

DAILY LINKS

34th Annual Meeting & Scientific Sessions



April 10th - 14th, 2014 San Diego, California

@ISHLT

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Schedule at a Glance: **Friday April 11th**

7:00 AM - 8:00 AM

SUNRISE SYMPOSIUM 1:
Building for the Future
(Grand Hall A)

SUNRISE SYMPOSIUM 2:
Under too Much Pressure: Challenging Cases in Pulmonary Hypertension Management
(Grand Hall B)

SUNRISE SYMPOSIUM 3:
Endothelial Dysfunction in Advanced Heart Failure, Mechanical Circulatory Support, and Heart Transplant: It's a Pipe and Pump Issue
(Grand Hall C)

SUNRISE SYMPOSIUM 4:
Controversies in Lung Transplantation
(Grand Hall D)

SUNRISE SYMPOSIUM 5:
What You Always Wanted to Know About LISH (Laboratory Tests, Infectious Agents, Special Situations, Hidden Infections) but Were Afraid to Ask
(Seaport H)

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REVIEW: OF GOVERNATORS & NIHILISTS: *Musings on My First Symposium of the 2014 ISHLT Meeting*

Pre-Meeting Symposium 12: To VAD or to Transplant...that is the question. Sadly my ability to quote Shakespeare does not go much further, and my boxed lunch is waiting, so we will have to delve straight into our pre-meeting Symposium straight away as we have much to review. You can always tell when an Austrian is lecturing you, because you know you will see at least three references to Arnold Schwarzenegger in his talk, and Dr. Zuckermann did not disappoint. Throwing the opening volley in this outstanding "debate" Dr. Zuckermann reviewed all the latest in graft survival. Showing his age, he did reference the "good old days" when his first presentation at ISHLT was probably quite literally "a slideshow" he reminded us all of the wonders and potential transplant were thought to and ultimately did provide. But like so much of the modern era, technique, technology and experience has further enhanced our ability to provide transplant to thousands of patients, but there is still room for improvement. Hailing his motherland, his "Mother Plan" of Vienna has further managed to improve both short-term complications and perhaps improve long term survival, by enhancing graft procurement procedures, improving communication with his team of ICU docs and anesthesiologists and surgeons, and improving the training of his surgeons. As Dr. Zuckermann points out though, many challenges remain for further

improvements to occur, including aggressive treatment of vasculopathy, improved screening and treatment of malignancies, protecting the kidneys and ultimately Mother Nature herself as our patients become octogenarians and older. Most importantly he emphasized the need to individualize immunosuppression to our individual patients, noting a "one-size-fits-all" approach is no longer acceptable.

All compelling arguments, but then Dr. Pagani took the stage and offered his assessment of Mechanical Circulatory Support. Sadly, he did not reference the "Governator" once, so he may have lost the argument before he even started, but he did offer some interesting insight into defining survival and what it means to the post-LVAD patient. Clearly, survival means much more than breathing, and we must be careful to incorporate quality into any metric that includes quantity. He was quick to point out that, like so much of medicine, MCS requires tradeoffs, and though six-minute walk tests might improve and survey scores on quality of life may increase, things like stroke and GI bleed clearly limit "surviving". Though as our use of these newer continuous flow devices increases, so does our learning curve, and suddenly things like screening for co-morbidities and assessing the right heart a little more carefully might further improve survival. In Dr. Pagani's opinion, it seems we are at a crossroads with MCS, and as further developments in medical management come through the pipeline it will be important to compare outcomes and patient quality of life directly to the benefits and risks of LVAD therapy. (Cont'd)

8:00 AM – 10:00 AM

OPENING PLENARY SESSION
(Seaport)

10:00 AM – 4:00 PM

EXHIBIT HALL OPEN

10:00 AM – 6:30 PM

POSTERS OPEN
(Harbor and Seaport Foyers)

10:00 AM – 10:30 AM

Coffee Break
(Harbor A-F)

10:30 AM – NOON

CONCURRENT SESSION 1:
How to Attack Mechanical Circulatory Support Complications
(Seaport)

CONCURRENT SESSION 2:
Mechanical Circulatory Support: Engineering and Biomechanics
(Grand Hall A)

CONCURRENT SESSION 3:
The Tempest (Controlling the Immune System in Heart Transplantation)
(Grand Hall B)

CONCURRENT SESSION 4:
Ex-Vivo Lung Perfusion: Where Are We Going?
(Grand Hall C)

CONCURRENT SESSION 5:
Pediatric Mechanical Support
(Grand Hall D)

