

Breaking Down Waitlist Barriers: Addressing Complexities in Transplant Eligibility

TODAY'S PRESENTERS



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Meet Our Moderator



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Meet Our Presenters



Ashley Brabec

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Kidney Transplant Nutrition

Ashley Brabec, MS, RD, LMNT

Kidney and Pancreas Transplant Dietitian

Nebraska Medicine

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Medicine



Continuity of Care



Pre-transplant



Hospitalization



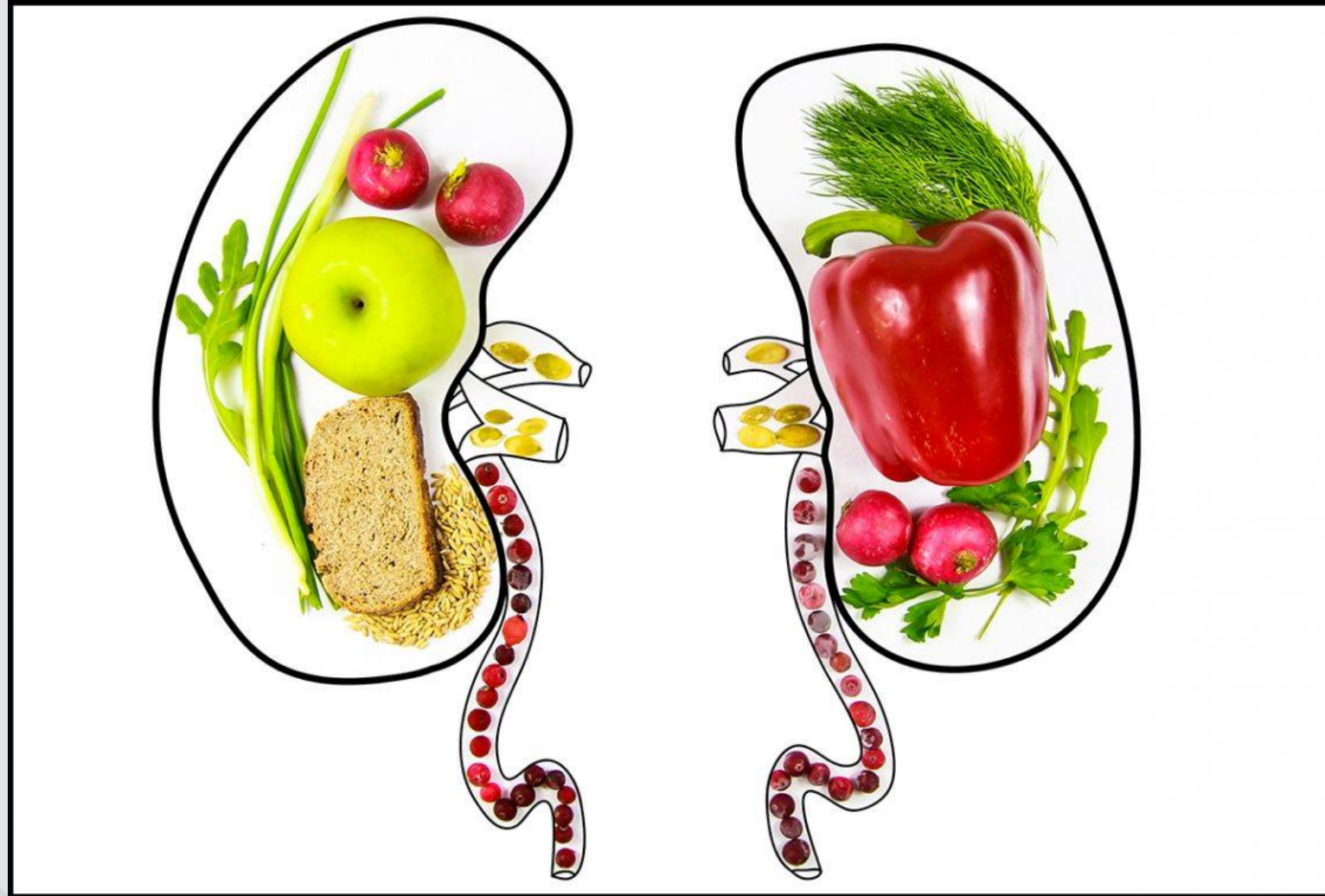
Post-transplant

Up to 4 years!



