Ask the Experts: Liver Transplants

Nutrition Guidance to Survive and Thrive with Liver Disease

Jennifer Kerner, MS, RDN, LD
Transplant Dietitian
September 26, 2018
Factors that Promote Malnutrition with Liver Disease

<table>
<thead>
<tr>
<th>Inadequate Food Intake</th>
<th>Change in Absorbing and Metabolizing Foods</th>
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<tbody>
<tr>
<td>• Esophageal Strictures</td>
<td>• Increased calorie burn (energy expenditure)</td>
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<tr>
<td>• Encephalopathy (confusion)</td>
<td>• Altered metabolism of nutrients</td>
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<tr>
<td>• Feeling full quickly</td>
<td>• Impaired ability for liver to store nutrition</td>
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<tr>
<td>• Lack of Appetite</td>
<td>• Digestive juices can be altered (pancreatic, bile acids)</td>
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<td>• Nausea, vomiting</td>
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<tr>
<td>• Diet Restrictions</td>
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<tr>
<td>• Altered sense of taste</td>
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<tr>
<td>• Change in hormones that cause fullness</td>
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What Can You Do about Malnutrition?

- Adequate calorie (energy) intake
- Adequate protein intake
- Low sodium diet
- Prevent long periods of fasting
- Adequate intake of vitamins & minerals
- Optimize the basics before trying specialized nutrition
Low Salt Diet

• **Step 1:** Grocery Shopping
  
  20% DV Sodium – Don’t do it!!
  
  5% DV Sodium – Probably a safe choice
  
  Between 5-20% - caution, use judgement at meal time

• **Step 2:** Meal Time
  
  Divide 2,000 mg sodium between your meals & snacks
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20%

8%

1%

Kidney Beans
LIGHT RED

Kidney Beans
DARK RED
REDUCED SODIUM

Kidney Beans
NO SALT ADDED

Nutrition Facts
About 3.5 servings per container
Serving size 1/2 cup (130g)

Amount per serving
Calories 130

Total Fat 1g
Saturated Fat .5g
Trans Fat 0g
Cholesterol 0mg
Sodium 450mg
Total Carbohydrate 24g
Dietary Fiber 6g
Total Sugars 4g
Includes 3g Added Sugar
Protein 8g

Percent Daily Value%
2%
3%
0%
20%
8%
21%
6%

Nutrition Facts
About 3 servings per container
Serving size 1/2 cup (130g)

Amount per serving
Calories 130

Total Fat 1g
Saturated Fat .5g
Trans Fat 0g
Cholesterol 0mg
Sodium 175mg
Total Carbohydrate 24g
Dietary Fiber 6g
Total Sugars 4g
Includes 3g Added Sugar
Protein 8g

Percent Daily Value%
2%
3%
0%
8%
21%
6%

Nutrition Facts
Serving Size 1/2 cup (130g)
Servings Per Container about 3.5

Amount Per Serving
Calories 120

Total Fat 0.5g
Saturated Fat 0g
Trans Fat 0g
Cholesterol 0mg
Sodium 15mg
Total Carbohydrate 21g
Dietary Fiber 8g
Sugars 1g

Percent Daily Value%
1%
0%
0%
0%
1%
7%
32%
6%
Interpret the milligrams (mg)

Per 1 Cup:

805 mg
397 mg
120 mg
Adequate Protein

• Discuss protein goal with a dietitian
  – 20-30 per meal
  – Palm of hand, bar of soap, or deck of cards = 3 ounces / 21 grams protein

• Choose low-salt, heart-healthy protein when possible

Too Salty!
- Hot dogs
- Deli meat
- Bacon
- Sausage
- Ham
- Canned meats
- Crab, lobster, imitation seafood
- Canned beans

Lower Sodium
- Fresh or frozen:
  - Beef
  - Lamb
  - Pork
  - Poultry
  - Fish
  - shrimp
- Canned tuna or salmon (rinsed)
- Eggs
- Low sodium PB
- Dried peas/beans
Fatty Liver Disease Diet Strategies

- 10% weight loss if overweight/obese
- No alcohol
- Limit simple sugars, more complex carbohydrates
- Limit saturated fats. Eliminate *trans* fats.
- Fats primarily from poly- and mono
Final Words of Wisdom

• When in doubt, get the big picture from a dietitian
• Careful with dietary supplements
• Do your best, even if it isn’t perfect!
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Role of Social Work in the Transplant Team

Amy Eliason, LISW-S
September 26, 2018
Psychosocial Assessment

What is a psychosocial assessment?
• Gathering of data about emotional, behavioral, mental, environmental, and interactional process

How is the assessment related to transplant?
• Information obtained is used to see if person is a candidate for transplant listing
Support System

A support system are those individuals that will provide assistance before and after transplant.

