

Transplant Digest

Issue 1 Winter 2006

SMH Renal Transplant Program Shows Excellence



SMH Excellent Team Award Winner 2005

1st Row Left to Right:

Dr. Prasad, Dr. McFarlane, Dr. Pace,
Dr. Stewart, Dr. Zaltzman, Dr. Honey,
Galo Meliton, Jenny Huckle, Farida Basaria

2nd Row Left to Right:

Maria Tersigni, Anne Augello, Dorit Najgoldberg,
Jacinda Frazer, Meriam Jayoma, Mimi Cheng,
Maria Salanga, Michelle Nash, Susie Par, Rose
Luong, Trixie Williams, Thelma Carino, Fernanda
Shamy, Karen Burleigh, Erin Irving, Lindita Rapi,
Niki Dacouris, Lyn Doak



Renal Transplant Symposium 2006

Left to Right:

Galo Meliton, Maria Salanga, Rose Luong, Linda Ahn, Tiffany Camota, Fernanda Shamy,
Mona Udit, Dr. Prasad, Thelma Carino, Meriam Jayoma, Jenny Huckle, Dr. Zaltzman, Trixie Williams

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Leading with Innovation
Serving with Compassion

ST. MICHAEL'S HOSPITAL

A teaching hospital affiliated with the University of Toronto



This has been a wonderful year for the SMH Transplant Program. We have received accolades, not just from within St. Michael's Hospital, but also from other health care facilities.



This year our program has received the Values in Action Excellent Team Award. For the past 10 years, it has been a tradition of St. Michael's Hospital to recognize individuals or groups of individuals for doing exceptional work in their area of expertise. It has been an enormous honour for the Transplant Program to receive such an award.

In addition to that achievement there was the success of the Renal Transplant Symposium 2006, held at the Grand Hotel on May 19, 2006. It was organized by the entire kidney transplant team spearheaded by Galo Meliton with the support of our very dynamic Clinical Leader/Manager Trixie Williams. It was sponsored by various pharmaceutical companies. The purpose of the symposium was to provide not just information on the nursing and medical aspects of kidney transplantation but also on ethical and psychosocial issues. The latest kidney transplantation initiatives were addressed by some of the speakers and a lot of participants were impressed by what they heard.

St. Michael's Renal Transplant Program has evolved tremendously from the time it was started in 1969. We will continue to uphold the commitment of the hospital to provide excellent public health care.

Jennifer Meriam N. Jayoma, RN, CNeph(C)

From The Editor's Desk...

Welcome to the new incarnation of the Transplant Digest newsletter from the Renal Transplant Program at St. Michael's Hospital. Many of you may remember a previous version of this publication, which related all aspects of pre-and post-transplant care including surgery, medication, pharmacy and nutritional issues, social work-related matters, and research. We would like to continue this tradition of open communication that is inherent in St. Michael's Hospital's philosophy by resurrecting the newsletter.

This is indeed an exciting time for renal transplantation. We now follow around 1008 patients in the Transplant Clinic and perform close to 100 transplants annually. In addition, over the past few years Transplantation Medicine has gone through some dramatic and noticeable changes. There are new medications available, surgical techniques have improved, and transplants are working better and lasting longer than ever before. There are also new and innovative ways of finding organs for potential recipients. We hope to bring to you some of the vast amount of available information in this and subsequent issues of the Digest.

Patient participation is not only welcome, but vital to the success of our publication. Please contact Meriam Jayoma to see how you can help. I hope you will enjoy reading the Transplant Digest as much as we have enjoyed preparing it.

Dr. Ramesh Prasad

Message from...

Welcome to the Transplant Digest newsletter from the Renal Transplant Program at St. Michael's Hospital. We have resurrected the newsletter to bring our stakeholders updated information as it relates to the St. Michael's Hospital's Transplant Team such as pre-transplant and post-transplant care-medical and surgical, allied health concepts and research initiatives. This newsletter is a symbol of the passion and pride that the transplant team emits on a daily basis. Our most recent census on the number of functioning kidneys that St. Michael's Hospital transplant team manages is above the 1000 mark. One might ask, how did they get there? I believe and have witnessed over the year that it is the team's dedication, commitment and enthusiasm. This newsletter is an overview of the ongoing initiatives of our transplant team emits. The clinic is constantly growing, our challenges change from day to day but the focus on holistic patient care is consistent. I hope you enjoy the information within this newsletter. Please feel free to provide Meriam Jayoma-our newsletter coordinator-with your comments and feedback.

Trixie Williams RN, BScN, MHS(c)

Transplant Trends

Paired Kidney Exchange

By Dr. Jeffrey Zaltzman

The transplantation process of living organ donation adheres to ethical principles. It is based on the balancing of risks and benefits; the recipient benefits by receiving a new organ, but risks feelings of guilt or discomfort toward the donor whilst benefit to the donor rests largely on the psychological sense of well-being of helping another person. It is essential for donors to act voluntarily and to be neither coerced nor rewarded financially for donation. Health care teams are bound to ethical duties including respect for patient autonomy, beneficence and non-maleficence in the selection of living donors. Adherence to the elements of informed consent, such as capacity, disclosure, understanding and voluntarism are vital to maintaining an ethically acceptable living donor transplant program.

What is Paired Exchange?

