Addressing Inequities through Improved Waitlist Management: Key Element For Transplantation Capabilities

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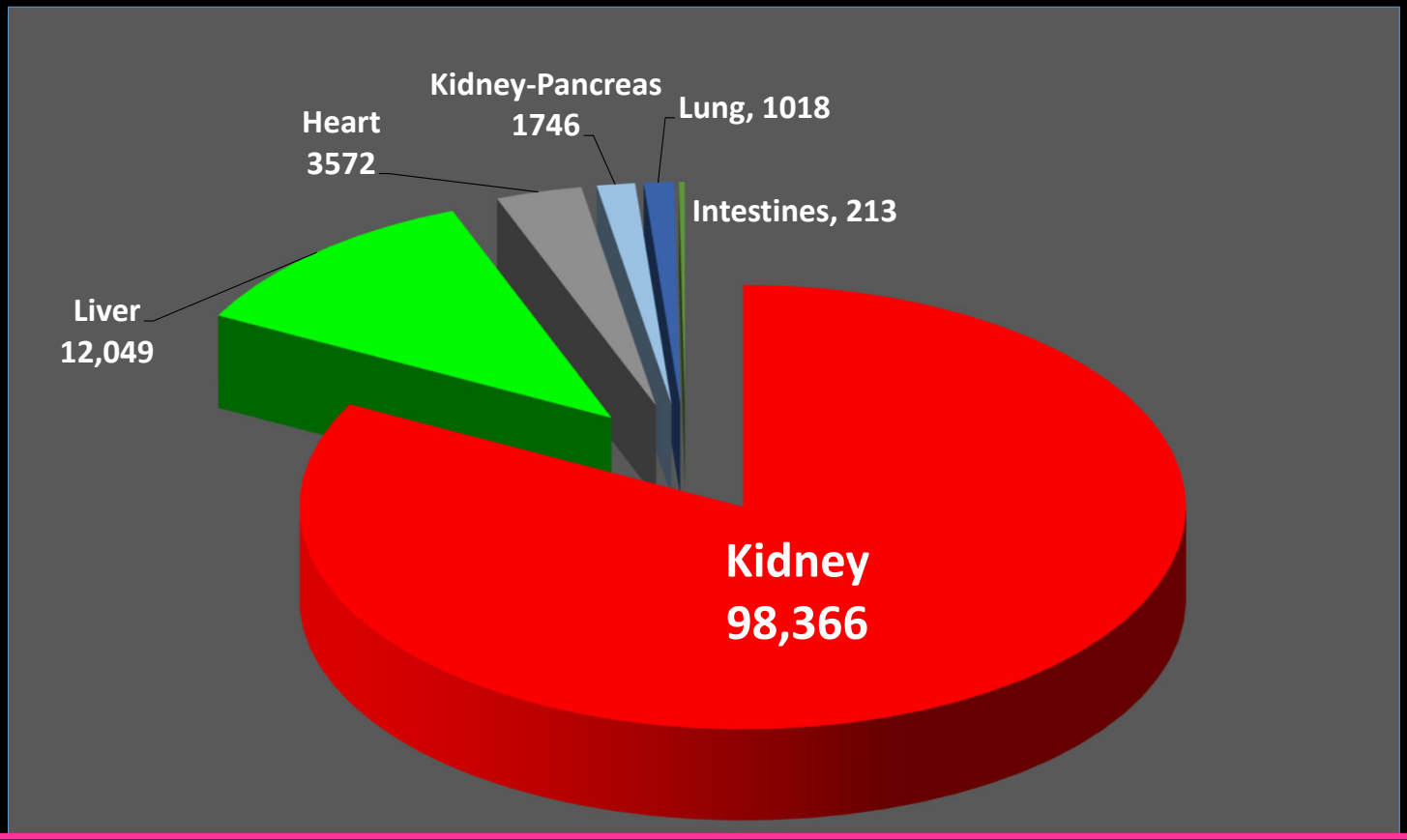
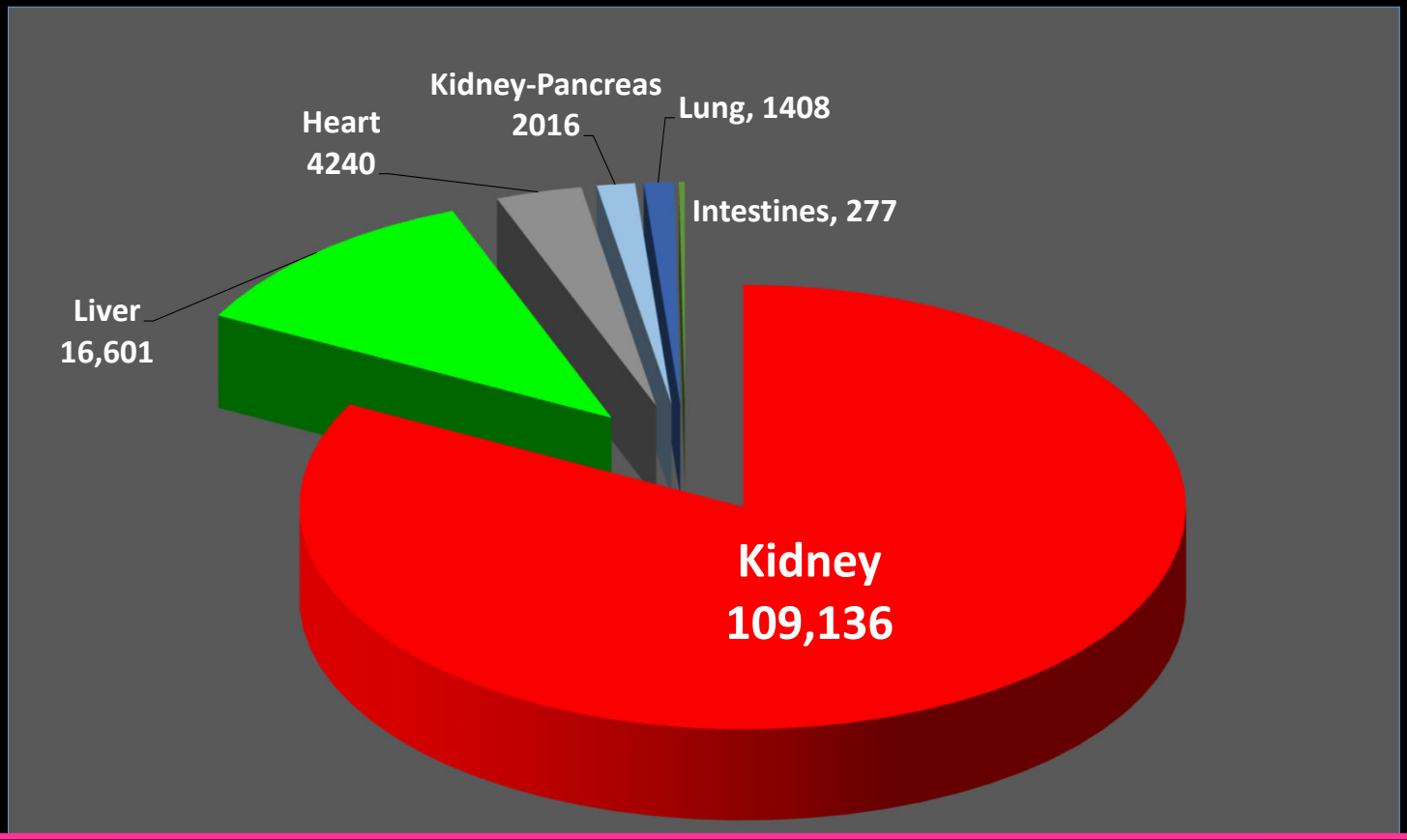
Transplant Waiting List : April 14,2021



