VINCENT’S SEASONAL SENSE

This month we have many symphonies coming together in harmony to bring us a December to remember. Just over 200 years ago, Charles Dickens was born. He brought forth among others, Ebenezer Scrooge who needed retuning from the past and present spirits to alter his future. His heart changed no different than the growing heart of the Grinch by three sizes when he recognized the true meaning of Christmas in Whoville. It was in December when Ludwig van Beethoven was born who went against convention and provided a different structure and style of music coming from his heart. It was also the Wizard who pointed out how lucky our galvanized friend was to not have a heart, “because hearts will never be practical until they can be made unbreakable.” The Wizard’s final advice was “…that a heart is not judged by how much you love, but by how much you are loved by others.”

In this issue, to avoid extinction of the European heart recipient, Luciano Potena, Steven Tsui and Laurent Sebag give us a beat to a different drummer while remaining in tune despite pushing the envelope or going against convention. Also from Europe, Jacqueline Smits describes rescue allocation and directional matching as an answer to the donor shortage as well as evoking Twain – that “you cannot reason with your heart….“ Howard Eisen thoughtfully and creatively gives us a refrain on the state of affairs with Regenerative Therapy for Advance Heart Failure.

Of course, there is the heartfelt Dylan Project for inspiration, the donor heart management project by David Nelson together as a couplet with the accompaniment of the Use of Echocardiography by Kiran Khush. Then back to Grassroots (why do I think about waiting a million years, walking a million miles, and crying a million tears) for Cardiac Management and the Organ Donor clarified by Nancy Knudsen. Speaking of donors again, there is a European roadmap to improve organ retrieval from an interview with Alessandro Nanni Costa by Luciano Potena and the recital of the Tenwek Phenomenon by Tom Klein. And like the Phoenix, we have the Rise of the Heart Failure Google group out of the ashes.
Tereza Martinu gives us the culinary cabaret of Montreal with so much sugar and maple we hallucinate the dances of the sugarplum fairies, the Who-pudding, and the rare Who-roast beast for a feast.

Let’s give a warm ISHLT Links welcome to another new addition, the Feature Links Lecture, with every intention to recur monthly. Stavros Drakos orchestrates this inaugural addition on how can you mend a broken heart?

The Heart Failure and Transplant Medicine Council and especially their Communications Liaison, David Nelson (or Maestro if you will), are to be congratulated for a well-thought out and well-planned grand performance for your enlightenment and entertainment. And, finally of course we have our own writer-patient Nancy Addis watching all of this while she provides her views.

IN THE SPOTLIGHT:

MOUTH-WATERING MONTREAL!

MR/S XYZ AT ISHLT 2013: SUGAR SHACK AND OTHER CULINARY EXCURSIONS

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It was a short 1-hour bus ride to the Sugar Shack or “Cabane a Sucre”, just outside of Montréal, on the lowlands of the St. Lawrence river. You follow the guide in the maple tree forest. Flowers are peeking between the rocks to prove that it truly is spring ... but the ground remains a cold muddy mess from recent snowmelts. You are glad that you brought your hiking boots after all. The air is crisp and the tree branches remain bare, afraid to sprout any buds, in case more snow comes. With nighttime freezing temperatures and daytime temperatures above zero, spring weather allows the sugar-rich maple tree sap to rise. Fresh maple sap drips down from spiles drilled directly into the trees. From the forest, you proceed into the maple syrup factory where maple sap is boiled in various containers to achieve different levels of water evaporation. For example, 40 liters of sap make a liter of maple syrup. Other concentrations are used to make maple sugar, maple candy, maple jelly, maple cream, etc.

Sugar Shack, Montréal Canada; © kylemac,
After this demonstration, you are ready to taste some maple syrup instead of just watching it drip and boil. You and the rest of the excursion crew are taken into the large sugar shack hall filled with long wooden tables and benches, where lunch will be served. You are not quite sure whether it is truly lunch or just a really long dessert. Maple syrup ham, maple beer sausages, and beans with maple syrup are served. Non-maple syrup items are also brought onto the table, such as meat pie, potatoes, pork rinds, and omelets ... but you are expected to pour maple syrup on these as well. And for the pièce de la résistance, you get pancakes covered with maple syrup, maple cake, and maple sugar pie. You wonder whether they shouldn’t serve some insulin along with this meal.

After this “lunch,” as if you needed more sweetness, you and your full stomach go outside for the ultimate specialty “tire d’éraible” or maple taffy. Maple taffy is made by boiling maple sap past the point of making maple syrup but not long enough for it to become maple sugar. The thick caramel-like sugary substance is poured onto packed snow where it solidifies. You roll the sticky sugar bomb onto a Popsicle stick and shape it into a sinful lollipop. Wondering whether your pancreas will be able to handle this, you end up buying maple souvenirs for all your friends back home.

The sugar shack cuisine is part of the traditional heavy Québec cuisine originating from the fur trade period, based on potatoes, boiled or roasted meats, and beans. Traditional meals served in Québec homes include various types of ragouts, and stews such as “paté chinois,” and meat pies such as “tourtière.” However, in the recent past, Québeckers have renewed and refined their cuisine and the contemporary meals are a little lighter, inspired mostly by French and Irish cooking. Québeckers also pride themselves in their artisan cheeses as well as microbreweries that have sprouted in the last 3 decades. The Québec beer style is set apart from other North American beers by its French, Belgian, and British influences.

That evening, as you complete your travel diary for the day, you review your culinary impressions from your stay in Montréal to date. Montréal bagels, Montréal-style smoked meat, and of course the famous poutine, which is simply a bowl of fries topped with cheese curds and gravy. Even McDonalds sells the basic poutine in Montréal, but variations with the addition of meat or veggies are available from specialized stores.

Perhaps what struck you the most about Montréal, however, is the cultural diversity in restaurant choices.
Conducting the research necessary to guide evidence-based donor management is challenged by multiple obstacles unique to organ recovery. Whatever is done to a donor affects the acceptance decisions of transplant teams and could affect recipient outcomes. A partnership between the donor management and transplant recipient communities is crucial in developing the policies and procedures necessary to facilitate productive, practical, and safe donor research. Two examples of this partnering are the HRSA Donor Management Task Force (DMTF) and the ASTS Donor Research initiative.

**HRSA Donor Management Task Force (DMTF):**
The DMTF has representation from the OPO, critical care, and transplant communities. UNOS President John Roberts of UCSF just stepped down as DMTF co-chair to better serve his new UNOS commitment. The task force consists of three committees: 1) Scientific Knowledge, 2) Donation Service Area (DSA) Best Practices, and 3) Declaration of Death. Several ISHLT members serve on the DMTF including Kirin Khush (Heart), Luis Angel (Lung), and myself (both Heart and Lung).

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Tereza Martinu was born in Prague, Czech Republic, and lived there for 10 years. She drew from her Czech roots in writing about Prague prior to the last ISHLT meeting 2012. When she was 10, Tereza and her family immigrated to Montreal, Canada, where she spent the next 14 years of her life. She is currently a lung transplant pulmonologist and researcher at Duke University in North Carolina.
1) The Scientific Knowledge Committee is engaged in two projects involving ISHLT members and thoracic issues: The Outcome Metrics Project and the Donor Heart Management Project. Both of these are reported in more detail elsewhere in this issue. The Metrics Project includes work groups in both the Heart and Lung Scientific Councils of the ISHLT.

2) The DSA Best Practices Committee just completed a two-year process of creating an online, open-access Toolbox that contains over 400 examples of best practices and resources for donor hospitals and organ procurement organizations to utilize in real time to assist in donor management and increased organ availability. The documents were assembled from high performing OPOs and donor hospitals from around the country and were grouped into the following folders:

- Brain Death Declaration
- Catastrophic Brain Injury Guidelines (CBIGs)
- Checklists
- Donation After Circulatory Determination of Death
- Donor Designation
- Donor Hospital Information
- Donor Management
- Electronic Medical Records
- Intensivist Models
- Hospital Development
- Pediatrics
- Policies for Evolving Practices
- Quality Improvement
- Regulatory References
- Survey Readiness

The DSA Best Practices Committee will continue to update the toolbox periodically throughout the year and will begin directing its attention towards creating an educational module on organ donation that can be incorporated into nursing, medical student, and resident training programs. The toolbox can be accessed at the following site: http://www.healthcarecommunities.org/DonationToolbox/

3) The purposes of the Declaration of Death Committee are to promote timely declaration of death using the most appropriate donation pathway (donation after neurologic determination of death [DNDD] or donation after circulatory determination of death [DCDD]) and to develop strategies that preserve the possibility of donation and/or honor donation intentions and preserve organ viability when the possibility of neurologic death is not certain or has not yet occurred. Recent initiatives have involved raising awareness of and training with the 2010 American Academy of Neurology (AAN) Practice Parameters for the Declaration of Neurologic Death.

ASTS Donor Research Initiative:
Spearheading the ASTS’s interest in donor research was a Mini-review by UCSF’s Sandy Feng in AJT 2010:10:1155-62 titled “Donor Intervention and Organ Preservation: Where is the science and what are the obstacles?” In 2012, a preliminary ASTS White Paper regarding this subject was written by a special ASTS group including Sandy Feng, Peter Abt and other prominent ASTS members. Donor and recipient consent, oversight by a national and/or regional review board, local IRB role, potential use of DonorNet for posting study information with organ
In the last 20 years, epidemiology of heart failure patients, along with heart transplant candidates, has changed significantly. On one hand, improved survival from acute coronary syndromes has increased the number of patients at risk for congestive heart failure. On the other hand, the availability of electric and mechanic implantable devices has prolonged disease duration of patients ultimately referred to a heart transplant program, after a long list of “conventional” strategies have failed, leading the original heart disease to a chronic systemic heart failure syndrome.

Unfortunately, the larger number of potential transplant candidates, with frequent multi-organ malfunctioning, has not been accompanied by an adequate improvement in numbers and quality of organ availability; aging of European population and reduction of fatal road accidents have resulted in a significant increase in donor age, and shift of donor causes of deaths from head trauma to ischemic and hemorrhagic strokes. This phenomenon is likely to explain, at least partially, the drop in hearts retrieved over the total number of donors utilized, and consequently, the increase in the gap between organ need and availability.

Is it possible to reverse this decline? Are transplant physicians going to become “walking shadows” waiting for organs that are likely to come later than Godot?

Among the many possible ways to face the problem, two major strategies can be drafted to increase organ availability: improve donor management to avoid...
heart injury and failure during organ procurement procedures in otherwise healthy hearts, and improve the acceptability of older donors by setting up diagnostic strategies to rule out subclinical heart disease. This roadmap has been followed by UK, France and Italy through three ongoing projects that represent a step forward in heart procurement policies.

