A Milestone for Trillium Gift of Life Network

Meriam Jayoma-Austria, RN, C.Neph.C

February 12, 2014 was a historical day for Trillium Gift of Life Network. It was the day that the new deceased donor kidney allocation system in Ontario was officially implemented. The changes were in response to recommendations from the Office of the Auditor General of Ontario and the Organ and Tissue Transplantation Wait Times Expert Panel. The purpose of the change is to provide better access to transplant for all Ontarians, improve patient outcomes, and increase strength and viability of the Ontario Renal Transplant Programs.

Prior to the implementation of the new system, St. Michael’s Kidney Transplant Program conducted an information session on January 31, 2014 led by Dr. Jeff Zaltzman, to entertain questions or concerns from SMH patients on the wait list and from the staff from various dialysis centres in Ontario. It was very well attended. The entire Li Ka Shing Auditorium was filled!

Below are the important changes in the allocation system. This is taken directly from the New Ontario Kidney Allocation Resource Guide from Trillium Gift of Life Network (TGLN):

1) **A provincial rather than regional model of kidney allocation:**

   Although pre-existing donor regions will remain, for the first time in Ontario’s history kidneys will be shared among regions. The first kidney will remain in the traditional donor region and the second kidney will be allocated to either the National Highly Sensitized Program (HSP), which is scheduled to go live in spring 2014, or the next recipient in any of the Ontario transplant centres based on allocation priorities.

2) **Allocation to be made based on a negative Virtual Crossmatch (the absence of Donor Specific Antibody):**

   This replaces the current system of allocation method based on a negative crossmatch (see Appendix A for more details). The methods will be congruent with what is currently used by the National Living Donor Paired Exchange Program and the National HSP registry.

3) **Allocation based on a point system:**

   While we have kept the priorities unchanged from the previous allocation system, we have gone from binary values to a continuous metric. As an example, patients within the previous allocation system with a PRA of 81% get much greater priority than those with a PRA of 79%.

   Moving forward, within all categories of priority the points will be based on the simple formula below:

   \[
   \text{ALLOCATION POINTS} = 0.1 \times \text{days waiting} + [(cPRA/100) \times 4]
   \]
4) **A2 and A2B donors can be allocated to blood type B patients:**

Approximately 22% of patients listed for a kidney transplant in Ontario are blood group B but only 12% of donors are blood group B. This has resulted in long wait times and unequal access for B patients.

In the new system, A2 and A2B donors can be allocated to pre-identified blood type B patients before identical blood type for:

a. Programs with patients wishing to cross blood group A2 barrier

b. Blood type B patients with documentation of anti-A titres 1:8 or less

5) **Data and monitoring:**

The changes will require close monitoring and data collection to ensure that the goals outlined above are achieved. While the new system has been extensively modeled, there will be the need for flexibility and change if required. In addition, it is expected that for the first time in Ontario, both transplant programs and referring dialysis centers will be accountable for outcomes. The list of outcomes is beyond the scope of this document. However, moving forward, dialysis center referral patterns, waiting times, on-hold status and a number of kidney allograft outcomes will be publicly reported.

*For more information please go to the Trillium Gift of Life Network website:*

http://www.giftoflife.on.ca
From the Editor’s Desk

I hope that you are enjoying reading Transplant Digest, which is just one of the means by which we try to stay in touch with the transplant community. Both current and previous issues should be readily available through the Transplant Clinic, so do not hesitate to ask for a copy if you do not find one at the front desk. I hope that you find our Digest useful enough to keep over the long-term. I like to think of Digest issues as chapters of a book that is being built, rather than a casual read fit to be disposed once they have been read, as we tend to do with most periodicals in life. The diversity of articles within each issue is carefully created, so that it can appeal to the broadest audience possible: donors, recipients, allied health professionals, and even doctors.

In this issue, the medical content consists of articles on diuretics, BK virus, pregnancy after a transplant, and repeat transplants. We have an article each on transplant research, organ allocation, and new staff, and also provide updates on educational activity within the program. There is some advice on how to read transplant articles. Hopefully, everyone will find at least some of the content useful to their own particular situation. Have a nice spring and summer, and hope to meet you again the fall!

