Dr. Gooden
 - 13 years of experience with 7 years in north Dallas
 - Network 14 MRB member for 6 years



Village People: Access Coordinators





Rita, Dr. Dickerman

Diane, Dr. Gooden
Village People: Interventionalists

- Role: Maturation, Maintenance, Creation
 - Fistulograms
 - Thombectomies
 - Catheter Placements
 - Percutaneous AV Fistulas
 - Access Desserts
- Partner with Surgeons
 - Real-time communication
 - Difficult case management

Percutaneous AVF

- How many have at least one percutaneous AVF in your clinic? (poll)
- Emerging field-will see more
- Look Different
- Cannulate Different
- Different Complications



Village People: Dialysis Clinics



Role: Preserve Access

Assess

- The Eyes and Ears
- Know the Patient's Best

Good cannulation techniques

Assess Every Treatment



Before, During and After Treatment Before: Look, Listen, Feel During: Drops flow, Pressure changes After: Hematoma, infiltration

Blow the whistle if there is a change

Refer early



Early detection can save access

Especially newly created access



Does it Have to Be This Way?





Same Goes for Grafts





Having Dialysis Access is Like Owning a Car...

And All Cars Need Maintenance: Cannulation Camp 09/2024



Village Partner: Methodist Dallas Hospital

- Leave with Access Program
 - In Development
- Plan: Evaluate and/or create access new start dialysis or CKD IV/V pt's before discharge
- Multi-disciplinary Approach
- Pts can be evaluated for PD or HD
- Goals:
 - Improve access to dialysis surgery
 - Decrease the catheter rate

Members of the Village, Y.M.C.A

You Must Care Always

- Work together
- Listen to each other
- Put patient in the center of the village



Non surgical Fistula Creation

Islam Shahin, MD Interventional Radiologist





The Transplant Institute

Waveling: Indication for Use

The WavelinQ[™] EndoAVF System is indicated for the creation of an arteriovenous fistula (AVF) using **concomitant ulnar artery and ulnar vein** or **concomitant radial artery and radial vein** in patients with minimum artery and vein diameters of 2.0 mm at the fistula creation site who have chronic kidney disease and need hemodialysis.

Contraindication

• Target vessels < 2mm in diameter.

Ellipsys system key points

The Ellipsys Vascular Access System is indicated for the creation of an arteriovenous anastomosis in patients with ESRD requiring vascular access for hemodialysis.

ELLIPSYS

The Ellipsys System is:

- Minimally Invasive
- Venous Access
- Single-Catheter
- Requires no Flouro (Ultrasound visualization only)

Physicians trained in interventional techniques will be able to create fistulas that are:

 Percutaneous equivalent to the surgical Gracz fistula, Between Proximal Radial Artery (PRA) and Deep Communicating Vein (DCV)

Low-pressure, split-flow AVF

- Multiple outflow vessels can dilate and mature
- Lower flow rates through any single vessel
- Minimal vessel trauma
- Preserves future surgical options

Consistent channel created with short burst of RF energy

Split outflow

enables multiple cannulation zones

Perforating vein sends outflow from deep to superficial venous system

Image of an endoAVF at day 30 viewed from a dissected iliac artery of a sheep model.

AVF Anastomoses



Surgical AVF Manually Sutured



WavelinQ[™] EndoAVF System Radiofrequency Energy



Ellipsys[™] Vascular Access System Thermal Energy

Non-surgical AV fistula creation

- Avoid surgical scarring with endoAVF
- Minimize arm disfigurement associated with open surgery
- New anatomic location for dialysis access creation
- Typical maturation times of 6-10 weeks



Image courtesy of Rick Luscombe, RN and the Vascular Access Program at St. Paul's Hospital of Vancouver BC.

Patient Eligibility

✓ **Good inflow** with brachial artery diameter \geq 2 mm

- ✓ Good outflow with superficial cephalic & basilic vein diameters ≥2.5 mm without a flow limiting central venous stenosis
- ✓ Target creation sites ≥2 mm in diameter
- Presence of a perforating vein that adequately communicates between deep and superficial veins
- ✓ Proxmity of perforator to radial artery: 1.5mm (ellipsys).

In pivotal trial reports, approx. 70% of patients had suitable anatomy for endoAVF/percutaneous creation¹

Independent Research

Inston N et al. WavelinQ Created Arteriovenous Fistulas versus Surgical Radiocephalic Arteriovenous Fistulas? A Single-Centre Observational Study J Vasc Access 2020

Matched Comparative Analysis	WavelinQ™ EndoAVF N=30	Surgical AVF N=40	Definition
Technical Success	96.7%	92.6%	Visualizing AV shunt blood flow through the created endoAVF using angiography at completion of the index procedure
Primary Patency at 6 Months	65.5%	53.4%	Time from creation to intervention or abandonment
Secondary Patency at 6 Months	75.8%	66.7%	Time from the creation date to the last needling date before the AVF was abandoned for a new form of access formation

Key Takeaway: WavelinQ[™] EndoAVF and surgical creation had similar observations.