CONCURRENT SYMPOSIUM 25:
A Lifecycle Journey in Pulmonary Hypertension
(Harbor GHI)

CONCURRENT SESSION 6:
Circulating the Microbes: Infections for the Heart Transplant Clinician
(Seaport H)

NOON – 1:00 PM

JUNIOR FACULTY AND TRAINEE COUNCIL MEETING

12:15 PM – 2:00 PM

Lunch Break
JHLT EDITORIAL BOARD LUNCH MEETING

Now, I don't know about you, but neither of these guys really sealed the deal for me, (luckily for me I've already secured a heart failure fellowship for next year so I can be a little more cavalier and unbiased in assessing this debate), so let's see who wins round 3. Luckily our next presenter, Dr. Kathleen Grady reviewed some great data and metrics on how we can actually assess quality of life in our VAD and transplant patients. It became abundantly clear listening to her speak, that actually both sets of patients fair pretty well. The rate-limiting step it seems in settling this debate is that long-term data from our MCS patients is just lacking at this point, as it remains the newer technology. Promising though, is that, at one year, it seems both groups of patients give favorable scores in several measures of quality of life. It is interesting she points out that certain differences remain as pertains to disability and depression when we account for our younger patients and our female patients, but overall things do look favorable. Clearly, as Dr. Grady points out, longer-term survival data, and better head-to-head studies will help us settle this debate in the near future.

But what about our patients that can't get a VAD, or don't qualify for a transplant? Or even worse, what if they are one of the patients that get a devastating complication that is not reversible? Dr. Jane MacIver offered a great deal of insight in her talk on Palliative Care in the heart failure setting. Quite poignantly she noted that palliative care is not a "consult team" or a discipline, but a philosophy that we all must adopt to better serve our patients. She offered some very interesting data that showed adopting this philosophy early and often with all our patient interactions can not only make decision making easier for our patients, but help alleviate pain and provide symptom relief throughout the entire course of care we provide our patient.

Now at this point I had lost track of who was winning, the "VAD-ers" or the "transplanters", and I was really thinking of getting another cup of coffee, but then Dr. David Taylor took the stage. Not only is this guy a former president of the ISHLT, but he also offered me my recently

acquired Heart Failure Fellowship, so I felt obligated to stick around and hear what he had to say. Now I didn't really picture this guy as a Nihilist, but with a few more quotes from Nietzsche and I would have had to rethink signing my offer letter (or at least brush up on the Apollonian and Dionysian). It also became abundantly clear that I better go on a diet. Heaven forbid I find myself standing on a bridge in Cleveland one day, he may end up pushing me over the edge to save a transplant patient. What does this have to do with heart failure, honestly, I'm not sure. He pontificated on autonomy and beneficence, and non-maleficence and justice and all those other Medical Ethics 101 terms. I had forgotten about since I last needed to renew my IRB "good standings" only to realize what his whole point was. His talk was titled "Patient Selection or Patient Preference" and I think his point was...oh man, I honestly got so caught up in his example of pushing a fat guy over a bridge to stop a train that was about to run into a crowd of people that I missed his actual point (you really had to be there). In all seriousness, it became abundantly clear from his talk that the ethical and philosophical decisions we as physicians make can be just as important and complex as the medical ones, and naturally there are no easy answers.

Wrapping up the session, Dr. James Kirklin, another former president of the ISHLT (I guess I'm not getting my coffee) took to the stage and wrapped up this debate. He made it abundantly clear that risk stratifying our patients better and accounting for co-morbidities and assessing quality of life objectively are all keys to making such difficult decisions. New scoring metrics will need to be developed that can weigh these factors effectively will help us, and our patients better decide what option will work for them.

Luckily this is not an op-ed piece, so I don't have to pick a winner. It is clear though that despite all the advancements in technology there are significant drawbacks to both transplant and mechanical circulatory support. As Arnold would say, "I'll be back" with an answer maybe after a few more years and a few more debates.

