



Trillium
Gift of Life
Network

Ontario's Paediatric Referral and Listing Criteria for Liver Transplantation

Version 3.0

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PATIENT REFERRAL CRITERIA:

The patient referral criteria are criteria for which a Health Care Provider would utilize to refer a patient to a transplant centre for assessment. The criteria identified below are the agreed upon conditions for which a paediatric patient should be referred for liver combination transplant assessment.

- 1) **Liver Disease:** Referral for liver transplantation should be considered for patients with liver disease. Such patients generally will have one or more of the following:
 - End-stage chronic liver disease with hepatic decompensation (ascites, severe jaundice, recurrent cholangitis, hepatic encephalopathy, hypersplenism, GI bleed, failure to thrive)
 - Liver tumors such as hepatoblastoma and hepatocellular carcinoma (HCC)
 - Fulminant hepatic failure;
 - Hepatopulmonary syndrome (HPS); or,
 - Liver disease with poor quality of life.
- 2) **Metabolic Disorders:** Referral for liver transplantation may also be considered for patients with poorly controlled metabolic disease by medical means, early developmental delay or poor quality of life.

Early referral is essential, allowing for pre-transplant problems to be addressed and resolved while the liver disease is relatively well-compensated.

PATIENT LISTING INDICATIONS:

Each patient is assessed individually for their suitability for liver transplantation by the liver transplant program. In general, patients with irreversible end stage acute or chronic liver disease, or complications without therapeutic option other than liver transplant and absence of obvious contraindication for transplant are candidates for transplantation. Paediatric listing criteria pertains to those patients < 18 years old (up to but not including their 18th birthday).

The criteria identified below are the agreed conditions for which a patient may be eligible to be waitlisted for paediatric liver transplantation in Ontario.

- 1) **End-Stage Chronic Liver Disease:** Patients with end-stage chronic liver disease with the following criteria should be considered for transplantation:
 - Persistent cholestasis, uncorrectable coagulopathy, growth failure/severe malnutrition, refractory ascites, recurrent cholangitis, refractory pruritus;
 - Severe portal hypertension, or signs of intractable portal hypertension with low bilirubin as a result of cirrhosis due to parenteral nutrition induced disease;
 - Recurrent encephalopathy;
 - Decreased quality of life as a result of liver disease.
- 2) **Hepatoblastoma:** Listing for liver transplantation may be considered for patients with hepatoblastoma if they meet the following criteria:
 - Inability/failure of surgical resection;
 - Absence of vascular invasion and extrahepatic spread on imaging.

- 3) **Fulminant Hepatic Failure:** Patients with fulminant hepatic failure may be considered for liver transplantation if they meet the Kings College Criteria for transplantation.
- 4) **Metabolic Diseases:** Liver transplantation can be offered as therapy for patients with certain metabolic diseases (e.g. Urea cycle, hyperoxaluria type I) and who have a limited life expectancy without a transplant.
- 5) **Other Conditions:** Patients with certain rare conditions can be considered for liver transplantation. Such conditions may include rare tumours and vascular abnormalities.

PATIENT LISTING CONTRAINDICATIONS:

The contraindications for liver transplantation identified below are the agreed upon criteria for which a patient would not be eligible to be waitlisted for paediatric liver transplantation in Ontario.

- 1) **Co-Morbidities:** Patients with any co-morbidity, including extrahepatic comorbidities (e.g. severe heart or brain abnormalities, mitochondrial diseases), that decreases the likelihood of surviving 5 years post-transplant to below 50% or whom which the peri-operative risk is deemed unacceptably high, are not candidates for liver transplantation.
- 2) **Infections:** Patients are not candidates for liver transplantation if they display the following:
 - Active extrahepatic infection (including sepsis)
 - Uncontrolled HIV infection (i.e. detectable viral load and/or CD4 count <100) or AIDS.
- 3) **Malignancy:** Patients with extrahepatic malignancy are not candidates for liver transplantation. In general, patients must be disease free for at least 5 years after curative therapy but this rule may be discussed on an individual patient basis depending on the type and stage of the tumour.
- 4) **Vascular Abnormalities:** Patients with extensive thrombosis of the Pulmonary Vein, Superior Mesenteric Vein and Splenic Vein, or other extensive vascular anomalies or pathologies precluding sufficient revascularization of the graft are not candidates for liver transplantation.
- 5) **Psychosocial Considerations:** Patients must undergo a complete psychosocial evaluation prior to listing for transplant. Patients who display the following are not candidates for liver transplantation:
 - Unstable psychiatric disorder, especially one likely to interfere with compliance;
 - Unwillingness or inability to follow the advice of health professionals;
 - Social support/compliance issues prohibiting adherence to post-operative medications and/or follow-up care.
- 6) **Blood Transfusions:** Patients who are unwilling to accept transfusions of blood or blood products are not candidates for liver transplantation.

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