Fistula





KEY ADVANTAGES OF PERC/ ENDO AVF

NEW ANATOMIC LOCATION FOR DIALYSIS ACCESS-MISSED OPPORTUNITY FOR THESE PATIENTS

DOES NOT PRECLUDE SURGICAL FISTULA CREATION IN THE FUTURE. IMPORTANT FOR SUCCESSION PLANNING

LOWER FLOW RATES: NO ANEURYSM FORMATION/MEGA-FISTULA. LESS BASILIC AND CEPHALIC INTERVENTIONS

LESS INTIMAL HYPERPLASIA

DOES NOT REQUIRE GENERAL ANESTHESIA

COSMETIC BENEFITS

EXCELLENT OPTION FOR CKD 4-5 PATIENTS PRE-DIALYSIS

MULTIPLE CANNULATION VESSELS

EASIER HEMOSTASIS DUE TO MULTIPLE OUTFLOW VESSELS









Islam Shahin, MD Interventional Radiologist



Christie Gooden, MD Abdominal Transplant and General Surgeon







Kidney Transplant Education Video Series:

Transplant Operation



Click Video Image for Link



Kidney Transplant Education Video Series:

Living Organ Donor



Click Video Image for Link



Inequity: It's a Family Affair

Christie Gooden, MD FACS Abdominal Transplant and General Surgeon





The Transplant Institute

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Definition of Equity

Dallas Demographics

Why Inequity Matters?

We are Family

Equity





Definition

• Places with more need get more resources





Dallas Demographics:

Where the people are? Where the resources are?

The Transplant Institute



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Socioeconomics

- The ADI: multiple indicators such as poverty, education, housing, and employment at the block level to highlight neighborhoods with high risk for poor health outcomes related to cardiovascular disease, cancer, and childhood mortality
- Worse ADI scores are depicted in the darker colored areas in the maps s

Data Source: Neighborhood Atlas®. Center for Health Disparities arities Research.8 Prepared by PCCI





FIGURE 30: Population Densities of Racial and Ethnic Populations in Dallas County



African-American





Hispanic



White, non-Hispanic

Asian











rce: Neighborhood Atlas[®]. Center for Health Disparities arities Research.8 by PCCI

e: American Hospital Directory-Individual Hospital Statistics for Texas (and.com)

FIGURE 44: Primary Care Physicians Geographic Distribution, Dallas County



FIGURE 29: Deprivation Areas in Dallas County, 2020



Data Source: Neighborhood Atlas®. Center for Health Disparities arities Research.8 Prepared by PCCI

Data Source: Texas Department of State Health Services Texas Primary Care Office



110 Dialysis Facilities within 25 miles of Dallas



Why Does This Matter?

The Transplant Institute

Vicious Cycle: Inequity Breeds More End-Stage Disease

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Early Detection of CKD can slow progression

 Lifestyle changes, Meds

Dialysis Clinics

- Full of patients and understaffed
- Unfair requirements
 - Catheter Rate, Waitlist Percentage etc.

Transplant Programs

- Disincentive to list marginal pts
- More DGF so more retained dialysis chairs

But Area has Fewer Doctors & Fewer Resources

- Can't Prevent if they don't get diagnosed or
- Can't get in to be seen

Hospital

• Longer hospital stays, can't get a chair



Working Together


Methodist Dallas: Every Day People Trying to Do Extraordinary Things

The Transplant Institute





74% patents defined as Black or Hispanic

71% low to moderate incomes

2023 provided 182 Million uncompensated services

We have served and will continue to serve



Pathway to Equity: Filtering Bias Out of Kidney Testing

Amna Ilahe, MD Hellen Oduor





The Transplant Institute





What is Black?













Rachel Dolezal



Dolezal at a rally in May 2015





Barack Obama



Rachel Dolezal







Britten Cole | Married to Medicine: Los Angeles





58.6%





Rachel Dolezal



Dolezal at a rally in May 2015



Britten Cole | Married to Medicine: Los Angeles





GFR Definition & History

- Estimated glomerular filtration rate (eGFR): A tool used to measure how well a patient's kidneys are functioning
- Black Race coefficient: A factor that is used in some eGFR calculations. It was developed based on a study that recent research shows may not be reliable or valid and disadvantages Black patients being treated for CKD
- Qualifying threshold: The level or value that has to be reached before a candidate can begin accruing time (≤ 20mL/min)





Same Patient Different Race -- impact of race based calculation.