Dr. Ramesh Prasad
Editor

Contact Information
Dr. Ramesh Prasad – Editor
Meriam Jayoma-Austria, RN, CNeph(C) – Newsletter Coordinator

St. Michael’s Hospital
Renal Transplant Program
(across the hospital)
61 Queen Street 9th Floor
Toronto, Ontario, M5C 2T2
Phone: (416) 867-3665

Please send your comments or suggestions of topics for future publication to: jayomam@smh.ca

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.
Advanced kidney damage or end-stage renal disease is a powerful form of contraception (birth control). As a young woman’s kidneys fail, a number of hormonal changes compromise fertility and conception becomes unlikely. Furthermore, young patients on dialysis often feel unwell due to the dialysis procedure itself, anemia (low haemoglobin count) or due to side effects of medications. Feeling less than optimal, along with changes to body image that accompany vascular access lines, fistulas and peritoneal dialysis catheters, can hamper sexual desire and function.

Transplantation, in addition to liberating patients from feeling chronically unwell and the inconveniences associated with dialysis, also restores sexual desire and function. Most young patients notice an improvement in their libido within a few months and fertility is often restored. As such, it again becomes time to discuss family planning. Ideally, young women should wait at least a year after transplantation before considering a pregnancy. This time ensures that graft function has stabilized and provides the healthcare team the opportunity to switch to pregnancy safe immunosuppression.

Commonly used immunosuppressive agents have known teratogenicity or, in other words, can cause birth defects. Prednisone does cross the placenta, but only a small amount reaches the fetus. Higher doses can slightly increase the risk of cleft palate, but lower doses are considered to be quite safe. At one year post transplantation, most patients require only low dose prednisone, which is compatible with pregnancy and breast-feeding. The calcineurin inhibitors (Tacrolimus and Cyclosporine) are also considered safe for use in pregnancy and breast-feeding. However, mycophenolate (Cellcept® or Myfortic®) is a known teratogen, causing facial (cleft lip and palate, small ears and absent auditory canals) and limb deformities. As such, mycophenolate mofetil should be stopped prior to conception, and azathioprine (Imuran) is typically substituted as a safe alternative. With respect to male fertility, there are no demonstrated adverse effects of any of the three classes of commonly used immunosuppressive agents.

Although a healthy pregnancy is possible in a transplant recipient, these pregnancies are considered to be of higher risk as compared to the general population. Other factors that can further compromise pregnancy outcomes include graft function, recent infections and other health conditions common in transplant recipients like hypertension and diabetes. As such, all young transplant recipients planning a pregnancy should discuss their plans with their healthcare team so the risks can be fully appreciated and the necessary steps taken to improve potential pregnancy outcomes.
Understanding BK (Polyoma Virus)

Dr. Jeff Zaltzman

All kidney transplant patients at St. Michael’s have their blood tested for a silent virus known as BK or Polyoma virus. We will discuss some important facts about BK virus.

What is BK?
BK or polyoma is a DNA respiratory or gastrointestinal virus that most of us acquire in childhood from transmission through others; just like the “common cold.” In general it comes and goes relatively quickly. However like all DNA viruses, the virus never really leaves our system and therefore stays dormant in our body cells forever.

Who gets BK?
About 60-80% of the population has acquired BK virus by the time they reach adulthood. For the majority of people, the virus is silent, with no symptoms or problems. Some immunocompetent people shed the virus, and pregnant women tend to be high “shedders.” However immunosuppressed patients such as those with a kidney transplant also shed the virus at high rates. In addition it is the kidney transplant patients who are most at risk from this virus.

What is the concern for kidney transplant patients?
The virus tends to live in the genitourinary tract, thus in close proximity to the transplanted kidney. The virus begins to replicate in the urinary tract in patients who take immunosuppressive (antirejection) medications. There is a direct correlation with the total immunosuppressive burden and the rate of viral replication. Following kidney transplantation, when the anti-rejection drugs are at their highest levels, the virus begins to replicate. It can first be detected in the urine, then the blood, and finally in the kidney transplant itself. If left unchecked this virus has the potential to destroy the transplanted kidney, similar to what would happen with acute rejection. What makes it difficult is that unlike with other infections, the patient has no symptoms. There is no pain, no fever and patients can feel completely normal.

What to do?
BK virus can show up quite early after transplant, and most cases will occur within the first 24 months following transplant. Although BK can occur at any time, it becomes much less common after 24 months, unless there has been a recent boost in the immunosuppressive therapy as might be the case in the treatment of rejection. Our strategy at St. Michael’s is the following: 1) Prevent BK, 2) Screen for BK, 3) Treat BK.