117,917 Candidates for a Solid Organ Transplant

Transplant Waiting List : June 1, 2017



129,005 Candidates for a Solid Organ Transplant

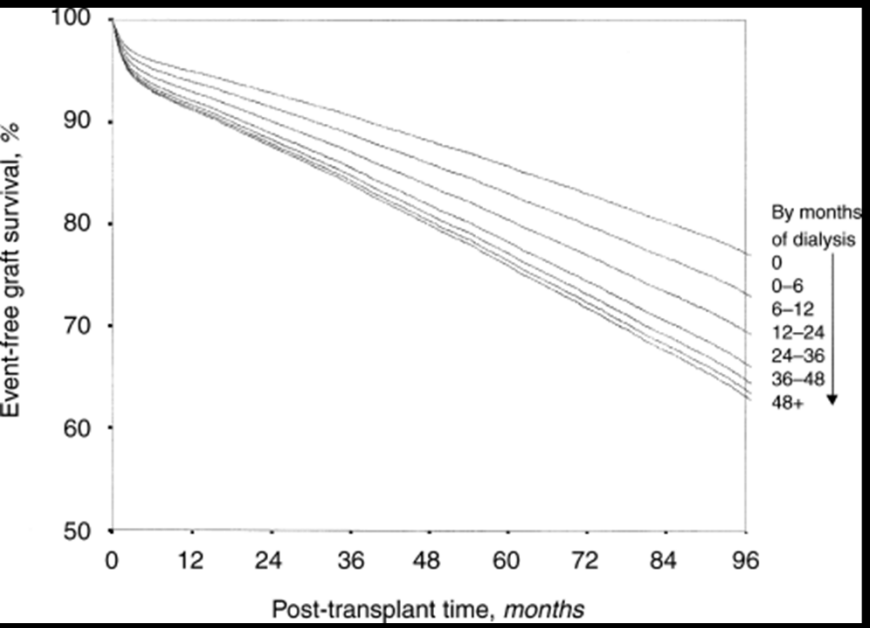
Waitlist Demographics in US as of April 2021

