



*"When you can't breathe...
nothing else matters"*

Lung Transplantation

What is it?

Lung transplantation is an accepted therapy which offers the promise of improved survival and quality of life to selected people with life threatening lung diseases. It is important that people with bad lung disease know about this form of treatment.

The world's first successful lung transplant, a combined heart and double lung transplant, was performed at Stanford University Medical Centre in 1981. Since that time there have been over 30,000 lung transplants performed throughout the world. In Australia lung transplantation began in 1986. Over 2000 patients have received these operations since that time.

Who needs it?

Since lung transplantation is a very complex therapy which requires the use of a scarce resource and because it entails significant risk, only people who are dying from their lung disease, or who have very significantly impaired quality of life, may be suitable candidates for this type of surgery. Lung transplantation is performed for people with severe lung diseases such as cystic fibrosis, emphysema, pulmonary fibrosis as well as certain forms of congenital heart disease and pulmonary hypertension. Lung transplantation is not a suitable operation for patients with lung cancer.

How many people receive a lung transplant each year?

Many thousands of Australians die each year with these conditions. Unfortunately there are not enough donor lungs to help all those people who could benefit. Encouragingly the number of families who consent to organ donation has risen in Australia over the last few years, and the Australian lung transplant programs are world leaders in ensuring that as many potential lung donors as possible become actual lung donors. Around the world only about 10-20% of lungs from multiorgan donors are used for transplantation. In Australia this figure is 40% and rising. One of the most innovative ways that this rate is increasing is through the use of ex-vivo lung perfusion – a technique pioneered in Australia at Prince Charles Hospital in 2011 which involves resuscitating unusable organs outside the body to achieve safe transplantation. Even despite these advances only about 140 patients a year get a lung transplant in Australia.

Where and how is it done?

For adults with these types of lung diseases there are four centres which are able to provide lung transplantation services to the Australian community. These are the Alfred Program in Melbourne, St Vincent's Program in Sydney, the Prince Charles Program in Brisbane and the Fiona Stanley Program in Western Australia. Patients from the Northern Territory and northern New South Wales generally are referred to the Brisbane program, patients in the ACT generally go to the Sydney program and patients in South Australia and Tasmania generally are referred to the Melbourne program. Young children are referred to Melbourne via their local program.

Patients are referred by their specialist doctor to these programs for a thorough assessment regarding their potential suitability for this type of surgery. If there are no reasons found that would make the proposed operation of great risk, and there are no alternate therapies available, then the patient goes on to an active waiting list until the right lung or lungs become available depending on multiple factors, but most importantly matching blood group and size.

Some patients will only wait a few days or weeks for their transplant but most will wait between 6 -18 months. Not everyone who is accepted on to the waiting list will receive a transplant. Unfortunately some 10-15% of patients on the waiting list will either become so sick that they could not receive a transplant safely, or they will die from their lung disease before a lung becomes available.

The transplant itself takes between 4 and 8 hours and is performed by an expert team of surgeons, anaesthetic staff and nursing staff. Most patients will stay in hospital for 2-3 weeks after their transplant but it is remarkable how soon normal activities can be resumed. After the transplant patients take immunosuppressive medications to prevent their body from rejecting the transplanted organs. In addition antibiotics are taken to prevent common infections and regular tests are made of the transplanted organ with x-rays, lung function tests and small lung biopsies obtained using a bronchoscope.

How successful is it?

Australia has some of the best and most highly regarded lung transplant programs in the world. Accordingly, survival after a lung transplant is higher in Australia than anywhere else. Regardless of the form of transplant (single lung, double lung or heart and double lung) the majority of patients (approximately 93%) will live at least a year or more following their transplant with 70% living 5 or more years. Quality of life as measured by ability to exercise, attend educational courses, work or manage a household is usually excellent. Most patients return to a relatively normal life after a lung transplant.

Isn't it expensive?

Australia has some of the most efficient and cost-effective transplantation programs in the world. In many cases transplantation is less expensive than prolonged medical therapy for patients with severe lung diseases causing them to be in hospital for long periods of time.

Fortunately transplantation is fully funded by the public hospital system in Australia so eligible Medicare patients don't have to pay for the transplant procedure themselves. Nevertheless patients will still have some drug costs after the transplant, but will be eligible for the safety net according to their personal circumstances. When considering the financial impact of a lung transplant it is important to remember that a patient may no longer qualify for the disability support pension after their transplant.

What can I do to help?

Perhaps you know somebody with a severe lung problem who has not thought about lung transplantation. This brochure may help you to discuss this procedure with them. For most Australians the one thing that they can do is to discuss with their family and loved ones a positive approach towards organ donation without which no Australian could be helped by these wonderful new therapies. Interested persons should register their wish to donate at: <http://www.humanservices.gov.au/customer/services/medicare/australian-organ-donor-register>. Prior notification of intent to become an organ donor can be made in this way, but is not a substitute for prior discussion with your close family.

FS1215V2LT

This brochure is one in a series produced by Lung Foundation Australia to provide information on lung disease, its treatment and related issues. The information published by Lung Foundation Australia is designed to be used as a guide only, is not intended or implied to be a substitute for professional medical treatment and is presented for the sole purpose of disseminating information to reduce lung disease. Any information relating to medication brand names is correct at the time of printing. Lung Foundation Australia has no control or responsibility for the availability of medications, which may occasionally be discontinued or withdrawn. Please consult your family doctor or specialist respiratory physician if you have further questions relating to the information contained in this leaflet. For details of patient support groups in Australia please call 1800 654 301.

