

## Fact Sheet - Liver Transplant

### Background

Liver transplantation is an end-stage treatment to replace a diseased liver, and to extend life expectancy and quality of life. Liver transplantation is a highly successful treatment for advanced liver disease.

Guidelines are used for referral for liver transplant. Australian transplant units are supported by the government, with liver transplant being publicly funded. Recipient listing criteria and organ allocation criteria have been commonly agreed to via national agreements. A timely referral for consideration is important for a successful outcome.

Liver transplantation units include:

NSW	Royal Prince Alfred Hospital (adult) Children's Hospital Westmead (paediatric)
VIC	Austin Hospital (adult) Royal Children's Hospital (paediatric)
QLD	Princess Alexandra Hospital (adult) Lady Cilento Hospital (paediatric)
SA	Flinders Medical Centre (adult)
WA	Sir Charles Gardiner Hospital (adult)

### Referral

Patients are referred to transplant units by their treating specialist for assessment of their eligibility to enter the transplant waiting list.

The assessment process requires patients to undergo a standard set of consultations and investigations to evaluate their suitability for transplantation. If suitable, patients will receive comprehensive education regarding the transplant procedure and its potential short-term and long-term outcomes.

### Eligibility

In general, liver transplantation is offered to patients whose liver disease is so severe that their risk of dying during the next two years without a transplant is higher than 50%, or their quality of life is intolerable. The Model for End-Stage Liver Disease (MELD) score is a measure of severity of an adult's liver failure, calculated using a mathematical formula based on blood tests. The MELD score correlates with how long a patient is likely to survive without a new liver. In children a similar score is used called Paediatric End-Stage Liver Disease (PELD).<sup>(1)</sup>

Typical indications for liver transplant include:

- Meld score of greater than 15 in adults or a PELD score of greater than 17 in a child.
- Diuretic-resistant ascites
- Recurrent hepatic encephalopathy
- Recurrent spontaneous bacterial peritonitis

- Recurrent or persistent gastrointestinal haemorrhage
- Intractable itch secondary to cholestatic liver disease

## Wait Time on the Transplant List

Wait time will vary based on:

- availability of donors
- consideration of liver size
- candidates who are sicker will be prioritized if the liver is suitable

## Indications and Contraindications

In Australia the most common reason (indication) for alpha-1 liver transplantation is cirrhosis of the liver from a build-up of antitrypsin which is stuck in the liver. Unlike other solid organ transplantation, tissue matching beyond simple ABO blood group compatibility has little impact on transplant outcomes.

Reasons why individuals may not be considered for transplant include the following contraindications:

- comorbidities e.g. problems with other organs that are untreatable e.g. cancer
- coronary artery disease with a poor prognosis
- cerebrovascular disease with a poor prognosis
- severe metabolic syndrome (hypertension, morbid obesity, hyperlipidaemia, type II diabetes with or without obstructive sleep apnoea)
- hepatopulmonary syndrome
- portopulmonary hypertension
- behavioural risk factors e.g. inability to stick to medical advice/therapy, substance abuse
- extreme frailty or age (if over 70 years and have comorbidities you may be excluded)
- neurocognitive impairment (which will need close assessment)
- poor social support
- poor rehab potential

If you were assessed to be unsuitable for transplant listing you have the right to seek a second opinion.

## Evaluation for Transplant / Pre-transplant Assessment

The workup assessment for transplant is extensive and thorough. All body systems and comorbidities are assessed. It is important to maintain a healthy weight (not too thin or overweight). You will have regular appointments. You will be seen by different health professionals e.g. immunologist, nutritionist / dietitian, dentist, dermatologist (e.g. checking for melanoma), psychologist / psychiatrist and you will have many assessments such as:

- a thorough head to toe physical examination
- blood tests
- kidney function test
- lung function check
- heart function check e.g. echocardiograph / cardiac catheterisation / coronary angiogram
- chest / abdomen CT (checking for cancer)
- bone scans

- other tests based on your gender and age e.g. adults may have a mammogram, prostate check

## What are The Risks Associated with Liver Transplant?

You will consent to surgery and your doctor / unit will explain risks associated with liver transplant and the impact of life-long medications. Risks can include:

- Donor rejection (when your body thinks the new liver is a foreign object)
- Infection
- Hepatic artery thrombosis (blood clot in the artery to the liver)
- Bile duct narrowing (strictures)
- Kidney failure requiring temporary dialysis
- Cardiac complications
- Unexpected transmission of diseases from the donor
- Death (there is approximately a one percent risk of dying during the operation)
- Complications from immunosuppressive therapy including diabetes, kidney damage, high blood pressure, skin cancers and osteoporosis.

Survival after transplant is good with a five-year survival over 80%.<sup>(1)</sup>

## After the Transplant Surgery

- Everyone's recovery is different.
- It usually takes three to six months to fully recover from transplant surgery.
- You will be monitored for acute rejection.
- You may be asked to live near the hospital for a while so you can be monitored.
- If you live a long way from your hospital (e.g. 100km) you may qualify for travel or accommodation assistance, which is available in some states.
- You will need to have frequent medical follow-up appointments during the first year.
- After liver transplant the new healthy liver will make antitrypsin.

## Staying Healthy Post Transplant

Most transplant recipients receive triple immunosuppression medication. Triple immunosuppression remains life-long and dosage is typically reduced over the first year as the risk of acute rejection declines. Infection prophylaxis is routinely used also.

- To stay as healthy as possible:  
eat a healthy diet
- maintain good food hygiene and personal hygiene
- avoid sick people (e.g. with a cold or the flu)
- routinely take prescribed medications
- avoid food and supplements which can interfere with your immunosuppressant medication
- have regular reviews
- respect your new liver (e.g. don't drink alcohol)
- stay positive.

## Retransplantation

Organ transplant recipients who develop organ failure of the transplanted organ (e.g. kidney failure after a liver transplant) are entitled to be assessed for transplantation of a subsequent organ.<sup>(1)</sup>

## Positive Transplant Stories

If you would like to make contact with an alpha who has had a liver transplant, please contact the Alpha-1 Organisation Association.

## Where to go for information and support

Alpha-1 Organisation Australia (A1OA): email: [contactus.a1oa@gmail.com](mailto:contactus.a1oa@gmail.com)

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## References

1. **Zealand, Transplantation Society of Australia and New.** *Clinical Guidelines for Organ Transplantation from Deceased Donors.* s.l. : Australian Government Organ and Tissue Authority, 2016.