Paired exchange occurs when two separate willing living donors are each unable to donate to their intended recipients due to blood group incompatibility or positive crossmatch. Donor 1 donates a kidney to Recipient 2 (with whom he/she is blood group/crossmatch compatible) and Donor 2 donates to Recipient 1 (with whom he/she is blood group/crossmatch compatible). The pairs are unlikely to know each other prior to being "matched" by the transplant center. See Figure 1.

Rationale for Paired Exchange

1. There is a continuing shortfall in the number of kidneys available for transplantation.
2. Living donor kidney transplant (LDKT) has excellent results.
3. Approximately 10-20% of potential donors are eliminated because of blood incompatibility or crossmatch positivity.
4. There has been discussion of kidney exchange in the medical community suggesting an increased acceptability of this procedure.

How do we do this?

Currently the two adult kidney transplant programs in Toronto; University Health Network and St. Michael's Hospital, identify potential donor and recipient pairs who are not compatible, most often on the basis of blood type. A list of such patients is kept. When potential pairs are identified, the transplant teams from both hospitals discuss the possibility of doing the "paired exchange" procedure.

Donor evaluations are completed, and both programs must medically clear the potential kidney donors. Like regular living kidney donation, both recipients and donors must undergo extensive medical testing.

Once all the testing is completed, the surgery date is booked. The donor surgeries are done simultaneously at both hospitals. The recipient operations are then carried out.

Has it worked?

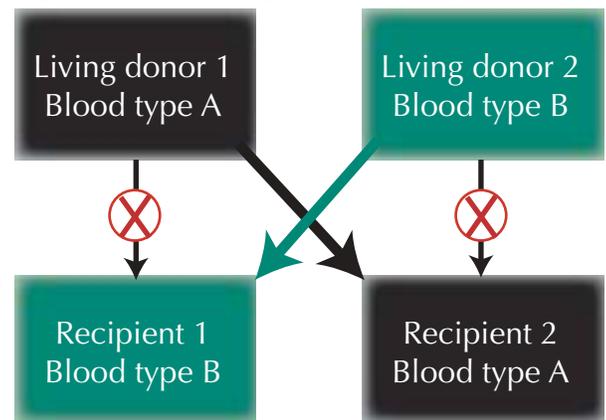
To date two successful paired exchange transplant have taken place in Toronto. These have been the first two procedures in Canada. By mutual agreement, the first paired couple met their respective donor and recipient pair a few months after their operations.

What's ahead?

In the future one would hope that donor/recipient paired exchange can be extended throughout Canada.

In order for this to occur, there must be a will and desire to move forward. Extensive coordination, and sophisticated computer models to match pairs, must be employed in order to facilitate such a program. In order to be successful it is estimated that 100 such donor/recipient pairs must be identified. The only country thus far which has been able to develop such a system is the Netherlands. Despite these challenges, however there are committed people within the transplant community working to develop a Canadian paired exchange program.

Figure 1. Paired living donor exchange



Nursing Column

Overview of the Kidney Transplant Workup

By Galo Meliton, RN, C Neph (C)

Whether your kidneys are failing or you are already on dialysis, you may have thought about getting a kidney transplant. The kidney transplant workup involves coordination by several people and can take several months to complete. As a potential kidney recipient, you have a very important role in the workup process.

For the most part, the workup is essentially the same for those with or without potential living donors. The differences will be discussed as we go along.

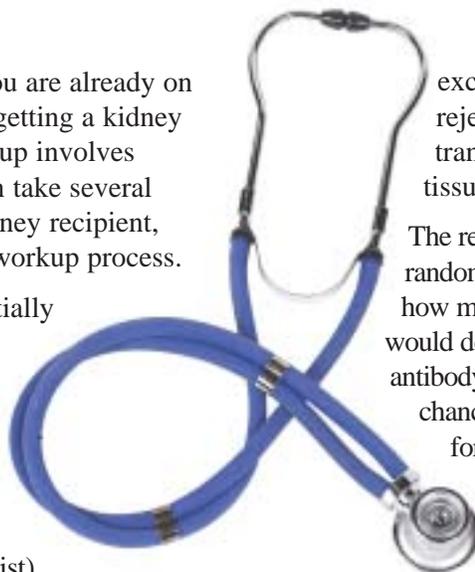
The first step is to find out as much as you can about transplantation before asking your nephrologist (kidney specialist) to refer you to the transplant team. You will be better prepared to face life before and after transplant if you are well equipped with the right information. Once you have decided that you would like to explore the possibility of a transplant, ask your primary nurse at your centre to forward your nephrologist's referral letter and other transplant related records to the transplant team.

If you have a potential kidney donor, ask them to contact the living donor coordinator. A hard copy of your potential donor's blood group will be required. Several general health questions would have to be satisfied prior to moving forward with the potential donor's workup. Other preliminary tests will also be discussed. Ask the living donor coordinator regarding the procedure involved if your potential kidney donor is from outside Ontario or Canada.

It may be necessary for the surgeon to first assess potential recipients who have identified problems with blood vessels in their legs, as the transplanted kidney is attached to the blood vessels that supply the legs. The same would apply to potential recipients who are overweight, as the chances of wound-related problems may be higher.

Once the preliminary testing on the donor has been done, reviewed, and judged to be satisfactory by the donor team, an initial crossmatch between you and your potential donor will have to be done. Simply put, a crossmatch is bloodwork from both the recipient and potential donor, where the blood cells are mixed in the laboratory to see if the recipient's blood will destroy the donor's cells. A negative result is ideal, which means that there is no reaction between the recipient's and donor's cells, and they are therefore compatible.

