

# OHSU Liver Transplant Referral, Eligibility and Evaluation

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## Eligibility Criteria

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### Referral Criteria

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- I. When should patients be referred for liver transplantation evaluation?
  - A. Acute Liver Failure (ALF): ALF is characterized by an acute hepatic injury with an elevated INR (usually > 2) and the development of encephalopathy. The syndrome of ALF can be caused by many things, but mortality can be high, and liver transplantation may be indicated. Transplant Hepatology should be contacted immediately for patients with suspected ALF.
  - B. Cirrhosis: This is the most common reason for liver transplantation, regardless of the etiology of the cirrhosis. In general, a referral for liver transplantation is appropriate when:
    1. The Model for End-Stage Liver Disease (MELD 3.0) (<https://optn.transplant.hrsa.gov/resources/allocation-calculators/meld-calculator/>) score is > 15 in the absence of significant symptoms, or
    2. Any MELD 3.0 with significant, persistent symptoms related to cirrhosis, such as ascites, encephalopathy, or variceal bleeding
- II. Exceptions:
  - A. Conditions where a MELD exception may be granted.  
[https://optn.transplant.hrsa.gov/media/esdjnjok/20200804\\_nlrp\\_adult\\_other\\_guidance.pdf](https://optn.transplant.hrsa.gov/media/esdjnjok/20200804_nlrp_adult_other_guidance.pdf)
    1. Budd Chiari
    2. Unresectable Hepatic Epithelioid Hemangioendothelioma (HEHE)
    3. Chronic, recurrent, confirmed hepatic hydrothorax
    4. Hereditary Hemorrhagic Telangiectasia
    5. Hepatic Adenomas
    6. Neuroendocrine Tumors (NET)
    7. Polycystic Liver Disease (PLD)
    8. Portopulmonary Hypertension
    9. Primary Sclerosing Cholangitis or Secondary Sclerosing Cholangitis
    10. Metabolic Disease
  - B. Hepatocellular Carcinoma (HCC): HCC can be cured with liver transplantation, and patients with HCC within transplantable criteria can be immediately referred for evaluation. Patients outside of transplantable criteria may, in select cases be able to receive transplant and can be referred for evaluation
  - C. Cholangiocarcinoma (CCA): Unresectable hilar CCA with a mass < 3 cm may be cured with liver transplantation, and such patients should be referred for evaluation

## Relative Contraindications to Liver Transplantation

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- I. Age over 70 years
  - A. Patients over 70 must have few or no other significant medical comorbidities to be good transplant candidates, but there is no strict upper age limit
- II. Advanced cardiopulmonary disease or multi-organ system diseases precluding survival of transplant
  - A. Significant CAD, usually > 50% occlusion of > 1 major coronary artery
    - 1. Patients may be considered if adequate revascularization has been achieved and overall heart function is normal
  - B. Significant left heart failure, usually defined by decreased systolic function (EF < 50%)
  - C. Pulmonary hypertension, usually defined as an RVSP > 40 on echo or measured mean pulmonary artery pressure > 35 mm Hg
    - 1. Patients with pulmonary hypertension may be eligible for liver transplant if the pulmonary hypertension can be adequately treated
- III. In general, significant obesity, as indicated by a Body Mass Index (BMI) > 45
  - A. Patients with liver disease may have significant fluid overload that could falsely increase the BMI in a non-meaningful way. Such patients will be evaluated on an individual basis by the liver transplant team to determine if obesity is a true contraindication to transplant in that patient.
  - B. Obesity itself is a significant co-morbid medical condition, and may be a contributing factor to a denial for liver transplant listing even if the BMI is below 45, for example in the context of co-morbid diabetes mellitus, hypertension, dyslipidemia, etc.
- IV. Psychosocial or financial issues that could result in inadequate post-transplant care.
- V. Active nicotine use
- VI. Multi-organ system diseases
- VII. Alcohol related cirrhosis with active alcohol use or a substance use disorder

## Absolute Contraindications to Liver Transplantation

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- I. Current active sepsis outside the biliary tract
- II. Malignancy outside the liver, except neuroendocrine tumors
- III. Presence of significant organ system failure other than liver, kidney except in the setting of fulminant hepatic failure.
- IV. Unacceptably high risk of return to use of alcohol or to other substance abuse post-transplant
- V. Inability to give informed consent or inability to adhere to the medical care required following transplantation.
- VI. Angiosarcoma