EVGENIJ'S ZWEI EURO:

The Role of Nurses in the MCS Field and the Role of MCS in Nursing

In this issue of the *Links* we have interwoven essays from the MCS and Nursing councils. Why? In the MCS field VAD coordinators play a very important role, no less important than in the transplant field, as Eric Hobson from Philadelphia explains in his essay. With the increased complexity of VAD systems and the large amount of information created, stored and potentially available for analysis, bioengineers have stepped into the forefront in the MCS field. On the other hand, classic nursing tasks such as dressing change are reduced with the current systems, due to lower driveline infection rates than with extracorporeal or implantable pulsatile systems, and will be eliminated altogether with transcutaneous energy transfer in the future.

So, we are following the role changes in the MCS field—from nursing to management and from dressing change to data analysis. One such example is provided by a bioengineer from our center, Friedrich Kaufmann. He writes in particular about sound analysis to detect pump thrombosis. Since last year, we no longer perform pump exchange before getting positive results of sound analysis (in particular for HeartWare HVAD) and technical data from the pumps. This analysis is documented and stored electronically in the official patient file. Pamela S. Combs calls it "shared decision-making" in her essay, and this is the only way to translate different information about the new system—"machine-human interaction"—into a decision. However, there is no shared responsibility in such a case: the decision to exchange the pump or not remains strictly the domain of the operating surgeon.

Evgenij Potapov, MD
Links Communications Liaison, MCS Council
In the Spotlight: ISHLT 2014 in Sunsational San Diego!

Featuring meeting highlights in:

- Mechanical Circulatory Support
- Nursing, Health Sciences, and Allied Health

Since this month's newsletter focuses on Mechanical Circulatory Support and Nursing, Health Sciences, and Allied Health, below are highlights of the upcoming meetings related to these disciplines.

**Mon-Tues, April 7-8, 2014:**

Two MCS Academies will be offered simultaneously at the Loews Coronado Bay Resort on the beautiful island of Coronado, California, across the bay from San Diego:

- ISHLT Academy: Core Competencies in Mechanical Circulatory Support
- ISHLT Academy: Masters Course in Mechanical Circulatory Support

For more information, visit [www.ishlt.org/meetings/ishltAcademy.asp](http://www.ishlt.org/meetings/ishltAcademy.asp).

**Wednesday, April 9, 2014:**

ISHLT will host three Academies simultaneously at the Manchester Grand Hyatt Hotel in San Diego (which is also the venue for the ISHLT 2014 Annual Meeting):

- ISHLT Academy: Core Competencies in Basic and Translational Science
- ISHLT Academy: Core Competencies in Heart Failure and Cardiac Transplant Medicine
- ISHLT Academy: Core Competencies in Nursing, Health Science, and Allied Health

For more information, visit [www.ishlt.org/meetings/ishltAcademy.asp](http://www.ishlt.org/meetings/ishltAcademy.asp).

**Thursday, April 10, 2014:**

**MCS:** Despite the unequivocal benefits of continuous flow devices over preexisting pulsatile technologies, certain clinical scenarios and new complications continue to challenge heart failure clinicians. These vexing problems include pump thrombosis, late onset right heart failure and de novo aortic insufficiency. In addition, the success of surgical repair of congenital cardiac disorders
has resulted in a growing population of young adults with failing ventricles and complex anatomies in need of mechanical support as a bridge to transplantation. Lastly, the entity of acute cardiogenic shock in the setting of anterior wall MI continues to challenge clinicians who have a wide armamentarium of options (PCI, CABG, short term support, long term support and even TAH) but no clear algorithm as to how to best approach these difficult cases. Pre-meeting Symposium 1: Preventing VAD Complications will present singular and detailed case presentations with stop points during the medical and surgical management that can be used to generate "what do you do next" questions for a panel of experts and for the audience.

NHSAH: Transition is defined as "the process by which adolescents and young adults with chronic childhood illnesses are prepared to take charge of their lives and their health in adulthood." Effective transition programs have the potential to decrease morbidity and mortality associated with transfer of care and can improve quality of life. Pre-meeting Symposium 6: Joint ISHLT/IPTA Symposium: Here They Come: Preparing Pediatric Patients For Transition To Adult Care will discuss issues essential to successful transition of pediatric patients to adult care, including patient and family challenges, as well as potential strategies/interventions to meet these challenges.

MCS: Anticoagulation is common in most practice areas represented by the ISHLT membership. Although most clinicians use anticoagulation therapies, questions often arise around how these medications compare with others within this class, interpretation of labs testing, and the function of new and future medications. The goals of Pre-meeting Symposium 7: Making Bloody Sense of Anticoagulation are to discuss: 1) Where anticoagulation therapy has been, 2) The status of anticoagulation in 2014, and 3) Appropriate interpretation and application of anticoagulation monitoring; and then use this information in discussion of MCS recipients and their thrombotic and bleeding risk after implantation where multiple different regimens, goals and management strategies that employed across centers and between devices.

MCS: Heart Transplantation and Mechanical Circulatory Support are therapies that result in improvement in survival and quality of life in patients with end-stage heart disease. Heart transplantation has a long track record with current estimated survival of about 60% at 10 years. Mechanical circulatory support, on the other hand, is a relatively young field, but current survival with second generation devices is approaching 80% at two years, similar to transplantation in some instances. As the technology improves, the expected survival with mechanical support should continue to increase and maybe even equate that of transplantation. The purpose of Pre-meeting Symposium 12: To VAD or to Transplant? is to compare transplantation to mechanical support in regards to survival, quality of life and morbidity.

The Nursing, Health Sciences and Allied Health Scientific Council Meeting will take place on Thursday, April 10, from 12:30 PM - 1:30 PM during the lunch break.

MCS: Mechanical circulatory support, through the advent of continuous-flow left ventricular assist devices, has dramatically altered our management of patients with advanced heart failure. Despite over a decade of experience with continuous-flow pumps, we only have a basic understanding of
the human cellular and molecular response to mechanical support. Gene expression, metabolomics and other translational techniques should provide some key insights into the human response to continuous blood flow and will perhaps lead to strategies to predict and prevent the morbidities of VAD therapy. Finally, the "holy grail" of MCS is myocardial recovery which may indeed involve therapy with stem cells, but only if aided by an integrated analysis of the entire human genome and its downstream transcriptional and translational products. **Pre-meeting Symposium 13: Drilling Down on Myocardial Recovery - Basics and Clinical** will review our current understanding of translational research in the setting of MCS with an emphasis on its clinical utility and translation.

**MCS & NHLSAH:** Frailty has been defined as a low level of physiologic reserve and reduced ability to withstand stress to the body. One study estimated that twenty five percent of transplant patients met the criteria for frailty, a figure three times higher than in elderly adults who live at home. Other studies of abdominal transplant recipients classified as frail were nearly twice as likely to have early post-transplant complications, and this increased risk of a poor outcome occurred regardless of the age of the transplant recipient. **Pre-meeting Symposium 17: Frailty - How Do We Assess this Physiologic Variable and at What Point Does it Represent a Contraindication to Transplant?** will describe clinical assessment tools to identify patients at risk for frailty, will determine if frailty is an indicator of poor outcome in the thoracic transplant patient, and will identify interventions to improve outcomes of frail recipients.