UK has experienced a particularly severe reduction in the number of heart donors over the last 20 years with the annual heart transplant activity falling from over 250 to 138 per annum in 2011. Following the recommendations of an Organ Donation Taskforce, the NHS Blood & Transplant authority introduced a number of measures in 2008 to try to increase organ donation. These included the appointment of Clinical Leads and Specialist Nurses in Organ Donation at every intensive care unit in the country, and reimbursement to donor ICUs to cover the cost of organ donation.

Another initiative has been the introduction of Nurse Practitioners who specialise in donor assessment and donor optimisation to accompany the cardiothoracic retrieval teams to the donor hospital. These Donor Care Physiologists (DCPs) or Donor Management Practitioners (DMPs) are trained to initiate invasive haemodynamic monitoring by insertion of arterial, central venous and pulmonary artery floatation catheters, optimise fluid and inotropic management, and optimisation of lung ventilation which may include adjusting the ventilator settings and replacement of the endotracheal tube.

Recently, an Extended Donor Care Bundle has been ratified by NHS Blood & Transplant and will be introduced to all ICUs across the country, along the guidelines of the Crystal City donor consensus conference. To ensure that this Donor Care Bundle is applied consistently and to a high standard, a member of the cardiothoracic retrieval team will travel to the donor hospital ICU as soon as a potential cardiothoracic donor has been identified, and assist with its delivery. This “scout” from the cardiothoracic retrieval team can be a surgeon, an anesthetist or a DCP/DMP who is familiar with the nationally agreed donor care protocol. It is hoped that these measures will allow us to increase and maximize the number and quality of donor hearts available in the UK.

France and Italy, on the other hand, pursued the strategy of scratching the barrel of donor age postulating that once coronary disease has been ruled out, the heart may be adequate for donation, regardless of donor age.

Six months ago, the French Agence de la Biomédecine launched a prospective multicenter French cohort study across 159 harvest centers, designed systematically to screen using coronary angiography a large number of potential extended criteria donors. The primary objective of the study is to assess whether mandatory coronary angiography may increase donor pool. Secondary objectives are to evaluate the impact of coronaryography-base procurement on transplant results in France (Primary graft failure, 1 mo and 1 year survival, cardiac allograft vasculopathy at 1 year) and evaluate coronary disease prevalence and risk factors in extended criteria donors. Two strategies are compared: a) mandatory coronaryography for donors with extended criteria donor (donors from 48 harvesting centers that guarantee H24 angiography availability); b) coronaryography performed only based on local availability upon request of transplant center (111 harvesting centers, with “on-demand” angiography). Extended criteria donors have been defined as: male donors 56 to 70 year old, or 51 to
55 years old with one additional risk factor excluding gender and age, or 45 to 55 years old with at least two cardiovascular risk factors excluding gender and age; female donors 61 to 70 years old, or 56 to 60 years old with one additional risk factor excluding age, or 45 to 55 years old with at least two cardiovascular risk factors excluding age. Cardiovascular risk factors are: ongoing smoking or less than three years smoking weaning, diabetes, hypertension, family history of cardiovascular disease, hyperlipidemia, ischemic stroke as donor cause of death, history of vascular disease.

Total inclusion should approximate 500 extended criteria donors. Data will be retrieved from national database; questionnaires will be filled by dedicated research assistant. Donor angiography and 1 year post transplant recipient angiography will be read centrally and scored for CAV according to ISHLT grading sheets. As of August 31, 2012, 98 donors have been included in the study. 33 donors are in the mandatory coronarography group and 65 in the control group. Results will be analyzed according to the predefined protocol and should be available at the end of 2014.

Similarly, the Italian project has been focused on retrieval of older donors, but looking at functional rather than anatomical coronary artery disease in risky donors. Potential donors older than 55, or with cardiovascular risk factors, undergo adenosine stress cardiac ultrasound with assessment of stress-induced wall motion abnormalities, and of the slope of systolic pressure to left-ventricle end diastolic volume ratio. Ultrasound examinations are performed by trained cardiologists in selected intensive care units, and an expert web-based supervision is available through the network of the Institute of Clinical Physiology at the National Research Council in Pisa. A pivotal experience of this project has been carried out in Bologna and Siena, showing a reliable correlation between abnormal stress ultrasound and pathological examination of the procured but not transplanted heart, and between normal stress ultrasound and successful transplanted hearts. The National Transplant Center has endorsed the project and is setting up a national network to increase safe procurement of older donor hearts.

These projects are likely to be successful in improving the awareness for adequate donor management and in slowing the reduction of retrieved hearts. But their real success will be to represent the knots of a new network concept across European countries, aiming to build shared quality standards to improve not only donor management and retrieval, but also donor-recipient match. This changing landscape will be debated in a hot pre-meeting symposium which will open the next ISHLT sessions in Montréal (The Changing Landscape in Heart Transplantation: Surviving in the New Age, Wednesday, April 24, 8:00 am) and hopefully will foster the development of international consensus.

**Disclosure statements:** The authors have no conflicts of interest to disclose.

**References:**

Mark Twain was a visionary. More than a century after he warned us about a war over water, the Office of the US Director of National Intelligence issued a report on Global Water Security stating that the risk of conflict would grow as water demand is set to outstrip sustainable current supplies by 40 percent by 2030.1

After having experienced Hurricane Sandy in the Caribbean and North-America, and the floods in France and Italy, water scarcity is not really a topic that causes major concern. But we can learn a lot about the worldwide efforts to come to a better resource allocation of the blue gold: by decreasing waste of fresh water, by recycling used water and by desalinating salt water. It is easy to find analogies in heart and lung transplantation; we also need improved technologies, political support, and new ideas about how to re-address our relationship with a life sustaining scant resource.

In short: it is all about making the best of what we got.

Let’s begin by believing the thesis that a zero waste or a zero discard rate of all offered donor hearts will solve our problem of organ shortage.2 By stopping to blame those OPOs who have not delivered as they should, we can free up creative energy and start cleaning up our own practices and procedures.

And, there are a lot of things we can and should all do right now.

In Eurotransplant in 2011, 325 (35%) of all reported donor hearts were not used for transplantation.3 Recipient-related medical reasons as well as logistical factors are attributable for 11% of the reasons for organ discard (Figure 1). And, as has been shown with the introduction of the LAS system in the US, an optimal wait list management can positively influence the organ placement procedures, thereby increasing transplant volume.4

In contrast to the US, transplant physicians in Europe are faced with a changing donor profile.5 Median donor age for heart donors in Eurotransplant has increased from 30 years in 1990, to 38 years in 2002.
and to 44 years in 2011 (Figure 2). Given that donor hearts are almost exclusively offered to high urgent (HU) patients (especially in Germany), clinicians do not want to add insult to injury, and are inclined to turn down organs from non-ideal donors. So we need to be able to better recognize a suitable donor.

Based on Eurotransplant data a donor heart score (DHS) has been created and validated. This DHS is based on 10 pre-procurement variables and can predict which donors are likely to be accepted for transplantation. This knowledge on experts’ perceived risk of allograft failure can help in the decision to accept the offer and travel to the donor hospital and judge on-site the suitability of the organ.

Eurotransplant is an organ exchange organization and, within the framework of the different transplant laws imposed by the eight European countries that collaborate within Eurotransplant, we try achieve a maximum placement rate of all donors offered to us. We have two systems in place for increasing this efficiency.

The first system is called the rescue allocation. Donor hearts are offered to patients on the match list, in which the rank position is determined by several match criteria, including urgency status of the recipient and waiting time. If the heart offer has been rejected by at least three different centers because of donor-related medical reasons, the standard allocation (patient-oriented offer) can be switched to a rescue allocation (center-oriented offer). In 2011, 10% of all reported donor hearts could be spared from discard via this rescue scheme.

The second system called directional matching is introduced for the allocation of a specific type of extended criteria donors (ECD). For donors with pre-defined conditions (previous history of malignancy, sepsis, meningitis, drug abuse or positive virology), the treating physician denotes whether his patient would be willing to accept an organ from a donor with any of the above listed conditions. Only patients who, at time of listing, have given their consent for the acceptance of this type of extended criteria donor will be selected in the matching process. Hence these organs will only be offered to eligible recipients. In 2011, 4% of all reported donor hearts from this type of ECD were transplanted via the directional matching scheme.

Eurotransplant is at present incorporating the DHS into the directional matching scheme in order to further increase the efficiency of the offering procedure. Based on historical data we estimate that 10% of currently discarded donor hearts could be used if better recognized and matched by DHS, leading to an additional gain in organ placement of 2% of all reported hearts.

But finally, we are still stuck with not using 22% of our reported donor hearts. Hence, creativity is of utmost importance. This is also exactly the one and
only demand from the ISHLT Links editors to authors. Thinking outside the box is a conditio sine qua non for creativity, so our remaining question inevitably brings us outside the ice box: How far can the discard rate be brought down by the introduction of machine perfusion for ECD organs?\(^8\) For lungs there is evidence; several groups (Lund, Toronto, Vienna, Harefield and Gothenburg) have now reported successful transplantation of questionable lungs after ex vivo lung perfusion with a recovery rate ranging between 46% and 86% (Dirk Van Raemdonck, Annual Eurotransplant Meeting 2012).\(^9,10,11,12\) For hearts, nobody knows, so again we must lean on Mark Twain for insight.

“You can’t reason with your heart; it has its own laws, and thumps about things which the intellect scorns.”
– Mark Twain, from A Connecticut Yankee in King Arthur’s Court

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**References:**

The enormous medical burden of heart failure, along with the scientific challenge to defy biologic limits, spurs an intense interest in regenerating and restoring the function of a failing heart. However, the classic view is that in response to severe injury, the human heart has limited ability to recover.

In this presentation we will briefly describe the variety of clinical settings and syndromes that reverse cardiac remodeling by focusing on mechanical unloading–induced cardiac recovery through the clinical application of ventricular assist devices.

One goal from the field of clinical and translational research is to identify biomarkers and clinical characteristics that will predict which broken-hearted individuals might achieve myocardial recovery. By examining the accumulated information from these patients we will be better poised to understand and manipulate cardiac recovery both in experimental and clinical settings.

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If you are like me, your lectures about heart failure, mechanical circulatory support or heart transplant inevitably trigger questions about the status of stem cell therapy for advanced heart failure. This seems to be independent of the audience and can occur when one is speaking to senior physicians, Cardiology fellows, medical students or a lay audience. Stem cells or the very compelling term, regenerative therapy, have clearly captured the imagination of the medical community and the general public. Regenerative therapy offers the advantages of “off-the-shelf”, noninvasive therapy which can be provided at any time and without the need for immunosuppressive therapy or other toxic medications. Before regenerative therapy becomes a reality, however, there are a few simple questions that need to be addressed:

1. Which stem cells should be used?
2. How many cells should be given?
3. Which cardiovascular diseases are amenable to regenerative therapy?
4. At which stage in the disease should stem cells be administered?
5. Via what route (intravenous or intracoronary) should the stem cells be administered?
6. How do we measure success with regenerative therapy for advanced heart failure?