Tissue typing (transplant-specific genetic make up) is also done with the crossmatch. Nowadays, due to



excellent medications available to prevent rejection of a transplanted organ, the kidney transplant can still go ahead even if there is no tissue match at all.

The recipient's blood cells are also exposed to randomly chosen previous donors' blood cells to see how many of these cells the recipient's blood cells would destroy. This test is known as panel reactive antibody (PRA). The higher the PRA, the higher the chances that the particular recipient would reject foreign tissue (in this case, kidney tissue).

A **negative crossmatch** will allow both the recipient and potential donor workup to move forward. Both parties need to be medically evaluated and cleared by their respective teams prior to being reviewed by the surgeon. Surgical review of the potential donor will require a CAT scan of both kidneys and surrounding areas. This will help the surgical team determine the surgical candidacy of the potential donor. The side and the manner by which the kidney will be removed, be it laparoscopically (key hole surgery) or by the traditional open donor nephrectomy, will also be determined during the CAT scan review.

Once both workups are complete, reviewed and cleared by both teams, a surgery date is assigned. Both parties are brought back for a final crossmatch within two weeks prior to the surgery date, to ensure that the pair's blood cells have remained compatible. A final review by the transplant nephrologist is also done. This will allow the transplant nephrologist to assign the appropriate combination of anti-rejection medications based on the recipient's history. Pre-operative teaching is given to both donor and recipient to ensure that they know what to expect during their hospital stay.

You have to be on kidney dialysis if you would like to go on the deceased list in Ontario. The tissue typing is done once you have been seen, evaluated and cleared by the transplant team.

The outstanding tests to complete your workup will be communicated to your centre after your formal pre-transplant evaluation. This may require additional consultations. You are therefore not on the deceased list until such time as your file is complete.

Once on the deceased list, you will be sent a confirmation letter regarding your list date, which would be the original date of your initial dialysis. While on the deceased list, be sure to inform your transplant coordinator of any changes in your health, and very importantly, of your contact information.

Several tests need to be redone on a yearly basis during the time you are waiting to be called for a deceased donor kidney. Remember the bloodwork done on the recipients whereby their potential donor's blood cells are exposed to theirs? This is also done for every person on the list, four times a year. Be sure that your dialysis nurse does this quarterly as you will not be called for a kidney if this is not up to date. In the meantime, try and stay as healthy as you can.

The transplant workup requires a number of people working together toward a common goal. The process starts with you and ends with you. The transplant team is there to guide you along through the process.

If you have any questions at any time throughout your transplant workup, be sure to call your nurse coordinator. Taking an active part in the process will enable you and the team to move toward achieving what you have initially set out to do and that is, for you to successfully get a kidney transplant.

Food for Thought

Osteoporosis, "The Silent Thief"

By Karen Burleigh, MSc., RD

How long do we want our bones to last?

Obviously, a lifetime! Unfortunately, many transplant patients lose bone mass after the transplant, and have a high risk of bone fractures. The feet and ankles are most likely to have fractures, but other bones can also break easily. Low bone density is a common problem even before transplantation because bone disease affects most people with kidney failure, and develops in 90% of dialysis patients.

Renal bone disease occurs when the kidneys fail to regulate the levels of calcium and phosphorus in the blood. This complex disease also involves many other factors e.g. vitamin D deficiency and high levels of parathyroid hormone. After a kidney transplant, additional factors that can cause bone loss include:

- corticosteroid medication (prednisone) - see the article in this newsletter for more information about the action and side effects of prednisone;
- Tacrolimus (prograf) and cyclosporine (Neoral)
- anti-seizure medication, heparin, and some diuretics ("water pills")
- hormonal deficiency (estrogen and testosterone)
- cigarette smoking
- insufficient exercise
- insufficient calcium in the diet
- a diet containing large amounts of salt and salty foods, and large amounts of protein from animal products (meat, fish, poultry, eggs)

- caffeine, and alcohol
- certain diseases including diabetes, celiac disease, irritable bowel disease (IBD), cystic fibrosis, hyperthyroidism, hyperparathyroidism, liver/kidney disease, and lymphoma.

How serious is the problem of bone loss after a kidney transplant?

After transplantation, 6%-10% of bone mass can be lost within the first year. Unfortunately, recent studies show that bone loss continues after the first year. Osteoporosis, or osteopenia (low bone density) is found in 88% of transplant recipients by six years post-transplant. Low bone density is more common in women and people with diabetes. The bone changes in renal osteodystrophy and osteoporosis can begin many years before symptoms appear – that's why it's called "the silent thief". If left untreated, the bones gradually become thin and weak, and bone and joint pain. There is also a very high risk of bone fractures in these weakened bones: 5x greater risk in men, 18x greater risk in women, and 34x greater risk in women over 45 years of age.

What can we do to reduce the risk of bone fractures?

The good news is that there are many things we CAN do every day to repair bones damaged by renal osteodystrophy and prevent osteoporosis and fractures:

1. make sure we have 1000-1500 mg of calcium every day;
2. make sure we have 400-800IU /day vitamin D (unless the doctor says not to);
3. exercise daily – it's important to first check with the transplant team or family doctor before beginning any exercise program;
4. quit smoking;
5. have a bone mineral density (BMD) test every one to two years to track the health of our bones. Your transplant doctor may decide to prescribe medication based on these results.