2:00 PM – 3:30 PM

CONCURRENT SESSION 7:
Mechanical Circulatory Support: Stop the Bleeding!
(Seaport)

CONCURRENT SESSION 8:
Measure for Measure: Assessment of Cardiac Allograft and Immune Function
(Grand Hall A)

CONCURRENT SESSION 9:
Ex-Vivo Lung Perfusion Science on the Horizon
(Grand Hall B)

CONCURRENT SESSION 10:
Lung Transplant Outcomes: Good, Better, Best: Let Us Never Rest
(Grand Hall C)

CONCURRENT SESSION 11:
Clinical Case Dilemmas in Thoracic Transplantation: The Best of the Best
(Grand Hall D)

CONCURRENT SYMPOSIUM 26:
Infections in Mechanical Circulatory Support Devices – Understanding and Conquering the Beast
(Harbor GHI)

CONCURRENT SESSION 12:
Improving Outcomes: Interventions & Strategies
(Seaport H)
Novel Diagnostics
(Grand Hall B)

3:30 PM – 4:00 PM

Coffee Break/Visit Exhibits (Harbor A-F)
View Poster (Harbor and Seaport Fosters)

4:00 PM – 5:30 PM

CONCURRENT SESSION 13:
Optimizing Mechanical Circulatory Support Outcomes I
(Seaport)

CONCURRENT SESSION 14:
The Future of Mechanical Circulatory Support is Now
(Grand Hall A)

CONCURRENT SESSION 15:
Adult Heart Failure: Novel Diagnostics
(Grand Hall B)

CONCURRENT SESSION 16:
Chronic Lung Allograft Dysfunction: Phenotypes and Risk Factors
(Grand Hall C)



REVIEW: *Expansion of Donor Pool is INSPIRE-ational*

It took over half a century for the technique to evolve from basic theory to semi-automated circuits fit for clinical use. However, this technology is now rapidly being adopted in transplant centers across the globe. Ex-vivo lung perfusion (EVLV) is one of the hot-topics at this year's ISHLT meeting and with the field in constant evolution the excitement was intense when some of the giants of EVLP took to the stage in the Thursday afternoon **Pre-Meeting Symposium 16: Ex-Vivo Lung Perfusion (EVLV): Evolving Strategy for Improved Donor Lung Management.**

As the pioneer of clinical EVLP, as well as his recognition for his epic performances that resemble an enthusiastic scientist from a Nordic Noir piece more than a luminary Lund University professor, Prof Stig Steen set the scene with a historical overview of EVLP. Dr. Göran Dellgren and Dr. Bartley Griffith followed up by painting a clear picture of the present-day European and North American experience with the different static EVLP techniques. Dr. Marcelo Cypel furthered this by reviewing the state-of-the-art experimental treatment work carried out on this well suited platform for lung research.

With the recent introduction of portable EVLP, a new era in lung preservation may also be upon us with an opportunity to limit organ ischemic times and potentially improve the outcome of donor lungs already deemed acceptable for transplantation. After Dr. Gregor Warnecke's update on the OCS Lung INSPIRE Trial, this new era doesn't seem far off. As long as the current price tag is not of major concern in your transplant unit, some murmured on their way to the coffee break. Dr. Peter Hopkins also addressed this in a very sensible way in the closing presentation on cost justification and criteria definitions in this blooming field.



PREVIEW: *Let the Games Begin: Opening Plenary Session*

A fascination with the tailor-made and avant-garde, humans have been envisioning a molecularly advanced human species in Hollywood blockbusters (Elysium, Avatar, Terminator etc.) for decades. It appears that this Californian dream has now rubbed off on transplant science. For the first time in medical history, human beings can be highly defined and digitally coded, via DNA sequencing to assess an individual's molecular biology, biosensors to record their physiology, and advanced imaging to see their anatomy. In the **Friday Opening Plenary Session** Dr. Eric Topol from the Scripps Translational Science Institute in La Jolla, just up the road, will explain how digitizing humans has the potential to reboot the future of medicine.

From pioneering work of the future, to a great pioneer of the present, Sir Terence English, KBE, FRCS, will be awarded the highly prestigious ISHLT Lifetime Achievement Award for his outstanding achievements and tireless dedication in the field of heart transplantation. As a cardiac surgeon and heart transplant pioneer, he performed the first successful heart transplant in the UK in 1979 and is a former President of the ISHLT and the Royal College of Surgeons. Sir Terence English will be giving a lecture during the **Friday Opening Plenary Session**, suitably called "Follow Your Star".



UPDATE: *JFTC is IN DA HOUSE!*

ISHLT's Junior Faculty Training Council serves the needs and represents the interests of our younger members. Check your schedule and make time for these upcoming events:

Friday April 11

- 12:05pm *Junior Faculty and Trainee Council Meeting* (Harbor GHI)
- 1pm *Author workshop* (Harbor GHI)

Knowing the best way to structure your research paper, identify the most appropriate journal, and understand the peer review process is critical to getting your work published. Attend this workshop and learn from the world's leading publisher of Science, Technology and Health and Medical journals: steps to take before writing a paper; how to develop and submit a manuscript; what editors and publishers are looking for. Sensitive areas such as publishing ethics, plagiarism, and duplicate publishing will also be addressed.