**MCS & NHLSAH:** The objectives of **Pre-meeting Symposium 18: Developing A Pediatric VAD Program** are to 1) To understand and review what is required to develop a VAD program at a pediatric center. 2) To review the outcomes of children discharged home on implantable VAD support, 3) To understand important pediatric-specific medical and social obstacles impacting home VAD, and 4) To discuss the future of VAD support for children.

**MCS: Pre-meeting Symposium 18: The Times they are A-changing** offers education focused on new applications of current available devices and a review of current and upcoming trends in mechanical circulatory support interventions.

**Friday, April 11, 2014:**

**MCS: Sunrise Symposium 1: Building For The Future** addresses the key issues involved as the MCS field expands. Firstly how to build a VAD program for new and evolving centers, secondly whether and how shared care should be performed for the large number of ongoing patients together with whether it works for the center and its partner, and thirdly the controversial and important topic of whether or not centers should be allowed to perform DT alone without having heart transplantation.

**MCS: Concurrent Symposium 26: Infections in Mechanical Circulatory Support Devices - Understanding and Conquering the Beast** will focus on pathogenesis, recent guidelines on
diagnosis, as well as medical and surgical approaches for the management and prevention of Mechanical Circulatory Support Device-associated infections.

**Saturday, April 12, 2014:**

**MCS: Sunrise Symposium 6: The Aortic Valve - An Open and Shut Case?** will address how to run the pump - the advantages of running the pump full speed, giving maximal flow and offloading, versus running the pump slower, letting the valve open and maintaining some pulsatility. The advantages and disadvantages of just sewing the valve over will then be discussed. This session will also touch on providing full versus partial support.

**NHSAH:** Although treatments have improved symptoms, exercise tolerance, and quality of life for patients with pulmonary arterial hypertension, PAH remains a progressive, life limiting disease. The purposes of **Sunrise Symposium 6: The Effects of Prostaglandin Therapy in Pulmonary Arterial Hypertension: The Seen and Unseen Risk/Benefit Profile** are to raise awareness of the physical (seen) and psychological (unseen) effects of IV prostaglandin, the current mainstay for treatment for PAH, culminating in a case presentation/panel discussion.

**MCS & NHSAH:** At the end of **Sunrise Symposium 11: VAD Teams Working Across Different Countries: How to Do It**, the attendees will be able to discuss the challenges associated with International VAD care. Driveline options, traveling post-MCS, and the care of the VAD patient in the community will be presented with an open panel discussion at the end of the session.

The **MCS Scientific Council Meeting** will take place on Saturday, April 12, from 12:05 PM - 12:55 PM during the lunch break.
The Sound of Music ...

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A former colleague uses the analogy of an orchestra when she defines the roles and relationships staff fulfill and maintain in the care of transplant patients. Taking this orchestra analogy a bit further, by defining the roles and care design systems familiar to the members of the Society, we will focus on just a few sections of the orchestra. It seems fitting to assign the pulmonary system the brass section, as the instruments in this section rely on “wind” to produce their music. While the cardiac system could be assigned the percussion section, accepting that the “beat of life” is carried on by the drums.

My career in transplant dates back to 1997, and today, over fifteen years later, I still fulfill the role of the Transplant Nurse Coordinator, with the added responsibility of being a Lung Transplant Nurse Practitioner. Self-serving as it may seem, the Nurse Coordinator plays the role of Conductor, with no intention to slight my attending physician colleagues who might serve in the role of “Chair-person” of the Board. Of course, in this model, our section is filled with the most talented and creative “musicians” sitting in the “first chair”, creating beautiful arrangements for each patient and family in our care. We rely on other sections to help add to the excitement and energy of the care we provide and optimize the “musical experience” of the transplant continuum and the support of the audience (think community) and generous patrons (think referring providers).

An alternate approach, and keeping on the musical theme, might be a Marching Band. The music may have appealing qualities, but often lacks the depth and diversity of an orchestral compilation. Members of the Band, however, are equally expert in their role. This approach could be viewed with the Primary Care Provider playing the role of the drum major and each instrument line from brass, to woodwind, to percussion, flags, rifles, and pom-poms each serve a unique purpose but may only play during a specific season or limited events.

The guidelines for care might be likened to sheet music. It connects the sections from beginning to end, providing both focus and background. It ties the experience together, and yet can be revised and rewritten to focus on specific qualities enticing each audience by enhancing the positives and limiting the challenges.

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<tr>
<th></th>
<th>18-25yrs</th>
<th>26-39 yrs</th>
<th>40-49 yrs</th>
<th>50-65 yrs</th>
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<td>Health Maintenance</td>
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<td>Exam (HME)</td>
<td>Every 5 yrs</td>
<td>Every 5 yrs</td>
<td>Every 2-3 yrs</td>
<td>Every 1-2 yrs</td>
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<td>Height, Weight, BMI, BP</td>
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<td>Screen All Adults for Obesity</td>
<td>Patients with BMI &gt;30</td>
<td>Should be</td>
<td>Referred to Multidisciplinary services</td>
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<td>Add'l Exams for Cancer</td>
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<td>Thyroid, mouth, skin, ovaries, testicles, lymph nodes</td>
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<td>Self Exam Breast or Testicles</td>
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<td>Prostate</td>
<td>If + family Hx</td>
<td>Annually</td>
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<td>Screening</td>
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<td>STD Screening</td>
<td>Annually if at risk</td>
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<td>HIV infection (Screen all adults to age 65 once)</td>
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<td>HCV infection (1x screen if born 1945-1965 - unless at risk)</td>
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<td>One baseline 35-40</td>
<td>Every 1 – 2 yrs</td>
<td>Annually</td>
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<td>Colorectal Cancer Fecal Occult Blood</td>
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<td>Baseline &gt;65 or risk factors</td>
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<td>Ultra Sound for Abdom Aortic Aneurysm</td>
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<td>Lipids</td>
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<td>Glucose</td>
<td>All Adults w/BP &gt; 135/80</td>
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<tr>
<th>Vaccine</th>
<th>19-21 yrs</th>
<th>22-26 yrs</th>
<th>27-49 yrs</th>
<th>50-59 yrs</th>
<th>60-64 yrs</th>
<th>≥ 65 yrs</th>
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<td>One time</td>
<td>DoseTdap</td>
<td>For Td</td>
<td>Then boost Td</td>
<td>Every 10 yrs</td>
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<td>One</td>
<td>To</td>
<td>Two</td>
<td>Doses</td>
<td>In</td>
<td>Lifetime</td>
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<td>Varicella</td>
<td>Two</td>
<td>Doses</td>
<td>In</td>
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<td>Life</td>
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<td>Pneumococcal</td>
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<td>Or</td>
<td>Two</td>
<td>Doses</td>
<td>One</td>
<td>Dose</td>
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<tr>
<td>Meningococcal</td>
<td>One or more if living in college dorm</td>
<td>One</td>
<td>Or</td>
<td>More</td>
<td>Doses</td>
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<td>Influenza</td>
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<td>For</td>
<td>All</td>
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<td>≤26</td>
<td>3 dose if not prev vaccinated</td>
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<td>HPV Males</td>
<td>3 doses if</td>
<td>May be</td>
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Zoster  
Hepatitis A  
Hepatitis B

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That sheet music seems epic in scale and complexity for the optimization of care for the patient. And, most of the transplant patients are not straightforward and carry extra risk factors due to disease or side effects of therapy.