I am occasionally presented by patients with studies from the literature (such as the National Enquirer) detailing dramatic results from stem cell therapy for heart disease, usually involving non-randomized, non-placebo controlled anecdotal experiences of regenerative therapy from outside the United States; one such case report from the above mentioned journal involved dramatic clinical benefits from stem cells given to a venerable Hawaiian singer. My response in turn involves an explanation of the importance of randomized trials, the need for controls, the benefits of conventional therapy for heart failure (as well as therapies for advanced heart failure such as ventricular assist devices or cardiac transplantation) and the fact that we have limited experience in such clinical trials to validate regenerative therapy. While I am not sure that my discussions are convincing, they are often sleep-inducing as judged by the glazed look on some of my patients faces (one even told me that when he wants to fall asleep, he thinks about my discussion on regenerative therapy and thanked me for the best night’s sleep he has had in a long while).

But I digress. What are the data from clinical trials? Most are studies of patients post-MI. The randomized, placebo-controlled BOOST trial of autologous bone marrow stem cells (BMSCs) administered via coronary infusion after MI showed that patients who received intracoronary BMSCs had a significant improvement in their left ventricular (LV) ejection fraction (6.7
vs. 0.7%) at six months but by 18 months, this improvement (5.9 vs. 3.1%) was no longer significant. The strengths of this study are that it was randomized and placebo controlled but the results were of limited clinical benefit. Other studies have either shown no benefits of autologous BMSCs or at best a modest improvement in the recovery of LV contractile function. No long term clinical outcomes were reported for these studies. These modest findings are reminiscent of the American comedian Groucho Marx’s comment that “he worked himself up from nothing to a state of extreme poverty”.

Two intriguing studies reported within the past year used cardiac derived stem cells (CSCs) called cardiospheres. These studies were conducted in patients with left ventricular dysfunction after myocardial infarction. In the SCIPIO study, CSCs were obtained from atrial appendages removed at the time of CABG. In the CADUCEUS study, CSCs were obtained from endomyocardial biopsies from the patients. In both studies, CSCs were purified and expanded ex vivo. In SCIPIO, ventricular function improved and infarct size was reduced in those receiving CSCs. In CADUCEUS, reduction in infarct size was elegantly demonstrated with cardiac magnetic resonance imaging. Regional contractility but not LV ejection fraction or dimensions improved. These studies suggest that larger clinical trials of CSCs in patients after myocardial infarction and perhaps patients with other forms of cardiomyopathy should be pursued.

What other studies are underway? Phase I and II clinical trials have been completed using intravenous administration of mesenchymal stem cells in patients post-MI with mild to moderate LV dysfunction: the results of the larger, Phase II study are pending. A clinical trial of patients with significant LV dysfunction post-MI using intravenous autologous BMSCs from the patients is underway. Rigorous clinical trials involving patients with clinical heart failure and ischemic or non-ischemic cardiomyopathies have not been conducted but the small studies mentioned above may serve as pilot studies for future clinical trials.

In summary, the above questions have not been answered and regenerative therapy for advanced heart failure remains a work in progress. So the next time you are asked about the utility of stem cells for advanced heart failure, refer them to this article. Their questions may be answered and at least, they might get a good night’s sleep.

Disclosure statement: The author has no conflicts of interest to disclose. Neither he nor any member of his family is employed by or has received funding from the National Enquirer.

References:

1. Personal communication from a patient.
2. GP Meyer, KC Wollert, J Lotz et al. Intracoronary bone marrow cell transfer after myocardial infarction: eighteen months' follow-up data from the randomized, controlled BOOST (BOne marrow transfer to enhance ST-elevation...
Looking at 22-year-old Dylan Peterson today, one would never know that in 2009 he was confined to a hospital room for 9 months, completely reliant on a total artificial heart machine to keep him alive.

During his hospital stay, Dylan worked with the cardiopulmonary rehabilitation team to improve and maintain his strength until receiving a transplant. As a member of the rehab team, I work with a lot of heart transplant patients who are either on the waiting list for a heart transplant or have just received one. It was during this time when Dylan and I were first introduced. After working together in the hospital for months, Dylan received his new heart in June 2010.

By October 2011, Dylan ballooned up to 340 pounds, roughly 100 pounds heavier than he was prior to receiving a transplant. Seeing that he needed help formulating an exercise routine, I started training him in November 2011. The following year brought about many challenges and obstacles to overcome, but Dylan rose to the occasion and dropped his weight to 253 pounds by November 2012.

infarct regeneration) trial. Circulation, 113:2006;1287–1294
6. From the movie “Monkey Business”, Paramount Pictures, 1931
Not only that, but with all the self-confidence he’s gained, he has his sights set on trying out for his collegiate baseball team in September 2013. He was a talented pitcher in high school before heart failure (something he has been dealing with since birth) eventually put an end to his playing days, but now he has the opportunity to realize his full potential as an athlete.

Below is a link to his one year progress report:

http://www.youtube.com/watch?v=8wWNZE9pvEU

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

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WORD OF THE MONTH
“concert master”

No, it is not the maestro who nearly throws out his back while conducting Beethoven’s 7th Symphony. And it is also not the 67-year-old rock-n-roll groupie who has been to every Rolling Stones concert since they first started touring in 1964.

It is the first violinist in an orchestra.

(A little fun fact.)
The HRSA Donor Management Task Force (DMTF) is interested in the increasing VAD volume in the United States and the increased visibility of heart failure cardiologists managing these patients in ICUs. The DMTF decided to explore the possibility of more formal and structured involvement of heart failure cardiologists in donor management. A pilot project in Oklahoma is developing this concept.

Preliminary goals of the project are to:

1. Provide advanced instruction in donor management to heart failure cardiologists at the transplant/VAD center: INTEGRIS Baptist Medical Center.
2. Provide advanced instruction in donor management to intensivists at the transplant center and the state’s three highest-volume donor centers.
3. Develop a strategy for partnering intensivists and cardiologists with OPO staff in donor management that:
   - Is conducive to an integrated team approach;
   - Realistically accommodates the “day jobs” of the non-OPO physicians;
   - Respects the prerogatives of out-of-state importing transplant programs.
4. Identify metrics with historical controls to determine what got better or worse as a result of the project.
5. Identify potential prognosticators for the unused but salvageable heart.
6. Identify future research objectives as the project evolves.

Resource materials for the cardiologists were provided by nationally recognized donor management expert Dr. Darren Malinoski. Two other donor management experts, Drs. Nancy Knudsen and Michael Moncure, will be speaking to project physicians about general donor and donor cardiac management early next year. Dr. Knudsen is an anesthesia intensivist from Duke. Dr. Moncure is part of a critical care “task force” which for years has provided critical care services for one of the country’s best OPOs in Kansas.

The heart failure/VAD cardiologists participating in this project are Doug Horstmanshof and Patrick Fisher (ISHLT members), and Angie Brittsan.

Disclosure statement: The author has no conflicts of interest to disclose.
Transthoracic echocardiography (TTE) has proven to be a very useful screening tool for potential cardiac allograft donors, but many questions and controversies remain regarding the best ways to acquire and interpret the images. Such debates are important to highlight as echocardiography is performed in the evaluation of almost all cardiac donors in the United States today.

The utility of TTE as a screening tool for cardiac donors was first studied in 1988\(^1\), when TTE was successfully performed in all but one of 74 potential donors. Nine hearts with grossly abnormal echocardiograms (severe LV dysfunction, severe valvular disease) were excluded from transplantation and the remaining 64 grafts were successfully transplanted, despite the presence of mild abnormalities (mild hypokinesis, small pericardial effusions) in 18. In the absence of TTE, 29% of these donor hearts would have been excluded based on clinical criteria alone. This study opened the door to the use of TTE to identify donor hearts that can be used for transplantation despite the presence of concerning clinical factors, such as cardiac arrest and chest trauma.

There are, however, several important problems to consider when performing TTEs on potential organ donors. First, echo is not universally available and delays in organ procurement may result from trying to get a sonographer and/or echocardiographer to perform and interpret the study, which is often required in the middle of the night. Second, acquiring high-quality diagnostic images can be challenging. Organ donors are intubated, mechanically ventilated, unable to change position or breath-hold, and may have chest trauma. In addition, some hospitals may not have newer ultrasound systems with harmonic imaging that can greatly enhance image quality. Moreover, there is wide variability in the ability of sonographers to acquire high-quality images in technically difficult subjects.

A major limiting factor concerns the accuracy of image interpretation and the major impact that this may have on cardiac allograft utilization. Cardiologists have varying levels of experience in interpretation of echocardiograms and may not be familiar with the classic patterns of LV regional wall motion abnormalities that often result after brain death. Neurogenic injury, as is seen after
subarachnoid hemorrhage and brain stem death, frequently causes hypokinesis of the basal septum and basal anterior wall, and spares the apex, corresponding to the distribution of myocardial sympathetic nerve endings and catecholamine release. These and other RWMA patterns that do not follow a coronary artery distribution are unlikely to be caused by myocardial infarction. In one study\textsuperscript{2}, 9/40 hearts with severe RWMA were successfully transplanted, with normalization of LV function post-transplant. All of these patients had normal coronary angiograms. In fact, even measurement of LV wall thickness is subject to error in potential donors, as transient myocardial edema may result from the catecholamine storm that accompanies brain death, and may lead to over-calling LVH. A final technical consideration has to do with LVEF measurements. If the interpreting cardiologist chooses to use an M-Mode technique, which emphasizes basal septal contractile function, the result many significantly underestimate the true LV systolic function.\textsuperscript{4}

It is also important to recognize that LVEF is a load-dependent measure of contractility that varies significantly with changes in preload and afterload that often occur after brain death. Metabolic changes, such as hormone depletion, anemia, hypoxemia, and acidosis may also affect LV contractility. Thus, obtaining a TTE at a suboptimal time may result in a falsely low measure of LV systolic function.

Fortunately, there are several strategies that can be used to improve the quality of TTEs in potential cardiac donors. Intravenous injection of agitated saline can improve visualization of the right ventricle and enhance the tricuspid regurgitation signal, thereby facilitating measurement of pulmonary artery systolic pressure. Use of commercially available ultrasound contrast agents such a Definity® improves LV endocardial border definition and can enable accurate measurement of the LVEF and assessment of RWMA. These agents can be carried and administered by donor management personnel at any hospital.

It would also be possible for donor management personnel, such as coordinators from organ procurement organizations, to carry light-weight, portable, high-quality ultrasound systems with harmonic imaging capability to any donor hospital. These personnel could also be trained to acquire a limited set of echocardiographic images that would be adequate in most cases. Moreover, “core” interpretation of donor TTEs by expert reviewers would be highly desirable and should certainly be feasible in the era of electronic image transfer.