The BMD test gives us a "T Score" to classify bone density. The bones are considered healthy if the T Score is 0 to -1 SD (Standard Deviation). Osteopenia is present if the T Score is -1 to 2.5 SD below average values for gender-matched young adults. Osteoporosis is present if the T Score is more than 2.5 SD below average values for gender-matched young adults.



How can we have more calcium in our diet?

Dairy sources of calcium	Serving size	Calcium (mg)
Milk (skim, 1%, 2%, homo)	1 cup / 250ml	300
Milk (Neilson TruCalcium)	1 cup / 250ml	420
Evaporated milk	½ cup / 125ml	350
Carnation Instant Breakfast + 1 cup milk	1 packet	540
Horlicks beverage mix + 1 cup milk	1 ½ Tbsp / 25ml	410
Skim milk powder	3 Tbsp / 50ml	155
Yogurt	¾ cup / 175 ml	250 - 300
Ice cream, cottage cheese **	½ cup / 125ml	75 - 80
Sour cream **	1 Tbsp / 15ml	15
Light Sour cream **	1 Tbsp / 15ml	30
Cream cheese **	1 Tbsp / 15ml	12
Ricotta cheese	½ cup / 125ml	255
Mozarella, Edam cheese	1 ½ oz / 50g	~275
Cheddar, low-fat Mozarella, Montrey Jack	1 ½ oz / 50g	~360
Grueyere, Swiss, Emmenthal cheese	1 ½ oz / 50g	~500
Non-Dairy Sources of Calcium		
Tofu – firm, made with calcium sulfate	½ cup / 125ml	260
Soy milk – calcium fortified	1 cup / 250ml	300
** these foods contain little calcium, so choosing other foods on the list, more frequently helps to ensure we're getting enough calcium.		

It's easy! The chart above shows how 3-4 servings per day of dairy foods can easily provide 1000-1500 mg calcium that we need for bone health. Dairy foods also provide vitamin D (to help absorb calcium from food) and other minerals to strengthen bones. They are convenient to add to meals or have as a quick snack. Just switching from coffee with cream to café au lait, or from a bagel with cream cheese to a bagel with Swiss cheese can provide a quarter of our daily calcium needs!

Remember, not all calcium in non-dairy foods can be absorbed. Over two cups of almonds or 15 cups of spinach are needed to obtain the same amount of calcium provided by one cup of milk! So it can be difficult to obtain enough calcium when avoiding milk products. People with lactose intolerance can obtain enough calcium from calcium-fortified soy milk, tofu, hard cheeses, and yogurt instead.

Exercise, exercise, exercise!

Daily physical activity stimulates bone formation to help keep them strong. But more about that in our next issue...

Where to find more information?

- The Kidney Foundation website: www.kidney.ca
- Osteoporosis Society of Canada website: www.osteoporosis.ca
- The National Institute of Diabetes and Digestive and Kidney Diseases of the US National Institutes of Health website on renal osteodystrophy: kidney.niddk.nih.gov/kudiseases/pubs/renalosteodystrophy/index.htm
- Dem Bones, Dem Bones! – information brochure from the Dairy Farmers of Canada.

Program Events

Shots from the Kidney Transplant Symposium 2006



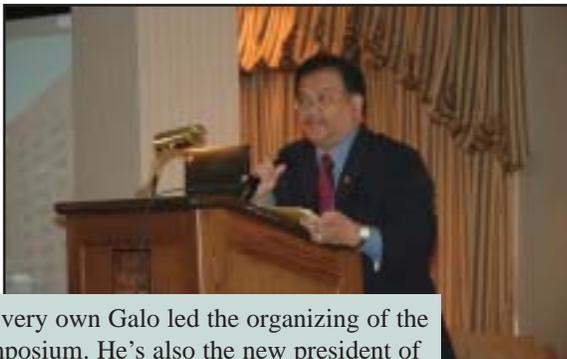
Dr. Zaltzman, Director of SMH Renal Transplant Program, gave an overview of kidney transplantation.



Dr. Ramesh Prasad talks on transplant eligibility.



Participants in the symposium enjoying the goodies and the info provided by the different sponsors.



Our very own Galo led the organizing of the symposium. He's also the new president of ITNS Toronto Chapter. Kudos Galo!



Dr. Pace talking about laparoscopic surgery.



Maureen Connelly, live donor coordinator...Maureen has been seconded to work temporarily for TGLN. She's back after two years. Welcome back, Mo!



Party at Delta Chelsea Hotel for all SMH Values in Action Award winners. With Jill Campbell, Diabetes Comprehensive Care Program Nursing Director.

Psychosocial Standpoint

"Life is a journey, often difficult and sometimes incredibly cruel, but we are well equipped for it if only we tap into our talents and gifts and allow them to blossom."