 Candidate A and candidate B are identical for all patient-specific variables <u>except for</u> <u>race</u>

As a result of the Black race variable:

Factors	Candidate A	Candidate B
Sex	Male	Male
Age (years)	60	60
Black race	Yes	No
Serum Creatinine (mg/dL)	3.3	3.3
eGFR (mL/min/1.73m ²)	23.3	19.2





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In Black patients' race co-efficient raises the eGFR by as much as 16%





Why is The Black Race Coefficient Problematic?

- Delayed referral to transplant
- Delayed initiation for qualified waiting time for non-dialysis patients
- Impede timely CKD management and contribute to worse outcomes
- Exacerbate existing disparities in transplantation

Increases Black patients' eGFR by as much as 16%





Positive steps taken:

Elimination of race-based GFR calculation in 2021

OPTN: Adopted the policy

 Not every AA/Black patient qualifies. Only applicable if GFR calculation would have been different if race coefficient is used





Methodist Dallas Takes Action

- Patients
- Dialysis Centers
- Nephrologists
- Other Hospitals
- PCP Offices
- Technology/Support Vendors





What We Discovered...

- Approx. 20% of the waitlisted patients identified as AA/Black
- 107 qualified for wait time modification
- 54% were on dialysis

Average time added 2.2 years

15% <1year 47% 1-2 years 27% 2-4 years 11% >4years

- Max time 8.3 years
- 36 patients transplanted





How much Collective Time?

- **A.** 8.3 years**B.** 987.4 years
- **C.** 223.8 years
- **D.** 60.6 years





Case 1

- **6**2 yo M
- Pre-dialysis
- Wait time modification- 8.3 years
- Transplanted 9 months ago
- Stable, doing well





Case 2

- **4**6 yo F
- Pre-dialysis
- Wait time modification- 8.2 years
- Transplanted 9 months ago
- Stable, doing well





Looking Forward by Looking Back

- Methodist's concerted efforts to find qualifying labs and apply for wait time modification
- August 2021, Methodist Dallas became the first transplant program in the area tp eliminate race-based GFR calculations in Aug 2021 (ahead of OPTN Policy implementation in 2023)
- First center in the region to complete comprehensive waitlist review and submit UNOS attestation



Donation Disparities: Issues and Solutions

Lori Kautzman, MD FACS





The Transplant Institute





•Deceased donors 2023

- White 10,704
- Black 2,597
- Hispanic 2,349
- •Living donors 2023
 - White 4,828
 - Black 465
 - Hispanic 1,19





- Demand exceeds supply
- Lower rates of authorization and registration for donation
- Lower rates of living donation
- Need to understand and break down barriers

Barriers



Medical mistrust

- Tuskegee syphilis study
- MDs will not save a life if patient is known donor
- Attitude
 - Allocation is biased against minorities and favor wealthy
 - Body disfigurement/failure to maintain integrity with donation
- Knowledge/awareness
 - Lack of education and registration
- Social norms
 - Fear family will not be supportive
 - Unwillingness to make decision on behalf of family
 - Religion





Solutions

- In-hospital approach
 - Race concordance
 - Disassociation of brain death pronunciation from donation
- OPO
 - Education in situations of racial discordance/culture sensitivity training
 - Diverse workplace
- Community education/outreach
 - Patient/donor family speakers, registration drives, seeing minority recipients
 - Partnering with churches
- Research
 - Racial disparity studies need to be published in higher impact journals/news outlets



Donation Story

Sylvia Dillard





The Transplant Institute



May 22, 2022



Your love still warms our hearts, and its presence lives on in our memories.





Memory is a gift, in that when winter comes, we may still remember the way the roses smelled in spring.









Though time may pass, let not one memory fade. For in our loss, we know that you gave others the beautiful gift of life.

Thank you, Joe!



Eyes – Man

Kidneys – Woman Lungs – Unknown *Tissues - Various*









Lori Kautzman, MD Hepatobiliary and Transplant Surgeon



Amna Ilahe, MD Transplant Nephrologist



Christie Gooden, MD Abdominal Transplant and General Surgeon



Hellen Odour Transplant Quality Manager



Sylvia Dillard Donor Mom







Living Donation Kidney Transplantation

Alejandro Mejia, MD FACS Hepatobiliary and Transplant Surgeon





The Transplant Institute



- Living organ donation can be done by a family member, friend, co-worker or even individuals who wish to remain anonymous.
 - Donor Quality of life is typically equal to that of the average adult.
- Evaluation for donation includes a complete physical with the most advanced types of tests.
 - The Methodist Dallas Medical Center transplant team has developed a streamlined evaluation process that reduces the number of visits and time investment needed by the donor.
- Donor follow-up care is provided at Methodist Dallas
- A living donor's medical expenses are paid by the recipient's insurance, including Medicare.