Clearly a challenge in performing donor echocardiography is the ability to distinguish those donors with abnormal cardiac function that is likely to be transient from those that may fail the recipient. There is some evidence that dobutamine stress echocardiography may be useful\textsuperscript{5,6} but this approach has not been widely adopted. Instead, serial echocardiography can be highly informative. This strategy reassesses ventricular function after optimization of loading and metabolic conditions. In a prospective study of 49 donors hearts with reduced ejection fraction (EF<50%) or RWMA sufficient for the organs to be initially rejected, prolonged donor management resulted in improvement in EF or RWMA in 38 donors, resulting in the successful transplantation of 34 donors hearts.\textsuperscript{7}

In summary, echocardiography is the best imaging method available for assessing anatomic and functional abnormalities in potential cardiac organ donors. Transplant personnel, however, should be
aware of the important limitations of this technique and should implement strategies to improve its accuracy and utility in donor evaluation.

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

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Photo Credit: © Marguerite-Bourgeoys Museum and Notre-Dame-de-Bon-Secours Chapel
Regardless of what political party you support, we can all agree that too much money is spent on patients with chronic disease and at the end of life in healthcare. Greater than 51% of healthcare dollars are spent on just 5% of our population per year. One of the patient groups who would fit in this metric include those awaiting heart transplantation. As of 11/25/2012 at 12:16 PM there are 116,580 patients waiting for an organ transplant. 3,379 people are waiting for a heart transplant and 49 people are waiting for a heart lung transplant. National data obtained from the UNOS website demonstrate that 92% of the hearts recovered are from deceased donors less than 50 years of age. As our population continues to age, the donor demographic will shift as well. The proportion of population over age 65 is expected to increase from 12.4% or 35 million people in 2000 to 19.6% or 71 million people in 2030. These statistics show an overwhelming need to optimize donors at all ages for every possible organ and tissue donation. The involvement of intensivists in management of the organ donor through use of donor management goals (DMGs) has increased donor yield or organs transplanted per donor.

These results are encouraging but I would propose the old adage, “if mama ain’t happy, ain’t nobody happy” be changed to, “if the heart ain’t happy, ain’t no organ happy.” Intensivist management makes a difference, but unfortunately the number available to care for all sick patients is less than the number needed across the country. If anyone knows how to take care of a patient with a sick heart, it is the cardiologist! We need you to make a sea change and work toward improving the function of donor hearts to aid patients on the waiting list. Optimization will become even more crucial as our population ages, whether this is through guidelines or case by case individual management or both. Reach across the catheterization lab or clinic to work with your organ procurement organization (OPO).

Whether or not the heart is utilized for transplant, an understanding of the complex hemodynamic, inflammatory, biochemical and hormonal changes that occur with brainstem death is necessary. These changes to the heart are often unpredictable, usually transient and occur with incidence of 10-40% in the literature. It is recommended that echocardiogram be obtained once volume resuscitation has occurred and vasopressors have been titrated down for goal MAP 60-70 to ensure best possible results through aggressive donor management utilizing pulmonary artery catheter or other means of assessment such as noninvasive cardiac output to improve circulatory
function. Looking at Region 11 DMGs YTD for 2012 shows higher heart utilization when mean arterial pressure 60-120, <1 pressor and low dose: Dopamine <10mcg/kg/min, Neo <60mcg/kg/min, Norepi <10mcg/kg/min, as well as urine output >0.5 -7 ml/kg/hr for last 4 hours as well as pH 7.3-7.5 are met.7

Venkateswaran in 2010 utilized echocardiography on donors and found abnormal function in 29/66. When possible these exams were repeated and at end assessment 45 of 66 had achieved H-function criteria with donor management.8 LV function has been shown to improve over time and repeat echocardiogram should be considered if first evaluation was poor. One region looked at time of brain death to procurement in six-hour intervals, mean of 34.5 hours +/- 19.8 hours and found no decrease in number of organs procured with increasing time.9 The use of hormone replacement therapy (HRT) in the literature includes combinations of steroids, T3 and T4 in various protocols and demonstrates improved organ yield for brain dead donors. A study in Journal of Heart and Lung Transplantation from 2009 illustrates the above concepts in harmony. The authors utilized HRT using bolus solumedrol and levothyroxine and then levothyroxine infusion titrated to cessation of vasopressors. HRT was used in concert with standardized donor management guidelines including SBP, CVP and urine output goals. Organ donors who received HRT ≥15 hours had a statistically significant improvement in hearts recovered over those donors who received <15 hours or no T4 replacement. CVP of <10mmHg also had a significantly higher rate of hearts, lungs and kidneys transplanted. Combining HRT ≥15 hours and CVP <10 yielded more hearts than either situation alone.10

The evidence seems clear. Aggressive resuscitation over time with hemodynamic endpoints, use of HRT and appropriate use of echocardiography can increase hearts available for transplantation to end deaths on the waiting list. The physiologic changes of these donors take time, energy and intelligence to manage. Guidelines and protocols are effective, but these complex changes often require outside resources for OPOs. I challenge you to ask not what your OPO can do for you, but what you can do for your OPO!

I’m Nancy Knudsen and I approved this message.

Disclosure Statement: Dr. Knudsen reports receiving consulting fees from Carolina Donor Services as Chief Medical Director.

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2013 ISHLT GRANTS & AWARDS PROGRAM

http://www.ishlt.org/awards/
Numbers of heart transplantations worldwide are suffering from an important epidemiological shift in donors’ and recipients’ characteristics. More and more often the standard hearts offered for allocation are far from what used to be considered optimal donations, with ICU management of borderline donors sometimes further decreasing the organ performance and quality, raising concerns for their allocation in highly deteriorated transplant candidates as well as in stable VAD patients. Two categories of candidates now include the vast majority of waiting list patients.

In this scenario, the development of international standards for the quality and safety of donations and of large scale networks for organ sharing and urgency management is still an unmet need that scientific societies, organ procurement agencies, and health authorities should face with joint policies and activities.

Aiming to paint a picture of what is changing in the European stage on the side of organ procurement and international standards, I met with Dr Alessandro Nanni Costa, current director of the CNT (the Italian organ procurement agency) and president of the European Committee on Organ Transplantation. I asked him to share his view and plans with ISHLT members.

LP: Dr Nanni Costa, you’ve recently been elected President of the European Committee on Organ Transplantation (CDTPO). Could you explain to us the role of this organization?

ANC: This committee depends from the Committee of Prime Ministers of the Council of Europe. This organization should not be confounded with European Union. The Council of Europe covers the entire European continent, with 47 member countries, and is aimed to create a common democratic and legal area, developing and promoting human rights, democracy and the rule of law throughout the continent. In this context CDTPO provides guidance and recommendations on the processes of organ donations and related healthcare organizational issues. Its mission is to ensure quality and safety over organ donation procedures, and in absence of specific EU or national laws CDTPO’s recommendations represent a very strong reference point for the member countries. In addition it develops and support emerging European
countries in creating a donation and transplant system, as for example is happening with the Black Sea project in which we are providing direct organizational support to the Black Sea countries in setting up an efficient transplant system.

You are also among the promoters of a novel supranational transplant organization: the South Transplant Alliance. What is it? A sort of Mediterranean Eurotransplant?

Well… not exactly. In Europe there are now three supranational transplant organizations which aggregate countries with common cultural backgrounds: Eurotransplant includes central Europe and Balkanian countries, and manages organ allocation; Scandiatransplant, in Northern Europe, mainly re-allocates not used organs, and the newborn South Transplant Alliance (STA) includes Spain, France and Italy. These three countries, beyond the common cultural background, have very similar healthcare systems and share common ethical principles in the management of health issues. STA has been conceived as a strategic choice in improving transplant network and the specific weight of Southern Europe in EU transplant policies. The first steps of this alliance will be to set up a shared living donor program, pediatric urgencies and auditing systems. In the future I hope we will be able to create shared standards in the three countries for the quality of the donations, and for the allocations systems, also in thoracic transplantation.

Despite the fact that the overall number of donors in Europe is stable, the number of acceptable hearts is steadily declining, in particular in Italy, UK and Germany. By the side of the organ procurement, which strategy do you think may be put into practice to change this epidemiological trend?

This is an epidemiological problem directly linked to the aging of the population in western countries. Kidney and liver surgeon may extend almost indefinitely their donors’ age, cardiac surgeons can’t. The point is accepting or not the risk of worse results by increasing the numbers (for example in France surgeon accept older donors than in Italy, and perform many more transplants, but their first year survival rate is about 15% less than in Italy, - n.d.r.). This depends on the feasibility and results of VAD programs, which can make unacceptable allocating a high-risk graft.

I think that this is a trend difficult to revert, even though setting up older donor rescue programs may help to scratch
the barrel. The other side that needs effort is the standardization of ICUs care. I think that in the future there is room to identify large referral ICUs with high donor numbers to set up shared and standardized donor management protocols, to reduce the possibility of losing potential grafts for the donor deterioration.

Disclosure Statements: The author and interviewee have no conflicts of interest to report.

Even though heart transplantation activity and immunosuppression pipelines appear stagnant around the world, Heart Failure and Transplantation disciplines remain a flagship of ISHLT.

Five dedicated and interactive symposia will renew enthusiasm and energy to heart transplant clinicians by covering hot topics in transplant medicine.

Awareness and management of donors, changing epidemiology, clinical handling of HLA antibodies and the heart-kidney relationship, challenges in resolving unanswered post-transplant issues and a glimpse into the future with clinical applications of proteomics and genomics will be embraced by interactive formats and bench to bedside approaches.

Some heavy brainstorms and hurricanes of brisk ideas are forecasted ... and desired.
The Tenwek Phenomenon

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The Tenwek Phenomenon Blog:
http://tom-at-tenwek.blogspot.com/

From the moment you open this blog, you are captivated by the writer’s descriptions and photographs of a pediatric cardiac team from Vanderbilt University’s Monroe Carell Jr. Children’s Hospital as they treat the devastating effects of Rheumatic Heart Disease and congenital cardiac anomalies in the endemic pediatric and adult populations of Western Kenya at Tenwek Mission Hospital.

This team of over 20 medical professionals visits Tenwek Mission Hospital annually to teach, train and operate on a fraction of the natives who desperately need surgical treatment. The team, in conjunction with Samaritan’s Purse, supplies most of the hardware and disposables to perform 15 to 17 open-heart procedures each week they are on site. Each week this team is able to perform almost twice the pediatric procedures that are able to be done per year at the nearby pediatric facility in Nairobi.

This is cardiac surgery under the most basic of conditions amidst the breathtakingly beautiful countryside of Western Kenya. Take a moment to learn about the incredible vision this pediatric cardiac surgery team at The Monroe Carell Jr. Children’s Hospital at Vanderbilt University has for developing a free-standing surgical program at Tenwek Mission Hospital to address the cardiac needs of the 600,000 Kipsigi natives afflicted with Rheumatic Heart Disease and their children afflicted with congenital cardiac defects.

Disclosure Statement: The author has no conflicts of interest to disclose.
The MCS Council is pleased to announce the 2013 ISHLT Academy: Core Competencies in Mechanical Circulatory Support. The meeting will take place from 8:00 AM to 5:30 PM on Tuesday, April 23, 2013 at the Palais des congrès de Montréal. Registration is now open!