Prevention
Typically we try and reduce the doses of the immunosuppressive medications as BK infection is directly related to immunosuppressive burden. By 3 months post-transplant, many patients will be on the lowest dosage of their anti-rejection medications needed to keep their transplanted kidney healthy.

Screening
We test your blood for the BK virus DNA at 2 months post-transplant, at 3 months post-transplant, then at 6, 9, 12, 15, 18, 21 and 24 months. Thereafter we test the blood annually for the next 3 years. In addition if there is an unexplained decrease in renal function, we may ask you to test your blood for BK at that time.

Treatment
If BK is found in your blood there are options: First we can, and often do, reduce the anti-rejection drugs that you are taking. This is to allow your body’s immune system to better fight the virus. We then follow the virus levels in your blood on a monthly basis. This helps us determine whether we need to make any additional changes. Second; there are no proven medications that fight the virus, however the St. Michael’s Transplant program is involved in a national clinical trial evaluating new BK therapies. You may be offered the opportunity to participate in this trial. Third; sometimes we may need to arrange for a transplant kidney biopsy, to determine if there is BK involvement in the kidney (BK nephropathy).

Summary
BK virus is an important problem that all kidney transplant patients may face. However better understanding of the natural history of the virus, and screening with appropriate therapeutic interventions has helped to reduce the risk of kidney transplant loss.
Repeat Kidney Transplants

Dr. Ramesh Prasad

Most patients will have only one transplant during their lifetime. We all hope that this one transplant is all that the person will need, and that it will work very well for as long as possible. In fact, many patients live long, normal lives after their transplant and will never need another one. However, the transplant sometimes fails and the patient then needs to go back on dialysis. The question then arises: can one have another transplant? Having a second, or even a third or fourth kidney transplant is actually not that uncommon. Even if the first transplant did not work very well, a subsequent transplant might in fact work extremely well. However, there are some things to be aware of, when thinking about getting another transplant.

First, your eligibility to get another transplant will need to be determined. This means that you need to be healthy enough, and will need to go through all the tests necessary to prove that you are still fit enough to withstand the operation and are likely to have a working kidney afterwards, the same as the first time. Particularly if you had the first transplant for a long time, you are likely not only older now, but possibly less fit as well. This may make the work-up and listing process more complicated. Second, you may have become “sensitized” as a result of the first transplant, which means that you have antibodies in your blood against other people. This may make finding another kidney for you harder, and you may need more powerful anti-rejection medicines. Third, if the first kidney was lost because you did

How to Read a Transplant Article

Dr. Ramesh Prasad

The written word is a very powerful source of information for people, and transplant patients are no exception. Text can be read over and over again, reinforcing a concept and leading to more retention than can a spoken word at a busy clinic visit. Pictures and figures add to the learning process. In fact, that is one of the main reasons why we have Transplant Digest. However, this power brings with it certain responsibility on the part of both the writer and the reader. Obviously, the writer needs to put in writing only what he or she believes to be true and accurate, with no intention of being misleading through the use of vague or ambiguous words and phrases. But what can you, as the reader do to protect yourself from being misled?

First, look at the credentials of the person writing the medical article. Transplant is very sophisticated medicine and there are very few true “experts”. Some authors gain a reputation over time for being fair and honest. Others are less known but may be just as good, and you may be able to get a sense after reading the first paragraph of their paper
not take your medicines as you should have, we will have to make a serious assessment about whether you are likely to take care of another one afterwards, before approving you. Fourth, if your original kidney disease was very aggressive and rapidly destroyed your first kidney transplant, the chances of something similar happening with another transplant may be higher. Finally, because you have had an abdominal operation before, our surgeons will need to decide if it is possible to put in another kidney. This could be a problem if there is a lot of scarring inside the abdomen or blood vessels, for example.

The good news is that all of these possible stumbling blocks to another transplant are uncommon and many patients go on to get another transplant without any problem. In fact, as kidney transplantation matures as a medical specialty, a failed kidney transplant is now becoming one of the more common indications for a kidney transplant! With a second kidney transplant the first usually does not have to be taken out (but will be, with a third or fourth transplant). Unless the first kidney clotted right away though, it usually means having to wait for a new transplant all over again. Patients can get a living donor kidney after a deceased donor kidney transplant, or vice versa too. If you have a living donor, you may even get your second transplant before the first one fully wears out. The best option though is to take care of your first kidney transplant as well as you can, so that the chances of needing another one remain as low as possible.

