

## Vincent's Summer Sense

In this "hot stuff" summer issue for those of us in the Northern Hemisphere as we shout "get off of my cloud," Dr Howard Eisen provides us some wisdom from gene expression profiling to the electronic medical record. Dr Hannan, Dr Morrissey as well as Dr Koval and others share with us an update, the troubles, and the road to take for our journey in combating the incessant siege from germs that get in the way of our efforts. On wondering if an emergency prepared for is not an emergency, Drs Vierecke's and Potapov's article emphasizes the importance of education and preparedness when our patient's mechanical circulatory device is in trouble or stops altogether. It's only the beginning. Among others, there are a few things simply outta this world and some others will make you laugh. However, in the end, for your "satisfaction," we have our very own "midnight rambler" and "respectable" John Dark with his editorial for your "emotional rescue" which will most assuredly give you, "[The Big Chill](#)."

Vincent Valentine, MD  
Links Editor

## **In the Spotlight:**

### **Adventures in Translational Medicine: Gene Expression Profiling and the Electronic Medical Record**

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I have finally completed all of my patient notes and tasks in our electronic medical record (EMR) to make sure that all of my charges are in before the end of the month, allowing me time to begin my article for ISHLT Links Newsletter. You might be asking: of what relevance is this and how come you are only now writing your article for the Links (Sunday, June 30<sup>th</sup>), when the deadline was Monday, June 24, 2013? The answer to the second question is: I got an extension. For the answer to the first question, read on.

During my hopefully exhaustive review of my patients' medical records, I came across the results of the gene expression-profiling test that is used to manage patients after cardiac transplantation. I was struck by how a test using changes in the expression of a set of genes in peripheral blood mononuclear cells has in the span of less than a decade been incorporated into the routine laboratory tests that we use to manage our patients. How did this happen and what does the future hold for the assessment of gene expression in the management of transplant patients?

Since the development of the endomyocardial biopsy for the diagnosis of rejection in the 1970s, efforts have been made to find less or noninvasive alternatives. This spawned a cottage industry in noninvasive approaches for the diagnosis of rejection, including echocardiographic, radionuclide scintigraphic and immunologic techniques (1-4). Even former US Senate Majority Leader Bill Frist got into the act with anti-myosin antibodies (5)! (I have no information on whether Congress plans to fund future research efforts in this area). While this research was very interesting and helpful in generating abstracts and publications (what could be called CV polymerase), these techniques and publications did not lead to clinically applicable diagnostic procedures and were forgotten (some of my best publications are among these). Dr. Frist went on to greener pastures in the Senate and the whole field was largely dormant until the development of new molecular techniques, specifically microarray and reverse transcriptase (rt) PCR, allowed the assessment of changes in gene expression in the effector cells of the alloimmune response, mononuclear cells. Several approaches attempted to translate this basic research from bench to bedside. Horwitz identified genes in peripheral blood mononuclear cells whose expression changed at the time of ISHLT Grade 3A (2R) rejection compared to Grade 0 and what happened to expression of these genes after treatment of rejection (6). The CARGO I investigators identified genes whose expression changed with ISHLT Grade 2R rejection compared to Grade 0 (by microarray) and then developed a gene expression profiling (GEP) panel using eleven of those genes (by rt-PCR(7)). This technique was then applied

to the general transplant population at participating sites and was used to define "immune activation", above a threshold, from "immune quiescence" below threshold. Ultimately, an FDA approved test was put into clinical practice, representing one of only a very small number of clinical tests utilizing changes in gene expression, and the only one outside of Oncology. Other multi-center and single center studies using this test followed, including CARGO II and the IMAGE trial(8). The latter showed that GEP could be used as an alternative to biopsy for managing patients six months post-transplant and beyond but, as has been pointed out, the event rate was low and the greatest frequency of acute cellular rejection is in the first six months post-transplant. Kobashigawa and colleagues conducted E-IMAGE from months two to six post-transplant and also showed that GEP guided management of cardiac transplant patients had similar outcomes to those undergoing biopsy guided management in a small number of patients. Additional information about the utility of GEP in weaning immunosuppression, the clinical relevance of the change in GEP scores and the identification of "immunoprivileged" patients with low GEP scores who have less rejection and can be managed with less immunosuppression, is also starting to emerge.

Where do we go from here? The present GEP test does not identify patients with antibody mediated rejection or cardiac allograft vasculopathy so other panels of genes will need to be employed to detect these diseases or predict their onset. Biopsy is still required in the first 55 days after transplant (which was not studied in CARGO) for unstable patients and for those with suspected AMR so the endomyocardial biopsy is not going away although its use has decreased. Snyder and colleagues published a study of cell free DNA in whole blood to assess cardiac damage which might be applied when further developed to a variety of cardiac diseases (9). We may see other this and other techniques applied clinically.

