VINCENT’S TWO KORUNAS

What a difference a year makes. 337 days since the last time we completed April. 337 a prime number, precisely the number of bodies identified from the wreck of the Titanic. April was, is and will be a memorable month. From a noble era gone by where women and children were spared to our final issue of Volume 3 of the Links, dedicated to our children. The success in Pediatric Heart and Lung Transplantation can be attributed to the marvels of medical progress from the combined efforts of science, engineering, and technology resulting in newer medications and an assortment of mechanical devices. The ingenuity of these devices today is really no different than the devices that were required to power the magnificent Titanic into darkness. It is just on a smaller and hopefully more cautious scale. Children and their innocence are not little adults. They are vastly different and require different expertise. In this April Issue, Beth Kaufman has assembled a team of expert writers enlightening us on the happenings and events of our little ones as this Small Group Moves Forward with Mechanical Circulatory Support, Extracorporeal Membrane Oxygenation, and Heart Transplantation despite the obstacles of moving from Bedside to Bunkside, Kids and Germs, and the Transition into the Journey of Adulthood. This section ends with a consideration of Ethical Advocacy for Organ Donation by Transplant Providers.

Well, all come all Prague and the Adventures of Mr/s XYZ are upon us. In just two weeks most of us will begin our journey. It starts with a passport, check; right amount of clothing, check; deodorant, toothpaste, and tooth brush, check; …wait a minute, do I carry these on or check in with my baggage? What do our real world travelers (Australians) do? Reading material, check; electronic devices, check; chargers, check; proper voltage adapter, check; will my curling iron work? Czech currency, check; copies of my passport, check; and did I check the expiration date on my passport? Czech!

During your journey, don’t choose the line or queue that I’m in. Given the choice of several lines, the one I choose inevitably becomes the slowest to move or actually closes while I’m waiting. Also, remember, being the first one or nearest the baggage carousel to retrieve your luggage magically makes your bag appear first on the carousel. How do I know this? For decades now, I have observed this phenomenon while I stand back and watch the behavior of strangers rushing to the front trampling others hurriedly to make sure their bag is first. Be courteous.

Well that’s Vincent’s eleven cents, roughly two korunas with an encore. 😊
It has been a productive year for the Pediatric Council filled with continuing efforts and new initiatives. I have certainly enjoyed my year as Chair and I would like to thank the ISHLT administrative team and my Pediatric Council Board colleagues, Elfi Pahl and Melanie Everitt, as well as the Pediatric Workforce leaders, for all their support and efforts.

As the year long term ends, I will be turning over the Chair position to our current Vice Chair, Melanie Everitt, so the position for Vice Chair will need to be filled. The role on the Pediatric Council Board is a 3 year commitment: Vice Chair for one year (April 2012-13), Chair for one year (April 2013-14) and Past Chair for one year (April 2014-2015). Please do not hesitate to contact any of the current or past Pediatric Council Board members to learn more details about the roles and responsibilities – it is a very rewarding experience!!

(Contact information is on our Council webpage: http://www.ishlt.org/councils/pediatric.asp.) If you are interested in the Vice Chair position and becoming more involved in the Pediatric Council’s Operating Board, please email your candidacy including an outline (5-10 lines) of your aims and future goals for our Council to Susie Newton (susie.newton@ishlt.org) no later than Friday, April 6th.

The election will take place by electronic ballot in early May 2012. So be on the lookout for your email from Susie with your electronic ballot - please remember to VOTE.

At last year’s Pediatric Council meeting in San Diego, there was definite interest expressed in having an online forum for discussion of pediatric transplant related topics, clinical dilemmas, ethical challenges etc... In response to this, recruitment of a new Pediatric Communications Workforce occurred with Kimberly Gandy accepting the role as Workforce Leader. Through their and Susie Newton’s efforts, we now have an ISHLT Pediatric Transplant Discussion Google Group, which is further described in this newsletter. This will serve as our ISHLT member’s online forum. All are invited and encouraged to join. Just email klgandy2@gmail.com for the link to join the conversation or launch your own.

The Education Workforce was very busy this year promoting the interests and proposals of the Pediatric Transplant Council to the 2012 Program Committee, resulting in a diverse, exciting program at this year’s upcoming Scientific Sessions in Prague. Be sure to read the article in this newsletter for the Pediatric Program Highlights. There are also ongoing efforts in the development of an ISHLT Pediatric Transplant Master Academy, potentially for Montreal 2013, focused on the core competencies of pediatric advanced heart and lung failure, mechanical support, and heart, lung and heart-lung transplantation. Be on the lookout for updates to participate in this valuable learning experience.

Planning is already underway for the 2013 Scientific Sessions in Montreal. Christian Benden (Sydney) and TP Singh (Boston) will be the Pediatric Council Representatives to the 2013 Scientific Program Committee. Please start thinking about your symposium proposals for early submission.

Last but not least, a big THANK YOU to all the contributors of this issue of LINKS focusing on Pediatric Transplant! Best issue yet (but maybe I am biased...)!

Hope to see you in Prague at our Pediatric Transplantation Council Meeting (Wednesday, April 18, 1-3 PM, Club C), and/or “chat” with you soon online via the Pediatric Transplant Google group!
This year marks the 10th year anniversary of the International Pediatric Lung Transplant Collaborative (IPLTC). This collaborative represents roughly 60 physicians and nurses from around the world who are involved in pediatric lung transplantation. The IPLTC was initiated with four goals in mind:

1) To unite pediatric lung transplant centers (to date approximately twenty centers have joined).
2) To promote interaction to enhance the care of lung transplant candidates and recipients.
3) To exchange ideas about the science and art of pediatric lung transplantation.
4) To establish a prospective database of pediatric lung transplant recipients.

The above mentioned goals were all carefully crafted by Dr. Albert Faro, the IPLTC’s first president, and other members into the IPLTC bylaws.

Like many great ideas, the natural response of any reader (if I have maintained your interest thus far) is, “well, what happened?” Did Faro et al move a small group with a common goal forward? I would have to say yes. In 2006 the IPLTC completed its first major accomplishment by publishing the Executive Summary on Pediatric Lung Transplantation in the American Journal of Transplantation. After that, everything else seemed to get easy. The IPLTC meets annually at the ISHLT and has regular email contact in a list serve that discusses ongoing issues along with case presentation. In 2007 the first IPLTC immunosuppression and infection treatment protocol was written. This was a group effort that addressed many aspects of the medical management of pediatric lung transplantation. Individual members/centers were assigned areas of treatment to address. This protocol was reviewed and approved by IPLTC members and the IPLTC protocol was formed. The concept behind this standardization of therapy was to improve our ability to assess outcomes. This protocol is in the
process of being updated and will be completed by mid-year.

The IPLTC laid important groundwork for the application from a consortium of members to seek funding through the NIH Clinical Trials in Transplantation for Children (CTOT-C) program. Led by Stuart Sweet and Lara Danziger-Isakov, an observational study of the impact of respiratory viral infections on outcomes following pediatric lung transplant was one of four funded consortia. Based on comments made by the grant reviewers, strengths of the application included evidence of collaboration within the IPLTC, particularly the shared IPLTC immunosuppression protocol and the publications involving infectious complications authored by Dr. Danziger-Isakov and colleagues. This CTOT-C is currently nearly complete and promises to become one of the cornerstones for further collaboration.

While not all centers are involved in the CTOT-C study, this has not limited the IPLTC’s ability to be a productive research group. A quick search of Pub Med will reveal 19 peer reviewed manuscripts that have been co-authored by IPLTC members from two or more centers over the past 10 years. This collaboration is ongoing with several ongoing research endeavors in various stages of completion from this group.

I believe the future is bright for this small group. While the fourth goal of a prospective database might have been momentarily lost (along with steak dinners at the annual meeting) to a bad economy, it is not forgotten. The IPLTC will continue to focus on its original goal, which is to advance the treatment and care that is provided by group members to their patients. The strength of the IPLTC lies in its ability to work together to arrive at consensus with the understanding that together our group can have a greater impact on patient care.