- 2:00 PM - 3:30 PM *Case presentations: Clinical Case Dilemmas in Thoracic Transplantation: The Best of the Best* (Grand Hall D)
- This case is presented by JFTC with expert panel discussion and audience response interaction

CONCURRENT SESSION 17:

Management of the
Pediatric Heart Recipient
(Grand Hall D)

CONCURRENT SESSION 18:

Quality of Life, Ethics,
Policy and the Economics
of MCS and Thoracic
Transplantation
(Harbor GHI)

**CONCURRENT SYMPOSIUM
27:**

Heart Transplantation and
Mechanical Circulatory
Support in Latin America
(Seaport H)

5:30 PM – 6:30 PM

MINI ORAL SESSION !:

Pushing the Boundries in
Lung Donation
(Grand Hall A)

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(Grand Hall A)

MINI ORAL SESSION 2:

Heart Failure and
Pulmonary Hypertension:
The Tale of Two Ventricles
(Seaport H)

MINI ORAL SESSION 3:

Choosing the Right Patient
for Mechanical Assistance
or Transplant
(Grand Hall B)

MINI ORAL SESSION 4:

Mechanical Circulatory
Support Rapid Science
Session
(Grand Hall C)

MINI ORAL SESSION 5:

Heart Transplant: Candidate
Selection and Improving
Outcomes
(Grand Hall D)

MINI ORAL SESSION 6:

Lung Transplant Monitoring
and Immunosuppression
(Harbor GHI)



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REVIEW: *It's All for the Children*

If there is one thing I take away from this session almost immediately, it is that I made the right choice going into adult cardiology. It is readily apparent that with so little data and so few options for these poor pediatric patients, that many decisions are made on a "wing and a prayer" (and perhaps a skilled surgeon helps). **The Symposium 17: Developing a Pediatric Implications VAD Program** session began with a great overview by Dr. Peter Weardon on what options are available for our pediatric patients when mechanical circulatory support is needed. One thing was certain by Dr. Weardon's talk. These devices aren't cheap, and with little data, and such small patient pools to gather data from, it takes a lot of user experience and a lot of troubleshooting to be successful in implanting our young patients. Certainly tools like CT mapping can aid in assessing anatomical limitations and having to "cram" a VAD into a patient as Dr. Weardon put it. Assessing the possibility of recoverability in a few weeks, body size and weight are key parameters.

Dr. Bucholz took the discussion one step further, by asking what next? Just because Dr. Weardon can put one of these VADs into a pediatric patient, what happens once it is in. Trying to get a pediatric patient home after VAD placement is a tremendous undertaking and requires a great deal of education and support. Dr. Bucholz reviewed the program in place in Edmonton, including the team set up, a need for 24/7 on-call physicians and coordinators to help families. Over 30 hours of training is needed for families to master all the skills necessary to triage and help the patient. Modern technology such as the Facetime App on iPhones allows instant communication regardless of distance between physician and patient. For patient's that live farther from the implant center, training must be arranged with local physicians, school nurses and local family/friends so that issues can be addressed in a timely fashion.

Dr. Conway then focused on the types of complications that must be contended with, and the many psychosocial issues that must be addressed in this young population. To further complicate management, many treatment options that would otherwise be available to adult LVAD patients are unproven and untested in pediatric populations, such as the use of TPA for pump thrombosis. Dr. Conway further notes the long-term psychological ramifications of LVAD use in pediatric patients is simply unknown.

Aileen Lin, an LVAD nurse at Stanford offered some useful incite into these issues and use excellent case examples to further illustrate these problems. Morbid obesity presents a huge limitation to transplant due to increased complications such as infection postoperatively. She did note that LVAD placement with weight management strategies such as bariatric surgery may provide some help. She also was key to point out that the long-term psychosocial impact on these children remains largely unknown and will require careful observation in the future to ensure they have good quality of life.

The session closed with Dr. Martin Schweiger providing some unique pediatric case reports that presented a great deal of challenges. An interesting case of Kawasaki Vasculopathy and a VSD patch correction that unmasked concomitant myocarditis provided some stunning images under cine in the cath lab as well as the perils of charting into uncharted territories with ventricular support devices. All in all, the session provided a great deal of insight into the perils and pitfalls of managing the pediatric population with advanced heart failure symptoms, but it also provided a great deal of hope that much can be done to provide these patients with a full and bright future.