You might be wondering after reading these meandering thoughts, what does this have to do with EMR and how could I have used my time more constructively instead of reading this article. EMR also represents translation from basic science (aka the "bench") but in this case from the computing world to the clinical arena. It allows us to document extensively, to see what is happening to our patients across our practice, and to badger those whom we consult and in turn get badgered by those consulting us. It also allows us to prescribe electronically, a component of the euphemistically named "meaningful use". In my case, I finally for the first time in my life, have legible notes (or at least the writing is legible; the content maybe not). I also have a new inexpensive, yet time-consuming hobby, which is completing these notes resulting in higher indirect costs. Personal costs, that is.

Disclosure statement: The author has no conflicts of interest to disclose. He thanks those who gave him an extension to complete this article but worries that it will only encourage his tendency to procrastinate.

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## Infectious Diseases Update on IMACS

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The ISHLT registry for Mechanically Assisted Circulatory Support (IMACS) is an international registry intended to enroll and follow patients with MCS devices. The registry will record pre-implant patient information, device information and will track the major post implant clinical events.

The IMACS registry continues to grow and expand across Europe, South America, Asia, Australasia, and the Middle East.

IMACS currently has forty-five hospitals and four collectives that have expressed interest in participating and submitting data to the registry. Twenty-two of these hospitals have moved forward with the enrollment process and 5 hospitals are enrolled. IMACS strongly encourages the ISHLT community to continue to spread the word not just through cardiothoracic transplant community but through ID and other specialist networks across the world.

The ID council continues to work with the IMACS registry to streamline the variables collected and develop a support structure for monitoring and validating these variables. The IMACS registry will provide a framework for comparing the effectiveness of different antibiotic prophylaxis regimens, examine different types and locations of infection using the new ISHLT definitions, and compare the clinical outcomes with different antibiotics used in the treatment of these difficult and complex infections.

The ID council continues to promote the enrollment of new hospitals in new countries through already established academic ID networks sharing experience and expertise in cardiovascular infections including the International Collaboration on Endocarditis.

Requirements for enrollment can be found on the IMACS website under the Site Enrollment section - <http://www.isHLT.org/registries/siteEnrollment.asp>. First, if a hospital or collective is interested in registration and enrollment in IMACS, they should complete an IMACS Registry Institutional Enrollment Form and submit it via email to [IMACS@uab.edu](mailto:IMACS@uab.edu). Next, an IMACS staff member will contact the interested site to continue the enrollment process. In order to be enrolled in IMACS, the following items or forms will be requested:

1. IMACS Registry Institutional Enrollment Form
2. International Society for Heart and Lung Transplantation Registry for Mechanically Assisted Circulatory Support (IMACS) Memorandum of Agreement
3. Human Subjects Research certification (Ethics Board, Institutional Review Board, etc.)

4. Completed Training – At least one IMACS staff member at the institution must complete the IMACS training process. A live web-based data entry training session will be scheduled with the designated staff member at each institution. This training will be conducted in English.

Each item or form will need to be completed satisfactorily before a hospital or collective is officially enrolled in IMACS. Once a hospital is enrolled, they will be sent a user name and password is sent to begin entering data into the IMACS Registry.

Friendly IMACS staff members are available to answer all questions or inquiries regarding the registry. Please send an email to [IMACS@uab.edu](mailto:IMACS@uab.edu).

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## The Trouble with Driveline Infections

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Driveline infections frequently complicate ventricular assist device (VAD) support (1,2,3). Most driveline infections (DLIs) occur at the exit site but can involve tissue anywhere along the driveline tract to the pump pocket. Consensus definitions have been published to help clinicians and researchers describe DLI and the depth of tissue involved (4).

While much is known about driveline infections, little has been published on their “natural” history. We sought to describe DLIs over time in our patients with continuous flow (Heart Mate II) VADs including the onset, risk factors, organisms involved, association with invasive infections and outcomes.

We retrospectively evaluated 181 patients with first time Heart Mate II VADs implanted at The Cleveland Clinic between July 2004 and July 2011 with follow up through December 2011. Forty-four of 181 (24%) developed driveline infections over 309 person-years. Median time from VAD implantation to DLI was 231 days (range 22-862). Cumulative DLIs increased steadily over time on VAD support, as is well recognized from previous reports. However, we identified a spike in hazard for DLI from 2.2% to 10% occurring at 6-9 months following VAD implantation.