Health maintenance is an important aspect of the care of every patient. Some transplant programs may choose to take a proactive and comprehensive approach in their role with Health Maintenance assessment and patient compliance throughout their relationship with the patient. Thoracic transplant programs often maintain long term relationships with their patients and depending on the care demands of the patient may see patients more frequently than their Primary Care Provider (PCP). This would be the orchestra approach. The PCP is involved for support. Other programs may approach it in Marching Band Fashion. There is a time and place for everything. The PCP is the drum major and relies on each line, when called upon, to step up and fulfill their specialty role.

Setting expectations for patients and our PCP colleagues allows for clearly defined role assignments. Consistency is key for the patients and communication with the PCP is vital throughout the process to allow for smooth transitions in care. Making sure patients have a local provider may be critical for some and inconsequential to others depending on practice style and patient need. Regardless of which “musical” genre you and your team prefer, stay current and be aware of the guidelines and tap into the resource of the expert PCP whose involvement in this aspect of patient care can be invaluable.

As our care of the post transplant patient has improved over the years, the demands for ongoing health maintenance is ever present and increasingly demanding in our struggle to optimize the outcomes and allow patients to truly experience the sights and sounds of the music of their lives.

Disclosure statement: The author has no disclosures, nor conflicts of interest to report.

References:

2. [http://www.acg.gi.org](http://www.acg.gi.org) American College of Gastroenterology – Colorectal Cancer Awareness PDF
Personalized Immune Cocktails for Heart Recovery

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Advanced heart failure (HF) in cardiomyopathy is a life-threatening disorder affecting 2-3% of the adult population and 6-10% of people over the age of 65, with a tendency to increase steadily with age. All cardiomyopathies are associated with premature death from arrhythmia and progressive HF. Heart failure is also a major health economic factor: 5% of all hospitalizations in Europe and other developed countries around the world are attributed to HF and it is the number one cause of hospitalization in the population over age 65. The prognosis of HF remains dismal with less than 50% of patients surviving 5 years after the first symptoms are identified. The terminal stage of advanced HF in dilated cardiomyopathy is characterized by shortness of breath, lung edema, dizziness, tiredness (fatigue) and weakness, weight gain due to swelling in ankles, legs and abdomen, rapid or irregular heartbeat and chest pain.

Advanced HF in end-stage dilated cardiomyopathy is treated with implantation of a mechanical circulatory support device, most often to assist the left ventricle (LVAD, left ventricular assist device), and primarily as a bridge to transplantation. Due to the scarcity of donor hearts, nowadays the LVAD is used not only as a bridge to transplantation, but mainly as a destination therapy. The cost of LVAD implantation surgery is 150,000 EUR, and up to 5,000 EUR is needed for the follow-up each month. Despite recent advances in surgical technique and implant design, LVAD implantation continues to be associated with significant morbidity and mortality during follow-up, with thromboembolic events being one of the main causes. Inflammation is estimated to cause up to 80% of pump thromboses and thromboembolic events. Suppression of LVAD-induced inflammation around the cannula would reduce the risk for thromboembolic events.

The outcome of LVAD therapy differs significantly between patients. Some patients can be weaned from the device following myocardial recovery. However, the processes underlying the recovery of the myocardium are still unclear. Previous attempts to identify specific clinical or pathological parameters have not given rise to a reliable system to predict the outcome of LVAD implantation. Identifying the immunopathological mechanisms and biomarkers of patients’ reactions to their LVAD would identify patients who have the potential to be weaned from mechanical circulatory support and provide a basis for developing immunomodulatory therapy for all LVAD patients, thus promoting improved implant tolerance and better healing of the heart.

Which tools can immunology offer us today? First of all, our over 100-year experience in immune cell function research indicates that key cells of the innate immune system—macrophages—are
responsible for initiation of acute inflammation caused by trauma, resolution of inflammation and switch to the healing phase. Since 1908, when Ilja Mechnikoff received the Nobel Prize for the discovery of first immune cells (macrophages), these cells have gone through a scientific evolution that can be compared to the development of the telephone from Bell’s first device patented in 1876 to our modern smart phone – from a single-function instrument to a versatile, adaptable, mobile gadget. Today we know that macrophages are intelligent, versatile and plastic cells designed by evolution to control our health.

Now we aim to use our knowledge about macrophage functions to control the switch from inflammation to the healing phase that fails in some LVAD patients. This failure results in chronic inflammatory reactions of the myocardium, not only in the tissue immediately surrounding the LVAD during the whole period of implantation, but also in the ventricular walls distant from the device, resulting in pathological remodeling of the myocardium, insufficient supply of oxygen to the hypertrophied cardiomyocytes and poorer contractibility of the muscular walls. Currently the types and levels of innate immune system activation associated with effective healing or chronic inflammation in patients with LVAD are unknown.

Our recent pioneering pilot examination of apical left ventricular myocardial tissue from the site of LVAD implantation using morphological, immunohistochemical, and advanced imaging methods indicates that 1) patients differ significantly in the level of local chronic inflammation in tissues from the site of LVAD implantation, 2) major differences between patients include the activation status of key innate immune cells (macrophages) and amount and content of inflammatory infiltrates, 3) status of macrophage activation at the moment of LVAD implantation is indicative of the level of inflammation and fibrosis at the moment of LVAD explanation.

Of course, larger clinical studies are needed to identify the prognostic significance of macrophage biomarkers to predict the outcome of LVAD therapy. However, we can already predict that local modulation of macrophage phenotype is a highly promising therapeutic approach to support healthy healing of the heart.

When it comes to satisfying our tastes and providing us with our favorite food, drinks, cosmetics, clothing, sport equipment and dream holiday destinations our personal preferences and reactions are investigated in great detail. But when it comes to life-saving VAD implantation, our individual differences and the specific needs of our immune system are ignored for practical reasons.

Individualized macrophage phenotype modulation offers us a unique opportunity to design implant-based therapy in a personalized way (compare it to personalizing your smart phone!). In order to avoid disappointing results with blocking of single cytokine functions (as was the case with a TNF-α therapy) elegant cocktails of cytokines, growth factors and blocking antibodies have to be prepared for each individual patient. This is not a short-cut to making profits for industry, rather it is the only way to save the most valuable resource we have—human life.

Disclosure statement: The author has no conflicts of interest to disclose.
Hospitals employ a wide variety of engineers to guarantee the smooth day-to-day running of patient care, diagnostics and treatment – from building services engineers to electrical engineers, IT engineers, medical technology engineers, and so on.