Les Brown, 2006

Managing the Psychological Stress of Transplantation: One Day at a Time

By Keri Ann Brunson, MSW, RSW



Individuals and their loved ones will experience varying degrees of psychological distress throughout the transplant process. Clinical evidence demonstrates that there is a strong correlation between our emotional and physical selves, thus making it very important to identify issues as they arise, and solve problems throughout these difficult periods. The psychological stressors will be realized

at the onset of one's illness, the development of End Stage Renal Disease and throughout the pre-post transplant stages. Within each stage, feelings such as anger, anxiety, frustration, fear, excessive worrying, and sadness are all normal psychological responses to both acute and chronic illness. Situational depression is a common response to a painful event and is often experienced among the transplant population for many reasons including lifestyle changes due to their physical illness, experiencing a loss of control, and uncertainty due to extensive waiting times.

The transplant candidate may have experienced many losses as a result of their illness, especially in the areas of employment, income, and personal security. These changes may lead to unfulfilled expectations and require that the individual and their significant others make lifestyle modifications which impact upon the individual's perceived quality of life.

Maintaining hope and optimism throughout this process is paramount in coping and reducing stressful situations that accompany transplantation. The following are some examples of effective coping strategies:

- Focus on the pleasure-giving areas of your life; re-evaluate what's important to you.

- Make time for activities that assist you in relieving stress and improving your emotional well-being (increase physical and recreational activities, meditate).
- Do what you can to maintain or develop a strong social support system (friends, family, church, etc.) as research has demonstrated the beneficial aspects of social supports on wellness and recovery from illness,
- Use a journal to write down your thoughts and feelings,
- Problem solve one item at a time to reduce feeling overwhelmed
- Become your own advocate and inform yourself on transplantation and other health-related areas. Information is crucial to effective self care management.
- Contact your transplant team; they are available to assist you in making your way through this journey to improved health and wellness by offering a comprehensive approach to transplantation

IN THE LOOP

Ontario Disability Support Program:

Legislative Amendments to the Ontario Disability Support Program (ODSP)

Improvements to the Ontario Disability Support Program have been finalized as a result of the Ombudsman Ontario Report, "Ontario's Most Vulnerable Are Losing Out".

(<http://www.ombudsman.on.ca> <C:\Documents and Settings\BrunsonK\My Documents\St_370._Michaels_Hospital-Transplant_&_Mobility.doc>). An applicant has been approved for benefits, he/she will receive *retroactive payments* for the full amount of time they had been waiting for approval.

The Guide to Government of Canada Services for People with Disabilities:

This booklet is a resource for anyone with a disability who is looking for information regarding federally funded programs. It contains information on employment, accessibility, income supports, tax information as well as linkages to provincial services.

You can access this guide by going to www.servicecanada.gc.ca <<http://www.servicecanada.gc.ca>> and click on disability or by calling 1-800-622-6232.

Please contact your social worker for other government services or further assistance.

Transplant RX

Prednisone: The Unwanted Steroid?

By Lisa Liberatore, BSc. Phm, RPh

The year 1954 marked the first successful human organ transplant, namely a kidney transplanted between identical twins at Brigham and Women's Hospital in Boston. Although rejection was not an issue given the rather unique circumstances of that transplant, it soon became clear that the appropriate use of immunosuppressants would be critical to the success of the operation. In the 1960s, the use of prednisone along with azathioprine gradually decreased rejection rates. Today, the development of many new drugs such as cyclosporine, tacrolimus, and mycophenolate has significantly decreased the incidence of acute graft rejection. However, prednisone still remains an important part of the anti-rejection regimen of many kidney transplant patients and for that reason is discussed in more detail below.

Prednisone is a relatively a simple drug with respect to its chemical structure, and the use of glucocorticosteroids such as methylprednisolone and prednisone in medicine has made a significant medical contribution to the treatment of many medical conditions/diseases, such as asthma, Lupus, certain malignancies and of course prevention and treatment of transplant graft rejection. Yet despite its benefits and simple chemical structure, the adverse side effects of prednisone are anything but simple. Long term use of prednisone affects the cardiovascular, metabolic and renal systems, which may lead to numerous side effects such as hypertension, thromboembolism, cataracts, glaucoma, muscle pain or weakness, muscle wasting, bone fractures, avascular necrosis, vertigo, seizures, insomnia, mood changes, psychosis, acne, impaired wound healing, glucose intolerance (leading to post-transplant diabetes mellitus), weight gain, secondary adrenal insufficiency, water retention and so on. Although this list seems overwhelming, many of the adverse effects can, in practice, be avoided or minimized with proper counselling.

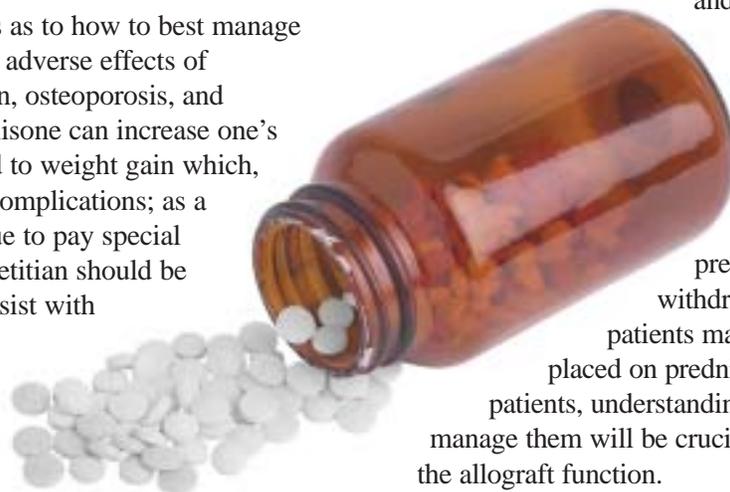
Counselling can assist patients as to how to best manage and avoid some of the notable adverse effects of prednisone such as weight gain, osteoporosis, and psychosis. For example, prednisone can increase one's appetite and subsequently lead to weight gain which, in itself, leads to many other complications; as a result, patients need to continue to pay special attention to their diet, and a dietitian should be consulted post-transplant to assist with managing weight gain and glucose intolerance. In addition, osteoporosis can occur because prednisone