Types of Living Donors





- Living related donors (LRD)
 - HLA identical (i.e sibling)
 - One-haplotype match (i.e parent, sibling)
 - No HLA match
- Living unrelated donors (LURD)
 - Spouse
 - Friend
 - Altruistic Donors
 - 'Swapping' programs- Kidney Paired Donation

Reasons for KPD





- 1. ABO incompatible
- 2. HLA incompatible













For the person receiving the kidney:

- Kidneys from living donors typically work better and last longer.
 - 0 A kidney from a <u>deceased donor</u> lasts an average of 7 years.
 - 0 A kidney from a living donor lasts an average of 15 to 20 years
- Better functionality/outcomes. On average, living donor kidney transplants tend to function better and last longer than kidney transplants from deceased patients. A kidney from a living donor generally functions immediately after transplant as it is only out of the body for a very short time.
- Shorter wait times. Waiting for a deceased donor kidney can take years, with living donations that wait time is dramatically shortened which minimizes the amount of time spent on dialysis.
- Decreasing the waitlist.
- **Convenience** The testing and procedures are able to be scheduled at a mutually convenient time, for the recipient and donor.
Who Can Become a Living Donor



- Living organ donation can be done by a family member, friend, co-worker or even individuals who wish to remain anonymous.
- Any related or unrelated healthy adult (18-65) who does not have any significant medical disease and is able to provide informed consent.
- The testing and evaluation process will determine if candidates are medically and psychologically healthy enough to be donors.
- Some issues that may make a candidate <u>not eligible</u> are diabetes, cancer, kidney disease, HIV/AIDS, hepatitis or others.
- BMI Index: Centers usually accept patients with BMI <35
 - Risks of peri-operative complications increased in obese donors.
 - Long term risks of DM, HTN, Dyslipidemia, increased in obese donors.

Absolute Medical Exclusion of Donors

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- Underlying known kidney disorder
- HIV, Hepatitis B or C
- Diabetes
- Uncontrolled HTN
- Recent hx of cancer or metastatic cancer
- CAD or vascular disease
- Bilateral or recurrent nephrolithiasis
- Persistent microhematutria
- Psychologically not capable of donation

Risks of Living Donation



- Problems related to surgery, such as:
 - Bleeding or infection
 - Urinary tract infection
 - Pneumonia
 - Blood clots
 - Longer recovery than expected
 - Slightly increased risk of developing high blood pressure long term
- Death rate is extremely low, at 0.03% (3 in every 10,000 people who donate)
- GFR decreases after nephrectomy.
- Possible Increased risk of ESRD and long term mortality. Studies have their limitations.
 - Absolute risk of ESRD is small.

Donor quality of life is typically equal to that of the average adult.



- Previous kidney donors who become pregnant have an increased risk (5% compared to 2%) for preeclampsia, a condition in pregnancy characterized by a rise in blood pressure and leakage of protein in to the urine which may result in premature birth.
- Careful monitoring is needed during the third trimester.



Covered expenses:

- Blood work
- Physical and psychiatric evaluation
- Diagnostic tests
- Surgery

Limited coverage:

• Care after surgery

• Not covered, but financial assistance may be available:

• Travel, unrelated medical conditions, meals, incidentals, hotel

The social worker can help you.

Evaluation of living donors





- Medical / Surgical History
- Family History (CKD, genetic kidney dz, DM)
- Medications
- Psychosocial Evaluation
- Lab work.
- Screening for transmissible disease.
- Cancer screening.
- Anatomic assessment by imaging.



Most common method to remove a living donor kidney is a minimally invasive approach called a robotic assisted nephrectomy (kidney removal). Donor will meet with the surgeon to discuss the surgery risks and benefits

- Routine approach
- Faster recovery
- Shorter hospital stay
- Less pain
- Smaller incisions
- Quick return to usual activities
- Return to work soon after the surgery

Recovery from Living Donation





• The usual hospital stay is 2 days.

oThe donor is encouraged to start walking the day after surgery.

• A full recovery takes about 4 to 6 weeks.

• Returning to work is usually approved in about 2 weeks.

• Pain medicine is needed for a short time after surgery.

oYour time on pain medicine is decided between you and the transplant team.

There are no dietary restrictions following donation, but a healthy, balanced diet is recommended.

Living Donor Video





Nephrectomy
Robotic Donor Nephrectomy (Left)
Alejandro Mejia, MD, FACS
Methodist Dallas Medical Center

https://www.youtube.com/watch?v=98qIe9devkM&rco=1











Alejandro Mejia, MD Hepatobiliary and Transplant Surgeon



Resources and Closing Remarks





The Transplant Institute

Conclusion















Contact Us

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Slides and questions will be sent within the next week