whether they mean what they say, or are blowing hot air. Second, a good article comes to the point very quickly, and also acknowledges competing views. Anything that is directly quoted is usually put in “___”. Be very careful about writers gently sliding in their own agenda somewhere in the middle of the article, and then elaborating on that agenda the rest of the way through. If the end of the article bears no resemblance to the beginning or the title, beware! Third, any article asking for a subscription, selling a drug, or money in some other form, is clearly up to no good. Beware of “immune enhancers”. Remember, in transplant we try to suppress the immune system, not enhance it! Any miracle treatment advertised directly to the public is there because it has not made its way to the medical journals, usually for very good reasons. Anything that is not open to debate, discussion, or most importantly, refutation, is not science.

How about the internet? There may be some good information about experiences shared by other patients, or reputable articles meant for the lay public but written by professionals. Use your instinct, with help from some of the general rules above. If you would like to discuss something you read, either on the internet or in print, bring a copy with you to the transplant clinic if you wish, and we would be pleased to give a quick overview and an opinion.
1. **What is a water pill?**

A water pill is a medicine that helps you lose excess salt and water from your body. It is usually taken once or twice a day and is always a prescription medicine. Common examples include furosemide (Lasix), hydrochlorothiazide, indapamide, and metolazone.

2. **I have been prescribed a water pill. What is it supposed to do?**

You will lose the excess water by making more urine. This helps with symptoms like swelling (too much water in your tissues), trouble breathing (too much water in your lungs), or high blood pressure (too much water in your blood vessels).

3. **What are the benefits of taking a water pill?**

Having too much salt and water in your body can cause swelling, high blood pressure or difficulty breathing. A water pill removes the excess water. However, even though you are making more urine, it does not make your kidney work better.

4. **Do I need to take water pills forever, like transplant drugs?**

For most transplant patients, water pills are only needed for a few days or weeks until you have lost all the excess salt and water. Taking water pills for longer than necessary might even make you dehydrated or volume depleted. However, some patients (for example, if you have poor heart function) may need water pills on an ongoing basis. We will prescribe the amount that is right for your specific situation.

5. **Do water pills interact with my anti-rejection drugs?**

No. Water pills will not interact with anti-rejection drugs. However, a few transplant patients may be more susceptible to some of the side effects.

6. **Do I need to take any special precautions when I am taking a water pill? Are there any special tests needed?**

After you take a water pill, you will make more urine within about 6 hours. Make sure you do not take the water pill at a time when
going to the bathroom may be a problem (for example, right before going to bed or if you are going somewhere where it may be difficult to get to a bathroom) unless you doctor tells you to do so. You may also need extra blood tests while on the water pill.

7. I have been on a water pill for a long time but would like to stop. However, the swelling keeps coming back. Is there anything else I can do?

When you eat too much salt, your body will retain more water. Avoid eating fast food and adding salt to your food. If you have heart problems, it may be important to discuss this with your heart specialist as well.

8. Do water pills have other side effects?

Yes. Water pills can cause abnormal electrolyte levels, such as low potassium levels, low or high sodium levels, and low calcium or magnesium levels. They also tend to make your skin more sensitive to the sun. As a transplant patient, it is important for you to always use sun protection at all times. When used for a long time, rarely, water pills may cause hearing loss or a “ringing” sensation in your ear.

9. My swelling is getting worse even though I am taking water pills. What can be done?

Please contact your transplant team for advice. You may need a higher amount of water pill to be prescribed. Some patients may need a second type of water pill to be added. In very severe cases, if your gut is too swollen to absorb pills well, you may need IV treatment in the hospital for a few days.

10. Are water pills expensive? Do they come in combination with other medications?

Water pills do not cost very much at all. They are generally covered under Trillium and various other drug plans. However, if you have trouble paying for your medications at any time, please speak to your transplant team for help. Sometimes, a water pill is combined with blood pressure drugs as a combined pill.
Research at St. Michael’s Hospital is looking at new ways to figure out what is going wrong in the transplant kidney when it isn’t working properly. While kidney transplantation has revolutionized the care of patients with kidney failure, we still have room to improve.

Kidney transplantation has revolutionized the care of patients with chronic kidney disease, prolonging lives and improving the quality of life of people with kidney failure. The transplantation community has made great strides in improving the short-term outcomes of kidney transplantation surgery, with over 93 - 98% of all kidney transplants working 1 year after transplant. While longer-term kidney transplant survival rates have also improved, they have not increased to the same degree.

