



The
Academy
NEWSLETTER

THE AMERICAN ACADEMY
OF
CARDIOVASCULAR PERFUSION
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FALL 2014

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Time Flies

As this title implies, I feel certain many of you agree it is incredible to say the least how rapidly this year is passing. Fall has arrived and we can look forward to her many splendid colors on display in nature while preparing for cooler weather in the not too distant future.

Early uses of the idiom "time flies" in English appear in Chaucer's Canterbury Tales, specifically the Clerk's Tale around 1390 in which he states: "For though we slepe or wake, or rome, or ryde, Ay fleeth the tyme."¹ Another early expressive use is "Time flyeth away without delay."²

Tempus fugit is a Latin phrase, translated into English as "time flies." This expression comes from line 284 of Book 3 of Virgil's Georgics, where it appears as FVGIT INREPARABILE TEMPVS: "it escapes, irretrievable time."³

Virgil (Publius Vergilius Maro, 70 BC-19 BC) occupied himself from 37 BC-29 BC (after completing his "Bucolics") working on the Georgic poems. These works were written during an era of political instability and chronic civil war, reflecting Virgil's dark and often pessimistic outlook on human nature. Although written in Latin, Virgil gave his poem the title "Georgicon," Greek for "agriculture or working the earth." He was strongly influenced from "Works and Days" by the Greek poet, Hesiod.⁴

In varied manner, we can all relate prominently to the theme of work days and working the Earth. The figure below illustrating the Shepherd tending his flock in Virgil's writings resembles my role as AACP President. A flock is also commonly referred to as a group under the guidance of a leader or leadership who influentially seeks support in accomplishing a task. This appropriately describes the point at which we are at with regard to the AACP 2015 Scientific Program.



Georgics Book III, Shepherd with Flocks, Roman Virgil, 5th century.

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“A good leader encourages followers to tell him what he needs to know, not what he wants to hear.”

John C. Maxwell

Ever was thus! Your AACP leadership proudly serves you, the membership. We seek to hear from you, so let us hear loud and clear. Plans are underway in the home stretch to finalize preparations for our annual meeting. If you have ideas or thoughts to share, we welcome them. You may contact the National Office or any leader who will pass it on and we will work diligently to respond and implement your wishes where possible.

The AACP Council and Program Committee have invested enormous energy and effort through critical analysis involving important decisions confronting our organization and the annual meeting. In doing so, I have encountered strong qualities of commitment and leadership abilities. All of you (membership and colleagues) should feel very comforted in knowing you elected us, we serve you well. I am proud of these willing and able professionals who give of themselves so generously. Especially David and Jill, who are tireless in this endeavor and sacrifice greatly in their personal lives to the benefit of the AACP membership, never fail to acknowledge and recognize this fact. Thanks to both of you!

So, like the faithful Shepherd guarding the flock, I want to be first to commend these individuals who have volunteered much time throughout the year aside from occupational duties and say thank you, what a pleasure to work with each of you. Excluding me, they are:

AACP Council:

Vice-President: Vince Olshove, Secretary: William Harris, Treasurer: Kevin Lilly, D. Scott Lawson- Past President, James Beck, Philip Fernandes, Richard Melchior, Karen Smith

Program Committee:

James Beck, Philip Fernandes, Ronald Gorney, Kevin Griffith, Robert Groom, Eric Jenkins, Charles Johnson, Dennis Long, Linda Mongero, Scott Noesges, Vince Olshove, Greg Smigla, Karen Smith,

Michael Sobieski II, Julie Tinius-Juliani, Haven Young, Josh Walker, Ex Officio Jim Beavers, Terry Crane, and Steve Raskin.

You have served the AACP with distinction and we are very appreciative. Commitment is what separates Doers from Dreamers:

- To the boxer, it's getting off the mat one more time than you've been knocked down.
- To the marathoner, it's running another ten miles when your strength is gone.
- To the soldier, it's going over the hill, not knowing what's waiting on the other side.
- To the leader, it's all that and more because everyone you lead is depending on you.⁵

VERY IMPORTANT NOTE: Our work is not done, let's continue to the finish:

**February 5-8, 2015
AACP Annual Meeting
Omni La Mansión del Rio
San Antonio, Texas**

“Don't quit, because once you're in the mode of quitting, then you feel like it's okay.”

Jerry Rice,
The Greatest Wide Receiver

Our mission will be complete and fulfilled only after we depart the 2015 annual meeting. Until then, we must work diligently and communicate our thoughts and ideas! Without communication we travel alone without a compass. I have stated many times in my personal life, you have to be silent to listen. Both of these words are formed from the same letters:

- S-i-l-e-n-t
- L-i-s-t-e-n

Although my ears ring with tinnitus, I am a careful listener awaiting your feedback.