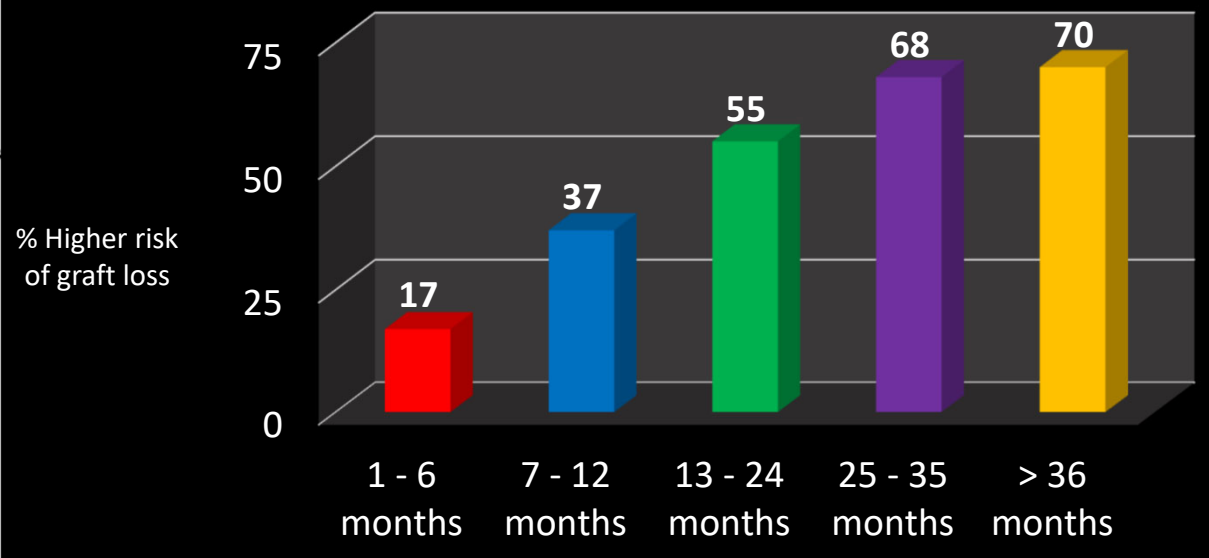
	All Organs	Kidney	Liver	Pancreas	Kidney / Pancreas	Heart	Lung	Heart / Lung	Intestine
All Ethnicities	117,948	98,361	12,070	892	1,746	3,582	1,021	45	213
White	47,270	34,900	8,054	553	849	2,061	693	29	116
Black	34,040	31,316	861	173	507	997	128	8	48
Hispanic	23,781	20,509	2,316	127	263	370	153	4	38
Asian	9,992	9,110	629	24	80	103	35	3	8
American Indian/Alaska Native	983	847	94	6	18	11	6	1	0
Pacific Islander	624	586	26	1	4	5	1	0	1
Multiracial	1,258	1,093	90	8	25	35	5	0	2

	All Organs	Kidney	Liver	Pancreas	Kidney / Pancreas	Heart	Lung	Heart / Lung	Intestine
All ABO	117,948	98,361	12,070	892	1,746	3,582	1,021	45	213
O	63,209	53,127	5,905	413	846	2,183	597	26	103
A	33,391	26,540	4,655	336	510	968	288	10	78
B	18,439	16,250	1,224	111	345	364	110	8	25
AB	2,909	2,444	286	32	45	67	26	1	7

Meier-Kriesche HU. Kidney Int. 2000;58(3):1311

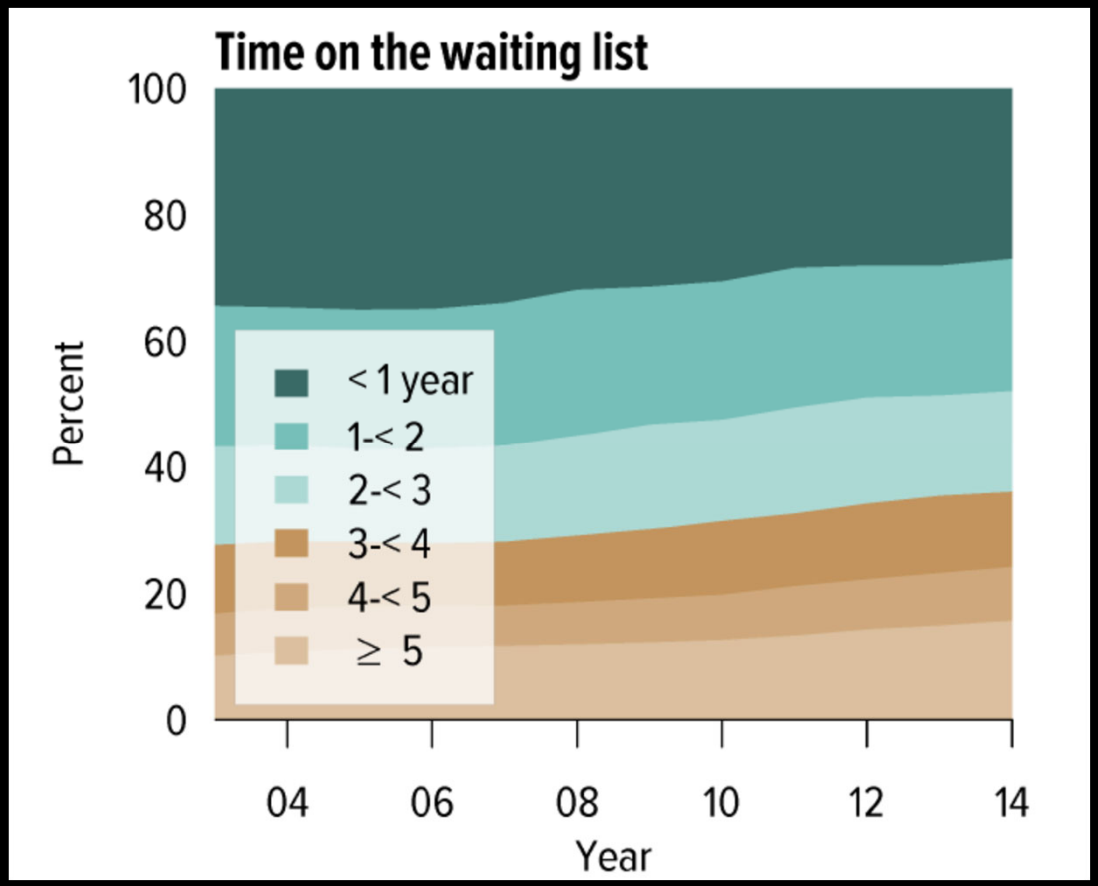
Time on Dialysis Waiting for a Transplant Affects the Outcome of Transplantation