We found no risk factors clearly associated with driveline infection and thus could not identify a cause for the incident hazard to temporarily increase 6-9 months after VAD implantation. Trauma to the driveline has previously been associated with DLI, thought due to loss of tissue in-growth at the exit site. There may be behavioral or structural effects that could lead to traumatic injury peaking between 6-9 months after implantation. Our data on trauma was not prospectively collected and could not statistically be associated with DLI, although 20/44 (45%) retrospectively reported driveline trauma that preceded their infection. More prospective methods to collect this data are required.

*Pseudomonas aeruginosa* was the most frequent infecting organism, causing 28% of DLIs. However, both *Staphylococcus aureus* and coagulase negative *Staphylococcus* species also contributed widely, causing 19% and 13% of DLI, respectively. Of particular interest was that

*Pseudomonas aeruginosa* became even more prevalent over time in patients with existing DLI, often replacing earlier infecting organisms as the predominant pathogen. These “superinfections” occurred in 9/44 (23%) of those with DLI at a median of 256 days (range 44-444 days) after the initial DLI. That water-borne biofilm producers, predominantly *Pseudomonas* and *Proteus* species, became more prevalent over time suggests a role for showering in driveline infection evolution.

Additionally, it was observed that *Pseudomonas aeruginosa* contributed to the evolution from superficial driveline to deep driveline infection. Of 14 deep driveline infections, 9 began as superficial driveline infection and progressed over a median 173 days (range 61-362 days). Eight of 9 (89%) of these were due to *Pseudomonas aeruginosa* (3/8 that were initially identified as Staphylococcal infection).

Surgical management for deep driveline infection occurred in 12/14 patients. All four that were transplanted survived to follow up. However, only 2/8 with omental flaps, incision/drainage, VAD exchange or VAD explant survived. While we found that any driveline infection was associated with an incremental risk for death on VAD (HR 2.15, 95% CI 1.18-3.97,  $p=0.01$ ), our data highlights that even patients with prolonged and deep driveline infection could be successfully transplanted. Overall, 13/44 (30%) with DLI underwent heart transplantation and only 1 died.

Twenty of 44 (30%) with DLI died over a median of 322 days (range 17-858), indicating the prolonged duration of infection management. Only 10/44 (22%) ultimately died from sequelae attributable to their DLI (sepsis, mycotic aneurysms). Most 29/44 (66%) required admission at least once for DLI, and 18/44 (41%) had at least one episode of bacteremia due to the DLI organism.

All were managed with prolonged durations of either oral or intravenous antibiotics or both (median 171 days). Despite this, only 3/44 (6.8%) developed an antibiotic related complication (1 with *Clostridium difficile* associated diarrhea, 1 with catheter associated blood stream infection, and 1 with oral candidiasis). Multidrug resistance did, however, develop in 7/44 (16%), all of which were gram-negative pathogens, so ongoing antibiotic pressure is not without its potential downside.

Our data highlight the ongoing importance of driveline infections in patients with continuous flow VADs. Most begin at the driveline exit site and evolve over time. While these infections can often be effectively managed for prolonged periods, they are associated with reduced survival on VAD support. We advocate ongoing efforts to mitigate risk for onset and evolution of driveline infections with targeted investigations of driveline care and maintenance.

#### Disclosure statements:

Drs. Koval, Mountis, Blackstone and Lucy Thuita have no conflicts of interest to report.  
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## Universal Prophylaxis or Bio-marker Guided Antifungal Therapy: Which Road to Take?

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Invasive aspergillosis (IA) is a major cause of mortality in patients undergoing allogeneic stem cell transplantation (SCT) or chemotherapy for acute leukaemia, due mainly to the limited ability of culture and histology to make an accurate or early diagnosis. Consequently, clinicians rely on empiric antifungal therapy (EAFT) whenever IA is suspected or prevention through antifungal prophylaxis. Whilst these strategies have been successful in reducing IA-related mortality they have a number of limitations including drug interactions, emerging antifungal resistance, breakthrough invasive fungal infections (IFI) and overtreatment with expensive and toxic antifungal drugs.

New diagnostic tests including *Aspergillus* galactomannan (GM) enzyme-linked immunosorbent assay (ELISA) and PCR have been developed and have been variably incorporated into pre-emptive or biomarker-based strategies and compared to the strategy of administering antifungal therapy empirically in the setting of persistent fevers despite broad spectrum antibiotics.