ATTENTION: All AACP Fellows, Members, Students, Colleagues, and most importantly, Program Directors – we need your contributions. You commit daily in training and educating students and fellow professionals for the greater good of society and the

patients who trust us to contribute in their journey to healing and a better quality of life. You keep us safe and up to date on research.

Submit your **ABSTRACTS**; share your knowledge and the product of your work. This is how we all learn from you! As perfusion scientists, we value your scholarship and academia.

FELLOWS, this is your professional organization – without you and your participation – we are nothing as an organization. The AACP needs you; please respond by supporting our scientific program. This comes in many forms (e.g., presentation, leading a Fireside Chat, serving as a Moderator or Sergeants At Arms, etc.), many do not enjoy public speaking – find your comfort zone and participate.

The volunteerism and fellow professionals contacting me weekly has been very inspiring and I sense a strong interest and desire among many of you who want to contribute. This is so encouraging.

I am so optimistic and enthusiastic with our work and planning to date. Here are some of the many reasons I can enjoy such a positive outlook:

- Our scientific program will be truly global, we will be **WEBCASTING** the 2015 AACP Annual Meeting,
- We have assembled a great Scientific Panel to address Perfusion Simulation-Safety-Education Into the 21st Century,
- Fireside Chats will be available to our webcast audience to participate, we are selecting marquee topics since this will be limited to one per day,
- We have two Special Scientific Sessions addressing the Emerging Role of Perfusion and a “How To Approach,” with emphasis on Perfusion technique,
- We are planning a Pro versus Con Debate on key topics in our technology and clinical management of patients,
- We are evaluating the development of an AACP Electronic Journal for Manuscripts failing to achieve publication, this allows preservation for future viewing electronically and dissemination of this information,
- We will offer delayed access to our 2015 meeting via webcasting,

- We are very pleased to announce the return of one of our most distinguished Fellows - Charter Member - former Executive Director; Mr. Earl Lawrence who will be delivering the Charles C. Reed Memorial Lecture,
- Our website is undergoing a retooling and updating process,
- Our Sponsors will achieve an even greater bang for their commitment and support of The AACP; we intend to highly profile each sponsor prominently in appreciation for their support.

I could go on and on sharing this enthusiasm, however, you need to join us and see for yourself. Our program will be exceeded by none so long as I have a say and YOU commit in your support.

Please join us now in making this a successful meeting!

Steven W. Sutton, President
American Academy of Cardiovascular Perfusion

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- John C. Maxwell. The 21 Indispensable Qualities of a Leader: Becoming the Person Others Will Want to Follow.

**Abstract Deadline
for the
2015 Meeting
October 31, 2014**

2015 Annual Academy Meeting

**Omni La Mansion del Rio Hotel
San Antonio, Texas
February 5-8, 2014**



Thursday, February 5, 2015

9:00 AM – 1:00 PM	Council Meeting
10:00 AM – 3:00 PM	REGISTRATION
2:30 PM – 4:30 PM	Fireside Chats (Session #1) Aortic Surgery: Are you prepared for the challenge? ECMO: medical, surgical, transport and more Pediatrics, not just little "PEEPS" Simulation: It's not just for new perfusionists. Catch the wave. Students Only Forum
4:30 PM – 5:30 PM	REGISTRATION
5:00 PM	Opening Business Meeting <i>Fellow, Member, Senior and Honorary Members</i>
6:00 PM – 8:30 PM	Sponsor's Hands-On Workshop & Reception

Friday, February 6, 2015

7:00 AM	REGISTRATION
7:30 AM – 9:30 AM	Scientific Session
9:30 AM – 10:00 AM	Break
10:00 AM – 11:30 PM	Special Scientific Session Perfusion Techniques and the Expanding Role of the Perfusionist: A How To Series (Part I)
11:30 PM – 1:00 PM	Lunch
1:00 PM – 3:30 PM	Special Scientific Session Perfusion Techniques and the Expanding Role of the Perfusionist: A How To Series (Part II)

3:30 PM – 5:30 PM

Fireside Chats (Session #2)

Competency: Today's reality. What's necessary? What's overkill? What can we share? No need to reinvent the wheel.

Computer-assisted Bypass: It's not just an electronic record
Let's talk **myocardial preservation:** That's been 90 minutes since cardioplegia, OMG, from crystalloid to DelNido.

Simulation: It's not just for new perfusionists. Catch the wave.