NUTRITION IMPORTANCE

Nutrition In A Nutshell



Beyond The Weight

- Reduce the risk of some diseases, including heart disease, diabetes, stroke, some cancers, and osteoporosis
- Reduce high blood pressure
- Lower high cholesterol
- Improve your well-being
- Improve your ability to fight off illness
- Improve your ability to recover from illness or injury
- Increase your energy level





WHAT ARE WE LOOKING FOR?



What Do We Look For?

- 1. Malnutrition (will discuss this more!)**
- 2. Weight loss needs (will discuss this more!)**
3. Diet Compliance (K and PO4 <6.5)
4. Blood Glucose Management (A1C <9)
5. Metabolic syndrome
6. Frailty



Malnutrition



Malnutrition

- Various studies show signs of malnutrition in **23–76% of hemodialysis** and **18–50% of peritoneal dialysis** patients.
 - Such variations in the prevalence of malnutrition may be related to factors such as age, case mix, co-morbid conditions and quality of dialysis therapy.
- Malnutrition among hospitalized patients remains a serious issue affecting **more than 30% of hospitalized patients** in the United States.



Malnutrition

- Puts patient + outcomes at risk
 - Infection
 - Mortality + increased LOS
 - Delayed wound healing
 - Dehydration + loss of graft function

Malnutrition

How do we know?

- Malnutrition Screening Tool
- Nutrition Focused Physical Exam





Obesity



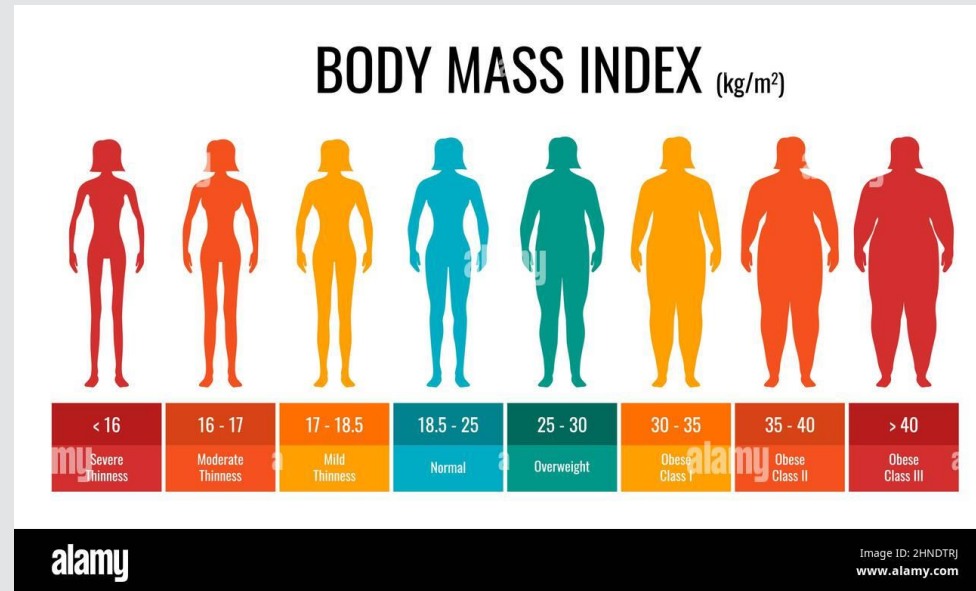
Obesity

NMC does not have a BMI “policy” for transplant



Obesity Definition

Medical Definition:



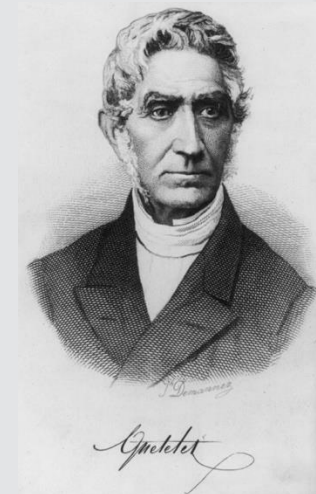
WHO Definition:

The World Health Organization defines obesity as an abnormal or excessive fat accumulation that presents a risk to health.