As you may recall, the first MCS Academy was conducted in Prague in April 2012; however, due to the degree of interest and the limited space available, the ISHLT is offering another opportunity to attend this popular program in April 2013 in Montréal. The 2013 ISHLT Academy: Core Competencies in Mechanical Circulatory Support will cover the same broad categories that were presented for the 2012 Academy in Prague:

- Review of the Current State of MCS
- Patient Selection
- Surgical Considerations
- Post-operative Management
- Transition to Home
- Long-term Management

In an effort to better meet participants’ needs as a result of participant feedback, the program has been refocused with a particular emphasis on more audience participation, particularly after the didactic sessions, and an emphasis on case studies.

Similar to last year, this Academy will focus on junior faculty, trainees, and coordinators or staff new to MCS or starting new centers, however all ISHLT members are welcome to register.

The MCS Academy will also feature and be organized around the upcoming 2013 ISHLT Guidelines for Mechanical Circulatory Support (an announcement is featured in this month’s ISHLT Links). The entire MCS Academy core curriculum with goals, learning objectives and selected references can be found under “Schedule and Information” at: http://www.ishlt.org/ContentDocuments/2013-ISHLT-Academy_MCS.html

The members of the MCS Council and ISHLT Academy Workforce anticipate a day of informative talks and lively discussion. We look forward to seeing you in Montréal.

For more information, visit: http://www.ishlt.org/meetings/ishltAcademy.asp

Photo Credit: © Tourisme Montréal, Stéphan Poulin, Place d’Armes
A lot can happen in 2 years. It may seem hard to believe but in April 2010, as we gathered in Chicago for the ISHLT Annual Meeting, a previously little known Icelandic volcano erupted a half a world away and its cloud of ash essentially grounded Europe! Eyjafjallajökull closed many of Europe’s major airline hub cities such as London, Paris, and Frankfurt. For so many of our colleagues, attending a meeting in the US was not possible. Through ingenuity and hard work, the ISHLT leadership managed to get a conference call system in place, allowing our European members to present and answer questions even though they couldn’t be there in person.

At the same meeting, I was elected to the position of Chair of the Heart Failure and Transplant Medicine Council. In this role, I wanted to solve a problem in which I long struggled: finding a way to communicate with colleagues—both ones I knew personally and those I didn’t know directly—about clinical dilemmas or other issues. We had no budget for fancy solutions so I found a free one and, with a little tinkering, the Heart Failure Google Group was born! We have now grown to 477 members and over time have hosted debates on many topics. The activity on the group ebbs and flows with the clinical needs of the members and it has been a really successful effort. Imitation is the sincerest form of flattery and we now have Google Groups for Nursing Science and Allied Health, Lung Transplantation, Pharmacy, and the Mechanical Circulatory Support Councils. (Instructions for joining these groups is available on each Council’s website: http://www.ishlt.org/councils/)

The HFTM Council members should be proud of their important role in the Society, having become one of the largest Councils and most vocal stakeholders. Going forward, the ISHLT will be announcing new and innovative methods of connecting members and eventually the Google Groups will be replaced by a unified system. Regardless of what the new system looks like, it will serve the same purpose: ISHLT will continue to be the glue that connects members worldwide for the advancement of patient care and research.

Disclosure statement: The author has no conflicts of interest to disclose.
Donor management research studies are often designed by professionals with an intensivist/OPO focus or transplanters with a single organ focus. The impact of investigational donor interventions on all allocated organs is usually under reported. To improve this, the HRSA Donor Management Task Force (DMTF), which includes ISHLT heart and lung members, asked the ISHLT to develop heart and lung outcome metrics to guide donor management investigators. The same request was made for abdominal organs to the AST and now includes ASTS participation.

The goal of the metrics is to identify outcome measures that thoracic transplanters would like collected on thoracic recipients of donors who have been subjected to a research intervention. It is not the DMTF’s expectation that all of these metrics would be collected on every donor management research trial, but that they provide a guideline to those developing such studies with the recognition that funding and other practical concerns will limit the outcome metrics collected. The intervals of 60 days, 6 months, 12 months and 36 months were selected to correlate with UNOS forms in the hope that at least some of the metrics could be captured on current or future forms. It was requested that the number of metrics be limited to 10 for each organ (heart and lung).

Both the ISHLT Heart Failure and Transplant Medicine and Pulmonary Transplantation Scientific Councils formed DMTF Metrics Work Groups at the 2011 ISHLT meeting in San Diego. The members of the Heart Work Group are Kiran Khush, Ram Kalya, Jeff Hosenpud, Dave Baran, Richard Daly, Hannah Valantine and myself. The members of the Lung Work Group are Luis Angel, Remzi Bag, Scott Palmer, Ramsey Hachem and myself. Kiran Khush, Luis Angel and I are also members of the DMTF.

Both work groups creatively extended the metrics to include donor information, which they believed important to interpret the effect of donor interventions on recipient outcomes. The heart metrics, which include “major primary graft dysfunction,” also include a proviso noting that an expert panel on Primary Graft Dysfunction will be led by Dr. Jon Kobashigawa in conjunction with the annual ISHLT meeting in April 2013 and recommend that the definition of Primary Graft Dysfunction on the metrics document should undergo a future update to reflect the definition accepted by that expert panel.

Both the Heart and Lung Work Groups have forwarded the completed metrics to Scientific Council chairs, Brad Dyke and David Weill, as well as to the ISHLT Standards & Guidelines Committee for review. Look for another status update to come soon.

Disclosure Statement: The author has no conflicts of interest to disclose.
In Part I of this series I noted what should be obvious: acrimonious interpersonal dynamics are detrimental to a transplant program. In addition, I addressed sham recruitment, inept on-line recruitment efforts, word-of-mouth referrals as an inferior option to competitive recruiting, “churning” as the signature of a suspect transplant program, the length of time it currently takes to fill a position, problems associated with “internal” recruiters, the importance of credentials, and the significance of being clear about one’s visa status.

On this occasion, I would like to focus on two topics. The first is the difference between filling a position and building a program. The second, which can be related to the first, concerns the perilous situation wherein an external candidate is competing with an internal candidate for a vacant position.

**Filling a Position versus Building a Program**

When people contact me they usually have a vacant position. More often than not, a colleague has accepted another position under questionable circumstances, a suspect character has been “pushed out the door” because their contributions no longer justify their membership, a formerly valued “team member” has become a royal “PITA” or, to put the matter bluntly in Facebook terms, no one “likes” someone anymore. Although rarely mentioned, recruitment creates an opportunity for positive change, and it should be embraced accordingly. Too often people tell me “we have a position to fill,” implying that transplant professionals are mere cogs in an organizational machine – the kind Karl Marx abhorred. Someone’s departed, and they’re being replaced, often with little thought given to how a transplant program can be enhanced with a skillful and competitive recruitment initiative.

Thus, when people engage me in relationship to their recruitment needs, I encourage them to think in broad terms about what they would like to accomplish through a carefully crafted and targeted recruitment effort. If they fail to understand what I mean, this task essentially becomes my mandate. I look at a program, critically appraise it, and then decide how I might make it better if I am successful in recruiting the best available professional given their now obvious needs. My goal is to identify the person I feel will most benefit their program, while being particularly mindful of person-environment fit.

Nonetheless, I recognize that some programs prefer “dumbing down” to “cleaning up.” In other words, their goal is to recruit people who look like them (i.e., homosociality²). They prefer a low risk homogeneous
proposition, and the stability it entails, which is to say they’re happy treading sludge, as opposed to swimming in fresh water. Frankly, no one of any consequence wants to emulate a dubious program. Such programs are doomed by the failure they’ve embraced. Mediocrity is their distinction.

Then there are the people who say, it’s time to “shake things up,” acknowledging that they have an opportunity to do things differently, and welcoming the risk accordingly. This often produces acid in quantities that, figuratively speaking, a proton pump inhibitor can’t neutralize. Yet, at the same time, looking beyond security, excessive risk taking can also generate the requisite enthusiasm it takes to make things better. With progress comes discomfort, and uncertainty.

In conclusion, whenever a position is vacated, it should be looked upon as an opportunity to build a program. By all means, avoid the temptation to merely fill a position and move on as quickly as possible.

Internal Candidates versus External Candidates
Personnel changes, whether deletions or additions, alter the interpersonal dynamics, as well as the power structure, within any organizational entity. In some cases, people are simply reassigned, given new titles, and organizational life goes on—a conservative approach to say the least. In other instances, where the goal is fundamental change yet fairness is the norm, current employees typically compete with external candidates to fill a vacant position. For example, if the medical director of a heart transplant program leaves, the question often becomes this: do we promote from within, or do we recruit from outside?

In almost every instance, there will be at least one reasonably qualified internal candidate—someone who feels they’ve put in their time and, thus, deserves a promotion. Yet, there are usually misgivings associated with merely handing someone a position to which they feel entitled. If the decision is to open the competition, thereby offering external candidates an opportunity to compete, the external candidates are necessarily at a disadvantage from start to finish. And, if they successfully become the incumbent, they’re further handicapped in the long term. This is rarely acknowledged.

The dynamics of the situation can be characterized as follows: First, the internal candidate(s) has an established power base. They’re a known entity; they’ve made an organizational investment, and they fully understand “how things work around here.” Second, in a relatively short period of time, the external candidate(s) must convince the “voters” that they deserve to win the “selection.” In doing so, they have little more than their intelligence, qualifications, experience, and reputation on which to base their claims. Otherwise, they’re powerless, lacking an “inside track.” Third, throughout the entire “selection process,” there is little that prevents the internal candidate(s) from functioning as a saboteur. They may work hard to undermine the external candidate(s) by posing threatening vignettes. Secondhand stories will be conjured with potentially crippling consequences. Character assassination may be a last resort. Finally, the external candidate(s) is rarely privy to all the disinformation. Thus, there is little they can do to correctly represent themselves. They’re essentially a victim of the circumstances they’ve invited by becoming a candidate.

Now, for the sake of argument, let’s assume an external candidate is selected, despite the adversity
I’ve described. Guess what? The internal candidate, who has been formally rejected, becomes the incumbent’s greatest threat, making success difficult to achieve. Because bridges are rarely built where there’s an emotional gulf not amenable to genuine compromise, the internal candidate continues to function as a saboteur who feels spurned by the organization to which they’ve been committed. Thus, in virtually every respect, the internal candidate is a threat, not only to the incumbent, but also to the organization of which they’re now considered a marginal member.

Is there a solution to the dilemma I describe? Indeed, there is. First, if there is clearly a qualified internal candidate who meets all relevant criteria, and all constituents agree, the internal candidate should be promoted. This will avoid what will surely become a counterproductive competition. Second, if there is doubt about an internal candidate, and the goal is to create a definitive competition, make it clear to the internal candidate that the consequences will be the same for all losing candidates, whether internal or external—the external candidate who fails will obviously not be hired but, likewise, the internal candidate who fails to become the incumbent will be asked to resign. This, in turn, eliminates the dastardly role of the internal saboteur, thus maximizing the incumbent’s opportunities for success in discharging their responsibilities. In short, no internal candidate should be allowed to compromise an organization. Asking for a resignation when it is a clear expectation is far easier than firing someone.

