

DonateWell at USC Pilot Program

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OBJECTIVES:

- The need for a donor wellness program at USC
- Nutrition & lifestyle-related donor risks
- DonateWell Program Overview
- Pilot Results

KECK MEDICINE OF USC

LIVING DONOR PROGRAMS

	LDKT	LDLT
2020	35 (5 peds)	25 (6 peds)
2021	41 (2 peds)	36 (10 peds)
2022	41 (3 peds)	34 (10 peds)

KECK MEDICINE OF USC



Source: www.keckmedicine.org

Keck Medicine of **USC** is located in the Boyle Heights area of East Los Angeles.

70% of the medical center's patients are from LA County.

EAST LOS ANGELES: DEMOGRAPHICS

- **96.2% Hispanic**
- 50.5% Male/ 49.5% Female
- 10.6% 65 years or older
- **10.1% has a college degree**
- **17.9% poverty rate**
 - LA County 16.6%



Photo credit: Alicia Quan

US Census Bureau

2021/2022 KECK HOSPITAL COMMUNITY NEEDS ASSESSMENT REPORT

SIGNIFICANT HEALTH NEEDS IDENTIFIED

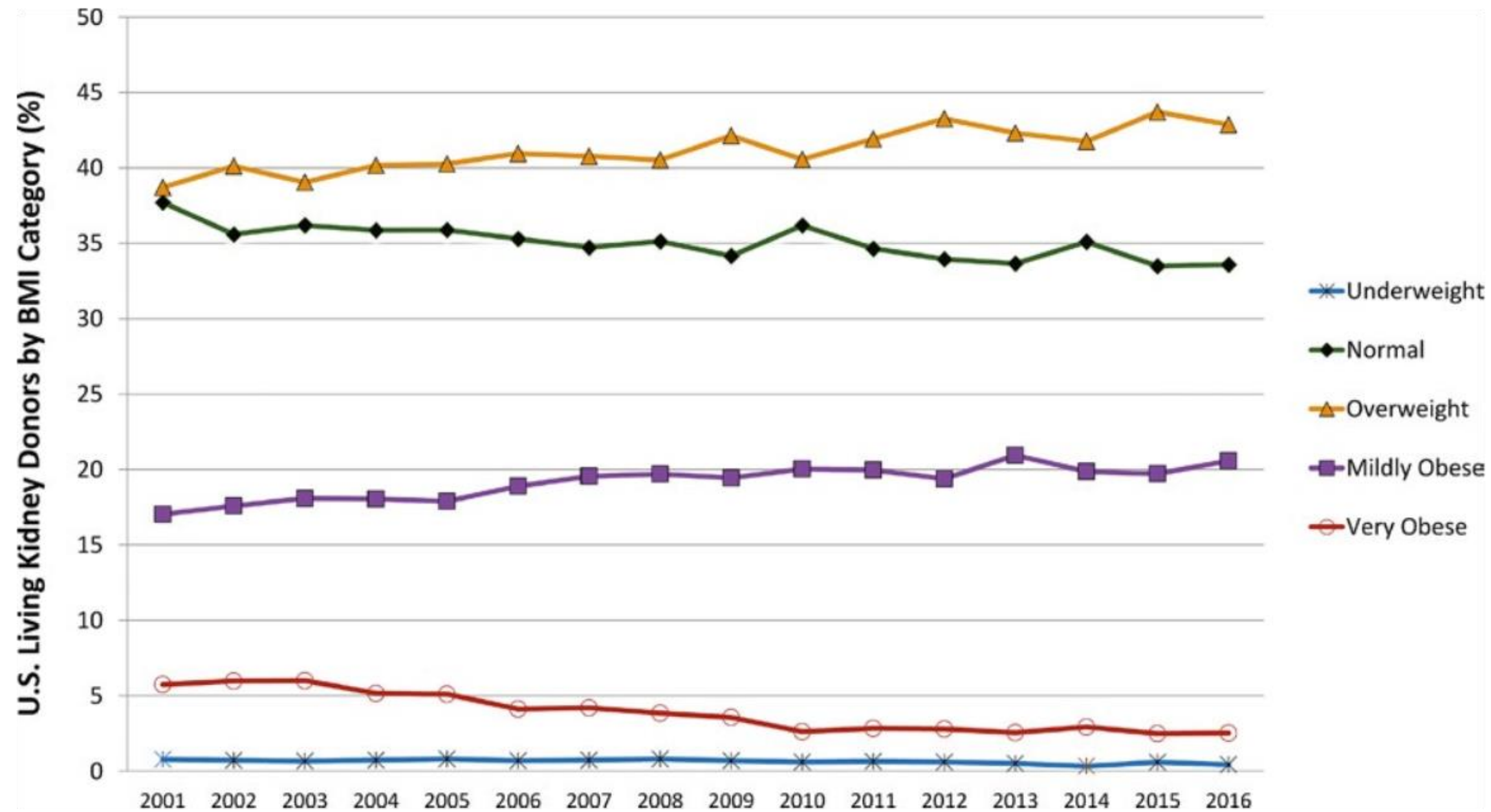
- Housing and Homelessness
- Mental Health
- Preventative Practices
- **Chronic Diseases**
- Access to Healthcare
- Sexually Transmitted Infections
- Cancer
- **Overweight and Obesity**

OBESITY IN THE U.S.