Of course, physicians too are skilled in the use of their specialist equipment: the echocardiography specialist is familiar with the features and the technology of his Doppler device. Company technicians are there to provide any additional tool, knowledge or help required. The unique role of the biomedical engineer is to form an interdisciplinary link between the physician and his respective technical environment. Ventricular assist device (VAD) implanting centers have a particular need for biomedical engineers. During implantation of the device, the VAD companies’ clinical support specialists provide help in setting up the system and offer in-service training and troubleshooting courses. Engineers and field support technicians are also available for special diagnostics and repair procedures. So what exactly is the role of the biomedical engineer in the clinic?

The following commonly used diagram published by the American Heart Association displays the structure of a VAD team. It places the patient at the center, surrounded by clinical specialists – heart surgeons, cardiologists, physical therapists, psychiatrists and also nutritionists and social workers.

A key position is assigned to the VAD coordinator, who frequently has a nursing background. In this diagram “other specialists as needed” support the VAD coordinator’s team. The biomedical engineer is one of these specialists, although he should really be seen as part of the VAD coordinator’s team. The VAD coordinator’s tasks can be described as interdisciplinary, because the treatment of a VAD patient touches on and includes several disciplines ranging from administration to nursing (wound care) to the technical monitoring of both the patient and the device, and...
also research activities.

The key tasks of the biomedical engineer within the VAD team are: the diagnosis of VAD-related problems, the development of mitigation strategies and the analysis of the course and outcome of these problems. The results of these analyses must be communicated to the state authorities and should be discussed with the VAD manufacturers so that any weak points of the particular system used can be identified and addressed.

The work of the VAD coordinator is guided by a general principle: the aim to improve the quality of life of VAD patients, both today and in the future, by recognizing any non-optimal situation and developing strategies to improve it. This requires a deep understanding of the functionality of a VAD system and the interdependencies between the device and the patient (hemodynamics, circulatory regulation, coagulation system etc.) which may have an impact on its operation. Only then can strategies be developed which are likely to help in the particular case at hand and in future similar situations.

If an irregular function of the VAD system occurs, the bioengineer has to think ahead, learning from this acute situation how he can improve his response to future occurrences of the same type, and always keeping in mind how they might be avoided by recognizing telltale signs.

Even performing routine work such as the daily check-up on a VAD patient and their VAD system or teaching the patient how to react in emergency situations may lead to new knowledge which has to be thought over, discussed and communicated.

This “modus operandi” facilitates continuous advancement through the accumulation of experience and knowledge gained in daily practice - from the diagnosis and treatment of problems to the recognition and response to alarm situations.

So, do all VAD-implanting centers need a biomedical engineer in their VAD team? The routine work is, of course, done by the VAD coordinators who generally do not come from an engineering background but are highly experienced in their own professional field. Recognition of the direct results of any change in therapy, treatment, or parameter settings is the most valuable source of information to which only the clinical researcher has access. This extends to investigating pathology findings following complicated or catastrophic courses but successful clinical courses with no adverse events, e.g. post-transplantation or explantation of the device after weaning, are also examined. But the biomedical engineer is in a unique position to suggest how the technical features of existing VAD systems can be improved based on the clinical experience collected from the day-to-day lives of VAD patients which can neither be anticipated nor investigated in studies or trials of test bench setups.

The biomedical engineer is also an important partner for VAD manufacturing companies. VAD manufacturers can develop new devices by refining today’s systems and drawing on past experience with earlier generations of devices but, unlike the clinician, they are not in a position to
make a direct comparison with competing companies’ products, which can provide insights that lead to the best technical solution.

From the perspective of patient support, the biomedical engineer is an asset to any VAD team, even in small VAD implanting centers. However, not least for financial reasons, engineers are mostly found in high volume centers, usually where the hospital cooperates closely with the life sciences faculties of the affiliated university.

The following example from my clinical practice may help to illustrate the biomedical engineer’s field of activity: After the introduction of the HeartWare HVAD - currently the most frequently implanted device - we were confronted with several thrombosed pumps that had to be exchanged. In some instances, when the patients were readmitted to the hospital with severe signs of pump thrombosis such as high levels of hemolysis and increased power consumption, the sound of the running pump was perceived as having an additional rumbling noise. This alone, of course, cannot qualify as a new parameter indicating the need for pump exchange. But it shows that the analysis of the sound emitted by the pump can be useful to determine the state of the pump.

This is where the engineer enters the scene: merely recording the sound would not serve the purpose of finding markers indicating some abnormal operation of the pump. We needed equipment that would not only record the sound but also provide a means of signal processing, such as fast Fourier transformation (FFT), for spectral analysis.

Once in possession of the right equipment, we were able to compare a large amount of data from smoothly running pumps with data from pumps in which ingested particles had led to the well-known signs of thrombosis, mainly elevated power consumption and increased hemolysis. The bioengineer’s interdisciplinary skills were required not only to detect peculiar patterns or significant changes in the acoustic spectrum, but also to understand the mechanism behind these observations in order to develop a standardized method.

To be specific: in case of an ingested particle, a sound peak is excited with the exact threefold frequency of the rotational speed of the pump. This is produced by eccentric rotation of the impeller caused by the imbalance of the added mass of the thrombotic particle on it. Every time the deflected part of the impeller sweeps over one of the electromagnetic coils driving the pump it will be pulled to the center by its electromagnetic force. This produces a kind of wobbling of the rotor with the threefold rotational frequency, because the pump is driven by three sets of magnetic coils.

Not only is the acoustic method useful for confirming pump thrombosis when other clinical signs are inconclusive, it is also a reliable indicator of the absence of thrombi inside the pump. Furthermore, it is a quick method for validating the success of lysis therapy and can be used to support decision-making on whether administration of the lytic agent should be prolonged.
Today, acoustic analysis is used in our outpatient department as a routine surveillance method. If pump thrombosis is suspected, the decision on pump exchange or lysis therapy will be made by VAD physicians and surgeons depending on the engineer’s analysis of the state of the pump.

From our point of view, engineers should be actively involved in the clinical management of VAD patients and employed in centers performing regular LVAD implantation leading to a cumulative number of more than 50 patients.

Disclosure statement: The author has no conflicts of interest to report.
The traditional style of medical decision-making has primarily been the physician making the final selection of the appropriate treatment for the patient’s condition. This approach is being challenged by the concept of “shared decision-making” [1,2]. Shared decision-making incorporates education provided to the patient and the caregiver by the health care team, along with the patient’s perspective of his/her health care, resulting in the implementation of the agreed-upon plan of care [3]. The following is a reflection about the existence of shared decision-making in the world of VADs.

Over the past 30 years, VADs have been a standard therapy at many world-wide centers treating patients with advanced heart failure [4]. Additionally, the implantation of these devices is rapidly increasing [4]. Along with this well-documented increase in the use of VADs, does evidence exist that shared decision-making is already taking place?

