

Transplant news

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Editorial

Professor Jerome Loveland
Editor

Notably, this edition of Transplant News features a celebration of the life of Glenn Giovannoni, who sadly died on 13th April of this year at the age of 52. Whilst immeasurably sad, Glenn's story defines the success that is transplantation, transforming a person with a life threatening disease, into a dynamic, proactive member of society, contributing on all facets of life. I am sure that he will be inspirational to the countless patients out there in the various phases of their evaluation and treatment.

Obviously, one needs to ready oneself for your transplant from a medical perspective, but one also needs to be logistically prepared for the day that you are called in. As in most endeavours in life, the devil lies in the detail, and Annette Otto provides a succinct overview of the "ins" and "outs" of what you will require on the day. The checklist that she has compiled will serve you well in your preparations – make a copy, tick all the boxes, and you will be ready!

As wonderful and definitive as transplant is, no matter the organ, it is not just a stand alone "heal all" that takes place without enormous input from the patients themselves.

Nutrition is obviously an extremely important component of care both pre- and post transplant, irrespective of the organ(s) concerned. Thus, although Mayuri Bhawan has written with respect to heart transplant recipients, the vast

majority of the principles can be applied to all transplant recipients, so read and learn!

I enjoyed being reminded of these healthy tips myself, and they are even more important for patients in the various stages of end stage organ failure, as well as post transplantation. The definition of what constitutes good and bad fats is always difficult to grasp, and here it is well explained.

Probably the biggest question that gets asked is what qualifies a patient for transplantation. Although dealing only with lung and cardiac transplantation, Marlize Frauendorf clearly defines what the broad selection criteria are at the Netcare Milpark Hospital, providing clear insights into how the transplant team negotiates the evaluation process.

Pancreas transplantation highlights the enormous benefits that organ transplant can achieve, particularly for a disease like Type 1 Diabetes, which is renowned for having such a massively deleterious impact on patients' lives. Pancreatic transplantation salvages this scenario, clearly demonstrating improved survival when compared to maximum medical therapy. Dr Paget provides a sobering view of the potential complications of this surgery, demonstrating that it should not be undertaken without due consideration and patient selection, and highlights the importance of global health care management, particularly diet and lifestyle.

Enjoy the read!

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The ins and outs of pancreas transplantation



Dr Graham Paget

Nephrologist

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A pancreas transplant is a surgical procedure to place a healthy pancreas from a deceased donor into a person whose pancreas no longer functions properly. Almost all pancreas transplants are done to treat cases of type 1 diabetes.

The pancreas is an organ that lies behind the lower part of your stomach. One of its main functions is to make insulin, a hormone that regulates the absorption of glucose for energy in to your cells. Type 1 diabetes results when your pancreas can't make enough insulin, causing your blood sugar to rise, leading to damage to organs, nerves and blood vessels over time.

Nearly 27000 pancreas transplants were performed in the world between 1998 and 2007. Around 60 percent of transplants are combined or simultaneous kidney and pancreas transplants (SKP) (as many diabetics will also have significant kidney failure or be on dialysis when listed for transplant), and the rest are pancreas transplants performed after a kidney transplant (PAK) or pancreas transplantation alone (PTA), in diabetics who have normal or near normal kidney function, essentially to "cure" diabetes.

The side effects of a pancreas transplant can be significant, so a pancreas transplant is typically reserved for those who have serious diabetes complications.

A pancreas transplant offers a potential cure for type 1 diabetes, but it is not considered a standard treatment. Often the side effects of the anti-rejection medications required after a pancreas transplant can be serious. However, if you have any of the following, a pancreas transplant may be worthwhile:

- Type 1 diabetes that can't be controlled **despite good compliance with standard treatment and diet (this is really important)**
- Frequent insulin reactions (hypoglycaemic events)
- Severe kidney damage

Because type 2 diabetes occurs due to the body's inability to utilise insulin properly — and not because of a problem with insulin production in the pancreas — a pancreas transplant isn't a treatment option for most people with type 2 diabetes. People who have severe cardiovascular disease

also had poor outcomes with pancreas transplantation, and are not considered eligible. Pancreas transplantation may improve nerve damage from diabetes, although the impact on eye damage is controversial. Diabetic kidney lesions may resolve with PTA transplants. The incidence of amputations and ulcers has also been found to decrease after pancreas transplantation. SKP patients also had lower risks of fracture than their kidney alone counterparts.