Body Mass Index Origin

- Developed in 1832 by a statistician Lambert Adolphe Jacques Quetelet
- It was created to determine risk amongst groups of Caucasian people for actuarial scientists. They found that categories of BMI helped to predict risk associated with life insurance. What they found was an association with mortality and diseases



Medico-Actuarial Mortality Investigation. Vol.1. Association of Life Insurance Medical Directors and the Actuarial Society of America, 1912 New York



BMI Limitations

- One piece of data
 - High BMI doesn't automatically mean you are in poor health
 - It may be more useful at predicting future rather than current health
- Total body mass- doesn't differentiate between muscle, fat, skeletal mass
- Doesn't show where adiposity is stored
 - Visceral vs. peripheral/ subcutaneous fat
- The BMI 30 was developed with data from White male individuals
 - Overestimate risk in Black individuals
 - Underestimate risk for those of Asian descent

1) Palaniappan LP, et al. International Journal of Obesity 35, 393-400 (2011)

2) Gandolfini, et al. Nephrol Dial Transplant 37 (2021)

Additional Measurements

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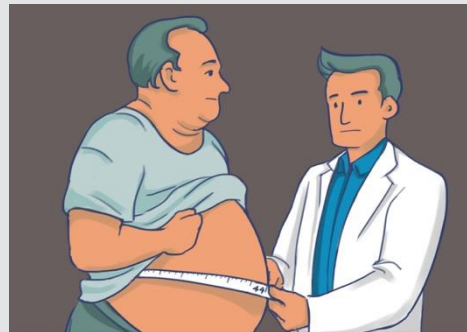


Nebraska
Medicine



Waist Circumference

- BMI and waist circumference studied in a prospective cohort of 993 kidney transplant patients.
 - Elevated waist circumference associated with higher mortality
 - > 100 cm (40in) for males
 - > 90 cm (35in) for females
 - Incorporating measures of visceral adiposity in the definition of obesity may improve the risk stratification of kidney transplant recipients and of dialysis patients wait-listed for kidney transplantation.



CDC, June 2022

Kovesdy et al. Am J Transplant, Dec (2010)

DEXA

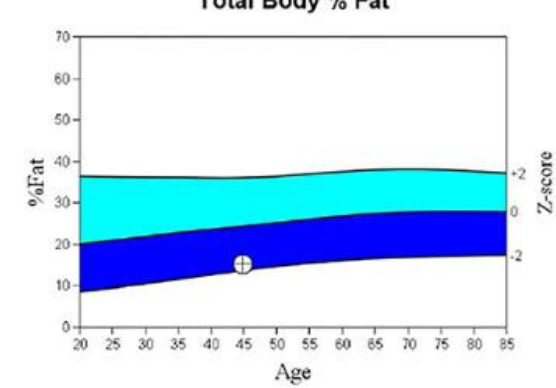


Dual-Energy X-Ray Absorptiometry (DEXA)

1. Total body fat percentage
2. Visceral adipose tissue
3. Skeletal muscle mass
4. Bone density

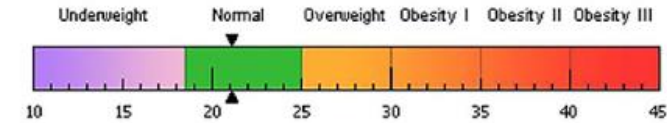
Healthy Percentage Body Fat Ranges

Age	Body Fat % Men	Body Fat % Women
20-39	8-19%	21-32%
40-59	11-21%	23-33%
60-79	13-24%	24-35%



Source: NHANES Classic White Male.

World Health Organization Body Mass Index Classification
BMI = 21.1 WHO Classification Normal



BMI has some limitations and an actual diagnosis of overweight or obesity should be made by a health professional. Obesity is associated with heart disease, certain types of cancer, type 2 diabetes, and other health risks. The higher a person's BMI is above 25, the greater their weight-related risks.

Body Composition Results

Region	Fat Mass (g)	Lean + BMC (g)	Total Mass (g)	% Fat	%Fat Percentile YN	AM
L Arm	579	3461	4041	14.3	29	11
R Arm	618	3319	3937	15.7	35	15
Trunk	4563	29147	33710	13.5	17	4
L Leg	1961	9915	11876	16.5	19	11
R Leg	1909	10431	12341	15.5	14	7
Subtotal	9631	56274	65905	14.6	18	4
Head	1161	3508	4669	24.9		
Total	10792	59782	70574	15.3	19	5
Android (A)	777	4288	5065	15.3		
Gynoid (G)	2079	9774	11854	17.5		

