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| **PROTOCOL TITLE:** Kidney and Pancreas Pre-transplant:Body Mass Index (BMI) Guidelines for Kidney Transplant Candidates | |
| **APPLICABLE FACILITIES:**  EHC EDH EHH EHI EHN EJCH ELTAC ESJH  EUH EUHM EUHS EUOSH EWWH RJV-ERH RJV-ESOP TEC/ESA | |
| **EFFECTIVE DATE:** 02/25/2021 | **ORIGINATION DATE:** 06/07/2012 |

**CATEGORY:** Diagnostic/Therapeutic/Preventive,

**LEVEL:** Independent

**CONTENT:**

*Background:*

The Emory Kidney and PancreasTransplant Program multidisciplinary team will evaluate the recipient’s candidacy for transplantation based on a calculated Body Mass Index (BMI). Obesity is defined by a BMI of 30 or greater. Low-risk obesity is defined as 30-34.9, moderate-risk obesity is a BMI of 35-39.9 and morbid (or extreme) obesity is defined by a BMI of 40 or greater or BMI 35-40 with significant medical problems caused by or made worse by weight[1].

More than 35% of adults in the United States are obese and more than 6% of American adults have a BMI or 40 or greater [2]. Obesity raises their risk of morbidity from hypertension, dyslipidemia, type 2 diabetes, coronary heart disease, stroke, gallbladder disease, osteoarthritis, sleep apnea and respiratory problems, and endometrial, breast, prostate, and colon cancers. Higher body weights are also associated with increases in all-cause mortality [3] and recent data of the risks for kidney transplant recipients are reviewed in these references [4,5]. The candidate’s BMI is a potential contributive factor to their success rate post-transplant.

For the purpose of standardization in the calculation of the BMI, the measurement is weight in kilograms divided by height in meters squared.

***Guidelines for Patients Referred Transplant Based on Body Weight:***

All recipient referrals will be assessed by the transplant team regardless of BMI.

1. Patients with a BMI of less than 35 will be scheduled for an evaluation appointment.
2. Patients with a BMI of greater than 40 will be contacted by phone for a discussion of our program’s weight requirements. They will be advised that they are currently not a candidate for transplant due to obesity. If they would like further education in this regard they will be offered the opportunity for and initial educational visit. A “not a candidate” letter will be generated and the referral will be closed. The candidate, referring provider and dialysis unit will be notified per communication policy. This communication will include weight loss goals and expectations. The patient may contact the Emory Transplant Center Renal and Pancreas program when BMI goal has been attained or the Emory Transplant Center Renal and Pancreas program may be contacted by Bariatric program with indication that patient is actively engaged in a weight reduction program.
3. Patients with a BMI greater than 35 but less than 41 will be scheduled for evaluation unless there is documentation that they do not meet the criteria listed below (for example, age greater than 60).

***Guidelines for Approval for Listing and Transplant***

To be approved for UNOS listing and to receive a transplant, recipient candidates must achieve the following BMI criteria.

***BMI Selection Criteria for Kidney Transplant Candidates:***

BMI < 35: not a contraindication for transplant

BMI >40: contraindication for transplant

BMI 36 to 40: may be a transplant candidate if:

* Age < 60
* Non-frail by clinical assessment and good performance status (2 flights of stairs 4 METS)
* No midodrine therapy
* Non-smoker
* Comorbid conditions under control:
* HbA1c < 8%
* OSA is compliant with CPAP

Contraindications (consider exceptions for young, LD, pre-dialysis):

* CAD with intervention or history of MI
* PVD with intervention, amputation or severe PVD on imaging
* History of CVA

**RELATED POLICIES / PROCEDURES:** N/A

**DEFINITIONS:** N/A

**REFERENCES AND SOURCES OF EVIDENCE:**

1. Moyer, V.A. and U.S.P.S.T. Force, *Screening for and management of obesity in adults: U.S. Preventive Services Task Force recommendation statement.* Ann Intern Med, 2012. **157**(5): p. 373-8.

2. Schiller, J.S., et al., *Summary health statistics for U.S. adults: National Health Interview Survey, 2010.* Vital Health Stat 10, 2012(252): p. 1-207.

3. Department of Health & Human Services-National Institutes of Health, *NIH Publication No. 98-408,* *Clinical Guidelines on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults* National Heart, Lung, and Blood Institute. September 1998.

4. Nagy K, Ujszaszi A, Remport A, Kovesdy CP, Mucsi I, Molnar MZ, Mathe Z. Association of Abdominal Circumference, Body Mass Index, and Inflammation in Kidney Transplant Recipients. J Ren Nutr. 2016 Sep;26(5):325-33. doi: 10.1053/j.jrn.2016.02.007. Epub 2016 Mar 30. PMID: 27038807.

5. Schold JD, Augustine JJ, Huml AM, Fatica R, Nurko S, Wee A, Poggio ED. Effects of body mass index on kidney transplant outcomes are significantly modified by patient characteristics. Am J Transplant. 2021 Feb;21(2):751-765. doi: 10.1111/ajt.16196. Epub 2020 Aug 27. PMID: 32654372.

**KEY WORDS:** Kidney transplant, BMI, Obesity