Disclosure statement: The author has no conflicts of interest to disclose.
The number of children with heart failure has been increasing significantly. This large wave of end-stage pediatric heart failure patients cannot be fully addressed by heart transplantation alone because of limitation in donor organ availability that has been present for over a decade.

Unlike adult patients, where durable intracorporeal devices for mechanical circulatory support (MCS) are available, there have been no approved devices available for children that have gained widespread use even in developed countries, such as US and Japan, until recently. Therefore, extracorporeal membrane oxygenation (ECMO) has remained the most common form of pediatric MCS despite the fact that ECMO is not always an ideal solution. This frustrating situation, however, has been changing dramatically in the past 5 years.

**US Food and Drug Administration approved the Berlin EXCOR®**

In December 2011, Berlin EXCOR Pediatric VAD, which has been applied in Germany for over a decade, achieved an HDE approval by the US FDA, based on a clinical trial demonstrating that the EXCOR successfully bridged 90% of study patients to transplantation or recovery. Successful completion of the trial and subsequent FDA approval is a landmark event for pediatric heart failure treatment not only because this ushers in a new era for children with heart disease but this trial should serve as a model for future collaborative device investigations involving pediatric patients, industry, medicine, and the government. The Berlin Excor is the only true pediatric specific device to gain wide-spread use in the USA with over 300 implants and worldwide with over 1000 implants.

**The Impact of Smaller Adult Devices for Pediatrics**

The field of pediatric MCS is also greatly benefitting from the technological advancements of adult devices that offer a reduced morbidity profile and the ability to discharge patients home. We have been using these smaller intracorporeal devices such as the HeartMate II® and HeartWare® for patients with a BSA > 1.0 with our youngest being 9yo. We can now begin offering teenagers chronic VAD therapy as a destination or as period to see if they could become a transplant candidate. It is important to note that these devices are not approved for a certain age but by function with a recommended BSA. Besides supporting biventricular physiology, the field has begun to tackle univentricular circulations such as bidirectional Glenn patients with the Excor and the failing Fontan circulation with the HeartMateII, this type of support we have termed “systemic VAD (SVAD).” Although Fontan failure can be multifactorial, this experience should highlight that Fontan circulation can be supported with VAD therapy when the primary etiology of circulatory failure is due to ventricular dysfunction alone and when the systemic ventricular end-diastolic pressure is high. However, the majority of failing Fontan patients fail at multiple levels and will probably not benefit from VAD therapy alone. These patients could perhaps be best addressed with a Total Artificial Heart (TAH).1

**Total Artificial Heart for Pediatric Population**

At this time, a TAH in adolescents could be helpful for certain conditions including chronic graft failure, failing Fontans, and certain types of end-stage congenital heart disease. A total replacement of an implanted graft eliminates the need of immunosuppression, which has a great advantage in the setting of an artificial device use. A
VAD implantation late after congenital heart surgery can require multiple, concomitant procedures (i.e. aortic valve repair, conduit change, etc) depending on the anatomy and previous surgeries. These additional procedures require a prolonged pump-run and a cross-clamp time and thus change the morbidity profile of VAD implantation. In these circumstances, a TAH could be a better solution as demonstrated by a recent patient with congenitally corrected transposition of the great arteries and dextrocardia who required aortic valve and LV-PA conduit replacement through a 5th median sternotomy in order to place his BiVAD. Instead, he was implanted with a TAH that despite some technical challenges and modifications necessary for his anatomy (Fig), he tolerated well, was discharged home, and successfully transplanted 3months later.

**Bridge to Recovery in Pediatric Population**

ECMO, and short-term VADs in some institutions, have been routinely used as a short-term bridge to recovery in children with a temporary etiology of heart failure such as myocarditis or acute cardiac graft failure. However, availability of devices designed to provide support over a longer duration offers the opportunity to utilize these devices as a bridge to recovery in children with chronic heart failure. Pediatric myocardium may have higher potential to undergo reverse remodeling than that of an adult. At Texas Children’s Hospital, a medical and rehabilitation program has just been developed to evaluate all long-term VAD patients for the potential to undergo myocardial recovery. We have only experienced one successful application of an intracorporeal VAD for bridge-to-recovery in a 15yo boy with chronic heart failure. [Even though still an infrequent therapy for pediatric programs, the field of pediatric MCS has truly begun. This is underscored by the PUMPs for Kids Infants and Neonates (PUMPKEIN) program funded by the NHLBI to develop MCS for children. Presently, device and patients do exist to create an independent robust pediatric VAD program that supports children of all sizes and appropriately with the best type of short or long term devices for their specific type of heart failure.]²

**References:**


**Disclosure statements:** The authors have no conflicts of interest to disclose.
The number of pediatric lung transplant procedures performed annually worldwide increases continuously with comparable outcomes between adults and children, offering carefully selected children a survival benefit and improvement of health related quality of life. However, there is ongoing lack of suitable donor organs, and extended waiting list times bear the risk of death on the waiting list. Furthermore, this steady increase in the number of lung transplant procedures has led to an increased competition between children and adults for suitable donor organs, resulting in a higher ratio of waiting list deaths in children compared to adults in some countries.

As a consequence of this, the need for respiratory support to bridge children to lung transplantation is more often required, including extra-corporeal membrane oxygenation (ECMO) support. Up to now, only scarce reports have been published on the use of ECMO in children as a bridge to lung transplantation with mixed outcomes.

One of the first reports on the use of ECMO in human lung transplantation dates back to 1978, well before lung transplantation evolved as an accepted therapy for end-stage lung disease. A 19-year old lung transplant recipient who was placed on ECMO support temporarily due to insufficient pulmonary graft function early post-operatively, died 18 days post-transplantation of bronchial dehiscence. Since then, only isolated reports on the use of ECMO as a bridge to lung transplantation in pediatric and adolescent recipients have been published with variable results.

In a recent retrospective study from St Louis, the largest pediatric lung transplant program in the world, Puri et al demonstrated that ECMO use before or after lung transplantation is associated with a significant morbidity and mortality in children requiring peri-operative ECMO support (6/15 children bridged on ECMO to transplantation survived to hospital discharge). Children placed on venovenous (VV) compared to venoarterial (VA) ECMO had a better chance of overall survival, in particular, if weaned off ECMO prior to transplantation. The authors concluded to de-list patients in the future if ECMO was instituted for respiratory failure.

Many other pediatric lung transplant centers share these concerns and therefore consider the need for ECMO to be a contraindication for lung transplantation. However, the adult experience on the use of ECMO as a bridge to lung transplantation seems somewhat different. A recent retrospective adult study of two Scandinavian transplant centers reports an excellent short-term outcome with >90% 1-year survival after the use of ECMO support as a bridge to lung transplantation. The Pittsburgh group has also recently shown that an acceptable mid-term survival is achievable in carefully selected adults bridged on ECMO to lung transplantation, despite higher peri-operative mortality. Hence, ECMO is currently accepted at selected adult transplant centers as bridge to lung transplantation.

My personal clinical experience would suggest that ECMO can be safely used as a bridge to lung transplantation in carefully selected children. In experienced transplant centers, the use of pre-operative ECMO support may not generally have a negative impact on short-term outcome in pediatric lung transplant recipients.

It is important to report additional experience to contribute to our knowledge concerning this sophisticated, high resource-consuming method of support as a bridge to lung transplantation. A multi-center study to collect a larger cohort of children who underwent lung transplantation after ECMO support and to evaluate key factors associated with inferior outcomes following transplantation is needed and currently
on the way (Jackson Wong, personal communication). This international study will examine many risk factors involving the use of ECMO in this very compromised group of children waiting for a major transplant procedure.

In conclusion, the pediatric lung transplant community needs to move forward and pursue further studies to evaluating risk factors for morbidity and mortality and long-term survival of children on ECMO as a bridge to lung transplantation which may lead to improved overall outcomes in the future.

The issue of ECMO as a bridge to lung transplantation in children will also be discussed at the upcoming ISHLT 2012 Annual Meeting and Scientific Sessions in Prague during Concurrent Symposium 18: Challenges in Pediatric Lung Transplant on Friday, April 20 from 11:45 AM - 1:00 PM.

Disclosure Statement: The author has no conflicts of interest to disclose.