**Kidney scarring is one of the major reasons why transplant kidneys fail.**

One of the major reasons that kidney transplants fail in the long term is the development of scarring. Scarring occurs in the transplant kidney following any type of injury if it is left untreated for a long enough time. Common causes of kidney transplant injury include things like rejection of the kidney, viral infections, high blood pressure, and diabetes. Unfortunately, once scar has developed, it is almost impossible to remove. Equally as important, the scar replaces healthy kidney tissue, meaning that the scarring process causes the kidney to work less well.

**We need a better way to diagnose kidney scarring.**

A major impediment to dealing with this problem is that we currently do not have a method to diagnose kidney scarring easily. When a kidney transplant starts to work poorly, it can be due to many different things, some of which are potentially reversible or at least treatable if caught early enough (rejection, viral infections, high blood pressure, diabetes), and some of which are irreversible (scarring). While blood and urine tests can tell us that the kidney is not working well, and can suggest potential reasons for this.
we can not definitively determine what is happening in the kidney unless we obtain a kidney biopsy. While biopsy of a transplant kidney is very safe, and our radiologists are experts in performing this procedure, a biopsy can take several weeks to arrange, requires a whole day (for monitoring after the biopsy), and involves a needle. Moreover, the sample of kidney that is obtained is very small (1 mm = about the size of the tip of a mechanical pencil). When the pathologist looks at the kidney under the microscope, he/she can only tell us what is happening in this small kidney biopsy sample, and we have to extrapolate the results from this biopsy to the entire kidney, which on average measures about 6 – 10 cm in length.

**Can we find a better way to diagnose kidney scarring?**

**Research at St. Michael’s Hospital is examining whether high resolution MRI can be used to take a picture of kidney scarring.**

Despite all of its limitations, a kidney biopsy is still the best way to figure out what is happening in a poorly functioning kidney. However, research being done at multiple centres around the world, including at St. Michael’s Hospital, is trying to figure out ways to improve the diagnosis process. Given the importance of scarring as a chronic, irreversible cause of kidney dysfunction, the Renal Transplant and Radiology programs at St. Michael's Hospital are leading research into needle-free, non-invasive ways to image kidney scarring. Rather than relying on a kidney biopsy that requires an anesthetic and an entire day to obtain a very small piece of kidney tissue, ongoing research at St. Michael's is now testing whether we can use magnetic resonance imaging (MRI) as a way to quickly take a picture of the entire kidney to look for scarring. The ultimate goal of this and other similar research is to find new ways to image the kidney non-invasively to accurately quantify scarring throughout the transplant kidney. While MRI and other imaging techniques will probably never completely replace the kidney biopsy, our hope is that it will be a powerful tool to assess for kidney scarring, allowing the kidney transplant team to more accurately decide when and how to treat patients when their transplant kidney is working poorly.

*Have more questions? Feel free to speak with your nurse and nephrologist to find out more about this and other research being done by the Renal Transplant Program at St. Michael's Hospital.*

entitled “Moving the Pendulum Forward in Iron Deficiency Anemia: The Importance of Patient-Centered Care”. Mina Kashani, Nurse Navigator in the Home Dialysis Program presented a poster entitled “The Role of Nurse Navigator and Peritoneal Dialysis Access Coordinator in Transitioning to Home Dialysis…One Year later”.

Elizabeth Petershofer, RN and Lundy Malfara, RN staff nurses in the Hemodialysis Unit, spoke on “Development of the Expert Nurse Cannulator Mentorship Program”.

“It was a pleasure to have represented St. Michael’s Hospital at such a big event”, said Maureen Connelly.

The above presenters would like to thank all those who supported them and their co-authors in their projects and presentations. Next year’s CANNT Conference will be in Niagara Falls.
Generic medications: What are they? Are they safe for my kidney transplant?

Lucy Chen, Pharmacist

As a kidney transplant patient, medications are a big part of your life because they are essential to keeping your kidney healthy. In recent months, you have probably heard of the term “generic medication” mentioned at your clinic appointments or in letters mailed to your home. By getting a better understanding of what generic medications are all about, you can ensure that you are always taking the right medicines for your kidney transplant.

All medicines are known by two names: a generic name and a brand name. For example, mycophenolate mofetil (generic name) is the same thing as CellCept® (brand name). Think of this as being similar to how “tissue paper” is a generic name while “Kleenex” is a brand name.