Scan Date: 17 December 2018 ID: A1217180B
Scan Type: a Whole Body
Analysis: 06 August 2019 13:45 Version 13.6.0.5
Auto Whole Body Fan Beam
Operator: DA
Model: Horizon A (S/N 301197M)
Comment: Valutazione BCA

Adipose Indices

Measure	Result	Percentile YN	AM
Total Body % Fat	15.3	19	5
Fat Mass/Height ² (kg/m ²)	3.33	17	5
Android/Gynoid Ratio	0.87		
% Fat Trunk/% Fat Legs	0.85	37	12
Trunk/Limb Fat Mass Ratio	0.90	36	10
Est. VAT Mass (g)	312		
Est. VAT Volume (cm ³)	338		
Est. VAT Area (cm ²)	64.8		

Lean Indices

Measure	Result	Percentile YN	AM
Lean/Height ² (kg/m ²)	17.6	20	12
Appen. Lean/Height ² (kg/m ²)	7.91	20	16

Est. VAT = Estimated Visceral Adipose Tissue
YN = Young Normal
AM = Age Matched



Weight Loss Intervention

- NMC Bariatrics
 - Surgical and non-surgical intervention
 - New Directions
- GLP-1 Receptor Agonists
 - Semaglutide (Ozempic/ Wegovy)
 - Tirzepatide (Mounjaro)
- Healthy diet/ exercise



Follow-Up



How we follow

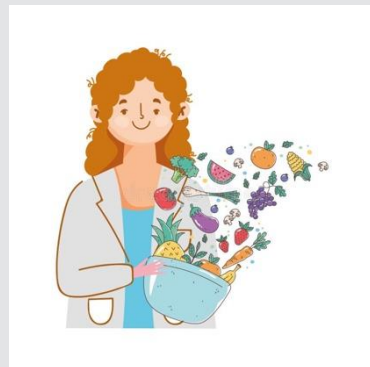
- Telehealth
- Waitlist every 6 months to yearly
- Dialysis RD
- Physical Therapy/ “**P**rehabilitation”



Transplant Dietitian vs. Dialysis Dietitian

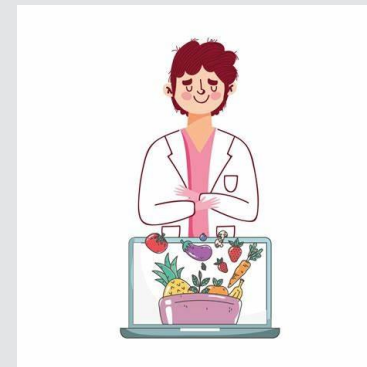
Transplant RD

- Risk vs. benefit of transplant
- Helping optimize their nutritional status before transplant
- Long term post-transplant



Dialysis/CKD RD

- Plan meals for patients
- Help patients see which foods directly affect their lab values
- Day-to-day while on dialysis





Please feel free to contact me!

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University of Nebraska
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Nebraska
Medicine

Breaking Down Waitlist Barriers

Addressing Psychosocial Complexities in Transplant Eligibility

By Allison Stephans, MSW, LCSW, CCTP

Social Support Challenges

- Limited social support is a known predictor of non-adherence and graft loss.⁽¹⁾
- Availability
 - Limited social network
 - Caregivers having limited time off work/financial hardship
 - Unpredictable timing of surgery
- Functionality
 - Support people with their own health or psychosocial challenges
 - Unhealthy family dynamics
 - Caregiver burnout
- Patient Not Involving Support
 - Patients being uncomfortable asking for/accepting help
 - Concerns about being a burden
 - Minimal understanding of recovery needs and believing “I can do it on my own.”
- Program Guidelines
 - How strict are program guidelines regarding required support?
 - Is the program expecting ideal support for all candidates?

“Magic wand, STAT!”



Support Solutions

Structural Support

- Extended Family
- Friends
- Community Organizations
- Long-Term Care
- Transportation Services
- Private Pay Caregiving Services
- FMLA and financial planning
- Housing provided by the transplant program during early recovery
- Think outside the box
- Plan ahead!

Informational Support

- Providing education to both patient and support team to improve understanding of the purpose and importance of the support team
- Family Meetings

Emotional Support

- “Consider it an investment in your future independence.”
- Support Groups
- Peer Mentor Program

Consider:

- Can a patient still be successful with post-transplant cares with less support than the team expects?
- What if complications arise?