In conclusion, subjecting a highly qualified internal candidate to a competition before granting a promotion has deleterious consequences. This situation should be avoided.

Next on tap: Under what circumstances are inferior candidates the preferred option?

Disclosure statement: The author is President and CEO for the UNRTP. Although the author has a financial interest in what is written, the thoughts presented are both valid and balanced.

References:

ARE YOU READY?

Watch this interactive heart rescue video and you may save a life.
Community acquired respiratory infections are troublesome for solid organ transplant recipients, so why do we now have to worry about whooping cough? Wasn’t that a disease of childhood that was eliminated with a vaccine? It nearly was by the 1980s but is making an impressive comeback. What, when, where, and for heaven’s sake why? And what should we do about it?

Whooping cough is caused by *Bordetella pertussis*, so named in 1679 because in Latin it means “intense cough” also known as “the hundred day cough” in Chinese. We humans are the only reservoir and can quite effectively spread the bacteria by aerosolized droplets. The incubation is usually 7-10 days. The major problem is that neither infection nor immunization produces lifelong immunity. Clinical disease begins with a mild URI, the catarrhal phase, and progresses to paroxysms of cough with the tell tale inspiratory whoop and emesis, the paroxysmal stage. Fever is absent or minimal. Immunized children and adults can have a mild, atypical cough that lasts for 6-10 weeks and unknowingly spreads the infection. The most severe disease occurs in infants < 6 months of age. Babies often present without the whoop but have apnea, bradycardia or gagging. Most of these infants are hospitalized, 22% develop pneumonia and 2% develop seizures. One percent of infants < 2 months of age will die.

Early in the 20th century, hundreds of thousands of cases of pertussis occurred in the US but the incidence declined dramatically with the licensure of DTP in 1949. As infants and children were widely immunized the disease became uncommon but since 1980 has been steadily increasing. By Oct 12, 2012 the CDC reported 32,600 cases and the yearly total is predicted to be the highest number since 1959. Since most cases are not reported, the actual number in the US is estimated to be over a million. The vast majority of states reported a 2 fold or higher increase in cases in 2012 compared to 2011. The rise has been most striking in the pediatric age group up through adolescence while the over 20 year olds (even those over 60) have not seen much increase.

Why? The CDC’s investigation of a pertussis epidemic in Washington state earlier this year is quite revealing. Over 2,500 cases were identified and a valid vaccination history was available for 91% of patients aged 3 mo - 19 yrs. They found that the vast majority of cases were fully immunized against pertussis so this was not a failure of families to vaccinate their children. When they looked at the cases broken down by age, they concluded as have others, that the problem is actually waning immunity from the vaccine. The very successful DTP vaccine containing whole cell *B. pertussis* was replaced in the 1990s by vaccines containing acellular pertussis (DTaP or Tdap) to decrease the fever and irritability often seen with the whole cell preparation. It appears that the efficacy might wane after as little

**WHAT IS UP WITH WHOOPING COUGH THESE DAYS?**

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as 2-3 years. However, unvaccinated children have an 8 fold increased risk for pertussis than those fully immunized with DTaP. Vaccinated children are also less infectious, have milder and shorter illness, fewer complications, and fewer hospitalizations. So, while new vaccines are being investigated and booster doses discussed, timely and complete immunization is critical.

What can be done? Diagnosis of pertussis is by PCR and treatment is 5 days of azithromycin or clarithromycin. Once the paroxysmal stage begins, treatment does not influence duration or severity but does reduce transmission. Post-exposure management of household and other close contacts including child care is very important. Un or under immunized contacts should receive the age appropriate vaccine. Chemoprophylaxis with a macrolide is the same as treatment and works best if begun within 21 days of exposure. Of note, a contact should receive prophylaxis even if fully immunized if he is high risk for severe pertussis or lives in a household with people at high risk.

Finally, while it's important to make sure our transplant patients are fully immunized, everyone with close contact should be up to date as well. It is recommended that every adult receive a dose of Tdap. This includes parents, grandparents, care givers, and health care providers. Pertussis is likely to be an increasing threat to transplant recipients, so recognition and vigilance will be vital.

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

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**MCS GUIDELINES**

After a two-year process involving over 30 international contributors, the ISHLT is pleased to announce the upcoming publication of the . The full guidelines will be e-published by the in January 2013, with an executive summary appearing in the print version of the journal in February. This 250 page document is divided into 5 Task Forces including:

1. Patient Selection
2. Pre-operative Optimization
3. Intra and Post-operative Management
4. Inpatient Management
5. Outpatient Management

The process of developing these guidelines was initiated through the in 2010. Dr. Stephanie Moore from the ISHLT Standards and Guidelines Committee MCS Workforce coordinated the development of the taskforces and identified chairs for each. It was then the charge of each taskforce chair to enlist expert contributors to write the sections. Overseeing the process were the guidelines co-chairs, Drs. Jeffery Teuteberg, Salpy Pamboukian and David Feldman. In April 2012, the completed guidelines were posted on the ISHLT website for comment from the society at large. Final revisions incorporating the contributions of the membership were then submitted to the . These guidelines have come to fruition due to the hard work and perseverance of many individuals.

These are the first patient management guidelines to be published on this specialized patient population. Further, what makes these guidelines unique is the global perspective brought by contributors from many different countries, reflecting the diverse composition of our society. Mechanical circulatory support is still in its relative infancy as a therapy, and these inaugural guidelines will surely serve as a springboard for future growth and research in this field.

On behalf of the ISHLT we would like to thank all those who reviewed and edited the document, but particularly all of our contributing authors for their valuable time and effort as well as our medical writer, Wendy Gattis Stough.
WEB-BASED TUTORIAL FOR ASSESSMENT OF ENDOMYOCARDIAL BIOPSIES

JAMES B ATKINSON III, MD, PhD
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The Society for Cardiovascular Pathology (SCVP) and the Association for European Cardiovascular Pathology (AECVP) have developed an image-rich web-based tutorial for the assessment of cellular rejection on endomyocardial biopsies in cardiac transplantation. This effort is being led by Marc Halushka, MD, PhD (Johns Hopkins University) and will showcase the ISHLT criteria for rejection as well as address other findings that might be encountered in these biopsies.

The tutorial will be designed for surgical pathologists who are responsible for interpretation of endomyocardial biopsies in their general practice and it will include grading criteria, helpful tips when assessing biopsies at low and high magnification, findings that are not related to rejection (artifacts, mimickers of rejection), considerations in interpreting pediatric biopsies, and unusual findings. Short narratives will accompany high-quality images, and quiz cases will be used for individual assessment.

Contributors to this project are cardiovascular pathologists with expertise in the interpretation of endomyocardial biopsies and who recognize not only the need for this educational resource for our surgical pathology colleagues, but also as a resource for the membership of the ISHLT who manage cardiac transplant recipients. This web tutorial can be viewed through the SCVP website at www.scvp.net.

Disclosure statement: The author has no conflicts of interest to disclose.
Virtual windows—how many do we have at our fingertips? Albeit I experience only a tiny fraction of virtual windows, it is enough to keep my mind open to current happenings in the world as well as historic facts that sometimes come as a shock when you realize those events continue to have such an influence on the world of today.

Virtual windows, as you suspect, include the ever present television. What did we do before that little picture box appeared before us sixty or, for some, seventy years ago? For me, windows to the world do not include sit-coms, football, golf, reality shows, comedians, cop or attorney shows. Don’t get me wrong, I watch those too. They give me relaxation and laughs everyone needs; however, documentaries about historic figures, travels to exotic places, great literary works, antiques, history detectives and Jeopardy challenge my mind and open more windows to the past and present. Shows relating modern medical miracles are a thrill as the process unfolds, in most cases, to a good end.

Local and world news reports are generally depressing, but one must be aware of those happenings, be informed and prepare for anything including hurricane evacuations, high water and other threats. My favorite reports are about the common man/woman making a difference in their own little world. Recent example is the man in a small mid-west town that had been hit hard by the recent recession with jobs lost and stores closed. He decided to start a project, volunteering his time and money, to paint every house and business in his town to make everyone feel good about where they lived. As he completed one after another structure, other volunteers, in and outside town, began to give of their time and funds to join in this worthwhile project. What a wonderful story of a person who had a vision and carried it through. What about all those volunteers who rescue stray and abused animals? Those are the windows that give me hope and joy.

My computer offers me more windows as I search for information on current world affairs in addition to challenging my mind with word games and such. My windows open wide with sunshine pouring in when I receive E Mails from family and friends. Although I miss hand written notes, E Mails are great for keeping up with your loved ones.

Reading gives me another window. To name just a few of those resources: Smithsonian Magazine, National Geographic, my Kindle, and let’s not forget the ISHLT LINKS. Thousands of reading choices are available for one’s enjoyment as more windows open. How would I survive without the written word and the messages they bring?
My last window to the world is my husband, Sid, who faithfully runs errands and sees to my needs. As he goes about the community he reports changes he observes. Attending events at Senior Center or Apartment Club House, he returns with news of friends and neighbors that brighten my day. He is an excellent story teller and tells jokes that keep me going. What could be greater than all these windows letting me choose what I wish to experience in the confines of my real world?

The ISHLT is pleased to announce that members of the Nursing, Health Science and Allied Health Council are eligible to apply for the Nursing, Health Sciences and Allied Health Research Grant Award. The purpose of this award is to encourage qualified nurses, social scientists and other health care professionals to conduct research related to the areas of end-stage heart and lung disease and transplantation. This award is designated for non-physician allied health professionals.

This year, two grants in the amount of $12,000 each will be awarded to support research in the coming year. We gratefully acknowledge the support of ISHLT and CSL Behring for these grants. All details regarding eligibility and the application process are on the website at:

http://www.ishlt.org/awards/awardNursingApp.asp

The deadline for submitting applications is February 1, 2013. Successful applicants will be notified prior to the Montreal Meeting in April where it will be announced officially.

We look forward to receiving your applications!
For the month of December, let's give Mark Twain a break or rather let's take a break from Twain. But before I steer clear from him take note of his comments on the great artworks from the old masters. Despite his disdain for the arts, he did recognize the old creation of Da Vinci. “The colors are dimmed with age; ... nearly all expression is gone from them; the hair is a dead blur upon the wall, and there is no life in the eyes ... I am satisfied that the Last Supper was a very miracle of art once. But it was 300 years ago.” He added, “… I am glad the old masters are all dead, and I only wish they had died sooner.” One of his quotes on classical music is “…I have never heard enough classical music to be able to enjoy it; and the simple truth is, I detest it. Not mildly, but with all my heart.”