References:

Most medications need to be protected from heat and light, especially liquid preparations. The car is generally not the best place to store them. It is better to take the medications out of the car and with you or package them such that the medications are not exposed to temperature extremes. If medications require cooler temperatures or refrigeration they may be packed in a cooler with a frozen “ice-like pack,” as long as the medication does not directly come in contact with the ice pack. Actual ice should never be used as this may melt and cause problems.

When traveling via airplane, patients should always keep their medications in their carry-on baggage, eliminating the concerns of lost baggage. As it can take up to several days to receive lost luggage, keeping medications with them prevents missed doses. Additionally, overseas flights or travel delays may result in the need to take a scheduled dose during the flight. It is important to keep as close to the usual dosing interval as possible despite time zone changes so that too many or too few medications are not taken within a 24-hour time period. Medications should be labeled with a professionally printed label identifying the medication and the manufacturer’s name. The best way to do this is using the original prescription label from the patient’s pharmacy. The medication must match the name on the passenger’s ticket.

When traveling abroad, there can be country-specific regulations regarding prescription medications, especially controlled substances, as well as non-prescription medications. It is best to review well in advance the country-specific regulations. The U.S. state department has suggested patients carry a note from their physician outlining their medical condition and the medications (including generic name) they are taking. Active and inactive ingredients may vary from country to country and some medications may not be available in some areas, so patients should also consider taking enough medication to last at least three days longer than the planned vacation.

Educating parents and patients on how to prevent and plan for medication emergencies can improve their traveling experience.

QUICK TIPS
- Keep medications in original labeled containers with labeled-name matching ticketed passenger.
- Check country-specific regulations for medication travel.
- For patients who rely upon the aid of a pillbox for medication administration, take along the empty pill box and then fill the pillbox once you arrive at the destination.
- Keep at least a three day supply beyond your planned vacation length.
- Keep a list of medications and their indications readily accessible in case of emergency.
- Take the contact information for physician and pharmacy while away from home.

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References:
"This is a repeat-after-me, do-as-I-do song…. There was a great big moose. He liked to drink a lot of juice."

I am in a rustic, high ceiling, barn-like dining hall full of round tables with a variety of wildlife displayed on the walls, and bright green trees peering through the windows. I am surrounded by 30-40 people of different ages and sizes with smiles on their faces, hands on their head in true antler fashion, singing at the top of their lungs. I am at camp! But this is not just any camp—I am at a camp specifically created for children who have had a heart transplant.

But let me start from the beginning. In the summer of 2008, I had dislocated my finger and was unable to perform my duties as a registered nurse in the pediatric cardiac step down unit in which I worked. Unbeknownst to me, a team of co-workers including a heart transplant attending, his pulmonologist wife, nurse practitioners, child life specialists, and a psychologist, were packing their bags for the inaugural year of heart transplant camp (which I later learned was the vision of a transplant recipient’s mother and had been in the planning and fundraising phase for the last year). The night before camp was supposed to start, I received a call from one of the child life specialists telling me about the camp which would be a week-long overnight camp for children ages 8-18 who had a heart and/or lung transplant or had pulmonary hypertension, asking if I would be able to come for a few days because they needed more nurses. I had no idea what I was getting myself into but I did not hesitate to say yes.

I packed up what I “thought” I might need for a week at camp (in the four years since, I have mastered the necessary supply list—a foam mattress pad, diet coke and Swedish fish to name a few) and started on my journey. I arrived at camp on Sunday night and was greeted by my co-workers and the counselors who would be organizing meals, games, and activities for the week. After a brief meeting about what our medical duties would be, I headed to the air conditioned bunk halls (an accommodation made specifically for our campers), hopped up on the top bunk, something the kid in me couldn’t resist but at two in the morning the adult in me regretted, and went to sleep eagerly anticipating the campers’ arrivals.

The next day the nurse practitioners and I sat at a table in the dining hall where we completed a medical check-in with each camper as they arrived. This consisted of a review of allergies, a screen for recent upper respiratory or gastrointestinal illnesses as infection precaution, and a medication reconciliation which included drug, dose, time, and route of administration. Each camper was provided with a pill box into which, after the medications were reviewed, a week’s supply was counted out and placed in the appropriate time slots. Each camper had a medication sheet with enough copies for each day of camp which would be used to document medication administration, line / dressing changes and pump checks (for the kids with pulmonary hypertension on drug infusions), blood sugars, insulin, etc.

After the campers were checked in and dorm rooms were set up, it was time to for the parents to say goodbye. Cell phones were not allowed at camp so once they said goodbye, they would not see or hear from their child for a week. For most parents this would be not be a problem,
and might even be a nice break, but for these parents it was much more. Most of these children had not left their parents’ sides since their diagnosis and transplant much less overnight; for some, that was a few months to years ago, but for others that was their whole lives. Despite the anxiety and worry that came with leaving their children, these parents did so because of the trust and comfort they had with the medical team who had cared for their children in the hospital and would now care for them at camp. Stronger than their own discomfort was the desire for their child to have a “normal kid” experience with their peers, an experience many parents take for granted and none of these children were guaranteed to have.

The camp routine consisted of the wake-up bell at 7:30 followed by breakfast at 8:00, a morning activity, lunch, an afternoon activity, dinner and an evening activity before bed somewhere around 9:00. A back room in the dining hall served as the “med room” and after each meal, the campers were brought back in groups of four or five at a time. Our goal from the beginning was to have “med time” be safe but as quick and seamless as possible so as not distract from camp activities. By the end of the week, we had “med time” running like clockwork, taking only 20-30 min to administer medications to 19 campers.

“Med time” would become one of my favorite parts of camp. We quizzed the teenagers about their meds as we gave them, but quickly discovered that for the precocious 8 and 9 year olds, this step was unnecessary. These savvy kids not only knew all of their medications but were quick to point out our shortcomings as med administrators, such as the fact that we were using a 3 mL syringe when at home they use a two 1mL syringe, or the audacity we had in providing water for sildenafil when at home they take it with juice. In addition I witnessed innocent exchanges between campers which at any other camp would be “You have those sneakers? So do I!” but here was “you take mycophenolate? So do I” or “I used to take that medicine until I got my transplant” followed by “I need a transplant someday.” Each of these moments reminded me of how amazing kids are in their ability to adapt and cope with whatever they are given.

In addition to medication administrators, we were hydration monitors (tacrolimus is hard enough on the kidneys without adding running around outside in 90 degree weather), infection preventers (hand sanitizer is a must after holding toads and fishes), and sunscreen applicators. By the end of the week I would be saying “Drink more water”, “Did you purell?” and “Did you put on sunscreen” in my sleep. When we weren’t doing all those things, we were campers.

The kids were divided into “tribes” based on age and each tribe was accompanied by two medical staff and a psychosocial support person (child life specialist or psychologist). The tribes would separate for the morning and afternoon activities and reconvene for meals and evening activities. We played field games, swam in the bay, went fishing, picked berries, went on a boat, made tie-dye shirts, got water dumped on our heads, made “echo-art”, played cards, sang songs, pulled pranks, went on the zip line, and road the giant swing. Words cannot describe how rewarding and inspiring it was to see what these kids could do and to be a part of it; to watch the same girl who...
10 months ago was in the hospital with a central line on inotropes waiting for her second heart transplant, climb a fifty foot tree ladder to a platform and fearlessly jump off. It reinforced why I do what I do.

The week passed quickly and suddenly it was time for camp to end. We created a slide show for the parents highlighting the week’s activities. Instead of watching the slide show, I watched the parents. I watched their mouths hang open in awe at the picture of their daughter racing down the zip line; I watched them laugh at the picture of their son kissing a fish; and I watched them cry at pictures of new found friends with arms around each other and smiles on their faces. At the end of the slide show, the entire hospital staff was called to the front of the room. I stood there with my co-workers, who by virtue of the experiences we shared over the last week had become so much more, and looked out at the parents and campers as they thanked us for our time with a standing ovation and couldn’t help but get tears in my eyes and goose bumps on my arms. I had accidentally become part of something special and I couldn’t have been more grateful.