Froedtert Hospital

Insurance

Barriers

- Adequate insurance needed long-term for success to be able to afford post-transplant medications and care
- Loss of insurance due to loss of job
- Loss of Medicaid and/or Medicare due to change in income, medical status, or lack of payment
- Limited access due to citizenship status

Solutions

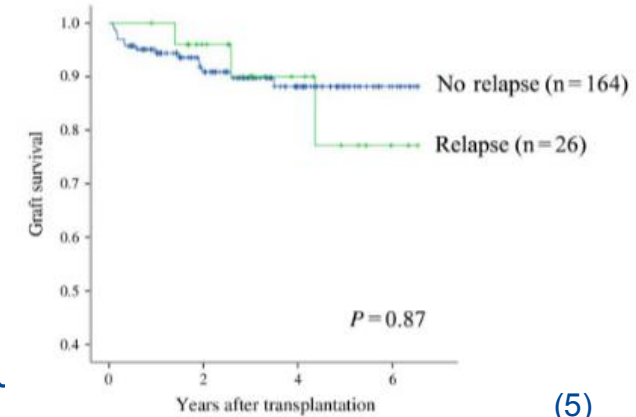
- ACA plan
- Know your state's resources
- Fundraising (Help Hope Live)
- Connect patient to the transplant financial liaison!!
- Pharmaceutical assistance programs
- Good Rx
- Mark Cuban's Cost Plus Drugs
- Needy Meds

Psychiatric Illness

- Psychiatric instability can be a risk factor for poor outcomes after transplant including non-adherence, graft failure, difficulty for patients to cooperate with medical providers, and increased risk for suicide.
- Current depression has been shown to be a predictor in post-transplant survival.
- There are limited recent studies to provide updated information about how psychiatric challenges impact transplant.
- Studies have contradictory results about psychiatric illnesses effecting transplant outcomes.
- There are no formal guidelines to have specific psychiatric illnesses be contradictory to transplant. Each center sets their own guidelines. (2)
- Psychiatric illness has been an indicator for relapse of alcohol use after transplant. (5,6)
- Transplant centers should consider risks, current stability, length of stability, if illness is impacting medical care, insight into illness, current treatment, willingness for treatment if needed in the future, and access to appropriate care if patient experiences decompensation.

Risks Related to Substance Use After Transplant

- Heavy alcohol use post-transplant is more likely to rejection, graft failure or death. (3,4,5,6)
- Studies have indicated that the risk for non-increases with substance use post-
- Minimal studies done regarding outcomes related to use after transplant.
- Tobacco use after transplant has been shown to worsen outcomes of cardiovascular events, malignancy, and more. (7)
- Potential for cross addiction that may lead back to resuming use of primary substance of choice.
 - Those who used cannabis after completing a treatment program for AUD were 3.8 times more likely to resume alcohol use than non-cannabis users.
 - Those who did not achieve sustained remission from alcohol use were 1.98 times more likely to use cannabis after treatment compared to those who achieved sustained remission
 - Cannabis use was 13.3 times higher in those who relapsed to alcohol use after sustained remission than those who did not relapse. (8)



(5)

Alcohol Abuse Concerns and Barriers

- 6-month sobriety rule
 - Still in use at several centers
 - Many studies have shown that 6 months sobriety is not an accurate indicator for relapse (4)
 - Longer periods of sobriety are a helpful indicator, but other factors also need to be taken into consideration
- Assessment—It should be comprehensive
 - Likelihood of relapse is difficult to predict
 - Tools such as HRAR, ARRA, R3, and HPSS are not validated
 - SALT is validated only for AAH
- Lack of insight which increases risk of relapse (9)
- Consideration of allocation of organs
 - Possibility that patients will experience improvement in health status with sustained sobriety and without transplant

Cannabis Use Barriers

Physical Health Risks

- Drug Interactions (tacrolimus toxicity)
- Pulmonary Disease (aspergillus, pneumonia, tuberculosis, obstructive lung disease)
- Cardiovascular Disease (ventricular tachycardia, MI, CM, sudden myopericarditis, arrhythmias, sudden death)
- Renal Disease (membranous glomerulonephritis, hyponatremia, AKI with synthetic cannabis use)
- Gastrointestinal Disease (cannabinoid hyperemesis syndrome, fibrosis risk in HCV)
- Lack of regulation (variable and/or poorly labeled strengths, potential for contaminants)

Neuropsychiatric Risks

- Cerebrovascular Disease
- Psychosis
- Potential depression and anxiety
- Impairments (judgment, verbal learning, memory, psychomotor, executive functioning)
- Substance Abuse (cannabis use disorder, risk of relapse to primary substance of abuse)