This author has witnessed various situations that the VAD team recognizes and adheres to shared decision-making with the following examples of 1) timing of daily medications, 2) planning independent activities such as travelling, 3) the options of how to wear VAD equipment, and 4) end-of-life decisions. With such life decisions being made, trust has to be the basis for this type of collaboration between the patient, caregiver and the team members with open discussions being conducted in a dynamic process throughout the VAD patient’s journey [3]. Building trust starts with the early solicitation of the patient’s beliefs, values and goals at the beginning of the VAD evaluation. Trust continues to be fostered by the team’s use an iterative process of communication with the patient and caregiver.

Throughout the VAD journey, the VAD Coordinator maintains communication during clinical visits by providing constant and repetitive education before and after the device implant. This dynamic informational process is accomplished while always keeping in mind the possibility of potential obstacles in achieving the patient’s goals. Examples of such obstacles might be the VAD patient’s anxiety, limited health literacy, language differences and family dynamics [3].

To ensure that the journey is aligned with the VAD patient’s defined goals, the VAD team continues to communicate through engaging, clarifying and querying the patient about the ongoing treatments being administered. Literature suggests that a “decision coach”, a trained professional, often a nurse, assists with decision-making by encouraging the patient to ask questions [3]. Is this
not what the VAD Coordinator executes in his/her role? This author encourages research regarding the VAD team’s use of this particular model with the inclusion of patient and caregiver satisfaction, examples of shared decision-making and patient outcomes.

In conclusion, this author proposes that shared decision-making is already being utilized in various aspects of VAD patient care. However, the need exists to research this model and its application with this very complex population. The VAD Coordinator is an expert in constantly communication with the VAD patient and caregiver and is responsible for ensuring that the patient’s wishes are known to the rest of the VAD team. Therefore, this author offers a challenge to VAD team members to research the area of implementing this decision-making model with VAD patients. In exploring what shared decision-making processes and/or techniques are more effective, VAD teams may tailor their care to improve the patient’s outcomes.

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

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Time to Fall in Love with ECHO

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There is no need to explain here that VAD technology is good. At least, not to us. But there is a huge need to explain it to others. How can this best be done?

These days every other cardiac surgery department that implants VADs organizes some kind of VAD meeting. Meanwhile, the main VAD meetings such as the ISHLT and ASAIO annual conferences, the MCS Meeting in Berlin, and the EUMS meetings are attracting more and more attendees. Workshops, like ISHLT’s MCS Academy or the MCS Workshop in Berlin, are continuously overbooked. The demand is evident, but are we targeting the right audience? Are we concentrating too much on ourselves? Are these meetings just for insiders, for “VAD junkies” – an increasing number of already addicted? Most importantly, how do we raise awareness about this kind of heart failure treatment in the wider medical community of GPs, cardiologists and family doctors – the key players involved in spreading acceptance of this treatment?

Meetings cost time and money, and both are limited. What’s more, only a small number of GPs and family doctors actually attend such specialized conferences. So, should we continue talking to each other about the same topics on different continents, refining our solutions and perfecting our presentations, or should we use our limited resources in a different way?

Our publications, at least our main outcome studies, will eventually persuade our colleagues to endorse the VAD option. But this a long process, since not every physician reads the NEJM, Circulation or even the JHLT on a daily basis, and outcome studies are years behind real-life practice.
From our point of view, educating the next generation of general practitioners and young residents (who will themselves soon be in positions of responsibility) in the cardiology or internal medicine departments of our local community hospitals or home care facilities would be the best solution. New treatment options require explanation and education on the basic level of medical care of heart failure patients: Mitral clip in patients with an EF of <25%? Why not discuss LVAD as primary option? CRT or CABG in ICMP with huge scar? Why not consider primarily LVAD? A 75-year-old agile, mentally fit heart failure patient with cardiac cachexia? Why resort to palliative care?

Generally speaking, in Europe and the USA there are between 20 and 50 hospitals and cardiologists around one VAD center. A weekly lecture would be required to meet such a demand and this involves a lot of hard work – every week the same presentation, the same questions. In Berlin we initiated such a program, albeit with some skepticism. We wrote letters and offered to provide a lecturer who would speak on the modern treatment of heart failure, accompanied by one technician and one or two VAD patients. Within two months we had received more than a 50% positive response and now every week one of our two VAD surgeons is on the road giving lectures. More often than not the lecture goes on for longer than the scheduled 1 hour and our patients have turned out to be the highlight. We hope to make the rounds of all internal medicine, cardiology and intensive care facilities in Berlin and the surrounding area within the space of one year, before starting the cycle over again.

Ultimately, our success will be measured by decreasing numbers of referred INTERMACS level 1 patients, and increasing both the number of referrals of patients in INTERMACS class 3-4 and of requests for destination therapy. By the end of 2014 we will be able to judge the success of our education program, but until then we still have a lot hard work to do.

Last but not least, providing further training to members of the emergency services—police, fire brigade and paramedics—is a crucial part of our program in Berlin, and has now been integrated into the annual continuing education plan of the city’s emergency services. VAD emergency guidelines are currently being prepared under the supervision of the MCS Council and, once finalized, will be integrated into the education plan.

Disclosure statement: The authors have no conflicts of interest to disclose.
This is my fourth installment in a series of articles concerning recruitment. On this occasion, to a limited extent, I will address what I refer to as "search committee follies."

In one way or another, most of us have had an encounter with a search committee. We may have participated as a search committee member or, more likely, in the process of being recruited, our talent has been subjected to the scrutiny of a search committee.

Some search committees are better than others, but all must deal with a fairly defined set of issues concerning the selection process and the qualifications of potential candidates. Objectivity shouldn’t be an issue but, more often than not, it is a very serious matter that is intentionally overlooked.

The life of a search committee usually begins with the identification of a committee chair, which is typically when the follies commence. More frequently than expected, the committee chair is the person with the greatest vested interest in the outcome. Going into the search process the chairperson may feel threatened by the addition of potentially superior talent to an established “team,” of which they are a key member.

The committee chair often has a major say in deciding who serves on the committee. This further complicates matters, leading to the selection of committee members who will essentially function as bobbleheads. Deference is the major issue, and the chairperson inevitably approves of members whose heads are most likely to bobble in unison as the candidate selection and review process unfolds. True to form, the chair goes to great lengths to dismiss potential search committee members who truly have something to offer. Bobbleheads are exquisitely ignorant, which offers an ego boost to insecure committee chairs, who are often zealots seeking approval.

Based on my experience, with few exceptions, the chairperson has already decided who they think should be hired. After all, over a period of
several months, prior to even being named the committee chair, they have quietly and deceitfully conducted an informal, non-competitive, word-of-mouth search, consulting with people who think as they do. From their perspective, vanilla ice cream is preferable to Rocky Road. However, to subterfuge the process, in search committee meetings, the chair repeatedly emphasizes the importance of conducting a thorough, impartial, competitive search to identify an “outstanding candidate” that will be an exemplary addition to the proverbial “team.” Unbeknownst to current team members, the committee chair is partial to bobbleheads. Consequently, the preferred job candidate will be yet another bobblehead.