Instead, we compared a bio-marker strategy (that used both *Aspergillus* GM-ELISA and PCR independently to direct antifungal therapy) to the traditional culture- and histology-based strategy to determine the impact on EAFT use, early diagnosis of IA and survival (1).

Adult patients undergoing allogeneic SCT or chemotherapy for acute leukaemia with no history of IFI were randomised 1:1 to the bio-marker strategy or culture- and histology-based strategy. Patients were followed for 26 weeks or until death, if earlier. Patients assigned to the bio-marker strategy had twice weekly *Aspergillus* GM-ELISA and PCR as in-patients and weekly as out-patients. The results of the assays determined the time of high-resolution computed-tomography (HRCT) scanning and whether antifungal therapy was given for probable or possible IA. For those assigned to the culture- and histology-based strategy cultures of blood, urine and sputum (if available) and faeces (if clinically indicated) in addition to, HRCT scan of chest were performed in those who had persistent fevers for 72-hours and antifungal therapy could be instituted empirically. Bronchoscopy and CT-guided or open lung biopsies were performed as per institutional protocols. The results of these tests determined the type of antifungal therapy that was continued. The primary end-point was the proportion of patients in each arm who had at least one course of EAFT during the 26 weeks of follow-up. As the trial was open-label the primary and mortality endpoints were adjudicated by an independent data review committee. Analysis was intention-to-treat and included all enrolled patients.

We found that our bio-marker strategy significantly reduced the amount of EAFT administered. The bio-marker strategy was capable of differentiating between those with persistent fevers who had IA and those with persistent fevers who didn't have IA, with certainty. The bio-marker strategy made significantly more diagnoses of IA. Patients in the culture- and histology-based strategy also had *Aspergillus* GM-ELISA and PCR testing performed but the results were withheld. Post-hoc analysis of the test results indicated that the incidence of IA was the same when *Aspergillus* GM-ELISA and PCR were used to diagnose IA in the culture- and histology-based strategy arm; indicating that these assay are more sensitive than culture and histology. Whilst the study was not powered to detect a significant mortality difference between the two arms, mortality rates were 31% lower in the bio-marker strategy arm. This was attributed to the ability of *Aspergillus* GM-ELISA and PCR to make an earlier diagnosis than culture and histology. Sub-group analysis was performed according to type of antifungal prophylaxis used. With voriconazole and posaconazole prophylaxis the significant reduction in EAFT use was no longer evident in the bio-marker strategy arm. Given that we found only one case of IA in those on voriconazole or posaconazole prophylaxis and that no cases of IA were diagnosed by radiological means only in the bio-marker strategy arm indicated that voriconazole and posaconazole are highly effective as prophylaxis. As a result we concluded that screening once to twice weekly with *Aspergillus* GM-ELISA and PCR is not needed in those on voriconazole or posaconazole prophylaxis.

So how do the findings of this study apply to the lung transplant population? Invasive aspergillosis is the most common fungal infection in this population and is also associated with high mortality rates. Two types of prophylaxis are used in lung transplant centres world-wide; namely universal and pre-emptive prophylaxis. Universal prophylaxis is administered to all lung transplant recipients for 3-6 months post transplantation. The regimen most commonly contains voriconazole targeting *Aspergillus* (2). This strategy is associated with unnecessary costs and drug-related toxicity since not all lung transplant recipients are at-risk or have the same risk of IA. This issue is all the more critical given the recently demonstrated association between voriconazole and squamous cell carcinoma in this population (3).

With the pre-emptive prophylactic approach, antifungal therapy is instituted based on the detection of a mould isolate (most commonly *Aspergillus*) in a surveillance bronchoscopy lavage (BAL) specimen (4). However, it has been reported that this strategy is associated with high rates of breakthrough IFI which may be due to the poor sensitivity of culture (5). Whilst it has been shown that GM-ELISA has poor sensitivity in serum in lung transplant recipients it has better sensitivity in BAL fluid (5). Furthermore, a positive BAL GM result is likely consistent with active infection given that GM is only released from growing hyphae and not dormant spores. A positive BAL *Aspergillus* PCR alone is most likely just colonisation with dormant spores and not active infection; thus, it may not require treatment. These assays incorporated into a pre-emptive strategy may allow us to refine and improve our ability to determine who should and more importantly, who shouldn't get antifungal prophylaxis.

Husain et al, reported at the most recent ISHLT meeting in Montreal (April 24-27 2013) that a pre-emptive strategy incorporating BAL GM-ELISA is safe and effective in targeting antifungal therapy

and has utility in detecting true *Aspergillus*-related active infection. No adverse effect on survival was seen. Whilst this work represents a very important step in sorting out the precise role of these assays in the lung transplant setting a randomised controlled of a pre-emptive versus universal prophylaxis is urgently needed.