Getting a Transplant before going on dialysis provides the best chance for graft survival
The longer a patient is on dialysis the worse the graft outcome after transplantation

Patients are Waiting Longer and Longer for a Kidney Transplant

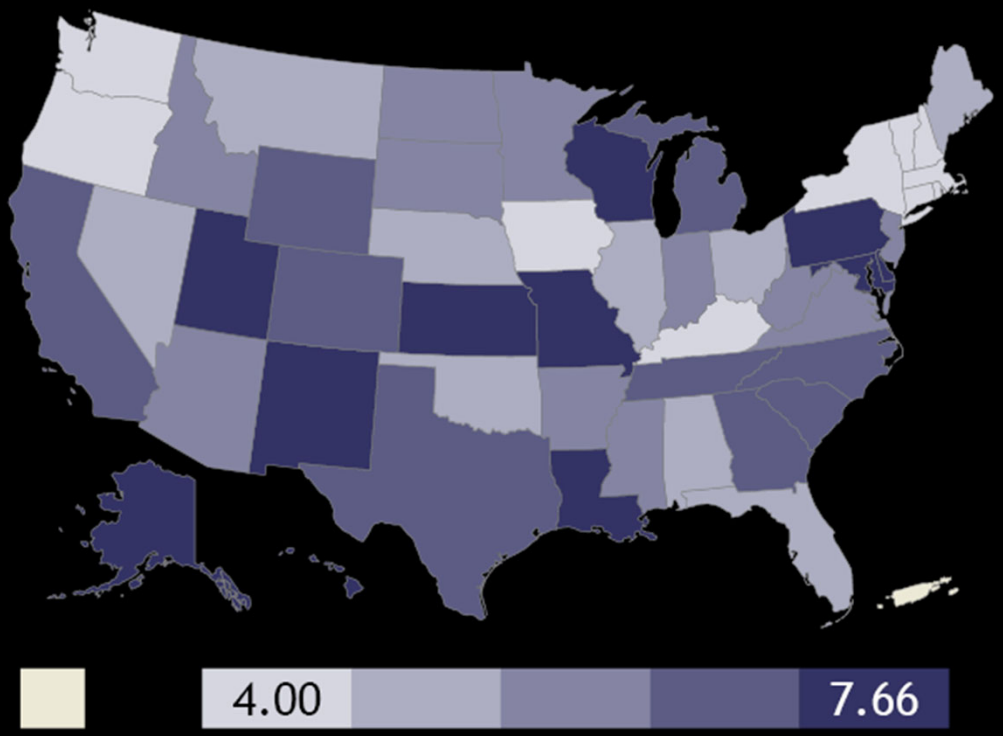


Average waiting time 3-4 years

15% of patients are on the list > 5 years

Wide variation in Cadaveric Donation Rates in the U.S.

Cadaveric Kidney Donation rates (per 1000 deaths)



MTI Experience on Waitlist (2015-2019; n=1287)

	[Median=58.4, Range: 18.1-80.2]
Recipient Age (yr):	
<50	27.8% (311/1,119)
≥50, <60	27.2% (304/1,119)
≥60	45.0% (504/1,119)
Recipient Gender:	
Female	36.8% (412/1,119)
Male	63.2% (707/1,119)
Recipient Race/Ethnicity	
White	14.0% (157/1,119)
Hispanic	39.1% (437/1,119)
Black	43.4% (486/1,119)
Multiracial	0.4% (4/1,119)
Asian	2.7% (30/1,119)
Amer Ind/Alaska Native	0.4% (4/1,119)
Native Hawaiian/Other Pacific Islander	0.1% (1/1,119)
Recipient BMI (kg/m^2)	27.8 ± 0.1 (N=1,119) [Median=27.5, Range: 15.8-41.4]
Recipient BMI (kg/m^2):	
<25	31.8% (356/1,119)
≥25, <30	36.9% (413/1,119)
≥30, <35	23.2% (260/1,119)
≥35	8.0% (90/1,119)
Recipient Blood Type:	
A (A, A1, or A2)	31.5% (352/1,119)
B	13.4% (150/1,119)
AB (AB, A1B, or A2B)	6.0% (67/1,119)
O	49.2% (550/1,119)

MTI Waitime on Waitlist by Blood Type (2015-2019; n=1287)

Blood Type		2015	2016	2017	2018	2019	Total
A	N	75	54	75	103	107	414
	Avg. Wait Time (yrs)	5.9	5.3	4.4	4.1	3.3	4.4
	Avg. KDPI	48.5%	44.8%	52.9%	55.6%	55.1%	52.3%
AB	N	17	9	12	17	24	79
	Avg. Wait Time (yrs)	4.4	5.5	2.8	3.1	3.4	3.7
	Avg. KDPI	39.9%	41.4%	45.3%	46.8%	48.6%	45.0%
B	N	21	25	31	45	46	168
	Avg. Wait Time (yrs)	10.7	7.3	6.4	4.7	4.3	6
	Avg. KDPI	56.0%	54.4%	55.4%	65.2%	61.3%	59.6%
O	N	97	103	111	148	167	626
	Avg. Wait Time (yrs)	8.1	6.9	5.9	5.1	4.3	5.8
	Avg. KDPI	50.9%	55.0%	54.8%	63.8%	63.8%	58.7%
Total	N	210	191	229	313	344	1287
	Avg. Wait Time (yrs)	7.3	6.4	5.3	4.6	3.9	5.3
	Avg. KDPI	49.6%	51.4%	53.7%	60.4%	59.7%	55.9%

We observed a decrease in disparity between African Americans and Hispanics versus Caucasians, with average waiting times decreasing from 2.5 years to 1.2 years and 1.6 years to 0.5 years, respectively. There were no type B recipients who received A2 donors in this cohort.