(8,10,11,12)

Potential Benefits of Cannabis Use

- Reduce Pain
- Reduce Inflammation
- Reduce nausea
- Increase appetite
- Potential therapeutic effect on ischemia and reperfusion injury
- One study has shown CBD use to have a statistically significant decrease in graft-versus-host disease ⁽¹⁰⁾

Tobacco Use

- Lung Transplant: prior smoking history increases risk of CKD and the decline in glomerular filtration.
- Kidney Transplant: tobacco use leads to increased allograft loss, death, diabetes, cardiovascular events, vascular renal problems, and cancer.
- Heart Transplant: smoking increased risks of CAD, malignancy, death, reduced life expectancy. Use before transplant increased risk for longer postoperative intubation and longer hospital stays.
- Liver Transplant: tobacco use increased risks of mortality, biliary complications, hepatic artery thrombosis. Use before transplant was found to have higher incidence rates of ascites and encephalopathy. (7)
- Tobacco use was shown to have worse survival outcomes compared to marijuana use. (13)

Transplant Outcomes Related to Substance Use

Post-Transplant

Cannabis

- 6 studies showed no difference in graft survival or mortality comparing those who used and did not use after transplant
 - 3 studies concentrated on kidney recipients
 - 3 studies concentrated on liver recipients
- 2 studies showed an increase in graft loss, death and other health issues in kidney recipients
 - Alhamad et al reported 2-fold increase in graft failure and death in first 2 years after surgery as well as higher rates of cardiovascular and pulmonary conditions, non-adherence, other substance abuse, AMS, psychosis, and accidents/fractures.
 - Fabbri et al reported cannabis users to be more likely to experience acute rejection in the first year and to be non-adherent. (12)

Alcohol

- Resuming abusive or harmful levels of drinking is associated with increased risk for rejection, graft failure, recurrent alcohol-related cirrhosis, and mortality.
 - One study showed that 35% (57/152) of ALD resumed heavy use, 54% (31/57) of those patients experienced at least 1 episode of liver decompensation, and 61% of the 57 died due to liver failure.
 - After diagnosis of recurrent cirrhosis, survival rates were 66% at 1 year, 38% at 5 years, and 21% at 10 years.
- “Slips” are not associated with adverse outcomes. (14)