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## **Mechanical Circulatory Support: Generating Consensus for Emergency Procedures**

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Because of the shortage of donor hearts for transplantation the numbers of VAD implantations and the number of patients living at home with a VAD are growing every year. In Germany approximately 1000 patients with VADs of different kinds are living at home.

Technical complications during MCS support are rare with modern devices but they may be life-threatening. One way to increase the acceptance of MCS in the cardiologist and home physician community – our best “suppliers” – is to inform them of the true incidence of life-threatening complications and to ease their anxiety about handling them. This would, at the same time, lower the psychological threshold for referring patients, especially for destination therapy.

We plan to reach this goal by following two approaches. The first is to prevent emergency situations from happening by instructing the patient and hospital staff on all procedures and the second is education in the management of such complications when they do occur.

In 2013 the MCS Council published comprehensive MCS guidelines, which have been very well received. Earlier this year the MCS Council in conjunction with the I2C2 committee began a project to work with Emergency Medicine providers and organizations of first responders to develop a standardized approach to patients with mechanical circulatory support. Although the process is still at its earliest stages, we would welcome input from the MCS community as we consider how best to approach this multidisciplinary project and provide applicability to the international MCS audience. We would welcome any preliminary thoughts on these and other topics:

1. Diagnosis of emergency situations
2. First responder approaches to the management of emergency situations
3. Training of first responder personnel
4. Prevention of cable damage in hospital and outside
5. Recommendation for pump re-start CPR in VAD patients

One example of our growing knowledge and resulting changes in approach concerns the question of whether to restart a stopped pump, especially if the duration of standstill is unknown.

Restarting a VAD after a prolonged time of non-operation carries a risk of thromboembolic complications. The development of thrombus inside the pump or connecting grafts depends on the patient’s anticoagulatory status, duration of the pump-stop and amount of backflow.

In patients supported with pulsatile devices we recommend not restarting the pump after 3-5 minutes because of stasis behind the valves and the lack of backflow through the device. Nowadays we support the vast majority of patients with continuous-flow pumps, which do have some backflow. Three of our CF LVAD patients suffered a prolonged pump-stop at home (up to 12 hours). The pumps were restarted by the emergency services and all patients survived without neurological problems.

Also, it was not clear whether chest compression should be performed in patients with a VAD, for example if a restart is not possible or if there is cable damage.

The Sharp Memorial Hospital, San Diego, presented a poster at the ASAIO congress 2013. They reported on seven HeartMate II patients who received chest compression. There was no inflow or outflow graft damage. Chest compression in this small cohort seems to be safe and potentially beneficial.

To allow current, changing knowledge to be applied in emergency situations, a check list and an algorithm for the management of emergencies in VAD patients should be created and made available as a matter of course to VAD patients discharged home.

As a part of community education, standardized educational programs for the fire brigade, police department and emergency services should also be adopted.

This is a huge, but important, task and will be managed and coordinated by the MCS Council.

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## Laughing Links

**Daniel Dilling, MD**  
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Last week was the [Cannes Lions International Festival of Creativity](#), featuring and awarding of best advertising spots from all over the world. And some of them are HILARIOUS. Check out the 9 links below, and be sure to submit a vote on which you think was the funniest (poll results to be revealed in the August LINKS).

1. Metro: "[Dumb Ways To Die](#)"
2. Smart for Two: "[Off Road](#)"
3. DirecTV: "[Funeral](#)"
4. Heineken: "[The Date](#)"
5. Southern Comfort: "[Whatever's Comfortable: Beach](#)"
6. Carlton Draught: "[Beer Chase](#)"
7. Ikea: "[Playin' With My Friends](#)"
8. Schweppes: "[Tumble](#)"
9. Old Spice: "[Muscle Music](#)"

So which one is your favorite? [VOTE HERE](#) and the results will be revealed next month!

Disclosure statement: Watching these videos made me want to tumble along a beach in an animal suit in a car on my way to my own funeral after getting eaten by piranhas, and finishing off the day with a couple of beers.

## **Outta This World Links**

**Interesting, Inspiring and Intriguing Links from Around the Globe**

### **The Power of Two**

A story of twin sisters, two cultures, and two new chances at life.