The recruitment process usually begins with the benign placement of expensive banner advertisements in various professional publications, accompanied by position postings on a variety of Web-based job boards, an approach that has a lot in common with anonymous sex. A little joy is engendered with a courtesy telephone call or two from the committee chairperson to prospective candidates. This is usually accompanied by a dash of heavy breathing (as the candidate gets excited about their job prospects), coupled with a customary expression of satisfaction, but the committee chairperson intentionally avoids making anything that even resembles a commitment. At this point everything is very superficial, and the process amounts to “trolling for candidates.” Eventually, an e-mail from the chairperson follows, thanking each candidate for their interest, complimenting them on their credentials, but dismissing each aspiring individual as an unfit partner in what is intended to be a long-term relationship. Needless to say, the aforementioned foreplay does nothing to dignify an unseemly process.

Over a period of several months, perhaps a year, the search committee moves beyond anonymous sex, and gets more serious. The committee members continue to participate in the charade the chair conducts, with each member dutifully complying with the script provided by their talented “leader.” At each search committee meeting the credentials of some of the more compatible candidates is reviewed, with curriculum vitae neatly placed in two piles – hopefuls and rejects. At this stage, rejects are rarely informed of their demise. They usually know their circumstances anyway. Why bother? Their application was a long shot, and they knew it. Why did they even apply in the first place? Meanwhile, the hopefuls are judged based on the threat they are likely to pose to the committee chair, who immediately goes from conductor to director. In the pile of hopefuls is the person the chair intends to hire. All other potential “shortlist” candidates are exterminated, much like undesirable weeds in a vegetable garden. Roundup© and Weed-B-Gon© are worthy metaphors in describing the process the chair directs.

Ultimately, the position is offered to the person the committee chair handpicked months, or even years ago. In this regard, don’t be surprised if the favored person has had a previous association with the committee chair. They may have been a trainee, or they may have been a colleague in some previous association. They could even be someone who was found under a familiar academic “ancestral tree,” or compatible “school of thought” with which the dogmatic chair is comfortable. However, despite the circumstances, let’s be clear about one thing: professional incest, like biological incest, should not be tolerated.

Where does all this nonsense lead?
First, if you’ve been subjected to the process I’ve described, it’s obvious you shouldn’t feel let down when you fail to land the job to which you aspired. Instead, although disillusioned, you should feel elated because the job on offer wasn’t the one you envisioned. Did you really want to be a lackey who is expected to defer to a bunch of like-minded bobbleheads? I’m sure you will agree: relief is preferable to dismay.

Second, when considering whether or not to apply for an open position, always make an attempt to identify the search committee chair. This person may be listed as the individual to be contacted regarding the position. In my opinion, the name of the committee chair should be public information. Ideally, all members of the search committee should be identified, and their curriculum vitae should be readily accessible. Candidates have every right to know who will be considering their credentials. Recruitment is a two-way street, and the process must be open or, as fashion has it today, “transparent.” It’s likely there will be at least one search committee member whom you consider suspect. For example, in the past you may have had a disagreement or a “run in” of some sort with a search committee member. More bluntly, there may be someone on the committee whom you simply dislike. Remember, always respect truisms: “one bad apple spoils the whole bunch.” If there is so much as one committee member with whom you have had a difference, don’t even consider applying for the position. There is virtually no chance you will be treated fairly and equitably. You’re a marked person and, if you choose to apply, you’re an idiot, which the committee will eventually confirm to your chagrin.

Lastly, be prepared for confidentiality breeches, which usually occur in relationship to reference checks. References are an integral part of the recruitment process. However, search committee members often take it upon themselves to contact people you may not have listed as references, despite reassurances to the contrary. They may feel your listed references will offer nothing more than a biased perspective of you. Don’t be fooled. Herein lays another devious maneuver. It’s possible to eliminate prospective candidates by destabilizing their current position. For example, the committee chairperson, a committee member, or even an “internal” candidate may contact a prospective candidate’s current “boss,” even if this person has not been listed as a reference. This clearly “let’s the cat out of the bag,” and inevitably jeopardizes an individual’s current position. In turn, the experience leaves a bad taste in the mouth of the candidate, who now feels violated. As a result, they may choose to withdraw from what they have concluded is a trumped up competition.

Now you ask: is there a way to avoid the problems I have described? The answer is yes, but the approach is very difficult for most people to accept.

In both sociological and anthropological terms, a team of any sort has a distinct subculture. Search committees exist to reaffirm the subcultural values of the team of which they’re a part. There is a very small margin for tolerance in accepting new members. The conventional search committee chair is the “enforcer,” making certain that the subculture is not disrupted. In reality, recruitment should present a subcultural challenge for an existing team, but this is impossible to achieve, given the role of the traditional committee chair.
What, then, is the solution?

There is no definitive answer, but it’s clear the search committee chair should be a person without any vested interest whatsoever. In fact, all search committee members should be free of any manipulative vested interest in the outcome of the committee proceedings. While all members of the search committee should have subcultural awareness, they should not be in a position to maintain the status quo subculture.

Here’s the alternative to the conventional search committee nonsense.

Let’s say the Division of Cardiology in the Department of Medicine of a major academic medical school/center plans to recruit a transplant cardiologist. In my opinion, the search committee should be composed of members who come from other divisions within the Department of Medicine, or even other departments, such as surgery. No member of the Division of Cardiology should be permitted to actually serve on the search committee. Relevant members of the Division of Cardiology should be given an opportunity to provide input, but only when they are consulted by the search committee. This approach creates a meaningful system of checks and balances that eliminates conflicts of interest and eradicates professional incest, both of which have been the source of traditional subcultural myopia. In addition, the zealotry associated with chairperson despots will be exterminated. In the final analysis, there is a path forward, and change is possible. Unfortunately, courage may be lacking.

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.

For more "bobblehead" fun, read Bobbleheads Honor Supreme Court Justices by Jessica Gresko. The limited edition bobbleheads of Supreme Court justices are the work of law professor Ross Davies, who has been creating them for the past 10 years. When finished, they arrive unannounced on the real justices' desks, secreted there by unnamed confederates. The dolls, which are produced by Bellevue, Wash.,-based Alexander Global Promotions, are more than straight likenesses of the justices. Each has multiple references to the legal legacy of the person it honors. For example, Justice Louis Brandeis rides a train, a nod to his important opinion in a case involving the Erie Railroad in Pennsylvania. The David Souter bobblehead plays a song by Modest Mouse, a band he mentioned in a copyright case. And Ruth Bader Ginsburg stands on a replica of the parade ground at the Virginia Military Institute. In 1996 she wrote an opinion striking down the school's all-male admissions policy.
The 12th Banff Conference on Allograft Pathology was held in Comandatuba-Bahia, Brazil this year. After 2 flights, a 1-hour car ride, and a ferry, we arrived on the beautiful, heavily palm-treed island of Comandatuba. Scuttled away amidst the monkeys and the ocean, my memories of Minnesota faded away as I planned my new career tie-dyed beach coverups. But our determined leader, Rene Rodriguez, brought us back to reality as the goal of the tropical trip was to work. And so we did.