MTI Waitlist Information (7/1/2019-6/30/2020)

SCIENTIFIC REGISTRY OF TRANSPLANT RECIPIENTS

Jackson Memorial Hospital University of Miami School of Medicine
Center Code: FLJM
Transplant Program (Organ): Kidney
Release Date: January 5, 2021
Based on Data Available: October 31, 2020

SRTR Program-Specific Report
Feedback?: SRTR@SRTR.org
1.877.970.SRTR (7787)
http://www.srtr.org

B. Waiting List Information

Table B2. Demographic characteristics of waiting list candidates
Candidates registered on the waiting list between 07/01/2019 and 06/30/2020

Demographic Characteristic	New Waiting List Registrations 07/01/2019 to 06/30/2020 (%)			All Waiting List Registrations on 06/30/2020 (%)		
	This Center (N=545)	OPTN Region (N=5,537)	U.S. (N=39,776)	This Center (N=859)	OPTN Region (N=13,327)	U.S. (N=99,301)
All (%)	100.0	100.0	100.0	100.0	100.0	100.0
Ethnicity/Race (%)*						
White	21.5	34.9	41.7	14.8	28.4	35.2
African-American	31.9	46.9	28.5	44.6	56.9	32.1
Hispanic/Latino	43.1	14.2	19.7	37.5	11.0	21.0
Asian	2.9	3.0	8.1	2.9	3.0	9.9
Other	0.6	1.0	1.9	0.2	0.7	1.8
Unknown	0.0	0.0	0.0	0.0	0.0	0.0
Age (%)						
<2 years	0.2	0.0	0.1	0.0	0.0	0.1
2-11 years	1.7	0.8	0.9	1.4	0.5	0.6
12-17 years	2.8	1.5	1.5	1.7	0.8	1.0
18-34 years	11.0	11.4	10.7	14.9	11.2	10.3
35-49 years	18.3	25.8	24.2	25.1	29.9	26.9
50-64 years	41.5	40.2	41.3	38.9	40.7	43.4
65-69 years	10.5	12.2	13.3	9.8	11.0	12.1
70+ years	14.1	8.1	8.1	8.1	5.8	5.6
Gender (%)						
Male	66.2	61.7	62.1	61.0	60.4	62.1
Female	33.8	38.3	37.9	39.0	39.6	37.9

* Race and ethnicity are reported together as a single data element, reflecting their data collection (either race or ethnicity is required, but not both). Patients formerly coded as white and Hispanic are coded as Hispanic. Race and ethnicity sum to 100%.

Deceased Donor Recipient Demographic for MTI

SCIENTIFIC REGISTRY OF TRANSPLANT RECIPIENTS

Jackson Memorial Hospital University of Miami School of Medicine
Center Code: FLJM
Transplant Program (Organ): Kidney
Release Date: January 5, 2021
Based on Data Available: October 31, 2020

SRTR Program-Specific Report
Feedback?: SRTR@SRTR.org
1.877.970.SRTR (7787)
http://www.srtr.org

C. Transplant Information

Table C1D. Deceased donor transplant recipient demographic characteristics
Patients transplanted between 07/01/2019 and 06/30/2020

Characteristic	Percentage in each category		
	Center (N=461)	Region (N=2,613)	U.S. (N=16,870)
Ethnicity/Race (%)*			
White	16.1	29.9	37.8
African-American	33.8	46.7	32.2
Hispanic/Latino	45.8	19.0	20.3
Asian	3.5	3.3	7.8
Other	0.9	1.2	1.9
Unknown	0.0	0.0	0.0
Age (%)			
<2 years	0.2	0.0	0.1
2-11 years	0.7	0.8	1.2
12-17	1.3	1.5	1.6
18-34	5.6	10.1	10.3
35-49 years	19.7	26.1	23.9
50-64 years	52.5	42.1	40.3
65-69 years	9.3	11.9	13.2
70+ years	10.6	7.5	9.5
Gender (%)			
Male	65.7	60.5	60.4
Female	34.3	39.5	39.6

* Race and ethnicity are reported together as a single data element, reflecting their data collection (either race or ethnicity is required, but not both). Patients formerly coded as white and Hispanic are coded as Hispanic. Race and ethnicity sum to 100%.

Organ Offer Acceptance Based on the MTI Waitlist

SCIENTIFIC REGISTRY OF TRANSPLANT RECIPIENTS

Jackson Memorial Hospital University of Miami School of Medicine
Center Code: FLJM
Transplant Program (Organ): Kidney
Release Date: January 5, 2021
Based on Data Available: October 31, 2020

SRTR Program-Specific Report
Feedback?: SRTR@SRTR.org
1.877.970.SRTR (7787)
http://www.srtr.org