• Family
• Friends
• Religious Community

Support system is critical to proceed with transplant evaluation
Types of Support

• Physical Support
• Emotional Support
• Transportation to and from appointments

Patients see a financial counselor to explain what is covered by insurance (ie transplant surgery, post op appointments and medications)
Mental Health

Patients and support system must be able to understand expectations of transplant team

Individuals with depression, anxiety, or other mental health diagnoses may struggle with meeting expectations

- Mental health provider – stability to proceed with transplant
- Medication – manage symptoms of diagnosis

Individuals with dementia or cognitive impairment are referred to transplant psychologist for cognitive evaluation

Transplant psychologist also see patients with diagnosed mental illness for assessment stability for transplant
Substance Use

Patients are assessed for nicotine, alcohol, and illicit drugs (ie marijuana, cocaine, heroin)

Ohio has selection criteria for patients with alcohol or substance use disorder through Ohio Solid Organ Transplant Consortium
Substance Use continued

Standard Criteria for OSOTC
Patients must sign a contract pledging not to use alcohol or any illicit or addictive substances in the future and agreeing to random screening both while awaiting and following transplant.

Patients must demonstrate complete abstinence from all addictive substances throughout the pre transplant process and meet 1 of the 3 determining factors:
• Abstinence for more than 6 months prior to listing and confirmed by collateral information.
Substance Use continued

- At least 3 months of abstinence prior to listing and 3 months of current participation in an active recovery program and random toxicology screens prior to listing and confirmed by collateral information
- Meets criteria for medically urgent patient

Patients must also have demonstrated to the Transplant Team
- Insight into past alcohol or substance misuse
- Good understanding how alcohol or substance misuse has had an impact on current health
Substance Use continued

• Adequate coping skills for dealing with stressors

Other factors for abstinence for consideration

• Presence of a sober, stable support network available both pre and post transplant
• Stable work history
• Presence of family unit which acknowledges the issues posed by addiction and will support patient’s commitment to abstinence
The Liver Transplant Evaluation from the Perspective of a Hepatologist

Seth Sclair MD
University Hospitals
Hepatology

WHAT IS THE MEANING OF THE TERM hepatology... and how to pronounce it?
Hepatology

- Hepatology is considered a sub-specialty of gastroenterology as it focuses solely on the liver and its associated organs, such as the pancreas and gallbladder.

- Hepatologist is a physician who specializes in disorders of the liver.

- Transplant Hepatologist
  - Advanced training
  - Board examination and certification with the American Board of Internal Medicine
Liver Transplant Evaluation

• Members of the team:
  – Hepatologists
  – Surgeons
  – Nurse Coordinators
  – Social Worker

• The process:
  – Referral → evaluation → testing → decision on listing →
    waiting/wait list → transplant → recovery → post transplant care

• Deceased donor liver transplantation vs. living donor liver transplantation
  – 7,715/8,082 → 95% / 5%

• Model for end stage liver disease (MELD)
MELD Score

INR
Bilirubin
Creatinine
Sodium (since 2016)

Calculator
https://optn.transplant.hrsa.gov/resources/allocation-calculators/meld-calculator/

Figure 42.1 Comparison of mortality risk expressed as hazard ratio by MELD score for recipients of liver transplants compared to candidates on the liver transplant waiting list. (Reproduced from Merion et al. [16] with permission from Wiley-Blackwell.)
Liver Transplant Evaluation

• Liver disease evaluation
  – Assessment of complications of liver disease and severity of liver disease
    • Ascites – fluid retention
    • GI bleeding
    • Hepatic Encephalopathy and confusion episodes
    • MELD score