inhibits osteoblast activity and increases bone resorption, both of which lead to bone loss; in response, weight bearing exercise and calcium/vitamin D supplements can slow the progression of osteoporosis. Finally, psychosis is another well-known adverse effect of prednisone, but can be minimized by administering prednisone therapy earlier in the day and reducing the dose.

Unfortunately, despite the measures described above, not all the side effects of prednisone can be avoided, and the potential complications can lead to patient apprehension towards proceeding with the transplant. In addition, the side effects have been related to increased post-transplant non-compliance by the patient and non-compliance has been associated with an increased incidence of acute and chronic rejection. These adverse effects, and those of other immunosuppressants, have sparked a great deal of interest among researchers trying to identify new drugs or experimenting with current regimens to minimize the adverse effects of immunosuppressants and of prednisone. On-going studies have found encouraging evidence that steroid-sparing regimens, without the use of prednisone, are effective in reducing rejection rates and enhancing the quality of life for transplant patients by reducing many of the post-transplant complications. In these studies, withdrawing patients from steroids in general has shown to reduce cholesterol, reduce the need for anti-hypertensive medications and the progression of post-transplant diabetes mellitus.

However, minimizing exposure to steroids is not possible for all patients. Rather, the ability to withdraw or withhold prednisone depends on the patient's immunological risk. For example, a living related transplant from a brother to his twin sister would have a lower immunological risk than a transplant from a deceased donor. Therefore, for low risk-immunological patients, a steroid-sparing regimen would be optimal. For other patients who have been on prednisone for a long period of time (i.e. five years), withdrawing from prednisone is not as simple as providing them a prednisone-tapering schedule. A slow withdrawal of prednisone after long-term use can lead to acute rejection and other complications.

The current work on steroid-sparing and steroid withdrawal is encouraging, as patients today may be given the option of avoiding steroids altogether or taking prednisone coupled with a faster withdrawal schedule. However, some patients may not be able to avoid being placed on prednisone, and for this group of patients, understanding the side effects and how to manage them will be crucial to ensuring the success of the allograft function.



Post-Transplant Chat

Polyoma Virus

By Thelma Carino, RN, Jenny Huckle, RN, Fernanda Shamy, RN

What is Polyoma Virus?

It is a virus that is commonly acquired in early childhood. It is also known as BK virus. About 60-80% of the entire adult population actually carries this virus. It is dormant in most people, but can get re-activated in transplant recipients due to immunosuppressive therapy.

A transplant nurse told me that my urine will be tested for “decoy cells”. What are “decoy cells”?

All healthy people shed small numbers of urinary tract cells into their urine every day. Decoy cells are urinary tract cells that are infected with the polyoma virus. Kidney transplant recipients in whom the polyoma virus has become reactivated may shed decoy cells in their urine, with no symptoms whatsoever. This is why the transplant program screens for this virus indirectly through the shedding of decoy cells, by asking you to give urine samples.

What happens if decoy cells are found in my urine ?

If decoy cells are found in the urine, a blood test called “PCR” will then be done. This test is to see if the polyoma virus has spread from the urinary tract to the blood stream through the injured kidney. This is actually uncommon since most patients will shed decoy cells without any harm ever being caused to the kidney. Decoy cells may even go away on their own. If the PCR blood test is negative, no intervention is typically required except to continue regular urine monitoring for decoy cells and repeating the PCR whenever decoy cells are found.

If the PCR blood result is positive, what treatment will I get?

Unfortunately there is no specific therapy for polyoma virus. Some antiviral drugs can be used in the most severe cases but they are quite toxic and preferably avoided. Reduction of immunosuppressive therapy has been proven to be helpful but it can sometimes be difficult to find the balance between too much immunosuppression, which allows the virus to damage the kidney, and too little immunosuppression, which can lead to rejection of the kidney.

Will this BK or Polyoma Virus spread to other organs in the body?

No, the virus does not typically spread to other organs outside the transplanted kidney.

How does Polyoma Virus affect the kidney?

In most cases, the virus does not do any lasting damage to the kidney. A biopsy is the best way to find out if the kidney has been injured by the virus. It can cause a scarring process within the kidney called tubulointerstitial nephritis. Viral particles can sometimes be identified within the infected tubular cells.

How long after transplant will this virus re-activate in a kidney transplant recipient?

The period of maximum risk is within the first year post transplant. That is why screening is routinely performed during this period. However, tests can be done for the virus through urine and blood testing or kidney biopsy at any time if infection is suspected.

If I get the virus, does this mean I will lose the kidney?

This is a difficult question to answer. Certainly, if there is already damage to the kidney as seen on biopsy or a rising creatinine level, the chances of the kidney lasting for its intended duration are reduced. There is no evidence that the finding of decoy cells alone results in poor graft outcome. If the blood PCR is positive and the creatinine has not increased already, hopefully reducing immunosuppression will allow the kidney to last for its predicted lifespan. Of note, if the kidney does fail from polyoma virus infection, it should preferably be removed before putting in another kidney transplant.