One cannot get very far thinking about Beethoven without thinking about his shaggy, ungainly and unkempt hair. Did Beethoven always have a bad hair day? Recently, eight strands of his hair have been identified to contain lead in concentrations 100 times higher than normal. So at least he had bad hair. Despite intermittent bouts of abdominal discomfort, irritability, depression and progressive deafness, he could not have had distal extensor palsies for he earned the reputation as a virtuoso pianist in Vienna, a city mad for pianists in the late 18th century. Maybe it was the lead that compelled him to create music expressing every kind of emotion, from passionate to tender, yet technically, it was never anything other than faultless.

Beethoven, a Rhinelander from Bonn, Germany, was born on December 17, 1770 into a lifetime of physical, emotional and spiritual struggle. He had a depressed mother and an abusive alcoholic father who futilely tried to beat him into becoming a child prodigy to rival Mozart. There is only one Mozart. His family struggles, poor health, progressive hearing loss, broken heart, destruction of his brother's remaining family and public ridicule all became catalysts to force him to look inward and reinvent himself many times,
compelling him to constantly expand his style and ideas. For us, he created the bridge across the Classical and Romantic periods of music. He lived through the turmoil of the French Revolution and Napoleonic Wars. Thus his masterpieces of music sprang up not just for the church or the aristocracy, but for people everywhere. Although he based much of his music on Classical forms, he filled his compositions with a new sense of freedom and personal expression heralding the more emotional and poetic Romantic period. He influenced essentially every composer who came after him.

Ludwig should have thanked his father for his career, however he rejected him. With his unhappy childhood from abuse, Beethoven replaced his father with an “elevated” surrogate. He increasingly believed himself to be the illegitimate son of the King of Prussia, Frederick Wilhelm II or the great warrior-musician-king Frederick the Great. But it was Christian Gottlob Neefe who was Ludwig’s music instructor, friend, mentor and surrogate responsible for Beethoven’s explosive development. During his development, the organ and the music of Bach profoundly influenced Beethoven which can be noted in the march-like and straightforward arrangement Ludwig composed when he was merely 11, Nine variations in C minor on a March by Dressler, Wo063 (and it is no coincidence that the performer in this video is 11 years old as well). He composed many other works, and by 1785, he was clearly a budding virtuoso.

In 1792, Beethoven moved to Vienna, earned the reputation as an outstanding pianist and became the darling of the Austro-Hungarian Aristocracy. A self-taught pianist, he actually received more training as an organist than a piano player. Because of this, he developed an extraordinary and unconventional approach to the new “pianoforte.” Just prior to his move from Bonn to Vienna, Ludwig had a grand breakthrough with intense composition. Among his sets of piano variations, ballet music, concert arias, chamber works for piano and winds and full-blown cantatas for vocal soloists, chorus, and orchestra, the extraordinary Funeral Cantata on the Death of Emperor Joseph II was written. By 1789 he had come of age. In Vienna, the Viennese found Beethoven to be a revelation and a disaster to the existing pianos of the time. Ludwig held his hands high and smashed every piano he touched looking for more volume, more resonance and more expressive power. He did outplay every pianist in Vienna at competitions. He conceived his fabulous piano sonatas in Vienna including one of the most popular and familiar melodies Beethoven ever wrote, Piano Sonata No. 8 in C Minor, Op. 13 commonly known as Sonata Pathétique (Mvt 1 Grave – Allegro di molto e con brio, Mvt 2 Adagio cantabile, and Mvt 3 Rondo: Allegro) and of course there is Piano Sonata No. 14 in C-sharp Minor, Op 27, No 2 (Moonlight Sonata).

It was in Vienna when Beethoven personally identified himself with Napoleon. Napoleon was a Florentine among Corsicans and a Corsican among the French. He was an outsider who achieved his accomplishments as a result of his own power and vision. Beethoven was a Rhinelander among the Viennese, hearing impaired among the hearing healthy and an angry man. By 1803, Paris was the capital of the “new Europe.” Beethoven planned to move to Paris, where he thought he might be more
ISHLT Links

at home than in Vienna. When Beethoven completed Symphony No 3, he almost named it “Major Bonaparte.” However, he renamed it “Eroica.” This title change was the result of Napoleon’s declaration of himself as emperor, whereupon Beethoven was enraged that Napoleon was becoming a tyrant. Beethoven never moved to Paris, after Napoleon’s attack on Austria in 1805. Beethoven, in keeping with his personality, came to regard Napoleon as an authoritative figure; he had a violent hatred towards authority. This third symphony is where Beethoven found his compositional voice of expressive temper with his deepest fears and hopes:

**Symphony No. 3 in E flat major, Op. 55 “Eroica”:**
- I. Allegro con brio
- II. Marcia Funebre, Adagio assai
- III. Scherzo, Allegro vivace
- IV. Finale, Allegro molto

It is during this “Heroic” compositional period from 1803-1812 where Beethoven produced brilliant original masterworks including the 4th, 5th, 6th, 7th, and 8th Symphonies along with many concertis, concertos, string quartets, overtures, sonatas, songs, arias and the opera Fidelio. Here are links to Beethoven’s 5th, including the ever popular 1st movement:

**Symphony No. 5 in C Minor, Op. 67:**
- I. Allegro con brio
- II. Andante con moto
- III Allegro
- IV. Allegro

It was 200 years ago today minus one year in this month that Beethoven’s 7th Symphony premiered to great acclaim and became so popular that it was inserted into other of his symphonies and later performed as a self-standing composition. Ludwig had become a hero of the Austrian nation, because he had co-written an arrangement celebrating Wellington’s Victory over a Napoleonic army at the Battle of Vittoria in Spain, in 1813. The defeat of Napoleon at the Battle of Leipzig instigated patriotic fervor into the Austrians and as such two concerts in December 1813 were given in Vienna for the benefit of Austrian and Bavarian soldiers. This was where Beethoven took the opportunity to premiere his 7th Symphony alongside Wellington’s Victory (Mvt I. Battle and Mvt II. Symphony of Triumph). Napoleon’s reign of terror had ended.

Beethoven changed the expressive language of Western music, as musicologist Donald Grout wrote, “Beethoven was one of the great disruptive forces in the history of music. After him, nothing could ever be the same; he had opened the gateway to a new world.” As his deafness progressed, Beethoven was able to find new forms of experience free from the external environment, free from the rigidities of the material world and free to combine and recombine reality and dreams into a variety of undreamed-of forms and structures.

In his final years of life, in spite of his stone cold deafness, Beethoven wrote his greatest, most profound, and most forward-looking works. The therapeutic benefit of writing music that would
help lift him out of his funk was preferable to writing music that mirrored and, perhaps, intensified his unhappiness. His Symphony No. 9 became the single most influential piece of music composed in the 19th century just a few years before his death from cirrhosis. This piece gave precedence to the expressive needs and desires of the artist. His music was his refuge from his troubled life and ultimately his cure.

**Symphony No. 9 in D minor, Op. 125:**

I. Allegro ma non troppo, un poco maestoso  
II. Molto vivace  
III. Adagio molto e cantabile  
IV. “Choral” (Finale)

Beethoven sacrificed life for music. His temper, his intensity and his passion, to get to the heart of the matter, are all palpable in all his music. Here lies the rub. The March by Dressler has as much to do with Dressler's Syndrome (other than perhaps the derivation of the name Dressler) as lead exposure leads to cirrhosis. On the other hand, the rhythmic sounds of mitral stenosis with an opening snap are undeniably detected in the first four notes of Beethoven's 5th as the triple rhythm of heart disease, the third heart sound, is in Beethoven’s 9th, unless of course you are as auditorily challenged as Beethoven was.

Additional Beethoven music links:

- 💘 Violin Sonata #9 (1803)  
- 💘 Apassionata (1805)  
- 💘 Für Elise (1810)

**Disclosure statement:** The author has no conflicts of interest to disclose.
A particular school of thought within sociology has long maintained that knowledge is socially constructed. These so-called “social constructionists” insist that reality is essentially based on social consensus. In effect, reality, whether objective or subjective, is nothing more than what humans agree upon. Thus, even objective reality, which can presumably be quantitatively assessed, is meaningful only to the extent that people agree. For example, a foot is twelve inches only because we’ve collectively reached that conclusion. Similarly, high blood pressure is a matter of consensus professional opinion, as are the indications for transplant rejection. Therefore, there are no immutable facts because our interpretation of what qualifies as a fact may change over time.

In his book—The Half-Life of Facts: Why Everything We Know Has an Expiration Date—Samuel Arbesman takes social constructionism one step further by introducing us to the field of “scientometrics,” which he describes as a “science of science.” More formally, “Scientometrics is concerned with the quantitative features and characteristics of science and scientific research. Emphasis is placed on investigations in which the development and mechanisms of science are studied by statistical and mathematical methods.”

In his compelling analysis, Arbesman maintains that facts change all the time, and even the most knowledgeable people have great difficulty staying current. However, he maintains that facts have predictable half-lives, and scientometrics is a means to understand how knowledge changes. In other words, using scientometrics, we can scientifically predict when our knowledge will change in a way that is both systematic and understandable.
Because facts change, people are uncertain. This is a particular problem when it becomes apparent that reality need not be an objective truth. In this regard, some of what we know changes very rapidly, while other aspects of objective reality rarely change. Arbesman has coined the term “mesofacts” to characterize facts that change in “middle timescale.” He insists science and technology are replete with mesofacts, and it is important that scientists and physicians accept changing knowledge as the rule, not the exception. After all, physicians and scientists struggle to discard long held beliefs and assumptions. Systematic analysis through scientometrics enables us to address uncertainty and, thereby, appreciate the fact that, despite perception to the contrary, knowledge actually changes in an orderly and predictable manner.

References:
4. See the following Web site link for more information on Samuel Arbesman: http://arbesman.net/.
5. See the following Web site link for the journal Scientometrics: http://www.springer.com/computer/database+management+%26+information+retrieval/journal/11192.

Systematic review of predictors of surgical performance
British Journal of Surgery 2012; 99:1610-21

What makes a great surgeon? Can the relevant skills be measured and quantified, or is it all magic—undefinable? Is it inborn, or the product of our trainers? This paper is a review of three decades of publications addressing attempts to define the attributes of a good surgeon. “Good” in this case largely means successful completion of training, which we might not think of as the sole aim of the operating surgeon.

What did they find? Visual-spatial perception is a predictor of both objective and subjective surgical skill, and importantly, with the rate of skill-acquisition. But it did not correlate with the performance of those regarded by their peers as “experts.” Perhaps reassuring for those of us in University positions, academic ability was a good thing to have, predicting completion of training, but worryingly, not performance at the end of that period.

So this is an interesting analysis, but it doesn’t answer the real question. Greatness may be dependent on
some basic skills, but is probably the product of years of hard work, unremitting enthusiasm, and practice; summarized, in a different field, by one word: “grit.”