This summer will be the fifth year of camp, and while no year will ever be as magical as the first, each year is full of new lessons that remind me why we do heart transplants (which I have at times questioned) and reinforces the amazing spirit and resiliency of children.

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KIDS AND GERMS, FOREVER THE TWAIN SHALL MEET, EVEN AFTER TRANSPLANT

Michele Estabrook, MD
St. Louis Children’s Hospital

Kids who have had a lung or heart transplant are given a second chance to do what they really want which is to be like any other kid. They want to go back to school, hang out with friends, go swimming, join the baseball team, go on play dates (or dates) and have birthday parties.

Families return to their normal routines which often means daycare or after school care. Kids happily go out into the world of viruses, bacteria and yes—even head lice—but they are like Petri dishes: they catch it all and then bring it home to share with the rest of the family.

Children normally can have up to ten, self-resolving viral illnesses per year in the first 2-3 years of life; however, when that child is post-transplant, the anxiety can be great.

The best way to protect children from infection was invented at the end of the 18th century with the discovery and development of disease-preventing inoculations (read more in the 2012 February Issue, Vol. 3, Issue 9, Light, Beer, Shots, and Mad Dogs and Phlegming: Perchance a Mould, Diligence, and Chivalry). We now have at least 15 different bacterial and viral illnesses which can be prevented or ameliorated by vaccines routinely given to all children.

The pediatric inoculation schedule begins at birth and stretches into adolescence. Given the fact that all vaccines work better before transplantation, and live viral vaccines against measles, mumps, rubella, chicken pox, and rotavirus are not recommended after transplantation, educating parents and health care providers on the recommended immunization guidelines for all children, regardless of chronic illness, will ensure that they arrive at their transplant window as fully protected as possible. The CDC’s Advisory Committee on Immunization Practices (ACIP) provides yearly, updated, online schedules and guidelines as well as “catch-up” schedules for kids who are behind.

When the parent or care giver is asked, “are the immunizations up to date?” the answer is always, “yes.” When the actual record is obtained and reviewed, however, there are usually opportunities for more immunizations. This review is an important component of the pre-transplant evaluation, keeping in mind that live viral vaccines should not be given less than 1-2 months pre-transplant. The CDC also gives detailed recommendations for the new 13-valent pneumococcal conjugate vaccine based on age and prior immunization status.

Finally, remember that immunizations don’t stop in Kindergarten. Recommended adolescent vaccines are Tdap, meningococcal conjugate vaccine, HPV vaccine, and pneumococcal polysaccharide 23 vaccine when indicated. Children whose immunizations have been interrupted by transplant should resume the normal schedule with the exception of live viral vaccines. Data are lacking, but most centers resume immunizations 3-6 months post-transplant.

It is also important to create a protective environment around children after transplant by fully immunizing family and health care workers. With the exception of small pox and oral-polio vaccines, there is little risk of transmission from live vaccines and...
family members should receive recommended MMR and Varicella vaccines. The ACIP also believes that infants in the household of an immunocompromised individual should receive the rotavirus vaccine. Preventing transmission of wild-type virus to the post-transplant child outweighs any theoretical risk of vaccine strain disease.

There are a multitude of infections—mostly viral—that are not preventable by immunization and can cause more significant disease in the immunocompromised. Many are identified by antigen detection, PCR, or culture. Human metapneumovirus (hMPV) is increasingly recognized as a cause of respiratory tract infection in all age groups and disease can be severe in SOT recipients. Serological studies indicate that infection is nearly universal by 5 years of age and recurrent infections throughout life are common. Clinical manifestations including URI, bronchiolitis and pneumonia are similar to respiratory syncytial virus. RSV continues to peak every winter and is not yet preventable by immunization. Parainfluenza and adenovirus respiratory infection can occur year round. The average child under five years of age has 1-5 episodes of acute, viral gastroenteritis per year. Human calicivirus (Norovirus and Sapovirus), enteric adenovirus, and astrovirus are most common. Fortunately while still present, the incidence of rotavirus infection has been markedly decreased by the advent of infant vaccines.

What can be done to prevent community acquired infection? Careful attention to immunizations and good hand hygiene will go a long way. Otherwise, kids will be kids and they are bound to catch what is going around as they reenter their childhood.

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There were 9,566 pediatric heart transplants reported to the ISHLT from 1982-2009.1 Every year, the ISHLT pediatric registry report survival statistics improve and, in addition, the number of children and adults undergoing transplantation for congenital heart disease continues to increase.2 With increasing numbers of pediatric patients surviving into adulthood with excellent quality of life,3 more young adult transplant recipients will receive care at adult centers. Transition programs are critical to support care for these young patients who are traditionally cared for at children’s hospitals. Transition is defined as a “complex set of beliefs, skills, and processes that facilitate the movement from pediatric care to adult centered care.”4 The goal of transition is to provide comprehensive, developmentally appropriate healthcare in a coordinated, uninterrupted, and seamless manner across centers and in partnership with patients.

Transitions from pediatric to adult care occur during a period of vulnerability, characterized by poor judgment and decision-making, risk-taking behaviors, and emotional reactivity, when these young patients are taking on new responsibilities such as 1) leaving home for the first time, 2) pursuing education / jobs, 3) establishing significant personal relationships, and 4) beginning to manage their own healthcare needs. Consequently, these young adults are at increased risk for poor adherence to medical care and subsequently poor health outcomes.

Ringewald et al. reported a high rate of rejection in nonadherent adolescent pediatric heart transplant recipients, which led to a high rate of death in this
population. McBride et al.6 examined outcomes of 20 pediatric heart transplant recipients after transition to adult centers. Patients averaged 15.5 years of age at transplant, and average time to transition was 5.6 years. Survival was 100%, 74%, and 56% at 1, 5 and 10 years after transition to adult care with 6 deaths and 3 patients lost to follow-up. In a recent multicenter registry study of pediatric and adult patients by George et al.7, including 10,131 patients from 29 institutions in the Cardiac Transplant Research Database (n = 7,368, from 1990 to 2008) and 32 institutions in the Pediatric Heart Transplant Study (n = 2,763, from 1993 to 2008), the highest risk for death from rejection occurred in patients transplanted between the ages of 10 and 30, particularly black females. These findings suggest that in addition to potential clinical factors, adherence may contribute to these alarming findings. This group of patients warrants targeted interventions to optimize medication and clinic adherence and potentially improve outcomes during this vulnerable time.8

Programs transitioning children with chronic illnesses to adult systems of care are limited and, in most cases, nonexistent. As noted above, poorly planned transitions for young adults with solid organ transplants may increase the risk of graft failure. Many barriers to a successful transition between pediatric and adult centers exist, including lack of preparation by pediatric providers for transitioning care, lack of adult provider training in meeting the psychosocial and behavioral needs of young patients, lack of time and reimbursement, and lack of a coordinated transfer from pediatric to adult care. Families and patients have reported differences in the culture of pediatric versus adult models and nervousness about going to a new center, placing undue emotional and financial stress on patients and families. These patients may be lost to follow-up after transfer, until a lapse in care contributes to morbidity and emergency room visits.

An excellent report on transitioning care was published last year for adolescents with congenital heart disease regarding “best practices in managing transition to adult centers.”9 Adolescents have significant gaps in knowledge of their disease, treatment, and self-care, as reported by Sable et al.4 which is applicable to transplant recipients as well. We must do a better job educating and preparing our young transplant recipients prior to their transition to adult centers.

Transition programs should be implemented between pediatric and adult centers. Components of a transition plan should include education about heart transplantation, self-care (e.g., medications, complications of transplant, lifestyle issues [i.e., heart healthy diet, activities of daily living, exercise, return to school/work, sexual and reproductive health, and avoiding risk-taking behaviors [smoking, drugs and alcohol abuse]], and keeping appointments), the importance of adherence to the medical regimen, and social support to facilitate self-care.

Heart transplant coordinators at pediatric and adult institutions are ideally suited to facilitating a safe transition from pediatric to adult care, with support from pediatric and adult cardiologists as well as mental health professionals. Transition discussions should begin early, ideally between age 14 and 16, with transfer of care some time during the next 5 years. Parents should be included in the transition process, as they transition from being a “care coordinator” to a support role. An improved transition will promote better health outcomes for these young adult transplant recipients, including lower rates of morbidity and mortality after transition.