Complications of the procedure

Pancreas transplant surgery carries a risk of significant complications, including:

- Blood clots, especially of the artery to the new pancreas, but also the veins of the legs
- Bleeding
- Infection around the new pancreas
- High blood sugar levels, initially
- Urinary complications, including leaking or urinary tract infections, if a kidney transplant is also performed. Originally the pancreas was often drained via the bladder to monitor easily for rejection, but has largely been abandoned due to intolerable side effects.
- Failure or rejection of the donated pancreas

Anti-rejection medication side effects

After a pancreas transplant, you'll take medications for the rest of your life to help prevent your body from rejecting the donor pancreas. These medications can cause a variety of side effects, including osteoporosis, high cholesterol, high blood pressure, puffiness, weight gain, acne and excessive hair growth.

The procedure

Much like any significant surgical procedure, you will be given a general anaesthetic by an anaesthetist and monitored in the intensive care unit post operatively. The operation proceeds as follows:

- An incision is made down the centre of your abdomen.
- The surgeon places the new pancreas and a small portion of the donor's small intestine into your lower abdomen.
- The donor intestine is typically attached to your small intestine, and the donor pancreas is connected to blood vessels that also supply blood to your legs.
- Your own pancreas is left in place to aid digestion.
- If you're also receiving a kidney transplant, the blood

vessels of the new kidney will be attached to blood vessels on the other side in the lower part of your abdomen.

- The new kidney's ureter that links the kidney to the bladder will be connected to your bladder. Your own kidneys are usually left in place.

Pancreas transplant surgery usually lasts about three hours. Simultaneous kidney-pancreas transplant surgery takes a few more hours.

On average you spend around 1 week to 10 days in the hospital, but you will require frequent outpatient follow up tests and visits, at least initially.

Pancreas transplant survival rates

According to the Organ Procurement and Transplantation Network in the USA, transplanted pancreas and kidney survival rates analysed between 2005 and 2007 include the following:

- Simultaneous pancreas-kidney transplant. In about 88 percent of people who receive a simultaneous pancreas-kidney transplant, the transplanted pancreas is still functioning after one year. After three years, that rate is about 79 percent.
- Pancreas-after-kidney transplant. In about 81 percent of people who receive a pancreas-after-kidney transplant, the transplanted pancreas is still functioning after one year. Three years after transplant, the rate is about 68 percent.
- Pancreas-only transplant. In about 78 percent of people who receive a pancreas-only transplant, the transplanted pancreas is still functioning after one year. After three years, that rate is about 64 percent.
- It's unclear why results are better for those who receive

a kidney and pancreas at the same time. Some research suggests it may be because it's more difficult to monitor and detect rejection of a pancreas alone, versus a pancreas and a kidney. The initial lower survival rates of SKP procedures reflect the greater technical difficulties in performing these procedures.

- Patient survival rates at 10 years are around 70% for SKP

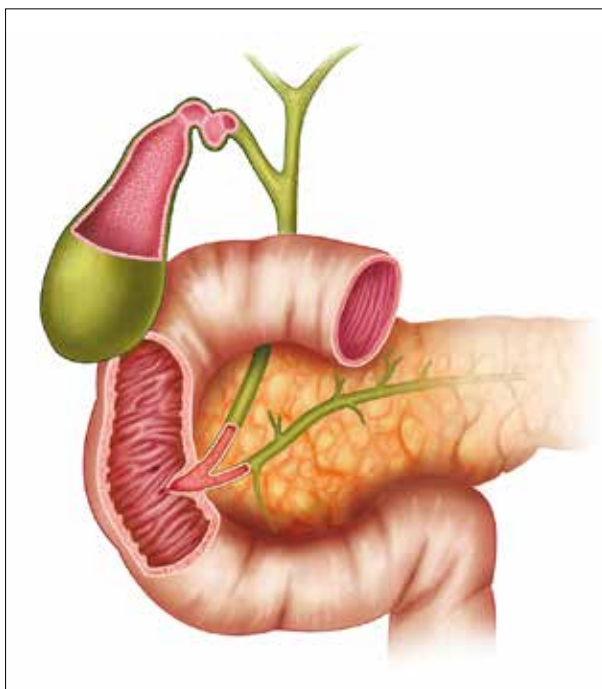
and 65% for PAK patients.