Students Only Forum

6:30 PM

Induction Dinner

Fellow, Senior, Honorary Members & Guests

Saturday, February 7, 2015

7:00 AM

REGISTRATION

7:30 AM – 9:30 AM

Scientific Session

9:30 AM – 10:00 AM

Break

10:00 AM – 11:30 AM

Memorial Session

Charles C. Reed Memorial Lecture

Thomas G. Wharton Memorial Lecture

Steven W. Sutton, CCP - President, AACP

11:30 AM – 1:00 PM

Lunch

1:00 PM – 3:30 PM

Special Scientific Session (Panel)

Perfusion Safety / Simulation / Education

Perfusion Education and Direction In The 21st Century
Safety

Evidence-Based Practice

Simulation & Intraoperative Behavior

3:30 PM – 5:30 PM

Fireside Chats (Session #3)

Closing the gap between Generations: How do we do it? How do we teach the next generation of Perfusionists?

NIRS, **Cerebral Oximetry**, help me assess adequacy of perfusion!

Simulation: It's not just for new perfusionists. Catch the wave.

There were **incidents and accidents**, hints and allegations. Did I meet the standard of care? What are my legal obligations?

Women in perfusion: She pumps like a girl!!!!

5:30PM

Closing Business Meeting

Fellow, Senior and Honorary Members Only

Sunday, February 8, 2015

8:00 AM – 10:00 AM

Scientific Session

10:30 AM – 12:30 PM

Fireside Chats (Session #4)

Anticoagulation: "To clot or not to clot", that is the question

Best Practice: Does your department meet the standard? Are you really doing your best?

ECMO: medical, surgical, transport and more

Simulation: It's not just for new perfusionists. Catch the wave.

ON BYPASS

The Use of ECMO for Severe Respiratory Failure in a Rural Hospital Setting

Case Report

Recently, a 22-year old male presented to our hospital with a four-day history of “not feeling well”. Initial workup revealed a fever, progressive cough, shortness of breath, and oliguria for the prior two days (dehydration). Blood gas analysis showed a resting (room air) arterial saturation of 82%. Use of a non-rebreather mask with 100% oxygen resulted in a marginal increase in arterial saturation to 89%. A chest x-ray depicted a large consolidation involving two-thirds of the right lung (see Figure 1). Over the ensuing eight hours, the patient’s condition rapidly deteriorated necessitating intubation and mechanical ventilation. A trans-thoracic echo demonstrated normal cardiac function. A repeat chest x-ray showed near “white out” of the right lung with advancement of the pneumonia into the left lung (see Figure 2). Furthermore, the patient’s pO₂ decreased to below 50 mmHg despite maximal

ventilatory support. The decision to implement veno-arterial ECMO was made utilizing a Terumo RX-25 x-coated hollow fiber oxygenator, a Sorin Revolution phosphorylcholine-coated second generation centrifugal pump, and a SMARxT-coated tubing circuit. Following the administration of 10,000 units of heparin, the femoral vessels were accessed using a 17 French arterial and a 20 French venous cannula. Flow rates averaged 3.5 – 4.0 liters per minute, accounting for approximately 70% of the patient’s intrinsic cardiac output. The initial ACT measured 348 seconds, but was allowed to fall to between 150 – 170 seconds provided the flow rate remained above 2.0 liters per minute. The maximal ventilatory settings were gradually decreased (RR of 4, FiO₂ of 30%, peak airway pressure < 35 mmHg) in order to reduce barotrauma to the lungs. Post-membrane pO₂ values (oxygenator FiO₂ 100%) measured greater than 400 mmHg. Simultaneous blood samples taken from the patient’s left radial artery revealed a pO₂ of approximately 60 mmHg – the result of desaturated blood from the patient’s left ventricle mixing (in the thoracic aorta) with saturated blood from the femoral arterial cannula. Following six hours of ECMO at this author’s institution, arrangements were made to transfer the patient to the University Hospital in Denver via fixed-wing aircraft. Subsequent to this uneventful transfer, the patient was switched to veno-venous ECMO and supported for four days before being successfully weaned. Kidney dialysis was temporarily needed to combat the persistent oliguria that accompanied the patient’s infection. Ultimately, sputum and blood cultures showed severe