Medical Staff



Dr. Robert Stewart
Surgical Director of
Renal Transplantation



Dr. Jordan Weinstein
Live Donor
Nephrologist



Dr. Jeff Zaltzman
Director Renal
Transplant Program



Dr. Ramesh Prasad
Recipient Nephrologist/
Editor Transplant
Digest



Dr. Phil McFarlane
Director,
Live Donor Program



Dr. John Honey
Head Division
of Urology



Dr. Kenneth Pace
Urologist/Surgeon
specializing in
Laparoscopy/
Endourology

Nursing and Allied Health Professionals



Trixie Williams
Clinical Leader/Manager
Transplant Clinic/Diabetes Comprehensive Care Program



Tess Montada-Atin
Diabetes Nurse
Practitioner



Karen Burreigh
Clinical Dietitian



Keri Ann Brunson
Transplant Recipient
Social Worker



Maureen Connelly
Live Donor Nurse
Coordinator



Niki Dacouris
Database
Administrator



Thelma Carino
Post Transplant Nurse
Coordinator



Jennie Huckle
Post Transplant Nurse
Coordinator



Meriam Jayoma
Pre Transplant Nurse
Coordinator
(deceased donor)



Sharon Lee
Live Donor Social
Worker



Lisa Liberatore
Clinical Pharmacist



Galo Meliton
Pre Transplant Nurse
Coordinator (recipients
with live donor)



Michelle Nash
Research Manager



Lindita Rapi
Research Coordinator



Fernanda Shamy
Post Transplant Nurse
Coordinator



Weiqiu Yuan
Research Assistant

Administrative Assistants



Linda Ahn
Transplant Clinic/
Live Donor Clinic



Ann Augello
Secretary to
Dr. Stewart



Farida Basaria
Nephrology/Urology
Clinics



Lynn Doak
Secretary to
Dr. McFarlane/
Dr. Prasad



Jim Huff
Transplant Clinic



Erin Irving
Secretary to
Dr. Zaltzman



Rosemary Luong
Secretary to
Dr. Weinstein



Dorit Najgoldberg
Secretary to Dr. Pace



Susie Par
Transplant Clinic



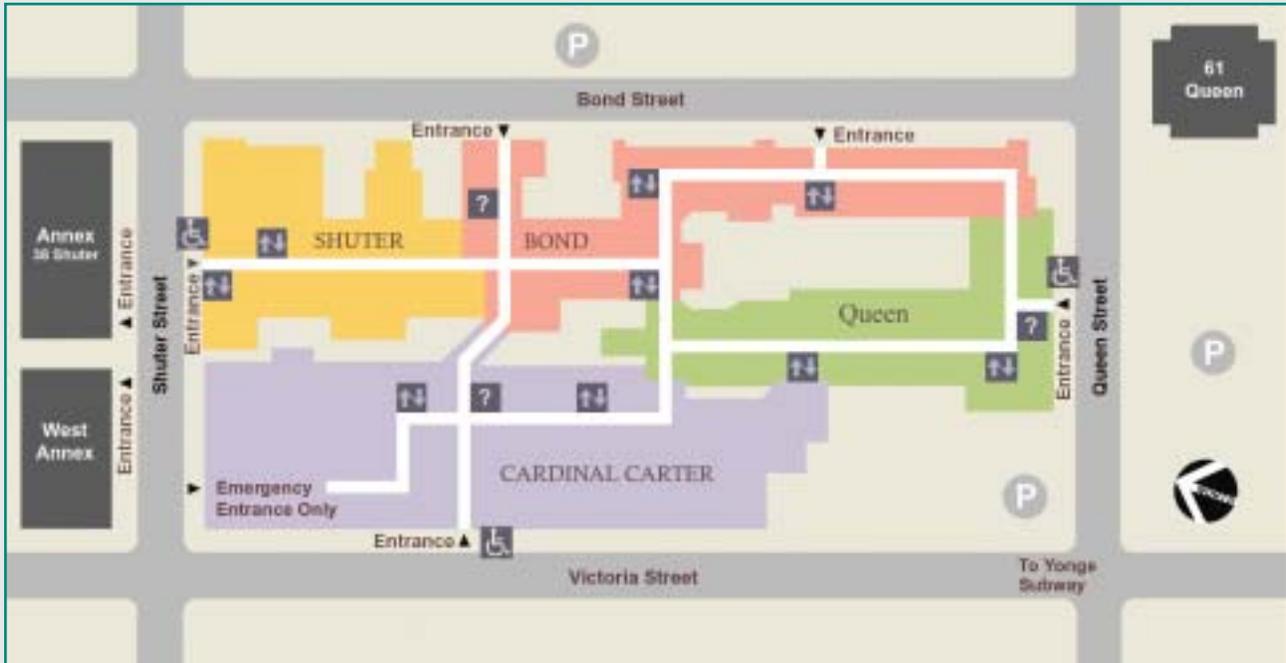
Maria Salanga
Transplant Clinic/
Stone Clinic