- The international pancreas transplant registry has recorded 47 pregnancies among 34 SKP recipients which resulted in 38 healthy babies, and so it does seem that planned pregnancy is quite reasonable after a successful pancreas transplant.

If your new pancreas fails, you can resume insulin treatments and consider a second transplant. This decision will depend on your health status and your ability to withstand surgery.

The real take home message overall is that survival for patients with type 1 diabetes who receive a pancreas and kidney transplant is better than those who remain on dialysis, and it has been found that

quality of life improvements are far superior with SKP than kidney transplant alone for type 1 diabetics.



Survival for patients with type 1 diabetes who receive a pancreas and kidney transplant is better than those who remain on dialysis and it has been found that quality of life improvements are far superior with SKP than kidney transplant alone for type 1 diabetics.

Nutrition after heart transplant



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Balanced, good nutrition is an important part of treatment after a heart transplant, as a healthy diet is vital to keep your heart in a tip top condition. After transplant, most transplant recipients have few restrictions or limits in what they are allowed to eat. Your whole family can follow these healthy eating guidelines.

While it is important to regain lost weight it is important to stay within your appropriate weight range. Being overweight can compromise the health of your new heart.

The nutritional goals in the acute post transplant patient are to:

- Provide adequate protein and calories to promote healing, fight infections and give energy
- Monitor and correct electrolyte abnormalities and
- Achieve optimal blood glucose control

A healthy diet consists of one that should be made up of fruits, vegetables, whole grains, and low fat or fat free milk and milk products. It also includes lean meats, poultry (chicken, turkey without skin), all types of fish, eggs, nuts, and legumes such as lentils, beans and chickpeas. The healthy diet should be low in saturated fats, trans fat, salt, added sugar, and cholesterol.

Compose your ideal plate of food



Fantastic fresh fruits and vegetables (aim to fill half of your plate)

A high intake (5 to 9 portions/day) of fresh fruit and vegetable intake has been associated with a lower risk for the development of Coronary Heart Disease

The vitamins, minerals (magnesium and potassium), fiber and phytochemicals (carotenoids, flavonoids) contribute to a reduced blood pressure, inflammation and improved blood glucose and weight control. Choose more dark green, red and orange fruits and vegetables daily. Examples include tomatoes, red, yellow or green peppers, broccoli, peas, carrots, red cabbage, apricots, oranges, mango, all berries, dried fruit, kiwi and melons. Include fruit when choosing a dessert or snack and choose fresh or frozen vegetables instead of canned.

Wholesome whole-grains (aim to fill one-quarter of your plate)

Research has established that optimal blood glucose control is essential to maintain the health of the arteries as well as for optimal weight control.

High blood glucose levels after a meal through mechanisms such as oxidative stress, high levels of insulin, triglycerides and glycated proteins are detrimental to the health of the arteries.

To achieve optimal blood glucose control it is recommended to avoid refined sugars (sweets/chocolates/ soft drinks) and refined starches (white/brown bread and all bakery items and confectionary). Incorporate more whole grains such as **oats, brown/wild rice, health/rye breads, whole grain breakfast cereals, barley, stampkoring, crushed wheat and legumes (lentils/ dry beans)**, into your diet as it not only improves blood glucose control dramatically but also contributes to improved arterial function and reduced inflammation

The ideal protein foods (aim to fill one-quarter of your plate)

Limit your intake of red meat

Include fish at least two to four times per week on your menu. Examples include salmon, tuna, mackerel, sardines, hake kingklip and sole. Avoid deep-fried batter-coated fish. Include meatless meals a few times a week, such as beans, split pea or lentil soup, hummus, lentil/bean curries, baked beans, tofu, soy burgers and soya mince. Use healthy cooking methods, such as baking, broiling, stir frying, steaming, roasting, poaching, grilling and barbecuing. Trim all visible fat off meat and skin of chicken before cooking.