  – Confirmation of diagnosis
    • Has the underlying liver disease been established?
    • Is the diagnosis correct?
    • Are there additional diagnoses contributing to liver disease?
Liver Transplant Evaluation

• Is the liver disease treatable/can there be improvement?
  – Controlling/Mitigating complications
  – Treating underlying liver disease
    • i.e. Hepatitis C treatment

• Other medical conditions that may impact a liver transplant
  – Personal history of cancer
  – Heart attacks/heart disease
  – Pulmonary disease
  – Overall health condition
Liver Testing

• Imaging of the liver
  – At UH:
    • Ultrasound of the liver
    • MRI of the liver with contrast

• Blood tests

• Endoscopy to look for varices

• Additional tests (on an individual basis):
  – Liver biopsy
  – Paracentesis – fluid is sent to the lab for analysis
Cardiovascular Evaluation

- Transplant surgery can be long, potential for blood loss
- Assessment for heart function, coronary artery disease
- Specific tests vary by center
- At UH:
  - EKG
  - Echocardiogram
  - Stress Test
  - Evaluation by a cardiologist
Cancer Screenings

• **Men**
  - > 50y: colon cancer screening (colonoscopy)

• **Women**
  - Cervical cancer screening (PAP smear)
  - > 40y: breast cancer screening (mammogram)
  - > 50y: colon cancer screening (colonoscopy)
Psychosocial Evaluation

- **Transplant Social Worker**
  - Addiction – history of drugs or alcohol abuse, cigarette smoking
  - Mental health/Cognitive assessment
  - Medication/Medical Compliance
  - Social Support
    - Family or friends who are available
    - Transportation
    - Distance from transplant center

- *When there are specific concerns: Psychology/Psychiatry*
Financial Assessment

• Finance counselor
  – Insurance benefits
  – Medication coverage
  – Out of pocket costs
  – Fundraising
Other Consultations

- Transplant Surgeon - *mandatory*
- Dietician – *mandatory*
- Cardiology
- Pulmonology
- Infectious Disease
- Dentist
Assessment of Candidacy

- Multidisciplinary meetings – regular meetings in which we review patients’ evaluation and make a decision regarding listing

- Ohio Solid Organ Transplant Consortium

- Signing a consent form to be listed for transplant
Wait-list Management

- Periodic blood tests to update MELD score
- Annual testing requirements
- Managing liver disease complications
- Keeping up with other requirements
Common Questions

• … but I don’t drink alcohol
• Waiting time?
• How much sicker do I need to get before I will have transplant?
• How do I expedite my evaluation?
• Number of appointments/visits?
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From the Patients Perspective

Robert Vaughn, Jr., Transplant Patient
September 26, 2018
Introduction

Robert Vaughn, Jr.

• 66 years old
• Diagnosed with Hepatocellular carcinoma (liver cancer) in October 2010
• Several procedures along the journey
• Transplanted on July 17, 2011
Experience Prior to Cancer Diagnosis

• Father was involved with animal transplant

• Volunteer in transplant unit

• Learned I needed a transplant
Preparing For the Journey

1. Education on diagnosis and treatment options/plan

2. Physical preparation
   - Diet and exercise

3. Mental preparation
   - Prayer and meditation
The Team and Support System

- The Team: Dietary, Pharmacy, and Medical
- The Support System: Family and friends are extremely important
Transplant

• The waiting
• The call
• The day of
  – Going into surgery
  – Waking up in ICU
  – Finding out that all went well . . . wife and kids :-)
  – In hospital recovery
Post Transplant

- Need someone who can relate
- Physical and mental obstacles
- Only patients know . . .
  - Inability to sleep in a bed for 3-6 months
  - Diminished spatial orientation and balance
  - New center of gravity
  - Need to walk a lot to restore balance and become familiar with new body type
Mental Challenges

• Facing death and surviving
• This is the most important challenge to achieving and maintaining a positive attitude
• Deserves A LOT of attention!
Suggestions

1. Continue to involve transplant patients in programs and opportunities such as this

2. Enlist a transplant partner to ease the mental trauma

3. Stay hopeful throughout every challenge!