Although only a small portion of the conference was dedicated to cardiac transplant pathology, the discussions proved to be stimulating and informative. The heart transplant session was led by Rene Rodriguez (Section Head Anatomic Pathology, Cleveland Clinic) and Carmela Tan (Anatomic Pathology, Cleveland Clinic) with contributions from Gerald Berry (Professor of Pathology, Stanford), Martin Goddard (Consultant Histopathologist and Clinical Director of Pathology, Papworth Hospital), Dolly Tyan (Professor of Pathology, Stanford), Janet Scheel (Medical Director Heart Failure and Transplant, Children’s National Heart Institute) and myself.

Dr. Berry provided an update on the revised ISHLT AMR grading system and Dr. Goddard discussed the pitfalls of using immunohistochemistry. Dr. Tyan with usual clarity and zeal, provided a primer on donor-specific antibodies and C1Q testing, providing momentary lucidity for the immunologically-challenged amongst us (ahem). The take away: C1Q may clarify “important” antibodies in patients who are sensitized and may improve access to donors by allowing clinicians to eliminate non-complement activating antibodies when listing. Dr. Scheel presented several cases of CAV though to be secondary to AMR and reviewed some of the differences and challenges in diagnosing and treating AMR in pediatric heart transplant recipients. She also reviewed the present multi-center collaborative research in progress on allo-antibodies in these patients. The aim of these studies is to increase the understanding of the AMR including the role of cytoprotective genes, anti MICA and adhesion molecules. The youngest patients have the best graft survival, and hopefully with a better understanding of AMR, we can improve these outcomes even further in these young patients who have the most to gain. I focused on remaining issues in the diagnosis and treatment of AMR in adults.

What did we accomplish? The focus of the heart section was on the newly adapted criteria for diagnosing antibody-mediated rejection in heart transplant. This was clearly a great accomplishment but to keep the field moving, we turned our attention to the unknown: what is the significance of a positive C4d only? How can we distinguish subclinical AMR from accommodation? What are the remaining challenges for pediatric and adult patients?
To that end, Dr. Tan provided data regarding the natural history of C4d+ staining (immunofluorescence) in heart allografts. Most of these cases have no allograft dysfunction, and morphologically cannot be designated accommodation versus subclinical AMR; however in a prospective study of a large cohort, 17% of C4d+ cases progressed to C4d+ and C3d+. The consequences of C4d+ remain unknown although these are cases that may bear observation.

The 2013 ISHLT Working Formulation for AMR, which was accepted for publication in JHLT, was discussed. In the evolving formulation, it is proposed that the diagnosis of AMR be based on histologic changes on H&E stained sections, if present, and immunohistochemistry or immunofluorescence. The usefulness of histologic diagnosis of AMR, including microvascular inflammation, was discussed with illustrative cases. The category pAMR1(H+), characterized by histologic but not immunohistologic evidence of AMR, is not known. The category pAMR1(I+) refers to cases with immunopathologic evidence of AMR, by immunofluorescence or immunohistochemistry, but no evidence on routine histology. Since immunohistochemistry users do not report C3d, this category cannot differentiate between C4d+/C3d+ and C4d+ only.

While the proposed criteria for diagnosing AMR clarify the pathologic criteria, it prevents pathologists from considering donor specific antibodies and graft function in the diagnostic criteria. Thus, challenges remain even with the new grading system as we seek to understand the subtler findings of immune activation and their management.

While the main focus was on the new pathologic criteria, other provocative ideas were raised:

- How does rejection cause CAV? Hard evidence linking AMR to CAV is lacking. Should we consider antibody-dependent cellular cytoxicity as an alternative mechanism linking antibodies to CAV?
- Non-HLA antibodies and rejection: Nancy Reinsmoen provided intriguing data regarding angiotensin-1 receptor antibody as a mediator of AMR in the absence of donor-specific antibodies.

Clearly, there is much to learn and multicenter collaboration is key. It is worth mentioning that in addition to the 2013 ISHLT Working Formulation for AMR (JHLT), there are several papers addressing AMR in heart transplant on the horizon. The Banff 2013 consensus paper has been accepted for publication in the American Journal of Transplantation and the AHA commissioned a statement on AMR that is in the final stages.

It is December in Minnesota and I am about as far from Comandatuba as I can possibly be yet if I shut the blinds, turn up the heat, and close my eyes really tight, I can still hear the waves crashing on the beach.

*Special thanks to Rene Rodriguez and Janet Scheel for their contributions.*

Disclosure statement: The author has no conflicts of interest to report.
Outta This World Links
Interesting, Inspiring and Intriguing Links from Around the Globe

FROM FRANCE:

World's first artificial heart transplant patient 'feeding himself' and 'talking with family'
Mirror News, 29 Dec, 2013

FROM IRELAND:

Lung op gives father dream Christmas with daughter
Irish Independent, 27 Dec, 2013

FROM THE UNITED KINGDOM:

Guinness World Record for heart transplant patient
BBC News, 24 Dec, 2014

FROM THE UNITED STATES:

The heart of it all: Nurse says don’t ignore signs of the deadly disease
Atlanta Journal-Constitution, 30 Dec, 2013

Hands, faces to be 'organs' in transplant world
Philly.com, 30 Dec, 2014

Transplant creates 'new family' - Heart recipient meets donor's mother
Muskogee Phoenix, 28 Dec, 2013

Local Man First Cancer Survivor, Heart-Transplant Recipient To Complete Ironman Triathlon
CBS Philly, 27 Dec, 2013

The first 3D printed organ—a liver—is expected in 2014
Computerworld, 26 Dec, 2013

Story of boy’s death and donation of his organs inspires film, one-act play
The Charlotte Observer, 23 Dec, 2013

After lung transplant that changed the rules, Sarah is doing fine
NBC News, 21 Dec, 2013

Anthropologist honoured for alerting world to organ trafficking
BioEdge, 14 Dec, 2013
Tattling Links
ISHLT Members in the News

FROM AUSTRALIA:
Peter M Hopkins, FRACP
The Prince Charles Hospital
Brisbane, Queensland, Australia

FROM CANADA:
Shaf Keshavjee, MD, FRCSC
Toronto General Hospital
Toronto, Ontario, Canada

Dave Nagpal, MD
London Health Sciences Centre
London, Ontario, Canada
http://london.ctvnews.ca/technology-helping-those-waiting-for-heart-transplant-1.1601142

FROM INDIA:
Dr Alla GK Gokhale
Yashoda Hospital
Hyderabad, India

FROM THE UNITED KINGDOM:
Richard Kirk, FRCP, FRCPCH
Freeman Hospital
Pediatric Cardiac Unit
Newcastle Upon Tyne, United Kingdom

FROM THE UNITED STATES:
Gonzalo V. Gonzalez-Stawinski, MD
Baylor Dallas
Dallas, TX, USA
http://dfw.cbslocal.com/2013/12/10/north-texas-doctors-navigate-in-icy-conditions-to-save-lives/
Asghar Khaghani, MD, FRCS  
Spectrum Health  
Grand Rapids, Michigan, USA  

Alan Gass, MD  
Westchester Medical Center  
Valhalla, NY, USA  

Dan M. Meyer, MD  
UT Southwestern Med Center  
Dallas, TX, USA  
http://www.utswmedicine.org/voices-views/articles/year-2013/advanced-cardiac-procedure.html

Jay K. Bhama, MD  
University of Pittsburgh Medical Center  
Pittsburgh, PA, USA  

Gregory Perens, MD  
UCLA Medical Center  
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Edward R. Stephenson, MD  
Penn State Milton S. Hershey Med Ctr  
Hershey, Pennsylvania, USA  

William Jeff Dreyer, MD  
Baylor College of Medicine  
Texas Children’s Hospital  
Houston, Texas, USA  
http://www.digitaljournal.com/pr/1647968

Michael F. McGrath, MD  
Mid-Atlantic CT Surgery  
Norfolk, Virginia, USA  
http://hamptonroads.com/2013/12/went-sleep-vacation-woke-without-his-heart
In honor of our new year, we offer some smart and tart wisdom to tickle your funny bone and to remind you not to take life too seriously!