One Plan Doesn't Work For All

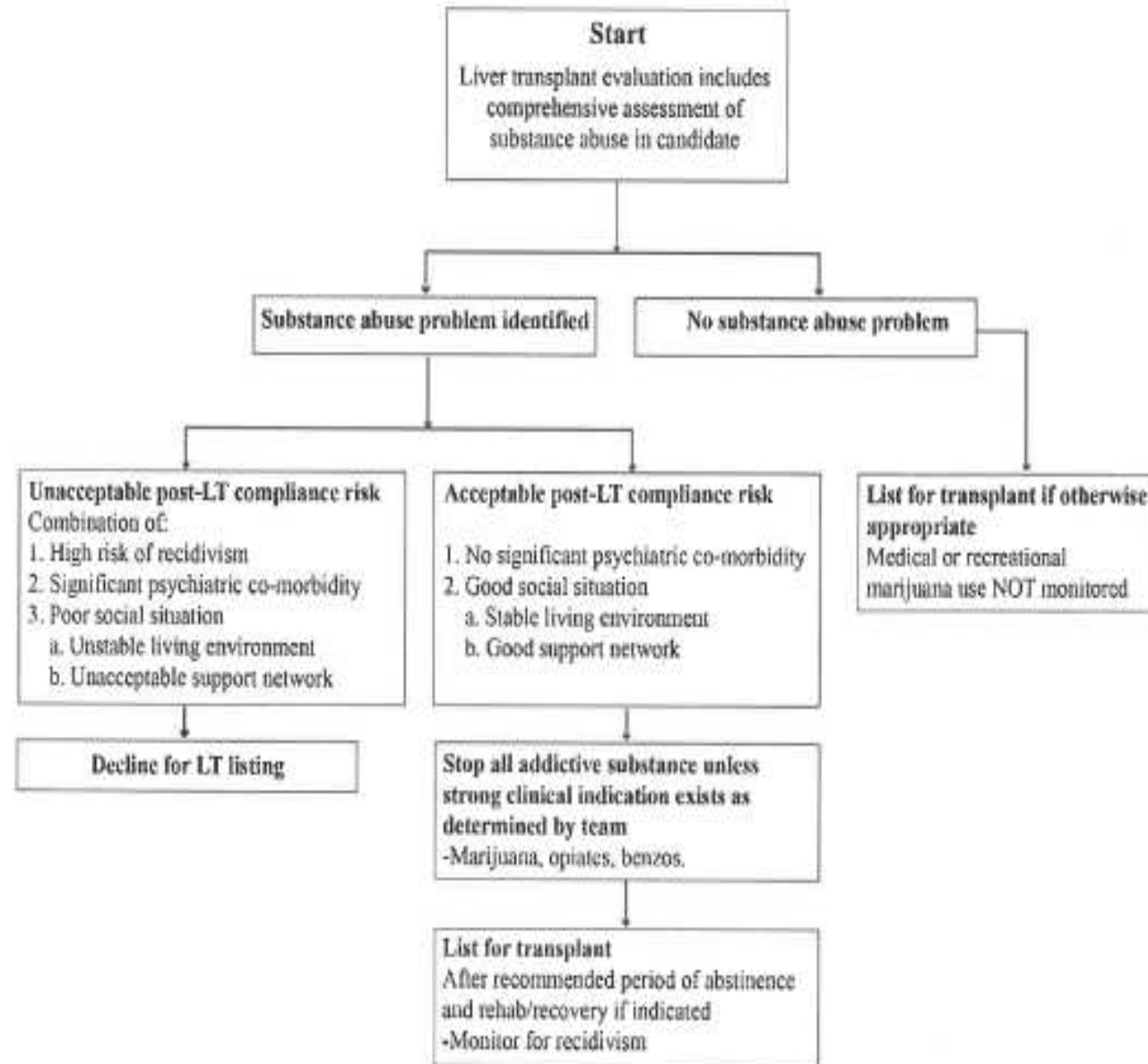


Substance Use Solutions

- Have an individualized approach
 - Human behavior is complex—it is difficult to have standardized screening tool
 - It is important to have an addiction specialist on the team to fully assess risk
 - Focus on each individual's risks, strengths, and protective factors
- Each program needs to consider what risks they are willing to take
- Have a policy to help promote consistency with recommendations
 - When to allow use
 - When to defer, decline, or de-list due to substance use
- Have substance abuse treatment options and access to resources to minimize risks
 - Psychotherapy options
 - Pharmaceutical options