Disclosure statement: the authors have no conflicts of interest to disclose.

References:


The majority of individuals who read articles in Links are well aware of the pressing need to increase organ donation. I would like to focus on pediatric heart recipients, a group with the highest waiting list mortality of solid organ transplantation in the US.1

As transplant providers, we are expected to be strong advocates for recipients. Speaking with my transplant care provider hat on, I am concerned that active advocacy for organ donation has been muted perhaps by our caution to avoid conflicts of interests. In specific, UNOS Policy 3.4.1 updated in 2010 entitled “Avoidance of Conflicts of Interest” states that “… neither the attending physician of the decedent at death nor the physician who determines the time of the decedent’s death may participate in the operative procedure for removing or transplanting an organ from the decedent …”

Lori West and her team reported in 20012, the outcomes of listing infants for the next available heart independent of their blood type. By adopting this ABO-“independent” strategy, waiting times and death for infant recipients have dramatically fallen in Canada. ABO-“incompatible” listing was introduced for infants under 1 year old in the US. The blood group O recipients, who were most disadvantaged with blood group compatible listing, have benefited coming to transplant by 30 days after ABO-I listing with an overall reduction in waiting time by as much as 45% (i.e., 87 to 48 days).3 Importantly, we now have evidence that ABO-I does not adversely affected post-transplant outcomes.4 But the UNOS listing algorithm is to allocate donors independent...
of blood type after traditional ABO-matching and, in many centers, as a last resort. This UNOS algorithm improves allocation of unused donors but has had a much smaller effect on waiting time mortality compared with the ABO-I algorithm in Canada that allocate all hearts independent of blood type. Evidence supports advocating for expeditiously adopting a similar allocation algorithm by UNOS.

In an effort to increase donor availability, hospitals have been mandated to increase Donations after Cardiac Death (DCD). Over the past 10 years at one institution, there has been an increased proportion of donors from DCD and a decrease in donations after brain death (DBD) despite there being no changes in patient diagnoses that came to organ donation. This shift has been attributed to changes in clinical practice, especially in management of patients with severe brain injury. While this trend may increase the number of kidney donors, it has the potential to decrease the number of heart donors. In this regard, the pediatric heart transplant community must be allowed to advocate for recipient interests without raising ethical questions about such advocacy. Witness the heated debates over the ethics of DCD following publication of the first trial using DCD donors in infant heart transplantation.

The ethical considerations surrounding DCD are important to articulate. The impact of the status quo is particularly problematic for pediatric heart donation if, as outlined above, more organ donors will be going down the DCD path. There likely will be tensions resulting from a more stringent, and therefore “intrusive”, timeline to declaration driven by the reality that short warm ischemic time is critical to successful heart transplantation. As pediatric heart transplant care providers we have to be willing to advocate for an ethical pathway to DCD for heart. In contrast to the experience with adult organ donation, where inability to obtain family consent remains a significant limitation to organ donation, pediatric donation is almost always a surrogate decision without advance directives yet organ donation is desired by the majority of informed donor families. For DCD and pediatric heart transplantation, it will be important to find a path to DCD that is sensitive to both the immediate needs of the surrogate to say good bye and their desire to donate - analogous to how we carefully consent for research participation presenting the “risks” (altering the final minutes) and “benefits” (organ donation).

This benefit is real. I would like to share with you excerpts of a letter that a donor’s father wrote to a recipient’s family at the anniversaries of their daughters’ donation and heart transplantation, respectively.

“...My loss of my wife and daughter was tragic...It would mean so much to me if you could keep me updated on your daughter. My hopes and prayers will be with her. Sincerely, A Happy Dad.”

The experience has been that, when done professionally and with compassion, pediatric organ donation is valued by both donor and recipient families. I believe we have a continuing responsibility to ensure that every family is given the opportunity to consider organ donation for their child. Given the limited experience to date with infant heart transplantation after DCD, we should advocate for a cooperative effort to collect in real time the DCD experience with the equivalent of institutional data safety monitoring boards. If brain death seems imminent, parents should be given the opportunity to wait rather than pursue DCD per ASTS Practice Guidelines.

Should all potential status 1A infant heart recipient families be given options at time of listing of the types of “acceptable” donor(s)? For example, ABO-matched only or ABO-“independent”, where the later could be listed to receive the next heart donor after considerations of waiting time and distance. For example, DBD only or DCD, where the latter could be listed to receive the next donor, DBD or DCD?

The shortage of available donor hearts continues to limit the number of children who can benefit from transplantation in general and for our youngest potential heart recipients in particular. On the 10th anniversary
of a similar initiative\textsuperscript{12}, this seems to be the right time for the Standards Committee of ISHLT to partner with a subcommittee of the UNOS Pediatric Committee to develop Best Practice Guidelines to Ethically Maximize Pediatric Organ Donation: Cardiac Considerations.

\textbf{Disclosure statement:} the author has no conflicts of interest to disclose.

\textbf{References:}


Among the highest awards our Society bestows for best presentation by a junior member at the Annual Meeting is The Philip K. Caves Award. Who was this man, a figure from before the founding of the ISHLT?

John Wallwork, as a young resident, met this dynamic senior lecturer in Edinburgh. It was instantly apparent Philip Caves was a man on the move, bringing vitality and energy that sustained him throughout his short life.

Born in Northern Ireland in 1940, Caves received his medical education in Belfast, where he also started his general surgical and subsequent cardiothoracic training.

A move to the Brompton Hospital in London followed in 1970. But Caves blossomed when, in 1971, he was awarded the British–American research fellowship to Stanford University School of Medicine, California, funded by the British and American Heart Associations. In the stimulating atmosphere under the supervision of Norman Shumway, he rose from Senior Resident in 1972 to Staff in 1973.

Working closely with the late ISHLT President MargaretBillingham, he developed the cardiac biopsy and endocardial biopsy technique. Access to tissue from the transplanted heart enabled the Stanford group to define cardiac rejection which later evolved into the ISHLT grading system. The opportunity to fine-tune immunosuppression for their recipients improved survival at a stroke still 7 or 8 years before the introduction of cyclosporin. The whole episode stands out as an example of a curious mind taking a clinical problem and methodically developing, in a scientific fashion, an ingenious and completely novel solution. The end result is a technique that has stood the test of time.

His training attitude was taken directly from Shumway at Stanford, transforming operative training in Edinburgh in 1974. He moved to the newly created Chair of Cardiac Surgery in Glasgow a year later. Many of the junior staff from Edinburgh, including John Wallwork, followed—a step which was to have a huge bearing on their subsequent careers.

Caves hit Glasgow like a whirlwind—transforming both adult and congenital cardiac surgery—while motivating others with his tireless and engaging manner. He particularly changed attitudes at the Children’s Hospital in Glasgow when he began operating on neonates who were previously denied surgery. Undoubtedly had he lived, he would have started the UK’s first heart transplant program in Glasgow.

As a left handed surgeon, many of the moves Caves taught remain a combination of left- and right-hand. He was, however, the first surgeon Dr Wallwork met who had proper left sided instruments. Then and, indeed sadly now, some trainers insist that left-handers function handicapped with right-handed instruments.

At age 38, Caves collapsed and died on the morning of July 23rd 1978, whilst playing squash with the father of a patient for whom he had tried to remove a large left ventricular tumor. A man of firm Christian beliefs, he was a source of spiritual help to many and a loyal supporter of his local church, to which he devoted much of his time and energy.

His death had a huge impact on his colleagues and the medical fraternity across the country. In the same way as we remember JF Kennedy, or Martin Luther King, everybody who knew him can recollect what they were doing when they heard that Philip Caves had died.

Dr Wallwork reflects on a very important lesson learned from his untimely death. Although our career paths inevitably differ from what they would have been, professional life continues and none of us are indispensable for the
future. Succession planning is important for any team or organization.

An obituary in the British Medical Journal summarized the man:

“Philip Caves had great personal charm, allied to a seemingly inexhaustible dynamism. He had a prodigious appetite for work, whether physical or intellectual. He was a superb technical surgeon with exceedingly high personal standards of Surgical practice.”