Mark Twain: New Year's is a harmless annual institution, of no particular use to anybody save as a scapegoat for promiscuous drunks, and friendly calls and humbug resolutions.

Bill Vaughan: Youth is when you're allowed to stay up late on New Year's Eve. Middle age is when you're forced to.

P J O'Rourke: The proper behavior all through the holiday season is to be drunk. This drunkenness culminates on New Year's Eve, when you get so drunk you kiss the person you're married to.

Aleister Crowley: "May the New Year bring you courage to break your resolutions early! My own plan is to swear off every kind of virtue, so that I triumph even when I fall!"

Jay Leno: Now there are more overweight people in America than average-weight people. So overweight people are now average... which means, you have met your New Year's resolution.

Bill Vaughan: An optimist stays up until midnight to see the New Year in. A pessimist stays up to make sure the old year leaves.

Mark Twain: New Year's Day now is the accepted time to make your regular annual good resolutions. Next week you can begin paving hell with them as usual.

Benjamin Franklin: Be always at war with your vices, at peace with your neighbors, and let each new year find you a better man.

Edith Lovejoy Pierce: We will open the book. Its pages are blank. We are going to put words on them ourselves. The book is called Opportunity and its first chapter is New Year's Day.

James Agate: "New Year's Resolution: To tolerate fools more gladly, provided this does not encourage them to take up more of my time."
The UK braced itself this Christmas for wind and rain and with the inclement weather duly arriving, experienced floods and wind damage particularly in the south west. Perhaps the weather was reflecting a rather tumultuous year in many respects and you may recall my letter from June where I indicated that all was not necessarily well with Nye Bevan’s baby, the newly reformed NHS. A potential winter crisis looms with many forecasting major delays in acute care for patients presenting to emergency departments and a general all-pervading view that there will be a significant tightening of belts in anticipation of further financial famine (alliteration at its best?) despite an apparent upturn in our economy in 2014. Health care reform is of course not only a matter of debate in the UK. The Patient Protection and Affordable Care Act nicknamed “Obamacare” has provided a plethora of tumultuous political debate, though in my humble opinion from this side of the pond it would appear to be based on sound principles. It would almost certainly have received approval from Benjamin Franklin, a man described as having the ability to “illuminate enlightenment without heat”. Though such a plaudit lacks something in scientific rigour and as a result may have been disapproved of by Franklin himself, we all recognise its value and how Obama could do with this skill just now.

My last letter was written during an unprecedented summer of sporting success for Great Britain, but sport is a fickle beast that can turn heroes into zeroes in the twinkling of an instance or the turning of a ball. Yes it all went from feast to famine, and so quickly.

Murray’s run of four grand slam finals ended in shock fashion when he lost a US Open quarter-final in straight sets to Swiss No 2 Stanislas Wawrinka. You could perhaps grant him that after the heights he had scaled at Wimbledon.

But what of the England cricket team? They were heading out to Australia, fit, healthy and supremely confident of becoming the first side to win four successive Ashes series since Victorian times.

For WG Grace, read Alastair Cook. History was about to be made. Even Greg Snell and Allan Glanville feared the worst.

Well we now stand on the threshold of a whitewash defeat being 4 games to nil down with one test to play. There is even talk of passports being removed from players and reentry to Great Britain refused as in days gone past when a one way ticket to Australia was the norm. Before I incite more comment may I add that is only for the current members of the England team not to have been born in South Africa, a subject for another dispatch?
The New Year beckons and one of the quaint British traditions relates to the fervent debate in some circles as to who in public life might gain an award in the New Year’s Honours list. Point is that the widely held view that Murray A, Cook A and indeed Beckham D would receive Knighthood’s in Her Majesty’s New Year Honours list for outstanding service both within and outwith sport now seems dead and buried. Poor Dave Cameron, our headmaster whose confident assertion over the summer that young Murray deserved the School’s highest accolade now must recognise the perils of such off the cuff remarks particularly when the staff room, where such matters are decided upon, remains divided on so many issues. David also feels the hot breath of fellow Etonian and Oxford graduate Boris “the Mayor” Johnson on his neck exuding apparent hunger and desire for his role. Boris for Prime Minister makes for ugly reading and contemplation though it would at least open the doors for Eddie Izzard who has expressed his wish to become Mayor of London and who might just rival Dick Whittington’s popularity and legacy in the role.

Sadly I digress but to realign the concept of an honours system that in part is used as a political pawn (or should I say prawn) to curry favour to gain popular vote and reward political support seriously flaws its purpose. The stuffed shirt view from the Cabinet Office that such honours should reward both the common and uncommon man or woman for sustained services above and beyond rather than a popular short lived triumph seems sensible. We await the publication of the list though will not be lying awake pondering the matter.

What then to conclude these views and musings from a small island, with due reference to Bill Bryson, the ex-Chancellor of Durham University, author and supporter of the Cystic Fibrosis Trust. If 2013 was characterized by tumult then will 2014 offer any more stability? Unlikely seems the answer. With a world cup in Rio (soccer for North American readers) sporting fans have much to savour and debate. Perhaps the haunting image of England losing in the semi-finals in a penalty shootout offers the best potential for a predictable sporting result, though a major reversal of fortunes can and does occur. Remember the phoenix rising from the Ashes as discussed earlier? What of the Patient Protection and Affordable Care Act? Obamacare attracted over one million registrants in December 2013 and its on line registration glitches seem to have been solved. A near-term test for the programme will come on the first day of 2014, when those who signed up before last week’s deadline begin to draw medical benefits under the reforms. Critics will be watching to see how the system works for Obamacare users who require medical attention in the early days of January. Problems are likely to be seized upon by Republicans and others on the right, while a smooth roll out of this next phase of the President’s reforms would help the Democrats make their case to the electorate during the mid-term elections next year.

As Mark Bertolini, the chief executive of giant insurance provider Aetna said earlier this month: “The big moment of truth is 12:01 AM on January 1, when a mother is standing in a pharmacy, with the baby in her arms, trying to get her script filled.”

Indeed.

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