B. Waiting List Information

Figure B10. Offer acceptance: Overall

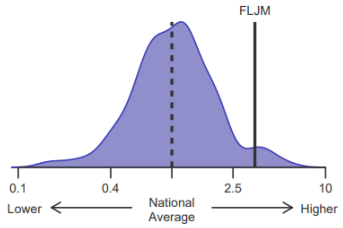


Figure B11. Offer acceptance: Low-KDRI

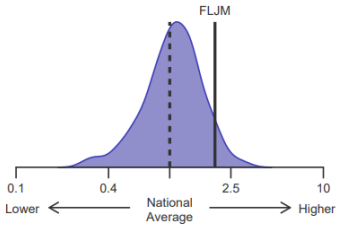


Figure B12. Offer acceptance: Medium-KDRI

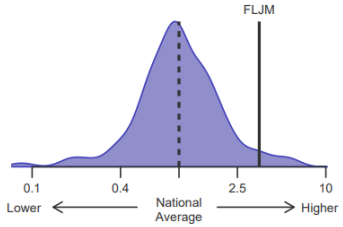


Figure B13. Offer acceptance: High-KDRI

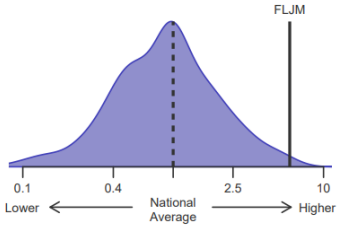
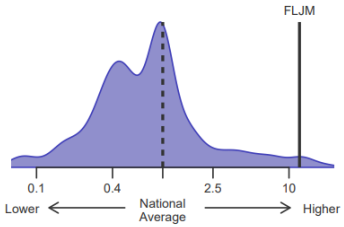


Figure B14. Offer acceptance: Offer number > 100



Deceased Donor Transplant Rates - MTI

Figure B1D. Observed and expected deceased donor transplant rates: 07/01/2018 - 03/12/2020

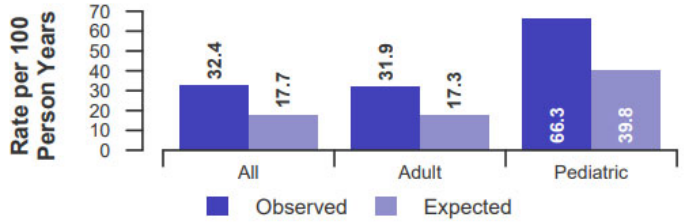


Figure B3D. Observed adult (18+) and pediatric (<18) deceased donor transplant rates: 07/01/2018 - 03/12/2020

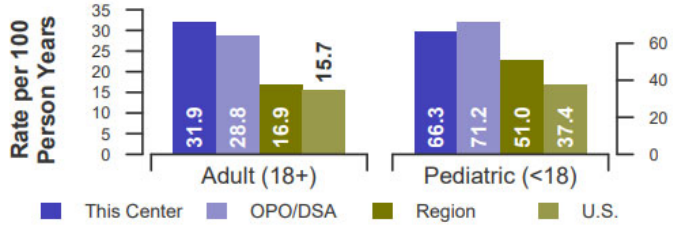
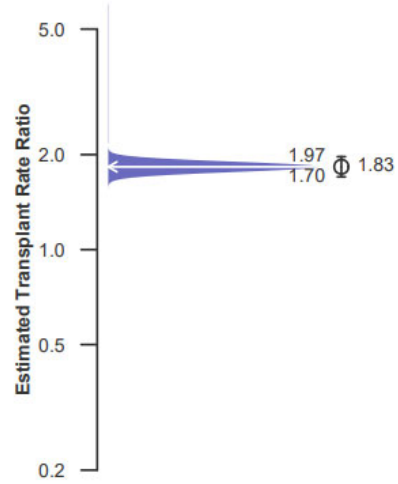


Figure B2D. Deceased donor transplant rate ratio estimate



The data reported here were prepared by the Scientific Registry of Transplant Recipients (SRTR)

How Is this Possible?

Transplanting Beyond the Expected

- Waitlist Management – Right Selection of Transplant Candidate
- Donor Selection and Optimization including Choosing the Right Recipient for the Right Kidney
- Perioperative Management to Minimize Complications
- Post Care Management from DGF and beyond – Including Immunosuppressive Management

Waitlist Management

- Key Understanding to Optimize Capabilities to Transplant Successfully
- Recipient Selection: Understanding that Not Everyone is a Transplant Candidate
- Identifying Criteria on Who can be Transplanted with What Kidney – Identification at time of Listing and ongoing decision while waiting
- Beyond the Selection Committee – How to Maintain the Kidney Transplant List
- EDUCATION!!! (During evaluation and throughout time on the waitlist) – It Never Ends

Waitlist Management Tools

CUMMULATIVE RISK SCORE

Risk Factors

HIGH (30 points each)

1. Peripheral vascular disease (Stroke, amputations, peripheral ulcers, retinopathy, neuropathy, atherosclerosis on diagnostic studies)
2. Coronary artery disease (coronary stents, CABG, nonobstructive CAD on diagnostic studies)
3. Pulmonary Hypertension with RVSP ≥ 45mmHg or on pulmonary vasodilators
4. Cancer within the past 4 years
5. Midodrine/hypotension
6. Hypercoaguability
7. Frail (according to Liver Frailty Index)
8. Advanced age (>65 years old)
9. History of cardiac arrest
10. Aortic insufficiency (not bad enough to intervene yet)

MEDIUM (20 points each)

1. Significant untreated valvular disease (Moderate to severe regurgitation of any valve or stenosis)
2. Cancer 4-6 years ago
3. Highly sensitized (cPRA ≥80%)
4. Obesity with BMI >35
5. Diabetes mellitus >10 years or with documented end-organ damage
6. Pulmonary hypertension with RVSP 40-45mmHg
7. Vascular access complication/Subclavian Steal Syndrome
8. Sickle cell disease
9. HIV
10. Ejection Fraction of 40-45%
11. History of previous kidney transplant
12. Requires anticoagulation
13. Are down to their last dialysis access
14. Have had multiple failed accesses for dialysis