He serves as a role model for all of us—hard working, imaginative, and demanding high standards of himself in the interests of his patients. So when, in 1983, the ISHLT wished to name their highest award recognizing the efforts of young trainees, it was almost automatic that Philip Caves was chosen. Since then, there have been nearly 30 recipients, spread across 4 continents with all specialties represented by the Society. It is entirely appropriate that the name of such a major and inspiring figure lives on.

John Dark, FRCS
Freeman Hospital

John Wallwork, CBE, FRCS
Papworth Hospital

BRANISLAV RADOVANCEVIC - THE MAN BEHIND THE AWARD

Branislav (“Brano”) Radovancevic was an internationally respected leader in the fields of cardiac transplantation and mechanical circulatory support. He was also a beloved friend to the staff of the Texas Heart Institute (THI) for over two decades, as well as to many of us residing in the world outside of Texas.

Brano was born in Osijek, Croatia in 1952 and received his medical degree in Belgrade, Serbia. In 1984, Brano came to the THI in Houston as a research fellow in cardiac transplantation and over the next 20 years became that prestigious institution’s Associate Director of Transplant Research, and eventually the Director of the Center for Cardiac Support. These positions allowed him to pursue his main interests including the study of immunosuppressive drugs and the development of mechanical devices to assist the failing heart. His early research for combating organ rejection was recognized internationally. As an integral member of THI’s animal research team, Brano designed and performed studies involving myocardial protection during cardiac surgery, temporary and permanent mechanical circulatory assist devices, heart valve prostheses, and synthetic vascular grafts. He wrote or contributed to nearly 300 publications and lectured and traveled extensively.

In 1993, Brano became the father of what came to be known as the “Rodeo Meeting,” and was its organizer and Master of Ceremonies for the next 14 years. Every March, he attracted leaders in the fields of transplantation and mechanical circulatory support to Houston for an evening at the renowned Livestock Show and Rodeo, followed the next day by a disarmingly relaxed and often humorous “no ties, no suits” round-table discussion that covered a myriad of topics. Year after year, a surprising number of not-at-all-obvious insights became glaringly obvious the moment they were verbalized at the meeting. For those of us fortunate enough to be invited, those epiphanies resulted in something as small as the awareness that you have to be wearing cowboy boots if you are going to a rodeo to something as profound as a change in clinical practice at one’s own institution, the development of multi-center trials, or national consensus conferences. Aside from
his professional accomplishments, Brano had a warmth and humanity that were deeply felt by all who knew and worked with him. He was a pragmatic, modest and gentle individual whose goal in life truly was to help others – whether family, colleagues, or patients.

After Brano passed away on September 15, 2007, Dr. O.H. Frazier stated at the memorial that “after learning that his able Lieutenant General ’Stonewall’ Jackson had lost his left arm, General Robert E. Lee said, ’He has lost his left arm, but I have lost my right arm.’ Brano was truly the right arm of so many of our endeavors. We will sorely miss his companionship and support, and his warm smile, contagious laugh, and jaunty steps in the halls of the Texas Heart Institute.”

As for myself, believing in a Proustian form of existence, people like Brano do not die but rather remain bathed in a sort of aura of life through which they continue to occupy our thoughts in the same way as when they were alive. It is as though Brano was merely traveling abroad.

Mark L. Barr and O.H. Frazier

ISHLT 2012: PEDIATRIC TRANSPLANTATION PROGRAM HIGHLIGHTS

Forget the sight-seeing! Every day of the 2012 scientific meeting in Prague is packed with sessions of interest to the pediatric transplant specialist. Whether your goal is to decide once and for all how to treat AMR or to reach a consensus in pediatric transplantation with IPTA, your trip to the ISHLT meeting in Prague will be an enriching experience.

Wednesday, April 18

8:00 - 9:30 AM, Meeting Hall 5
Pre-Meeting Symposium 6, Neurocognitive, Psychosocial and Behavioral Issues in Children and Adolescents. In this session, you may discover some gems about managing the adolescent transplant patient’s cognitive, psychosocial and behavioral dilemmas in the Czech Republic that can be more broadly applied to other adolescents in your life.

9:45 - 11:15 AM, Meeting Hall 5
Pre-Meeting Symposium 11, MCS in Congenital Heart Disease & Pediatrics. In this collaborative session, pediatric mechanical circulatory support in everyday practice in as well as not-so-basic information needed for a basic understanding of transplant immunology in infants will be highlighted.

11:30 AM - 1:00 PM, North Hall
Pre-Meeting Symposium 18, Congenital Heart Disease: PH Dilemmas in Pediatric and Adult Patients. This collaborative session promotes crosstalk between specialists of shared interested related to pulmonary hypertension.

1:00 - 3:00 PM, Club C
Pediatric Transplantation Council Meeting

3:00 - 4:15 PM, Meeting Hall 4
Concurrent Abstract Session 04: The Right Donor at the Right Time: Juggling the Risk.

Thursday, April 19

8:00 AM - 9:15 AM, Meeting Hall 5
Concurrent Abstract Session 11: Tolerance: To the Bench and Back.
Part I
The recipients of heart transplantation in infancy lack immunological memory and are subjected to removal of the thymus and T cell depletion. This profoundly limits diversity of the T cell repertoire allows basic investigation of how T cells interact with B cells and how they confer host defense and immune regulation. It also provides a glimpse at how the naïve immune system responds to allogenic stimulation, i.e. immunity versus tolerance.

Part II
A brief update on progress toward consensus that was started with the “Pediatric Cardiothoracic Transplant: Do We Have Consensus?” pre-meeting symposium in San Diego and continued during the IPTA 6th Congress in Montreal last June.

Friday, April 20
8:00 - 9:15 AM, Meeting Hall 4
Concurrent Symposium 11, Management of the Failing Fontan Patient Across the Age Spectrum. Just when you need respite from the castle-laden landscape and the never-ending night life of Eastern Europe, the featured session on the failing Fontan will entice you back to matters of importance.

11:45 AM - 1:00 PM, North Hall
Concurrent Symposium 18, Challenges in Pediatric Lung Transplant. This collaborative session highlights lung transplant challenges specific to the child and young adult.

Saturday, April 21
11:30 - 12:45 PM, Meeting Hall 4
**VAD REIMBURSEMENT SESSION**

ISHLT will be conducting an educational session at the Annual Meeting in April in Prague regarding how to accommodate the recently implemented changes to MCS billing by CMS. This session will take place during the MCS Council Meeting.

**MECHANICAL CIRCULATORY SUPPORT COUNCIL MEETING**

**WEDNESDAY, APRIL 18, 2012**

1:00—2:00 PM

**VAD REIMBURSEMENT SESSION**

2:00—3:00 PM

**PANORAMA HALL, PRAGUE CONGRESS CENTER**

The US Center for Medicare and Medicaid Services (CMS) has proposed significant changes in reimbursement for transplant and mechanical circulatory support procedures. The ISHLT supports advocacy of its membership as well as for patient care and is developing a forum to educate US surgeons and HF cardiologists of these regulatory changes and of the requirements necessary to capture reimbursement of postoperative care at this year’s 2012 ISHLT Scientific Meeting in Prague. In the spirit of the ISHLT, we will also devote a portion of the session to any new major MCS reimbursement issues outside of the US.

The following changes have been proposed by CMS:

A reduction in reimbursement for VAD implant procedures but allowances for reimbursement of VAD-related "critical care".

Effective Jan. 1, 2012, the physician payment policy for Ventricular Assist Device removal procedures will change. Payment values will be reduced and no longer include reimbursement for in-hospital and out-patient evaluation and management services. Payments could be reduced dramatically - up to 30 percent - unless you prepare for this change.

If you do VAD procedures, you are providing a substantial amount of critical care as well as in-patient and out-patient care, which are currently reimbursed automatically. However...
Our Dear Colleagues:

Now that Prague is just upon us, we type this about our important annual ISHLT event, the President’s Cocktail Reception (or “gala”). This year, those fortunate enough to attend our Annual Society Meeting are in a position to revel for a moment with merriment and festive congratulations to a grand year in a most historic and charming city. Would it not be fitting—for those who are able—to wear black tie? Of course we will not be so bold as to suggest any alterations of the elegant finery our female members don to such an important event. Perhaps it is time we gentlemen unleash the inner penguin and take it upon ourselves to provide a greater measure of sartorial standard.