The healthy fats and oils

1. Increase your intake of essential fatty acids (Omega 3 fatty fish)

These fatty acids play an important role with regard to many metabolic functions in the body. The relative dietary intake of Omega 3 and Omega 6 is important and should ideally be in the ratio of 1:5 (1 Omega 3 to 5 Omega 6). The current western diet is characterized by a high consumption of Omega 6 fatty acids found in a variety of vegetable oils and margarines while sources of Omega 3 and its active metabolites EPA and DHA found in fatty fish are not consumed in adequate quantities.

Omega 3 fatty acids promote dilation of the blood vessels, have anti clotting and inflammatory effects, lower the production of triglycerides and lower blood pressure. It is recommended to enjoy **three portions of fatty fish such as sardines, salmon, pilchards, anchovies, mackerel and herring weekly.**

2. Limit / avoid your intake of saturated fats

The fat in our diet originates from either plants or from animals. Scientifically these fats consists of varying amounts of fatty acids that differ in their molecular structure, and are classified according the characteristics of the dominant fatty acids present in the fat. Fats with a high amount of saturated fatty acids are mostly hard at room temperature and originate from animals. Examples are **butter, fat on meat (oxtail/mutton chops) all processed meats (sausages/pâtés) chicken skin, cream, full cream milk and hard cheeses. Plant fats high in saturated fats are palm kernel oil, coconut, cocoa butter and coconut oil** used in the making of chocolates, sweet biscuits, salty crackers, creamers, instant cappucinos and confectionery.

3. Limit/ avoid your intake of trans fatty acids

The food industry uses a process called hydrogenation, where oils which are normally liquid at room temperature, are heated and become more solid. These fats are called "vegetable fats or hydrogenated fats " During this process trans fatty acids form and these fatty acids behave like saturated fats in the body. These fatty acids are found in oven baked chips and fish, ice cream, chocolates, crackers, biscuits, fast foods and confectionery items and hard margarines. Oils used for deep-frying in restaurants ('slap' chips) contain high amounts of trans fatty acids.

4. Limit your intake of foods high in cholesterol

Cholesterol in food only contributes to 5 % of blood cholesterol. The American Heart Association (AHA) recommends a total cholesterol restriction of 300 mg per day. This can be achieved by the consumption of 4 eggs per week and eating seafood and liver on an occasional basis.

5. Increase your intake of mono unsaturated fats

Fats with a high unsaturated fat content are soft at room temperature and originate from plants. Replacing saturated fats with unsaturated fats in the diet contributes to a reduction in total cholesterol, LDL cholesterol and triglycerides. In addition mono unsaturated fats are less prone to oxidation and have anti inflammatory properties, and are therefore most preferable. Sources include **avocado pear, olives, olive oil, canola oil, peanut butter, peanut oil, and nuts such as almonds, cashews, hazel, macadamia, peanuts, pecans and pistachio nuts, and canola and olive oil margarine.**

A pinch of salt

It is advised that you should not sprinkle any salt on food before eating. Cook with the minimum amount of salt by using more herbs and spices. Limit the intake of salty foods such as biltong, processed meats, potato crisps and salty spreads such as fish paste and Bovril. Limit the use of added salt to no more than 5g (1 teaspoon) per day.

To drink or not to drink?

Alcohol consumption should be eliminated or severely restricted after your transplant. Alcoholic drinks are high in calories, increases blood pressure and the level of triglycerides in your blood. Excess alcohol can harm your liver's function and as medications are broken down by the liver. For your medications to work properly and safeguard your new heart from rejection, it is important that your liver be healthy and working well.

In the long term the AHA recommend not to drink at all. If you enjoy your drink the maximum intake for men should be 1- 2 drinks and 1 drink for women once a day. One standard drink is equivalent to: 1 beer dumpy; 1 medium dry white/red wine (150ml); 2 tot (30ml) of tequila, brandy, gin, vodka or whiskey.

Working with a registered dietician is critical in managing your nutritional status post transplant. These are just general guidelines, and it is thus important that you obtain an individualized eating plan and menu that suits your lifestyle. Contact the Association of Dietetics South Africa (ADSA), www.adsa.org.za or 011 789 6621 for a dietician in your area.