Maria Tersigni
Secretary to
Dr. Honey



Mona Udit
Transplant Clinic



**St. Michael's Hospital
Renal Transplant Program**

61 Queen Street East 9th Floor
Toronto, Ontario
M5C 2T2
Canada

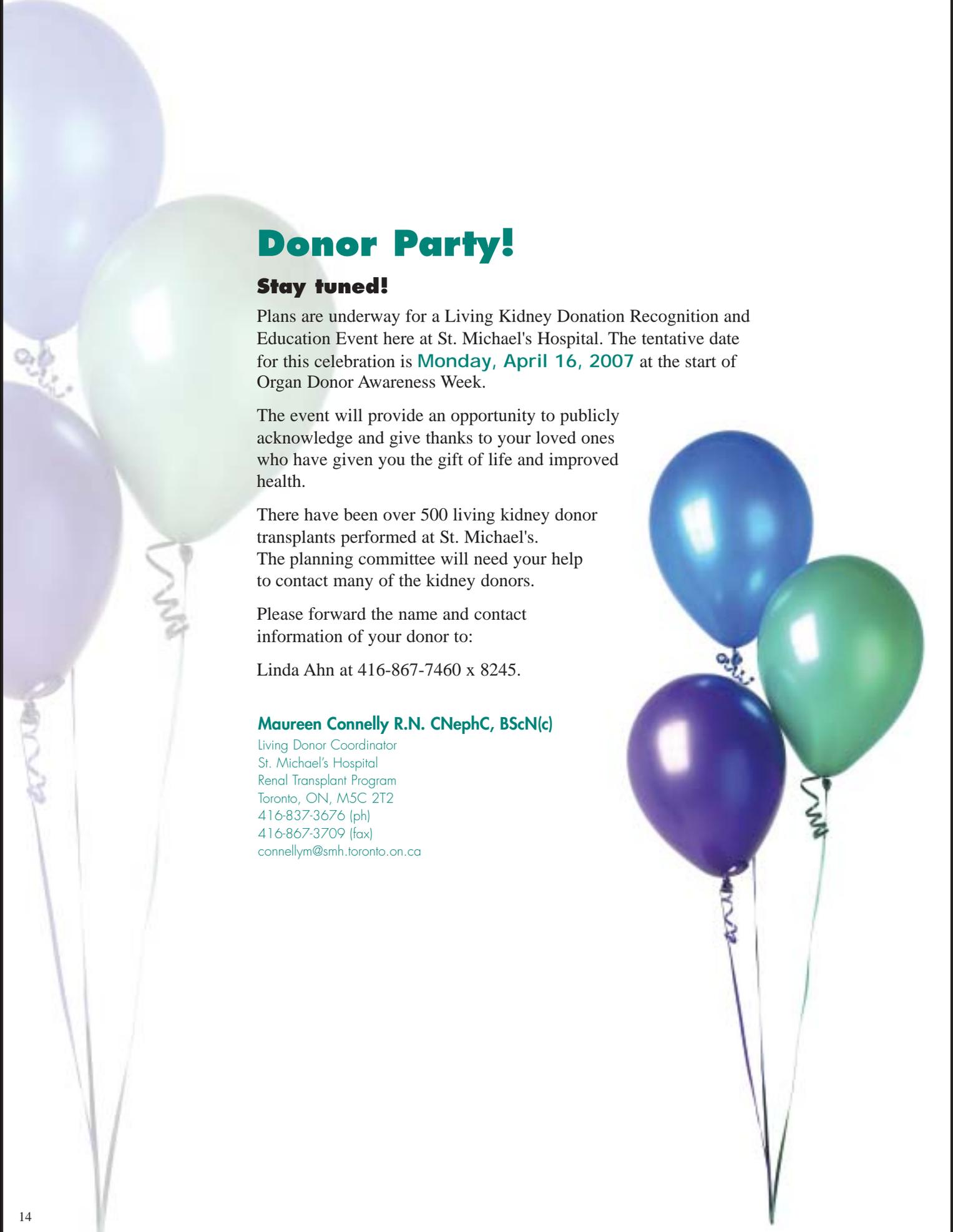
Phone: 416-867-3665

Please send comments or suggestions of topics for future publication to:
Meriam Jayoma at jayomam@smh.toronto.on.ca

Thank you to Tim Evans, SMH Brand Manager; Ewa Jarmicka and all the columnists for helping organize the first issue of Transplant Digest.

Disclaimer Note:

Views presented in this newsletter are those of the writers and do not necessarily reflect those of St. Michael's Hospital or the University of Toronto. Subject matter should not be construed as specific medical advice and may not be relevant to individual patient circumstances. For all questions related to your own health please contact your health care provider.



Donor Party!

Stay tuned!

Plans are underway for a Living Kidney Donation Recognition and Education Event here at St. Michael's Hospital. The tentative date for this celebration is **Monday, April 16, 2007** at the start of Organ Donor Awareness Week.

The event will provide an opportunity to publicly acknowledge and give thanks to your loved ones who have given you the gift of life and improved health.

There have been over 500 living kidney donor transplants performed at St. Michael's. The planning committee will need your help to contact many of the kidney donors.

Please forward the name and contact information of your donor to:

Linda Ahn at 416-867-7460 x 8245.

Maureen Connelly R.N. CNephC, BScN(c)

Living Donor Coordinator
St. Michael's Hospital
Renal Transplant Program
Toronto, ON, M5C 2T2
416-837-3676 (ph)
416-867-3709 (fax)
connellym@smh.toronto.on.ca



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