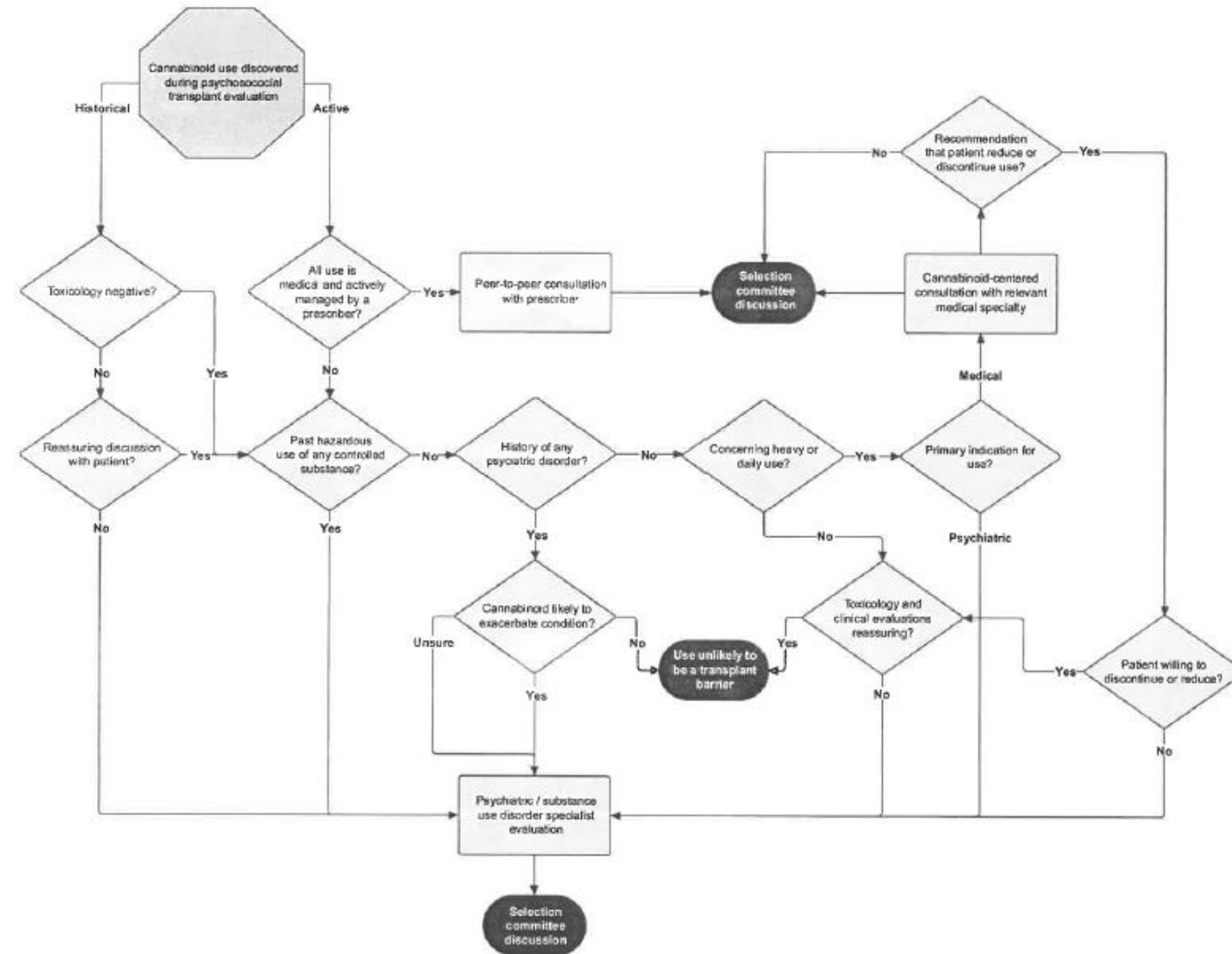
Suggested Algorithm for Candidacy in Patients Who Use Cannabis

Naugler et al, 2018(15)



Another Suggested Algorithm for Candidacy in Patients Who Use Cannabis

Kriss et al, 2024(16)



Considerations for Post-Transplant Substance Use

- Close follow-up and monitoring for high-risk patients after transplant
 - Patients with complications after surgery have a higher risk of relapse (6)
 - Monitoring can include drug screens, patient and family report, other medical indicators
- Recognize that relapse is part of the addiction cycle and it will happen
 - Offer support: most patients will experience guilt and/or shame related to the relapse
 - Have resources available before heavy/chronic use interferes with outcomes and quality of life
 - Understand that there will be people unwilling to accept the help and resources available

Substance Abuse Treatment Options

- Studies have shown that having a treatment program imbedded within the transplant program lessens recidivism. (17,18)
- Studies have also shown that treatment both before AND after transplant have increased likelihood for long-term sobriety. (5)
- Treatment needs to be seen as a resource to support sobriety and successful outcomes—not as a barrier to transplant.
 - Based on risk assessment, the team can decide to list patient prior to completing treatment.
- Different Levels of Care
 - Individual Therapy
 - Relapse Prevention Group
 - Intensive Outpatient Therapy
 - After-Care Program
 - Post-Transplant Support Group for those who relapse
- Partial Hospitalization or Inpatient programs may be a possibility, but medical needs may be a barrier to these higher levels of care.
- Peer run programs such as AA

Challenges to Accessing SUD Treatment

- Ability to attend all sessions
 - Community programs are often strict with scheduling
 - Dialysis, appointments, or hospitalizations often cause patients to be discharged from treatment without completion of program
- Cost
 - Community programs may not accept Medicare and/or Medicaid insurance
 - Patients may worry about the out-of-pocket costs
- Recommended treatment may be different than what the transplant team is requiring
 - Transplant team may have more collateral information when making recommendations

Benefits of an SUD Program in Transplant

- Proven to minimize relapse in transplant recipients
- Can offer flexibility around appointments and medical care
- Can easily monitor participation, compliance and growth
- Offers patients a setting to discuss challenges with both health and sobriety in 1 group setting
- Depending on how the program covers wages of the AODA counselor, costs to patients can be eliminated

(One challenge is that patients have less access to confidentiality—building rapport is essential)

Thank you!

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A Special Thanks to Our Presenters



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Q&A

QUESTIONS & ANSWERS