Open Access Publishing

The future of academic publishing is important to all of us. How long will our institutional libraries pay large sums for journals? As paper publication declines, and we read on our tablets, production costs almost disappear and access can become much easier—and faster.

The open access movement is accelerating, and probably represents the future. This charming video gives a painless but perceptive introduction to the arguments. It should be required watching for anyone who submits or even reads a scientific paper.

Separated by a Common Translation? How the British and the Dutch Communicate
Pediatric Pulmonology
Also available at: http://www.ncbi.nlm.nih.gov/pubmed/21438172

Susie Newton

One of the perks of my role as communications manager for an international society is that I get to spend a great deal of time communicating with people from all over the world. Most of the time, language is not a barrier because, thankfully, nearly all of our ISHLT members speak fluent English and often have a better command of the language than I do. Sometimes, though, words can get lost in translation and their meaning can be obscured.

So when this article was shared recently with me by the author, I knew this must be further shared with our ISHLT community. This handy “tutorial” offers direct translation of common vernacular in both British and Dutch versions. It is an essential tool for communication, especially in a serious, intellectual scientific community such as ours.

FUN LINKS – “Lost in Translation” around the world:

USA:
Lost in Translation, a poem by James Merrill
defines “Lost in Translation”:
http://www.urbandictionary.com/define.php?term=Lost%20In%20Translation

**UK:**


**FRANCE:**


**CANADA:**


Photo credit: © Les amis de la montagne / S. Montigné, 2008, Mount Royal Park
NEAR MISSES, NEAR HITS
CLOSE CALL LEARNING EXPERIENCES

The aviation industry takes the lead in reviewing “all that works” and “what went wrong.” Often when one hears the phrase, “near miss,” an image of two planes almost colliding enters the mind. Interestingly, a “near miss” can suggest a hit, or a non-event that was a little too close for comfort. As my typical-middle-child risk-taking aviator brother mentioned recently, if a plane flies within a mile of his, that’s a miss—or a distant miss. But if one passes by within a ¼ mile or so, that’s a near miss!

Some of the best learning comes not only from learning from our mistakes, but also figuring out what actually does work and recognizing when nothing went wrong in a particular circumstance. Have you encountered a situation or experience—a “near miss” or “near hit”—that yielded lessons on how to better manage patient care in the clinical setting, or conduct research in the lab, or lecture/teach in a classroom, or just how to do your job better? Do you have an experience to share with the ISHLT Links Newsletter readers about an occasion that taught you something significant about ways to improve health care in patients with end stage heart and lung failure? If so, we want to hear about it.

You can send your summary directly to me at susie.newton@ishlt.org. Put “Near Misses, Near Hits Submission” in the subject line; add your name and phone number at the bottom of the email.

Your report will be considered for publication in the new Near Misses, Near Hits page, and may be edited for style and length. Anonymity is guaranteed if you wish. No one but our Editor and Managing Editor will be permitted to access the report. Your name and telephone number are requested only so that the managing editor can contact you if necessary.

While we cannot guarantee your submission will be published, we can guarantee that we will closely review and consider using it. All Near Misses, Near Hits submissions become the property of the ISHLT Links Newsletter and may be republished.

Susie Newton
Links Managing Editor

We encourage you to submit a brief (+/- 500 words) summary of your Near Misses, Near Hits to us for possible publication. Each month, the Links Newsletter will publish a collection of similar experiences sent to us by our readers. Sharing with others the benefit of your experience and the lessons you learned can be an invaluable aid to other health care providers.
Judge orders tobacco companies to say they lied

A US federal judge on Tuesday ordered tobacco companies to publish corrective statements that say they lied about the dangers of smoking and that disclose smoking's health effects, including the death on average of 1,200 people a day. Read more...

Doctors ‘very optimistic’ baby born with heart outside body will survive
21 Nov 2012, Daily News

A newborn girl born with her heart outside her chest survived a high-risk surgery and doctors are “very optimistic" about her chances for a long, healthy life. Audrina Cardenes was recovering at Texas Children’s Hospital after being born five weeks earlier with a rare and normally fatal condition called ectopia cordis. Read more...

Probiotics Linked to Lowered Diarrhea Risk
19 Nov, 2012, Nicholas Bakalar, New York Times

Antibiotics can upset the normal balance of bacteria in the intestinal tract, and one of the most common and dangerous results is infection with C. difficile, bacteria that can cause diarrhea, colitis and even death. Now a review of studies has found that probiotics—beneficial microorganisms introduced into the gut—can reduce the risk. Read more...

Movie about Elmhurst girl coming to Comcast
13 Nov 2013, Annemarie Mannion, Chicago Tribune reporter via LA Times

It's been a year since Elmhurst resident Julie D'Agostino underwent a double
lungs. The 40-minute movie “Miracle on South Street: The Julie D Story” is airing through Jan. 15 on Comcast OnDemand. Read more...

**PBS documentary explores stories and science behind organ donation and transplantation**

8 Nov, 2012, NewsMedical.net

*Transplant: A Gift for Life* reveals the powerful emotions and cutting-edge science involved in vital organ transplant. Told through multiple real-life stories, this one-hour documentary demonstrates how the tragic death or inspirational generosity of one person can pull another back from the brink, offering a second chance at life. For more information, or to watch the program online, visit [www.tpt.org](http://www.tpt.org).

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**Study Highlights Value Of Specialized Care In Heart Failure Treatment**

08 Nov 2012, Medical News Today

When a cardiologist attends to heart failure patients, even when the severity of illness is higher, patients have reduced rates of hospital readmissions, compared with those patients who are treated by a hospitalist, according to a trial presented at the American Heart Association’s scientific sessions in Los Angeles. Read more...

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**We nearly gave up on heart transplants**

2 Nov 2012, Esther Inglis-Arkell, io9.com

Heart transplants are common today, and recognized as life-saving procedures. So why did we almost give up on them in the 1970s? If you look up Norman Shumway online, you’d be forgiven for thinking that he performed the first heart transplant. So many articles call him a “pioneer,” and stress his place as the “first” heart transplant surgeon—but he wasn’t. He was the first doctor to do a heart transplant, from an adult donor to an adult recipient, in the United States. Read more...

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**Ontarians Reminded To Get Fully Immunized Against Whooping Cough**

26 July, 2012, Ontario News

Dr. Arlene King, Ontario’s Chief Medical Officer of Health, is reminding Ontarians to get immunized against pertussis, also known as whooping cough. There have been recent outbreaks of pertussis in Southwestern Ontario with approximately 240 cases reported since November 2011. Read more...
** ISHLT MEMBERS IN THE NEWS **

If you read about an ISHLT member in the news, please send the link to Susie Newton at susie.newton@ishlt.org. Thank you!

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**Baby Born with Heart Outside Body Makes Medical History**

**Charles D Fraser, Jr, MD**
Texas Children’s Hospital
Houston, Texas, USA

A baby girl born with her heart outside her chest survived a high-risk surgery and doctors believe she will have a healthy, long life. “I personally have only seen this condition a few times in my career and these are always very tricky cases,” said Surgeon-in-Chief Dr. Charles D. Fraser. “In fact, many of these babies do not survive.”

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**The Relevance of SCIP Benchmarks Questioned Among Coronary Artery Bypass Graft Patients**

**Harold Lazar, MD**
Boston University Medical Center
Boston, Massachusetts, USA

Cardiothoracic surgeons and endocrinologists from Boston Medical Center (BMC) have found that among patients undergoing coronary artery bypass graft (CABG) surgery, achieving Surgical Care Improvement Project (SCIP) benchmarks for glycemic control may be irrelevant when perioperative continuous insulin infusion protocols are implemented. These findings appear on-line in the *Journal of Thoracic and Cardiovascular Surgery.*

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**The heart swap patient given five years to live ... 30 years ago! Longest surviving patient celebrates anniversary with surgeon who saved his life**

**Sir Magdi Yacoub**
Imperial College London, Harefield, Middlesex, United Kingdom

After John McCafferty had a heart transplant he was told he could hope
to live for five more years. Yesterday he broke down in tears as he was reunited with the surgeon who performed that operation—30 years ago. Mr McCafferty, Britain’s longest-surviving heart transplant recipient, cried during the celebration at Harefield Hospital where he was joined by his surgeon, Professor Sir Magdi Yacoub. Read more...

Gregor Warnecke, MD
Hannover Medical University, Hannover, GERMANY
Portable Storage Device Points to Better Lung Transplants
10 Oct 2012, Reuters via FoxNews.com

Scientists have successfully tested a portable device to prepare lungs for transplant, potentially boosting the number of organs available and reducing the risk the operation will fail. The Organ Care System, which has been tested on 12 patients in Germany and Spain, allows donor lungs to be prepared and preserved for transplant at body temperature, keeping them in better condition than the usual practice of cooling them down, according to results of a study published in the Lancet. Gregor Warnecke at the Hanover Medical School in Germany told Reuters the device could significantly increase the number of lungs available for transplant. Read more...

Eugenia Raichlin, MD
University of Nebraska Medical Center, Omaha, Nebraska, USA
Man needing new heart has ‘miracle’ recovery
25 Sep 2012, Victoria Cavaliere, New York Times

A 23-year-old Nebraska man suffering from toxic blood poisoning stunned doctors after undergoing a “miraculous” recovery in which his failing heart suddenly mended itself. Doctors still don’t have any medical answers as to how Michael Crowe overcame a dangerous and untreatable viral infection that caused his heart to shut down. Read more...

Nahush A. Mokadam, MD
University of Washington Medical Center, Seattle, Washington, USA
Alaska man with artificial heart gets transplant at UW
12 Sep 2012, The Seattle Times

Christopher Marshall the first total-artificial-heart patient in the Northwest who was able to leave the hospital while waiting for a donor heart, received that new heart Wednesday in a seven-hour surgery at the University of Washington Medical Center. Read more...
Quick Links to Beethoven’s Music:

- 9 Variations in C minor on a March by Dressler, WoO63

Pathétique:
- 1st Movement
- 2nd Movement
- 3rd Movement
- Moonlight Sonata
- Violin Sonata #9
- Apassionata
- Für Elise
- Funeral Cantata on the Death of Emperor Joseph II

Wellington’s Victory:
- 1st Movement: Battle
- 2nd Movement: Symphony of Triumph

Symphony No. 3 “Eroica”:
- 1st Movement
- 2nd Movement
- 3rd Movement
- 4th Movement

Symphony No. 5:
- 1st Movement
- 2nd Movement
- 3rd Movement
- 4th Movement

Symphony No. 7:
- All Movements

Symphony No. 9:
- 1st Movement
- 2nd Movement
- 3rd Movement
- 4th Movement

Blast from the Past:
Beethoven’s music can be heard in the classic movie soundtrack from “Saturday Night Fever”:

A Fifth of Beethoven

Even the disco fanaticism of the 70s found Beethoven! His music also has appeared in many other films, including:

A Clockwork Orange
Dead Poets Society
Fantasia
Immortal Beloved
Be Cool