A celebration of the life of Glenn Charles Giovannoni (23 February 1962 - 13 April 2014)



June Giovannoni
Mother of Glenn Giovannoni
Secretary/Fundraiser
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My precious son Glenn Giovannoni's 25 year long journey living with renal failure since the age of 27 ended just after midnight on Sunday 13 April 2014 at the Charlotte Maxeke Hospital. Our gratitude and thanks to Dr Graham Paget and his team who did everything they could for Glenn over this trying time. Also our thanks and gratitude go to Sister Sindi Manzini and all her staff who took such great care of Glenn over the many years of his dialysis. Glenn always referred to the patients whom he dialysed with in Ward 475 as his 2nd family, sharing their many ups and downs, but most importantly the many laughs and happy times over the years he spent with them. He was always looked upon to help and give positive advice to those who were going through a tough time.

It was such a privilege for Kim, his sister, and myself to be at his side throughout this time and to be there with him, together with his cousin Tere Vasapoli, right to the end, but what a journey that was! We learnt so much from Glenn in the way he handled the challenges thrown at him. He taught us what it meant to never give up, appreciate and live each day to the full, to show gratitude, and to count your blessings. He believed that in many ways there will always be those who are better off than you, but more importantly many who are much worse off than you.

He was a prolific all round sportsman at school excelling in tennis, soccer, cricket and golf.



A world class tennis player, he was at the peak of his career, playing the circuits in Europe as a professional when all this was cut short with his illness. This did not deter him. Not for one minute did he allow his life to come to a halt because of renal failure, he just got on with life. He fought his disability with everything that he had, facing all this head-on without hesitation or complaint. He continued to pursue everything with his passionate fighting spirit, his love of art, his daily "painted words" on facebook, a good debate, music, movies, girls, sporting events and excellence in all its forms. Glenn was ferociously competitive, whether it was debating, tennis, golf or soccer and most importantly how he handled his illness.



He fought his disability with everything he had without hesitation or complaint. To him every setback was a tennis match he was not going to lose!

Soon after being on dialysis he received the ultimate "Gift of Life", a kidney transplant. How proud he was when he won a Gold Medal for Tennis at the World Transplant Games held in Manchester UK in 1995.



Unfortunately, not long after he ended up back on dialysis but this did not stop him from enjoying his love of sport. His week was taken up teaching children at various schools, a programme called "Intro Golf", which introduces primary school students to golf.

May his life and time on earth remain an inspiration to all whose life he touched.

Heart and lung transplantation - selection criteria



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What does "Organ Transplantation" mean to you? If you were the recipient of an organ, these words would signify much more than the physical act of transplanting an organ from one person to another. For a transplant recipient, a new organ means another chance at life.

A life-saving procedure

The Netcare Milpark Heart Transplant Programme has been in existence since 1993 and to date nearly 150 heart transplants have been performed. Most of these patients suffered from cardiomyopathy (a condition weakening the heart muscle and reducing its ability to pump).

The first lung transplant at the Netcare Milpark Hospital was performed in 2000, and to date more than 60 lung transplants have been performed. There are many conditions, e.g. emphysema, Cystic Fibrosis and Pulmonary Fibrosis that can lead to respiratory failure.

A successful transplant will extend the life of such a patient, improving the patient's general health and quality of life significantly. However, the decision to undergo a heart or lung transplant should not be taken lightly as it involves a certain degree of risk and requires several life long commitments from the patient.

The Transplant Process

Assessment

Potential recipients are referred for assessment to a multi-disciplinary transplant team consisting of cardiologists, physicians, cardiothoracic surgeons, anaesthesiologists, psychologists, coordinators, and other allied healthcare professionals. The indications and contra-indications for transplantation have been defined in the International Society for Heart and Lung Transplantation (ISHLT) Guidelines¹. A number of investigations and examinations must be performed in order to ascertain whether or not the patient is a suitable candidate for transplantation. The transplant team must be absolutely certain that the patient is suitable to undergo the surgical procedure and the immunosuppressant therapy (anti-rejection therapy) that follows. Unfortunately not every patient with end-stage organ failure will be eligible for transplantation.