When a company invents a new medicine, it holds exclusive rights to be the only company to make and sell that medicine for a set number of years. In Canada, this period usually lasts 10-12 years. When that time is up, other factories are allowed to start making and selling generic versions of the medicine.

Generic medicines are usually much cheaper than their original brand name equivalent which helps to keep costs down for you and our health care system. In this case, the cheaper price doesn't mean a cheaper quality. Health Canada has strict requirements that generic medicines must meet before they are allowed to be sold in Canadian pharmacies. First, the generic medicine must contain the exact same active ingredient in the exact same dosage as the original. Second, the generic medicine must reach similar levels within the body as the original. The reason generic medicines are cheaper is because manufacturers do not invest money in researching and inventing new medicines.

However, there are some important differences too. Generic medicines do not necessarily have to contain the same filler ingredients as the original. If you are sensitive to a particular filler ingredient, you may not tolerate some generic medicines. Generic medicines also usually look different from the original brand name product.

So what does this all mean for you as a kidney transplant patient? Here are some important points to keep in mind.

Although generic medicines reach similar levels within the body as the original, even small differences can have a big impact for very important anti-rejection medicines. We are especially concerned about medicines for which we regularly monitor blood levels like tacrolimus, cyclosporine or sirolimus.

If you take sirolimus, there is currently no generic version on the market.

If you take cyclosporine, make sure you only get the Neoral® brand from the hospital outpatient pharmacy. You should not get this medicine at your local pharmacy.

If you take Prograf® (the short acting version of tacrolimus), a generic version of this medicine was just released at the end of January. We DO NOT recommend for you to use generic tacrolimus without our knowledge. Because tacrolimus is a very important anti-rejection medicine, even small changes in blood levels can mean rejection or toxicity for your kidney. You should tell your pharmacist you wish to continue getting Prograf® brand. Usually, insurance companies require you to pay extra to get the brand name instead of generic medicine. If this extra cost is a burden for you, you can download a Prograf® card at http://prografsupport.ca to cover this extra cost. We have also mailed a card to patients taking Prograf®.

If you take Advagraf® (the long acting version of tacrolimus), there is currently no generic version on the market. However, as you can see in the pill pictures below, the generic version of short acting tacrolimus looks very alike to Advagraf®! Mix-ups between the two medicines have occurred so don’t be afraid to ask the pharmacist to double check if you notice a change in your pills. Always double check the label on your medicine to make sure you are getting the right one.
It is with great pleasure that we introduce to you the following new members of our Transplant Team.

**Suela Cela, MSW**  
**Pre-Transplant Social Worker**  
Suela has worked as a Coordinator for the Peer Support Program at the Kidney Foundation. She has been a Social Worker at St. Michael’s in the Diabetes Program for the past 5 years. She holds a Masters in Social Work from University of Toronto (2009), specializing in Health and Mental Health. Suela’s areas of interest are chronic disease management, mental health and behavioral management. She is a Certified Trainer for the Chronic Disease Self-Management Program. In her role as the pre-transplant Social Worker, she assesses patient’s psychosocial suitability to cope with pre and post-transplant requirements and its subsequent lifetime regimen. As such, she will meet with potential transplant recipients and discuss psycho-social issues of transplantation, which can include lifestyle, finances, drug coverage, family support and ability to cope with the stress of the transplant process. She will closely collaborate with your Nephrologist and other team members to help you handle the natural stress associated with a kidney transplant.

**Courtney Sas, MSW**  
**Social Worker, Live Donor Team and Post-Transplant Team**  
Courtney is a new member of the Transplant team at St. Michael’s Hospital. She obtained her Masters of Social Work in 2012 and previously worked in mental health and addiction at North York General Hospital. Courtney completes the social work assessment for all Living Donors coming through the program prior to donation and also provides follow-up support for both Living Donors and Recipients after transplant surgery. Courtney holds a certificate in Cognitive Behavior Therapy and is involved in several different initiatives hospital wide.

**Dana Whitham, RD**  
Dana is a Registered Dietitian with more than 14 years of experience working within Diabetes. She has a Master’s Degree from the University of Toronto. Dana is a lecturer at Ryerson University in the School of Nutrition and has worked as the Professional Practice Leader for clinical nutrition. Recently, Dana has taken on the role of Case Manager within the Diabetes and Renal Transplant programs. In this role, she will assist the teams with optimizing clinic time, flow, patient experience and will help to ensure our services continue to provide excellent quality.
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Inspired Care.
Inspiring Science.