We know what you must be thinking. I have no room in my bag! My suit has moth holes! I look like a monkey / penguin / waiter in such a get-up. It makes us think of “Happy Feet” and “Mr Popper.” Then, there’s the “March of the Penguins.” What next! Valentine will bring out his inner New Orleans and Poe preferences expecting a “line dance” and for all of us to wear a “mask!”

Really now, is it not time to put away such unworthy thoughts and make the effort? You may be surprised and the evening will be the more glamorous for it. Besides, we owe it to our hosts and this beautiful city to honor them with such a simple gesture. So what do you think? Shall we set a mark in the sand? Be brave comrades! Surf’s Up!

In return for your efforts, best-dressed winners will be announced with their photographs in the next ISHLT Links E-newsletter.

Vincent Valentine and Allan Glanville

LIFETIME ACHIEVEMENT AWARD

Professor Sharon Hunt is the 2012 recipient of the ISHLT Lifetime Achievement Award. She is recognized by the society for her relentless efforts to bring Heart Transplantation Medicine from its inception at Stanford to its current excellence, for her legacy in training and mentoring the many international leaders in our field, for her countless past and ongoing scientific contributions including spearheading the most comprehensive guidelines in heart failure and transplantation, and for her untiring service to the ISHLT as President, Chair of the JHLT Editor Search Committee, Co-Chair of the Heart Transplant International Guidelines Committee and, most recently, as Chair of the US-based ABIM certification board in Advanced Heart Failure and Transplant Cardiology (a certification that has legitimized the field in the US).

Please join us in recognizing Dr. Hunt for her many roles in heart transplantation medicine beginning with its birth at Stanford University and continuing today, as well as her ongoing contributions to the ISHLT. She will be honored during the Plenary Session: ISHLT Traditions on Thursday, April 19, 2012, from 9:45 - 11:30 AM.

with these changes, those services must be processed in an itemized fashion for each patient. Accurate documentation of services provided requires surgical insight and is the surgeon’s responsibility, and accurate documentation is critical for correct coding and ultimately correct reimbursement.

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At a cost of $7.5 million to build and $4300 to sail across the ocean, capable of accommodating 2600 passengers and 885 crew members, she consumed 825 tons of coal a day. Just over 260 meters long and weighing in at over 42 million kilograms or 46,328 tons with engines generating 59,000 horsepower, colliding with an iceberg at a speed of 21 knots she delivered over 1 million foot-tons of energy that shredded her iron and steel shell like tissue paper at the point of impact.

Travel 100 years ago by open sea was the primary means of transoceanic travel across the Atlantic and actually occurred thousands of times by boat in the early 1900s. A capacious passenger liner, the RMS Titanic was considered by the writer and seaman Joseph Conrad to be the “marine ritz” – the London Hotel. Instead of “state-of-the-art,” she was “state of the market.”

The excitement and result of the great progress in the early 1900s featured a trio of ocean liners built by Harland and Wolff for the White Star Line. A “stunning promise” for greater things to come was steering the course of travel. Today the sinking of this luxurious and technological marvel does not rattle our bones or brains like the recent tragedy of 9/11 that shook us to our core. However, both ill-fated events similarly represented technological and economic achievements impacting many lives 100 years ago and today.

Not much different than the Twin Towers, Titanic was believed to be impervious to nature and man. A cycle of promise and dejection emerged, however, as accurately explained by Conrad who wrote that Titanic was a “real tragedy of the fatuous drowning of all people who in their last moments put their trust in mere bigness.”

Other technology with the progress of Titanic included the wireless Marconi telegraph, but with this progress came hubris and problems creating confusion and rumors about the tragedy. Blame emerged and included the ship—no longer considered a manmade object of iron and steel, but as something animate. Terms like “monster” and “leviathan” were used to describe her, as if the Titanic “had a soul with destructive tendencies.”

But when all is said and done the impact of such an event on 4/15/1912 can be summed up by Conrad—berating the “bloodless departments” that had determined the number of lifeboats with regulations 16 years out of date. A final impact still reverberates from George Orwell with shock waves lingering through WWI. “…Of all lists of horrors… the one that most impressed me was that, at the last, the Titanic suddenly up-ended and sank bow foremost, so that the people clinging to the stern were lifted no less than three hundred feet into the air before they plunged into the abyss.”

Today by comparison – air travel to Prague from any point on the globe with a major airport is a snap, and there are no icebergs in the upper atmosphere. 100 years of technology converted nearly a weeklong (or more) transoceanic trip to under a day or less. Tremendous technological progress has allowed similar advances in surgery and medicine making heart and lung transplantation what it is today from scientific achievements beginning at the dawn of the 20th century following the great industrial revolution.

The evolution of transportation, telecommunication and transplantation along with significant tragedies has certainly had an impact. But maybe we should be more cautious with the use of the word impact, and instead use the noun effect, or the verb affect. Doesn’t it seem that every event has a
tremendous “impact” on our lives at some point – almost daily but especially in April at our annual meeting? Who could forget the Eyjafjallajökull volcano eruption in Iceland in 2010 and the impact it had on our Chicago meeting?

Maybe the repetitious use of this word is enough to shake your nerves or even rattle your brain given the fact that impact implies some collision. Multiple impacts can make our daily lives loud and dull and drive a man insane but, more importantly, weaken the importance of this word. In our choice of words from the English language, why insist on using a jack hammer when a putty knife will do?

Significant historical events are capable of hammering the word impact into our malleable brains, influencing or effecting our responses and behaviors into who we are today. This powerful word may lose its force from incessant, repetitious use. Every rank of society including the ISHLT wants to impact our malleable minds. Forget not the economist who drones on about fiscal impact and the lawyer who dwells on the legal impact; those pompous professors and public officials who lecture us on the social impact of “whatever”; the do-gooders who focus on a positive impact. In the past, we would mention something about the influence or effect of something, calmly and clearly. But today, brute force is demanded and perhaps expected by our society.

Great figures, accomplishments and tragedies in life have impacted many. Let’s think about these for a moment as April and the word impact pound our skulls. You may have read about Wilmer McLean and his red brick house in Appomattox, Virginia, where Lee surrendered to Grant on April 9, 1865 to end the American Civil War. McLean had previously moved from his plantation in Manassas, Virginia, where the first battle took place. It is said that the Civil War started in his front yard and ended in his front parlor. He moved his family to try to live out the war in peace. Did this impact his life? Did it impact ours?

What other April events may have had an impact? Let’s rattle off a few:

**Literary giants:**
- the birth and death of William Shakespeare (1564-1616)
- Washington Irving (1783-1859) was born in New York City
- French writer Emile Zola (1840-1902) was born in Paris
- fairy tale author Hans Christian Andersen (1805-1875) was born in Odense, Denmark
- Mark Twain died April 1910
- publisher Joseph Pulitzer (1847-1911) was born in Budapest, Hungary

**US presidents:**
- George Washington took office in New York as the first President of the United States
- 3rd President Thomas Jefferson was born in 1743
- 5th President James Monroe was born in 1758
- 16th President Abraham Lincoln was shot on April 14 and died April 15, 1865
- 32nd President Franklin D Roosevelt died April 12, 1945

**Of note:**
- Italian inventor and radio pioneer Guglielmo Marconi was born on April 25, 1874
- birth and death (on his 37th birthday) of Italian
Renaissance artist Raphael (1483-1520)
- American aviation pioneer Wilbur Wright (1867-1912) was born in Millville, Indiana
- Film comedian Charlie Chaplin (1889-1977) was born in London
- Clara Barton, founder of the American Red Cross, died on April 12, 1912, at her home in Glen Echo, Maryland
- On April 16, 1912, Harriet Quimby became the first woman to fly across the English Channel
- Italian dictator Benito Mussolini was killed on April 28, 1945, and two days later, Hitler (born in April) and Eva Braun committed suicide on April 30, 1945
- United States forces freed 32,000 prisoners from Dachau concentration camp in Germany on April 29, 1945
- Winston Churchill was made honorary U.S. citizen April 19, 1963
- Civil Rights leader Rev. Dr. Martin Luther King was shot and killed by a sniper in Memphis, Tennessee on April 4, 1968.