- 42.4% in 2017–2018
- 30.5% in 1999–2000
- Non-Hispanic Black adults (49.6%)
- **Hispanic adults (44.8%)**
- Non-Hispanic White adults (42.2%)
- Men and women with college degrees have lower obesity prevalence compared with those with less education

<https://www.cdc.gov/obesity/data/adult.html>

KIDNEY DONOR ACCEPTANCE RATE TRENDS BY BMI GROUP



Naik AS, Cibrik DM, Sakhuja A, Samaniego M, Lu Y, Shahinian V, Norman SP, Schnitzler MA, Kasiske BL, Segev DL, Lentine KL. Temporal trends, center-level variation, and the impact of prevalent state obesity rates on acceptance of obese living kidney donors. *Am J Transplant.* 2018 Mar;18(3):642-649. doi: 10.1111/ajt.14519. Epub 2017 Oct 30. PMID: 28949096.

NUTRITION-RELATED DONOR RISKS AT USC



Photo credit: Pavel Danilyuk

- Diabetes/Pre-diabetes
- Hypertension
- Hepatic Steatosis
- Metabolic Syndrome
- Obesity

2020 **USC** KIDNEY DONOR APPLICANT PROFILE

- BMI ranged from 17.7–48.8
 - **BMI >30: 54%**
 - BMI >35: 16%
 - BMI >40: 5%
- Age range: 18 to 75 years old
 - 56% are 18 to 39 years old
- **Hispanic: 40%**

DONATEWELL PILOT PROGRAM KIDNEY DONOR EVALUATIONS

2022

- Kidney donors evaluated – ~180 (2021)
- Kidney donors declined – 131 (72.7%)
- Kidney donors declined/deferred due to HTN/Pre-DM/DM/BMI – 27 (20.6%)
- # of kidney donors enrolled in DWP – 6 (22%)
- # of kidney donors optimized & donated – 5 (90%)

PROGRAM OBJECTIVES:

- Provide an *opportunity to an alternate pathway* to donation for unaccepted donors
 - 2nd screening process to *identify motivated & possible donors*
- Provide a *quick transition for health optimization* to help more donors to meet criteria
- *Easy access* to tools and resources
- Integrate *health & wellness for all donors* through *expanded nutrition education and resources*

DONATEWELL PROGRAM OVERVIEW



Photo credit: Antonina Vlasova/Shutterstock.com

- Baseline personalized nutrition plan
 - Nutrition assessment
 - Nutrition education
- Wellness program for deferred or declined donors
 - 8–12 week nutrition plan
 - Lifestyle Redesign[®]
 - Fitness Support*

NUTRITION ASSESSMENT & EDUCATION – UPDATED



Photo credit: Antonina Vlasova/Shutterstock.com

- Nutrition Assessment
 - Dietary intake
 - Nutrition knowledge & skills
 - Health tools & resources
- Nutrition Education
 - Pre- and post-donation nutrition needs
 - Mediterranean diet
 - Personalized meal plans
 - Long-term health maintenance
 - Managing a healthy weight
 - Healthy dietary patterns
 - Regular exercise

NUTRITION ASSESSMENT – **UPDATED**

MEDICAL HISTORY

- Diabetes/Pre-diabetes
- High blood pressure
- Fatty liver
- Hyperlipidemia
- Depression

SOCIAL HISTORY

- Level of education
- Occupation
- Schedule
- Current nutrition knowledge
- Meal preparation skills
- Access to healthy food
- Support

NUTRITION ASSESSMENT – UPDATED



Photo credit: Pexels/Creative Commons

Anthropometrics

- BMI
- Body composition
- Waist circumference

Nutrition-related labs

- CMP
- Lipid panel
- HbA1c

Liver fat quantification

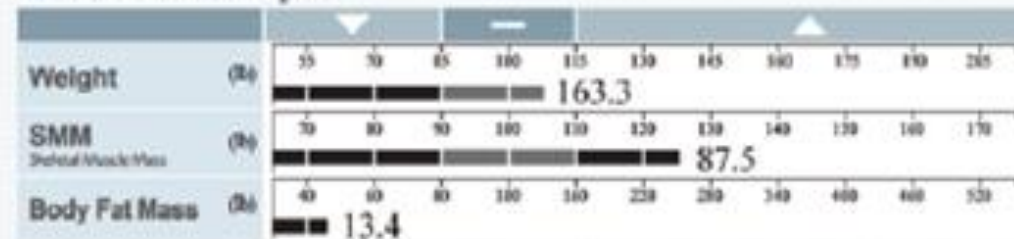
- MRI

ID: John Doe | Height: 5 ft 08.4 in | Age: 22 | Gender: Male | Test Date / Time: 04.23.2021 10:22

