

Fact Sheet - Lung Transplant

Background

Lung transplantation is an end-stage treatment to replace diseased lungs and to extend life expectancy and to improve quality of life. Guidelines are used for referral for transplant. Transplant centres interpret guidelines according to their ethos, experience and expertise so there may be geographical differences. A timely referral for consideration is important for a successful outcome. ⁽¹⁾

There are four adult lung transplantation centres in Australia which also provide long term post-transplant care.

- St Vincent's Hospital Sydney NSW
- The Alfred Hospital Melbourne VIC
- The Prince Charles Hospital, Brisbane QLD
- Fiona Stanley Hospital Perth, WA

Single Versus Double Lung Transplant

Single lung transplant may be suitable for some A1AD patients, but there has been great success with double (bilateral) transplant. One issue associated with a single lung transplant is that the "native" lung i.e. your original lung, bullae (air filled sac) may get bigger or the native lung might hyperinflate, which can squash the new lung.

Wait Time on the Transplant List

Wait time will vary based on:

- availability of donors / consideration of chest cavity size
- blood and tissue type match / antibody consideration
- the centre's list
- other candidates who are sicker and may be prioritized while on the wait list

Indications and Contraindications

In Australia the most common reason (indication) for lung transplantation is chronic obstructive pulmonary disease (COPD), as improved treatments are helping other lung diseases associated with lung transplant (e.g. cystic fibrosis).

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

- problems with other organs that are untreatable
- malignancy (disease-free interval usually a 2-year period for minor malignancy and 5 years for invasive malignancies)
- non-adherence
- morbid obesity
- substance misuse (including alcohol, tobacco, marijuana, illicit substances)

- age (over 65 may be considered if minimal comorbidities exist and good physiological fitness)
- poor social support
- poor rehab potential

Evaluation for Transplant / Pre-transplant Assessment

The workup assessment for transplant is extensive and thorough. All body systems and comorbidities are assessed and individuals may be provided with treatment to improved lung function, fitness, and wellbeing.

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
- liver function test / fatty liver / looking for scarring / cirrhosis / fibroscan
- lung function check / nodules
- heart function check e.g. echocardiograph / cardiac catheterisation / coronary angiogram
- chest / abdomen CT (checking for cancer)
- bone scans
- oesophageal tests; swallowing; speech therapy exercises (to reduce the risk of aspiration e.g. gas or food entering your new lungs, which can cause lung damage); barium meal (to look inside the oesophagus); motility (the movements of the digestive system)
- other tests based on your gender e.g. mammogram, prostate check

What are The Risks Associated with Lung Transplant?

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

- Donor rejection (when your body thinks the new lung/s are a foreign object)
- Infection
- Cancer (your risk increases due to the immunosuppressant medication)
- Complications from medicines including diabetes, kidney damage
- Lung infections
- Osteoporosis
- Gastrointestinal complications
- Neurological complications⁽²⁾

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 have initial trouble swallowing, talking and breathing normally or deeply, until you adjust to your new lungs.

- You will 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.

Staying Healthy Post Transplant

Most transplant recipients receive a triple immunosuppression regimen including calcineurin inhibitor, azathioprine or mycophenolate and prednisolone. Triple immunosuppression remains life-long and dosage is typically reduced over the first year as the risk of acute rejection declines.⁽¹⁾ Infection prophylaxis is routinely used also.⁽¹⁾

To stay as healthy as possible:

- maintain good food 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 review and surveillance with spirometry and bronchoscopy (i.e. examinations for rejection or infection)
- act quickly in the event of a lung infection or lung function decline
- respect your new lungs (e.g. don't smoke; avoid environmental pollutants e.g. bushfire smoke)
- stay positive.

Positive Transplant Stories

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

Where to go for information and support

Alpha-1 Organisation Australia (A1OA): Ph: 0450 406 693 Email: contactus.a1oa@gmail.com

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References

1. *Lung transplantation in Australia, 1986-2018: more than 30 years in the making.* **Paraskeva M, Levin KC, Westall GP, et.al.** 2018, MJA, Vol. 10, pp. 445-450.
2. *Medical complications of lung transplantation.* **Kotloff RM, Ahya VN.** s.l. : Euro Respir Journal, 2004, Vol. 23, pp. 334-342.