LOW (10 points each)

1. Cancer more than 6 years ago
2. COPD/Asthma
3. Obstructive sleep apnea
4. Smoking (tobacco)
5. Uncontrolled hypertension (On 3 or more antihypertensive medications)
6. Urinary tract infections
7. Pulmonary Hypertension with RVSP 35-40mmHg
8. Liver fibrosis without cirrhosis, stage 3-4 with a biopsy that confirms it is okay to proceed
9. Declines blood transfusions
10. History of invasive infections
11. Ejection Fraction 45-49%
12. cPRA 40-79%

Cumulative Risk Categories

Risk Category 5 *Need to be seen q6 months* ≥ 80 points
Risk Category 4 60-79 points
Risk Category 3 40-59 points
Risk Category 2 20-39 points
Risk Category 1 0-19 points

Importance of Right Recipient Selection for Challenging Kidneys

Machine Perfusion Allows Use Of High KDPI And Prolonged Cold Ischemia Time In Deceased Donors: A Single Center Effort To Decrease Discard Rates

M. Ortigosa Goggins, J. Gaynor, A. Mattiazzi, J. Figueiro, G. Burke, G. Ciancio, G. Guerra;
Miami Transplant Institute, University of Miami, Miami, FL.

Over a 1000 recipients were analyzed between 2014-2018.
Mean follow-up of 22 months
Mean CIT increased from 26 to 32 hours
Mean KDPI increased from 49 to 61%

Table 1 Distribution of DDKT by year of transplant

year	N	%KDPI>85	%Imported kidneys	%CIT>24hrs*	%CIT>36hrs*	%DGF	mean scret**
2014	214	22	26	82	36	11.3	1.25
2015	227	15	35	85	34	20.2	1.41
2016	182	20	45	87	34	14.7	1.17
2017	229	25	43	90	50	22.3	1.15
2018	228	32	63	93	50	21.6	1.27

Clinical TRANSPLANTATION
The Journal of Clinical and Translational Research

Original Article

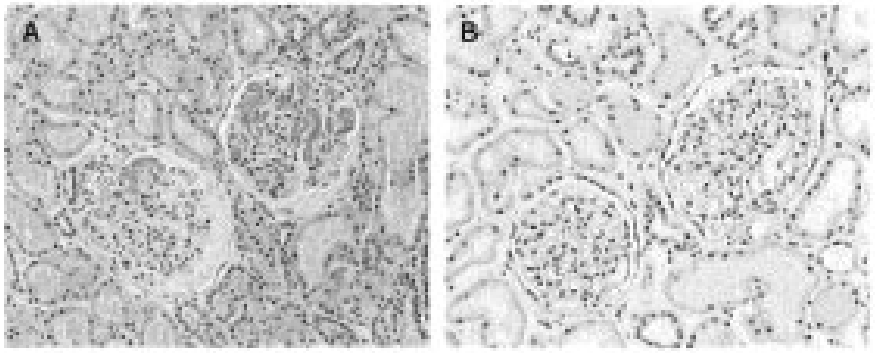
Enhancing kidney function with thrombolytic therapy following donation after cardiac death: a multicenter quasi-blinded prospective randomized trial

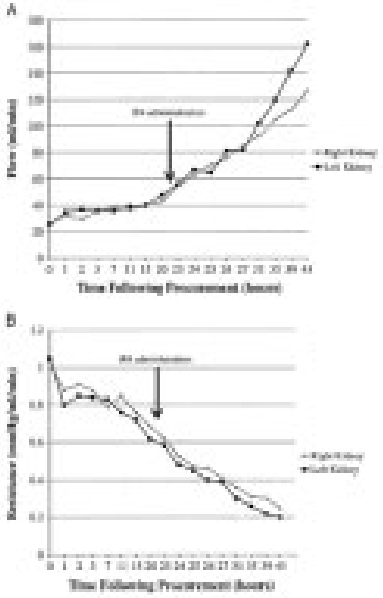
Kenneth J. Woodside, David A. Goldfarb, John C. Roberts, Edmund O. Sanchez, Daniel J. Leboeuf, James A. Schulak, John J. Fung, Bijan Eghtesad

First published: 08 October 2015 | https://doi.org/10.1111/ctr.12647 | Cited by: 1

Rescue Thrombolysis: Resolution of Intraglomerular Thrombi After Donation After Circulatory Death

Transplantation • Volume 96, Number 4, August 27, 2013





Curr Urol Rep (2016) 17: 3
DOI 10.1007/s11934-015-0557-z

KIDNEY DISEASES (G CIANCIO, SECTION EDITOR)

Use of Kidneys with Small Renal Tumors for Transplantation

Alejandro Lugo-Baruqui[1] · Giselle Guerra[2] · Adriana Arocha[1] · George W. Burke[1] · Gaetano Ciancio[1]

Fig. 1 Backtable preparation of kidney graft. Backtable preparation of kidney graft with identification of the tumor (**a**) partial nephrectomy with appropriate surgical margins (**b**) final repair of the graft before transplantation (**c**)

Case series: Transplantation of kidneys from donors with renal artery aneurysm

Mahmoud Alameddine, MD[1]; Zhobin Moghadamyeghaneh, MD[1]; Giselle Guerra, MD[1]; Mahmoud Morsi, MD[1]; Mohammed Osman, MD[1]; V.J. Chia, MD[1]; George W. Burke, MD[1]; Linda Chen, MD[1]; Rodrigo Vianna, MD[1]; Ian Zheng[2]; Javier González, MD[3]; Gaetano Ciancio, MD[1]