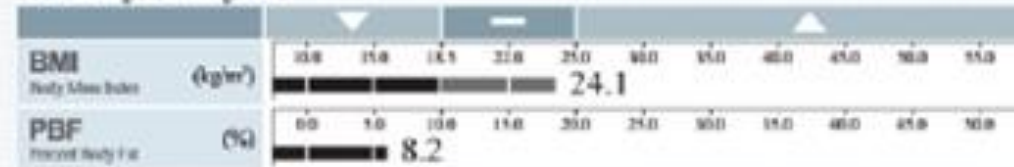
Body Composition Analysis

	Values	Total Body Water	Lean Body Mass	Weight
Intracellular Water (lb)	70.5	109.6	149.9	163.3
Extracellular Water (lb)	39.0			
Dry Lean Mass (lb)	40.3			
Body Fat Mass (lb)	13.4			

Muscle-Fat Analysis



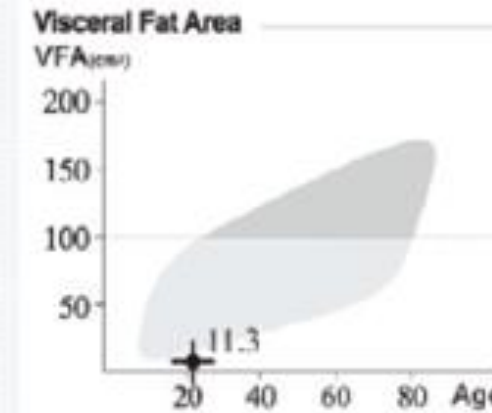
Obesity Analysis



Segmental Lean Analysis

		ECW/TBW
Right Arm (lb)	9.04	0.368
Right Arm (%)	124.4	
Left Arm (lb)	8.91	0.368
Left Arm (%)	122.5	
Trunk (lb)	67.3	0.357
Trunk (%)	116.0	
Right Leg (lb)	22.51	0.352
Right Leg (%)	111.3	
Left Leg (lb)	22.60	0.355
Left Leg (%)	111.7	

ECW/TBW Analysis



Body Fat - Lean Body Mass Control

Body Fat Mass: - 0.0 lb
Lean Body Mass: + 0.0 lb
(+) means to gain fat/lean (-) means to lose fat/lean

Segmental Fat Analysis

Right Arm (0.2 lb) 16.7%
Left Arm (0.2 lb) 16.7%
Trunk (6.0 lb) 62.1%
Right Leg (2.2 lb) 59.6%
Left Leg (2.2 lb) 59.5%

Basal Metabolic Rate: 1838 kcal

Leg Lean Mass: 45.1 lb

TBW/LBM: 73.1 %

Reactance

	RA	LA	TR	RL	LL
Xc(Ω) 5kHz	18.7	19.0	2.2	19.5	18.6
50kHz	27.6	27.7	3.5	30.6	29.8
250kHz	19.8	18.4	1.6	19.5	19.6

Whole Body Phase Angle: 7.3 °

PERSONALIZED NUTRITION PLAN



Photo credit: Alexandra Golovac

- Kcal/PRO needs
- Meal plans
 - Healthy recipes
 - Intake tracking
- Fasting-mimicking diet
 - Supplemental intervention
- Other resources
 - Group education classes
 - Access to healthy food

PERSONALIZED MEAL PLAN & NUTRITION APP



- Curate meal plans according to:
 - Health status/needs
 - Food preferences
 - Cooking level
- 6000+ RD approved recipes
- Create grocery lists
- Purchase groceries online
- Track dietary intake
- Access for up to 2 years after donation

FASTING MIMICKING DIET



Photo credit: L-Nutra

A 5-day structured diet

- Day 1: ~1100 calories
- Days 2 to 5: ~700–800 calories

LIFESTYLE REDESIGN

Lifestyle Redesign® is the process of guiding patients in behavior change to incorporate health promoting habits and routines in daily life.

USC OTs help implement sustainable lifestyle changes to improve health and quality of life.

- Time management
- Stress management
- Sleep routines

USC APPROVED FITNESS



Photo credit: MiniStocker/Shutterstock.com

Focusing on the application of exercise to prevent chronic diseases and improve the cardiovascular system.

*Create a personalized exercise plan to optimize functional movement and body strength.

DONATEWELL PILOT PROGRAM RESULTS

Oct 2021 – Present

- Kidney donors enrolled – 9
- Kidney donors optimized – 8
- Kidney donors post-donation – 6
- Kidney donors to be scheduled for surgery – 2

SUMMARY:

- USC receives 1000+ referrals from potential donors every year
- Approximately 20-30% are declined due to morbid obesity, high blood pressure, diabetes, hepatic steatosis, etc.
- Engage this subset of potential donors and bring them to acceptable health levels to be able to achieve their intention to donate
- Increase the pool of acceptable donors and help bridge the gap for health disparities in living donation

VARIABLE COSTS (Year 1)

InBody Analyzer	\$	20,500
Meal Planning Software	\$	5,000
Fasting Mimicking Diet	\$	5,500
Testing	\$	3,044
Clinic	\$	1,821
OT	\$	2,700
Other	\$	1,156
TOTAL VARIABLE COSTS	\$	39,721

Thank you!

Questions?

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