Inspired by their 2007 memoir, "The Power Of Two" offers an intimate portrayal of the bond between half-Japanese twin sisters Anabel Stenzel and Isabel Stenzel Byrnes, their battle with the fatal genetic disease cystic fibrosis (CF) and miraculous survival through double lung transplants. Defying all odds, Ana and Isa have emerged as authors, athletes and global advocates for organ donation, and their connection to the CF and transplant communities provides rare insight into the struggles — and overlooked joys — of chronic illness. [Read more ...](#)

### **Pa. girl doing well after 2nd lung transplant**

*Boston.com*, June 29, 2013

A 10-year-old Pennsylvania girl whose parents sued to challenge national lung transplant rules received a second set of lungs after the first failed, and her family said she has taken some breaths on her own. However, she faces another operation because of complications from previous procedures. [Read more ...](#)

### **Lung transplant in the offing at PGI**

*The Times of India*, June 25, 2013

CHANDIGARH: If all goes well, PGI will be the first public sector hospital to introduce lung transplant in the country. With it, the institute will be equipped with all organs' transplant facilities. Recently, the Centre had given approval to start heart transplant in the institute. [Read more ...](#)

### **Change of heart makes case for donors**

Grateful: Magistrate Brian Maloney now needs a liver.

*The Sydney Morning Herald*, June 16, 2013

The sun was shining, his beloved Sydney Roosters had flogged NRL grand finalists the Bulldogs 38-nil the night before, and magistrate Brian Maloney could not wipe the smile off his face. "What a great day to have a heart transplant," he said as his wife drove him across the Sydney Harbour Bridge. It was Saturday, April 13, and he was on his way to St Vincent's Hospital. That morning, he had received a life-changing phone call: "We have a possible donor, could you please come in sometime in the next two hours?" He was there in just one. The phone call had floored the usually

ebullient magistrate. "My god. It's happening now," was all he could think. "You don't jump around like you've had a lotto win." [Read more ...](#)

### **HHS releases new Public Health Service guideline to reduce disease transmission through organ transplantation**

Updated recommendations can reduce unexpected disease transmission in organ recipients

*HHS.gov* Press Release, June 19, 2013

Today, the U.S. Department of Health and Human Services (HHS) released a new guideline to improve patient safety by reducing unexpected disease transmission through organ transplantation. This guideline updates the 1994 U.S. Public Health Service (PHS) guideline for preventing transmission of human immunodeficiency virus (HIV) through organ transplantation and adds guidance for reducing unexpected transmission of hepatitis B virus (HBV) and hepatitis C virus (HCV) through organ transplants. [Read more ...](#)

### **Selling Your Organs: Should it be Legal? Do You Own Yourself?**

*Forbes*, June 13, 2013

Imagine your little girl needs a heart transplant. If she gets it in time, she'll live a long, healthy life. Without it, your child has, at most, one year to live. You put her on a heart donor waiting list, full of hope. A year—surely that's plenty of time. But then, the days bleed into weeks, the weeks into months and you watch your child slowly lose her valiant battle. Time is running out. You don't want to believe it. You tell yourself a donor will be found, has to be found. [Read more ...](#)

### **Would You Accept DNA From A Murderer?**

*NPR*, June 10, 2013

Modern medicine and technology can change the way we define our physical and psychological selves. Is a prosthetic arm "your own arm" in the same sense that its biological predecessor seemed to be? Might taking antipsychotic medication fundamentally change your personality? Could an organ transplant from a pig, or from a violent murderer, somehow change who you are? [Read more ...](#)

### **SLU research team awarded \$1.4M to develop novel mechanical circulatory support device**

*News Medical*, Jun 6, 2013

A research team led by Theodosios Alexander, Sc. D., Dean of Parks College Engineering, Aviation and Technology at Saint Louis University, was awarded \$1.4 million (GBP886k) by the Invention for Innovation (i4i) Program of the National Institute for Health Research to develop a novel mechanical circulatory support device. The proposal is titled TURBOCARDIA: Mechanical Circulatory Support Installed via Minimally Invasive Surgery. [Read more ...](#)

### **Poop Transplants: Do They Really Work?**

*My Health News Daily*, May 30, 2013

The benefits of "poop transplants" for treating the bacterial infection *Clostridium difficile* may not be quite as great as some recent studies have suggested, researchers responding to a study on the treatment published earlier this year say. The study, published in the *New England Journal of Medicine* in January, tested the effectiveness of fecal transplants in patients with recurring *Clostridium difficile* (or *C. diff*), a condition that causes severe diarrhea. During fecal transplants, fecal matter from a donor is mixed with water and delivered to patients' colons through a tube. [Read more ...](#)

## **Tattling Links**

### **Members in the News**

#### **Jayan Nagendran, MD**

Edmonton gets country's first mobile lung-transplant machine

*Edmonton Journal*, June 26, 2013

Edmonton has become the country's first home of a revolutionary organ-transplant technology that holds the potential to save a long list of patients needing new lungs. The ex-vivo lung perfusion device, commonly known as "lungs in a box," is a portable unit that gives surgeons a vastly enhanced ability to transport and repair organs outside the body for up to 12 hours before they are transplanted. "We can go to Halifax, we can go to Hawaii now to procure organs," said **Dr. Jayan Nagendran**, director of research for cardiac surgery at University Hospital and the Mazankowski Alberta Heart Institute.