Natural—and unnatural—disasters:
- the great San Francisco earthquake and fire occurred on April 18, 1906
- Worst nuclear accident occurred in Chernobyl April 26, 1986
- Oklahoma City bombing of the federal building occurred on April 19, 1995

And of course, this April marks the centennial anniversary of Titanic’s collision with a “blackberg” on April 15, 1912. What an impact! 🎵

Considering that in medicine, the only things really impacted are teeth and bowels, I wonder how many of us who are impacted by the abstracts, posters and presentations in April 2012, when all is settled, said and done, after reflection and our return home from Prague, will we need to be disimpacted?

Disclosure Statement: The author has no conflicts of interest to disclose.

We began with a Mission and a Look into the Eyes of the ISHLT for a vision of working together in harmony with Rules of Engagement. With Intuition and thought we strengthened our Structure-Function Relationship while further refining our rules.

We looked to history, we looked to Dogs and discovered centuries of Truths that shape our Biases. The past spoke to us through History, warning us of our own Hubris and the importance of Freedom and Fitness since the beginning of time.

Edward Jenner spoke to us, and we recognized that Every Second Counts. It was woven through Collaboration, Conformity, and Consensus along with Lessons from Lincoln about our own personal Dedication and Devotion. Individual personal testimonies reinforced our drive and devotion to a sense of Romanticism, Nationalism, and Exoticism.

The ISHLT is truly a comforting quilt, stitched with its own personality, comprising members working together from all parts of the globe. We Teach and Learn from each other, using voices and stories from the past to improve Communication, linking great scientific achievements, progress, and just about anything you can imagine from literary, theatrical, musical, architectural, and visual arts to downright Tragedies, leaving us better Prepared for our Presentations in Prague despite Procrastination.

These thoughts are useless alone, but together, with the hard work of our Program Chair, Stuart Sweet and President, Lori West along with all Council Chairs, Board members, contributors to the Links and ISHLT staff, we have now led ourselves to our finest accomplishment which could have an Impact of Titanic proportions this April at our Annual Meeting. The band still plays on.🎶
As I write this article, the final details for the Prague meeting are coming into place—last minute changes in presenters and program chairs and dotting the necessary I's and T's to remain compliant with ACCME policy. I'm also reflecting on the amazing and fulfilling journey that started two years ago in the weeks preceding the Chicago meeting when Lori West asked me to be Program Chair during her presidency.

Actually the seeds of the journey were sown long before then when I participated in Program Committee meetings in 2005 and 2006. During that time, I watched—and learned from—John Dark and Duane Davis, and realized that putting together an ISHLT Program requires diplomacy and creativity in order to balance the needs of a society with a diverse set of interests. During the year between the Chicago meeting and San Diego, I was able to watch closely as Robin Pierson and John Dark took on the daunting task of changing the program development process from a single fall Program Committee meeting to a summer meeting where the invited content is developed and a second “virtual” program committee meeting where the abstract content is finalized. I benefitted greatly from this important change that allows the abstract deadline to better compete with other major societies holding spring meetings. Thanks to John and Robin for their leadership in this important process.

My first major responsibility was putting the program committee together. Starting in the fall of 2010, we identified returning members, selected members from the Council nominees, and filled the remaining slots to achieve geographical and experience balance. One of the most gratifying aspects of this process has been working with people who have not previously held leadership roles in the society and seeing them take advantage of the opportunity to rise to the occasion (and thus will likely get more opportunities to do so in the future!).

After a wonderful 31st Annual meeting in San Diego, our work began in earnest. The Program Committee chose from the best of 140 proposals submitted by ISHLT members and, culminating in a July weekend meeting in Montreal, put together the plenary lectures and symposia. The most rewarding part of that process was seeing members representing our diverse constituencies work together to develop collaborative symposia.

In December, the Committee selected the best from a record number of abstracts—more than 1300—and completed the remainder of the program. I appreciate Committee and abstract reviewers taking time during the holiday season to work on this important process. We again took an opportunity to bridge constituencies (i.e. oral sessions with basic science and clinical medicine or adult and pediatric medicine).

Finally, I can't emphasize enough how important the ISHLT staff were to this process. What I will miss most after Prague is working closely with Amanda, Lisa, Susie, Phyllis and Lee Ann—a truly amazing group of professionals. Many thanks to each of them for making my job so enjoyable.

I have been honored to serve as your Program Chair this year and look forward to seeing everyone in Prague!

Stuart Sweet
EDITORS’ RECOMMENDATIONS

READING
Beth Kaufman recommends:
**My Grandfather’s Blessings** by Rachel Remen
In My Grandfather’s Blessings, Rachel Naomi Remen, a cancer physician and master storyteller, uses her luminous stories to remind us of the power of our kindness and the joy of being alive.

Vincent Valentine recommends:
**Daniel’s Story**, by Carol Matas
Daniel, a composite character fashioned to reflect the experiences of millions of children during the Holocaust, describes his family’s lives in pre-Nazi Frankfurt, their deportation to a ghetto, and their experiences in concentration camps.

**Night**, by Elie Wiesel
A terrifying account of the Nazi death camp horror that turns a young Jewish boy into an agonized witness to the death of his family, the death of his innocence, and the death of his God.

**Heart of Darkness**, by Joseph Conrad
Heart of Darkness exposes the tenuous fabric that holds “civilization” together and the brutal horror at the center of European colonialism. Conrad’s crowning achievement recounts Marlow’s physical and psychological journey deep into the heart of the Belgian Congo in search of the mysterious trader Kurtz.

**The Innocents Abroad**, by Mark Twain
Based on a series of letters Mark Twain wrote from Europe to newspapers in San Francisco and New York as a roving correspondent, The Innocents Abroad (1869) is a burlesque of the sentimental travel books popular in the mid-nineteenth century.

**1984**, by George Orwell
Written in 1948, 1984 presents a startling and haunting vision of the world, holding the imaginations of multiple generations of readers—a legacy that seems only to grow with the passage of time.

Susie Newton recommends:
**Leaving Van Gogh** by Carol Wallace
Narrated by Dr. Gachet, a Parisian medical man with a history of treating mental illness, he portrays Van Gogh as a painter, a puzzle, and a project. It is a novel about friendship, genius, madness, and the art that bound these two men together.

VIEWING
**Titanic**, in 3D
Notable quotes either attributed to the sinking of the great Titanic, or merely in remembrance:

“And the band played on.”
“Women and children first.”
“The captain goes down with the ship.”

“The story could not have been written better ... the juxtaposition of rich and poor, the gender roles played out unto death (women first), the stoicism and nobility of a bygone age, the magnificence of the great ship matched in scale only by the folly of the men who drove her hell-bent through the darkness. And above all the lesson: that life is uncertain, the future unknowable ... the unthinkable possible.”
(James Cameron’s Titanic, 1998).
Fool me once, shame on you; fool me twice, shame on me. ~ Chinese Proverb

We’re fools whether we dance or not, so we might as well dance.
~ Japanese Proverb

Don’t give cherries to pigs or advice to fools. ~ Irish Proverb

It is better to weep with wise men than to laugh with fools. ~ Spanish Proverb

Don’t approach a goat from the front, a horse from the back, or a fool from any side. ~ Jewish Proverb

You can fool all the people some of the time, and some of the people all the time, but you cannot fool all the people all the time. ~ Abraham Lincoln

The trouble with practical jokes is that very often they get elected.
~ Will Rogers

I have great faith in fools - self-confidence, my friends call it.
~ Edgar Allan Poe

The greatest lesson in life is to know that even fools are right sometimes.
~ Sir Winston Churchill

Wise men don’t need advice. Fools won’t take it. ~ Benjamin Franklin

Wise men talk because they have something to say; fools talk because they have to say something. ~ Plato

The fool doth think he is wise, but the wise man knows himself a fool.
~ William Shakespeare

Happy April Fool’s Day!