[1]Department of Transplant Surgery, University of Miami Miller School of Medicine, Miami, FL, United States; [2]University of Miami Miller School of Medicine, Miami, FL, United States; [3]Hospital Central de la Cruz Roja Universidad Alfonso X El Sabio, Spain

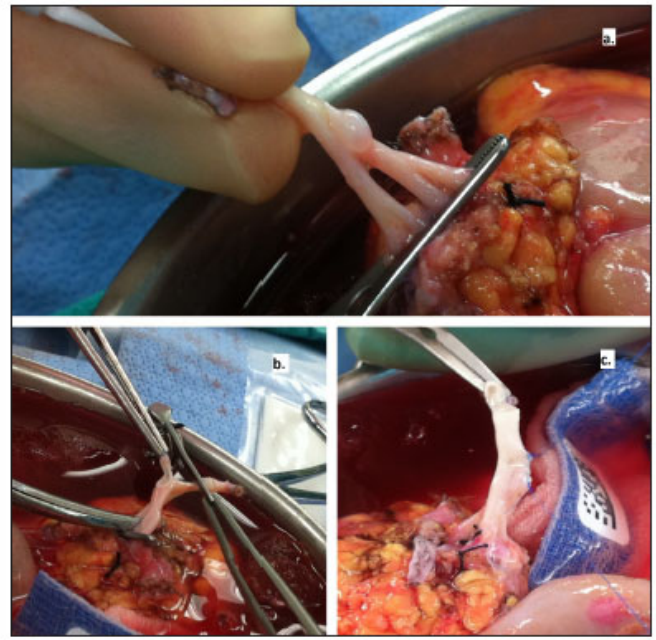


Table 1. Demographic data of the donors in addition to the side and size of the renal artery aneurysm

Case	Age (years)	Gender	Side	Size of aneurysm (mm)
1	53	M	Right	11
2	22	F	Right	5.5
3	54	F	Left	8
4	49	M	Right	5

Table 2. Summary of recipients outcomes and their relation to the donor

Case	Age (years)	Relation to donor	Followup US duplex	eGFR at 1 year (mL/min/1.73 m²)	Complication
1	45	Unrelated	4 years Patent renal artery	53.47	Mild wound infection
2	3	Unrelated	3 years Patent renal artery	199	None
3	40	Unrelated	2 years Patent renal artery	56.13	None
4	27	Son	1 year Patent renal artery	4	AMR

AMR: antibody-mediated rejection; eGFR: estimated glomerular filtration rate; US: ultrasound.

Maintenance of Waitlist

- Importance of Identifying Risk Stratification and Special Needs for Follow-Up: Cardiac High Risk, Social High Risk, Immunological High Risk
- Follow-Up Clinic and Diagnostic Testing
- Waitlist Committee
- High Risk Selection Committee

Education

- Patients in Evaluation and While on Waitlist – optimize their healthcare on the list and improve post transplant survival and compliance
- Dialysis Centers
- Referring Physicians
- Understanding and Meeting the Demands of Your Waitlist based on Demographic (ie: Hispanic Transplant Program)
- Ultimate Goal: Educate the People – cultural needs should be addressed to improve timely referral and even impact donation and transplantation rates
- Key – Awareness and Setting Expectations

Education

SELECTIVE MEMORY!

- No one told me how expensive my medications would be!
  - I can't afford the copays!"
  - "This the first I am hearing of this – why do I need a support person?!"
  - "I have to work – I can't stay home to take care of my family member."
  - "WHAT – I can't drive?! I have no one to drive me!"

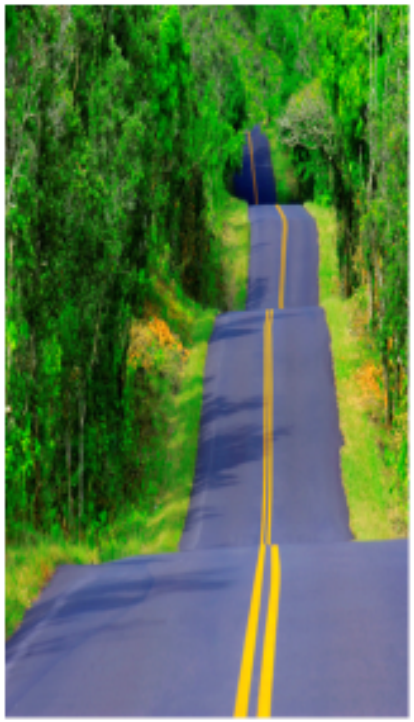
Patients and/or families invariably will "forget" the many things they have been told or have "lost" the Transplant Agreement that was reviewed which specifically addressed the important points and education that was provided.

NEVER take it personally - no matter what is said!

Education on Transplant Journey

Transplant recipients and their families frequently comment that it took significantly longer than they expected to recover physically and emotionally from the transplant surgery and to fully adapt to the routine of post transplant medications and side effects.
In general, the first year is best characterized as a period of readjustment and rehabilitation, with gradual improvement in all domains of physical, emotional and social. [2]

The multidisciplinary transplant team is here to help them on the road to recovery and it is a journey – for all involved.



Barriers For Patients and Potential Donors

- Language, including differences in dialect
- Cultural differences between patients and providers
- Distrust of providers or other individuals who do not understand the patient's culture
- Lack of community awareness
- Misconceptions about organ donation and transplantation
- Barriers impair access to preventive care, health education and some treatment options
- Solution: Hispanic Transplant Program and now Starting to Build a Haitian Transplant Program in Miami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Thank You