- Suitable candidates should have received maximum medical and surgical therapy, despite which they still manifest a decline in heart or lung function.
- All other treatment options should have been exhausted.
- They must be diagnosed with chronic heart or lung disease with limited life expectancy, and should be expected to survive longer with a transplant than without it.
- Potential recipients should have a satisfactory psychosocial profile with adequate support structures in place
- Suitable candidates for transplantation should also have the potential to adhere to the lifestyle changes required following their transplant, and be well motivated to return to a normal, active and meaningful life post-transplantation.
- Although the latest tendency is to move away from an upper age cut-off limit, survival for transplantation decreases with advance in recipient age. On average patients should be younger than 70 years for heart transplantation, 65 for single lung transplantation, 60 years for double lung transplantation, and 55 years for combined heart/lung transplantation.
- Contra-indications for heart or lung transplantation include involvement of other organ systems, HIV positivity, malnutrition, osteoporosis and infective diseases, e.g. Hepatitis.

Conclusion

Making use of indications and contraindications to select potential recipients is most helpful in ensuring that heart or lung transplantation is reserved for those patients most likely to benefit both from an improved quality of life and an increased life expectancy.

For properly selected patients heart or lung transplantation is a viable, albeit costly therapeutic option in South Africa. The major ethical argument in applying these selection criteria concerns the fair allocation of scarce donor organs to those most likely to benefit from it.

In conclusion, the success of any transplant programme is based on the following principles:

- Strict adherence to selection criteria
- Meticulous attention to detail
- A strong multi-disciplinary team

For more information on Heart or Lung Transplantation please contact the Netcare Transplant Division on 011 489 1272 or email transplant@netcare.co.za.

What do you need to prepare for your operation?



Annette Otto
Regional Manager
Netcare Transplant Division
Pretoria

For some time now your life has been in a flurry of activity. You have been diagnosed with end organ failure and been placed on the transplant waiting list. Loads of information has been provided at different times. In all probability you will have only remembered a small portion of all the information given!

One of the single most important issues as a part of the work up information is that you have to be ready at all times for the phone call, informing you that an organ is available, and that you need to come in to the hospital. The call might be in the middle of the night or at a time that you are very busy. Have you actually started thinking about that time, have you got all your plans in place? In the scenario of not being at home yourself would your family know what you will need?

Preparing for your hospital admission is not just about packing your suitcase. Many other processes need to be put in place to assist you and your family to make this time as easy as possible. Not all of the items discussed may be applicable to you or your family, so you will need to individualise your requirements. If you and your family have not prepared for your hospitalization, now is the time to get it in place.

What do you need to prepare beforehand and take with to hospital? Hopefully these check lists will be of assistance to prepare you for your admission.

Valuables should be left at home or given to family or a friend. If this is not possible all hospitals have facilities where it can be locked away.

Preparing for your Transplant		✓
1.	Arrange with your employer for unplanned leave for your operation	
2	Keep an updated list of your medication	
3	Prepare a list of family and friends who need to be contacted. Remember to add your medical aid to this list.	
4	Inform your religious community of your upcoming transplant	
5	Ask someone to make the phone calls for you	
6	Ensure that your dental practice is updated	
7	Travel arrangements for yourself and your family	
8	Accommodation – have a list of applicable accommodation ready in the area of your transplant unit. (Most hospitals can be of assistance with this)	
9	Financial affairs - Make sure your partner is aware of relevant documents. Now might be a good time to ensure that your affairs are in place e.g. will and policies.	
10	Appoint a medical health care specialist	
11	Cash - There might not be time to arrange for your family or have access to ATM machines	
12	Ensure ongoing care for animals and your home	
13	Arrange care for your small children	
14	A list of past medical history, surgeries, allergies and chronic conditions	

Personal belongings		✓
1	Pyjamas	
2	Underwear	
3	Night gown	
4	Slippers with a non-slip sole	
5	Clothes to be discharged in	
6	Toiletries – toothbrush and paste, soap, shampoo, body lotion, deodorant, razors and shaving cream	
7	2 Face cloths	
8	Cell phone charger	
9	Something to keep you busy e.g. book or magazines	
10	ID book	
11	Medical aid card	
12	Chronic medication, especially blood pressure medication	
13	Any X-rays and other tests you might have	
14	Hospital authorization (If you have)	
15	Information booklet	

I do hope these checklists can be of assistance to you and your family to prepare for the day of your transplant. Some of the items may not be applicable to your situation. You can use this list to develop questions that you might have. Feel free to speak to your coordinator.