[Read more ...](#)

#### **Christopher Almond, MD, MPH**

High mortality risk with medication nonadherence among teenage heart transplant recipients

*Cardiology Today*, June 25, 2013

Nine percent of pediatric and adolescent heart transplant recipients studied in a national review may have experienced compromised health due to medication nonadherence within 2 years after transplant. "It is widely known that nonadherence is a particularly difficult problem among adolescent patients," **Christopher S. Almond, MD, MPH**, a cardiologist in the Heart Transplant Program at Boston Children's Hospital, said in a press release. "But, prior to this study, the scope and gravity of the problem wasn't well understood." [Read more ...](#)

#### **Andreas Zuckermann, MD**

Miracle-op saves 13 year old

*Vienna Times*, June 20, 2013

A 13-year-old received a new heart yesterday (Wednesday) after having had an artificial heart for three months following a myocardial heart disease. The girl suffered from pulmonary hypertension, a complication of the heart condition, which meant that an artificial heart had to be used to lower and stabilise the tension enough before doctors could implant the new organ. The surgery by Dr Daniel Zimpfer and his team was most likely a key element in saving the girl's life. **Andreas Zuckermann**, who supervised the transplant, said: "The artificial heart pumps the blood from the left heart ventricle and brings it to the vessels in the body." [Read more ...](#)

## **New JHLT Impact Factor Released for 2013**

**Below is the announcement to the ISHLT membership via email from Mandeep Mehra on June 20, 2013.**

I am pleased to inform you that the 2012 Journal Impact factors were released earlier today and the Journal of Heart and Lung Transplantation has once again made substantial gains in prestige.

Our 2012 Impact factor is 5.112 (up from 4.332 last year).

This places us in rank as follows:

Specific Categories: These are categories that support the niche market

Solid Organ Specific Transplant Journals: #1

Transplantation (General): #2 (out of 46)

General Categories: These are categories that are broad based and as a rule it is difficult to find ones way into the top tier as a niche journal

Surgery: #4 (out of 199)

Respiratory Diseases: #5 (out of 50)

Cardiovascular Medicine and Surgery: #19 (out of 122 journals)

The close collaboration with the journal for the vast array of collaborative statements, guidelines in transplantation and end organ disease, and diversified focus to capture the field of MCS and Pulmonary Vascular Diseases. It is the trust that authors place in the journal that allows it to position for success.

Thank you,

Mandeep R. Mehra, MD

Editor in Chief, JHLT

Mandeep R. Mehra, MD FACC FACP

Professor of Medicine, Harvard Medical School

Co-Director, BWH Integrated Cardiovascular Services

Executive Director, Center for Advanced Heart Disease, Brigham and Women's Hospital

Administrative Assistant: Michelle Kraft ([mkraft1@partners.org](mailto:mkraft1@partners.org))

Tel: 617-732-8534

**ISHLT Member feedback:**

Awesome news and testament to the mission of the society and the contributions made over decades of inspired leadership!

Carpe Diem

Chris Wigfield MD MD FRCS(C/Th), University of Chicago

Congratulations Mandeep!

Frank Pagani, MD, PhD, University of Michigan

Mandeep, this is fabulous news!! Congrats to an outstanding work over the last years from you and your team!!!!

George Wieselthaler, MD, PhD, University of California San Francisco

This is tremendous news for the journal and the society. A true reflection of all the hard work put in by the team. Congratulations Mandeep.

Best wishes,

Andy Fisher, FRCP, PhD, Freeman Hospital, Newcastle upon Tyne, United Kingdom

Congratulations!!!

Best, Marisa Crespo-Leiro, MD, Hospital Universitario A Coruña, La Coruña, Spain

Mandeep - you are the best!

Evgenij V. Potapov, MD, PhD, Deutsches Herzzentrum Berlin, Germany

Mandeep, Congratulations to you and the entire editorial board. Best wishes for continued success.

Alan Menkis, MD, FRCS(C), St. Boniface General Hospital, Winnipeg, Manitoba, Canada

Congratulations to Mandeep and the JHLT editorial board—this is a fantastic achievement!

Regards,

Bronwyn Levvey, RN (ICU Cert), BEd Stu, Grad Dip Clin Epi, Alfred Hospital, Melbourne, Australia

This is great news! Congratulations to Mandeep Mehra and the whole editorial team for a well-deserved recognition.

Best regards,

Javier Segovia, MD, PhD, Puerta de Hierro University Hospital, Madrid, Spain

## **International Traveling Scholarship Awards**

**Next application deadline: August 1st, 2013**

The ISHLT Travelling Scholarship Awards were established to facilitate the exchange of knowledge and techniques regarding heart and lung transplantation and the treatment of end stage heart and lung failure and to build relationships between individuals, institutions, and countries. The Scholarships may be used to learn new techniques in the clinic, operating room, or laboratory or just to experience first-hand how others deal with challenging problems. These awards are open to any member of the Society, in any country. They represent a unique opportunity for garnering fresh ideas and collaborative work across the globe.

The ISHLT funds a minimum of ten scholarships per year. Each award will be in an amount of up to \$6,000. ALL members of the Society are eligible to apply for a Scholarship. Applications for the next round close on August 1st.

### **INTERNATIONAL TRAVELING SCHOLARSHIP APPLICATION & INFORMATION:**

<http://www.ishlt.org/awards/awardIntlTravelScholar.asp>

### **PAST INTERNATIONAL TRAVELING SCHOLARSHIP RECIPIENTS:**

<http://www.ishlt.org/awards/awardIntlTravelScholarPast.asp>

## Editor's Corner: You Can't Always Get What You Want

**John Dark, MB FRCS**  
**ISHLT Links Senior Editor**  
[john.dark@newcastle.ac.uk](mailto:john.dark@newcastle.ac.uk)

Marvel of the Digital Age, Wonder of the Internet.... Thanks to those nice people at Apple, or Microsoft, and lots of others, I can sit at my desk in grey, moist, cool England (yes, summer again) and apparently be immersed in excitement anywhere in the globe.

Big news this week in the UK was the Rolling Stones playing Glastonbury. You know the band, but "Glasto" is a hangover from those 60's Festivals (think Woodstock), still going strong after more than 40 years. Imagine a couple of hundred thousand people in muddy English fields for a weekend of music, soft drugs and rain, and you will have the right idea. As an indication of status, this year the tickets were limited to 135,000 and they were sold in 1 hour 40 minutes!

Whilst the standard image is of mud, on a sunny day or warm night, with warm beer, good company, top music, it's wonderful. And that's the description of last night's set from the '[Stones](#). "Best gig I ever saw", "unbelievable"; and from a UK paper, "A raucous, extended Satisfaction sounds like one of rock music's holy relics. It drives home the realisation that the most patiently pursued headliners in Glastonbury's history have finally made it, and they're right here in front of us, and they're very, very good" (<http://www.guardian.co.uk/music/2013/jun/30/rolling-stones-glastonbury-2013-review>).

I watched too, on my iPad, 12 hours later. I had the sounds, some of the scenery. But I had none of the experience, the smell, none of the tribal feel of the 130,000 warm, ecstatic people in the field in front of the stage. Nothing I can tell my grandchildren about.

The same weekend, on the same screen, we have the opening of the Tour de France, beamed from the island of Corsica. Sure, we could see the bikes, and thanks to the helicopter, enjoy a better view of the whole race. Road-race cycling as a spectator sport is a monetary glimpse of blurred colour. But again, Mediterranean Corsica has lots else – warm sun on the skin, the characteristic smell of the maquis dense undergrowth strewn with herbs, unmistakable from the sea as you approach. And the noise of a partisan, informed French crowd; none of that comes across.

So what is the message? The flat screen, despite what the adverts tell you, is a poor second, or even third rate means of enjoying a real event. You have to be there, to be immersed, to leave the rest of life behind! We are familiar with the Lincoln quote, "It's not years in your life that count, it is the life in your years." We know what he meant!

But if you can't be there, maybe read, not watch. A great novelist can capture the essence of a place and time much better than that screen. If you can't be in France, then go to someone like

Fitzgerald, in *Tender is the Night* (a much better book, incidentally, than the overrated *Gatsby*). You don't get "...above a sea as mysteriously colored as the agates and cornelians of childhood, green as green milk, blue as laundry water, wine dark...." from a flat piece of glass!

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