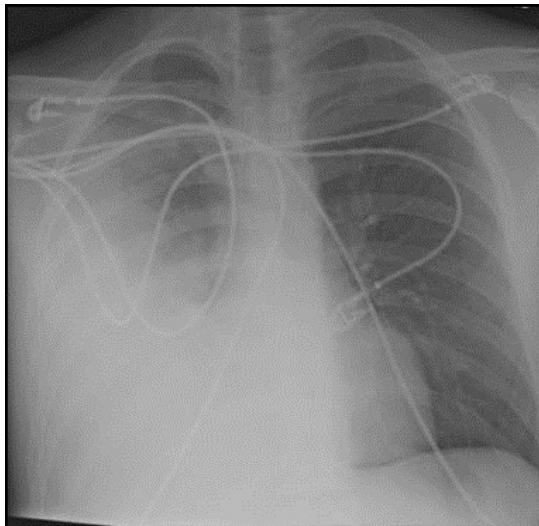


Figure 1. Chest x-ray upon admission to hospital showing consolidation in most of right lung.

Kelly D. Hedlund, MS, CCP

*Hays Medical Center
Hays, Kansas*

bacterial pneumonia (pseudomonas pathogen). The patient recovered fully and is back home following a six-week hospital stay in Denver.

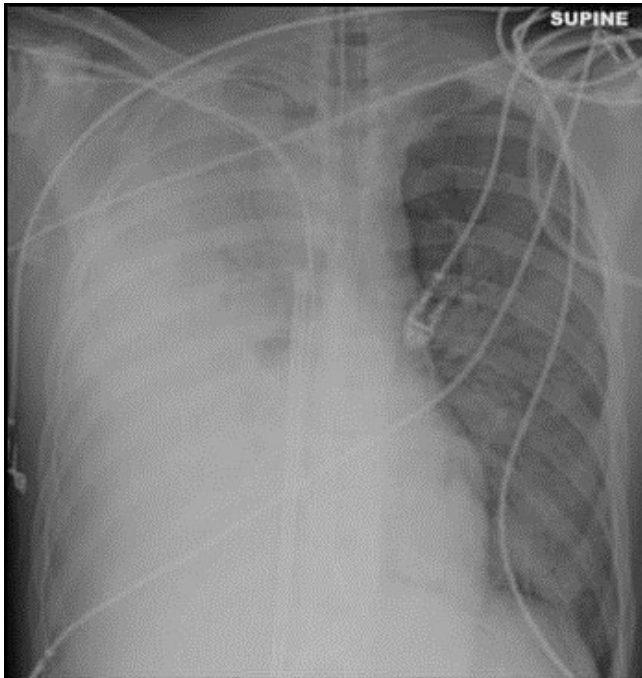


Figure 2. Chest x-ray eight hours after admission to hospital showing “white out” appearance of right lung and advancement of pneumonia into left lung.

Discussion

In the late 60s and early 70s, attempts at using ECMO for pulmonary failure in the adult population met with dismal results.¹ In 1972, Hill et al employed veno-arterial ECMO for three days using the Bramson oxygenator to successfully support a trauma victim with shock lung.² In 1975, Bartlett et al reported the first successful use of ECMO in a neonate.³ The results of the CESAR trial, published in 2009, emphasized the importance of patient selection, early initiation of ECMO, and the transfer of patients to experienced ECMO centers.⁴ Numerous publications have appeared in the literature outlining ECMO transport protocols.⁵⁻⁷ Until recently, advances in the conventional management of ARDS (e.g., high frequency jet ventilation, nitric oxide inhalation) were thought to have a diminishing effect on the need for ECMO. However, the recent surge of documented H1N1 flu virus cases worldwide has again brought ECMO to the forefront as a viable modality for treat-

ing severe cases of respiratory failure. Perhaps equally important is the ability of small- to medium-sized hospitals to safely initiate ECMO in the occasional patient that fails conventional mechanical ventilator strategies. This case report illustrates how a smaller outlying hospital can utilize ECMO to stabilize a patient prior to transferring to a larger, more experienced center. In 1989, the late Ben Mitchell published a monograph for distribution by AmSECT entitled “Mechanical Support of the Failing Lungs and Right Heart: An Overview”. It was an exhaustive compendium of history, indications, cannulation, and complications of ECMO. In his concluding statement, Mitchell predicts that “... advancements [such as the dual lumen venous cannula] will make ECMO as simplistic and effective as cardiopulmonary bypass is today ...”. What a remarkable achievement if such a statement is proven true.

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Preparing a Presentation

Introduction

This is Part 2 of 3 articles derived from handout material at past Fireside Chats. After you have done some research and wish to present your results at a meeting, there are some simple guidelines for delivering an effective presentation.

Know your Audience. A presentation will be most effective if the presenter tailors the talk to those whom she or he wishes to communicate. This requires some objectivity and the ability to imagine oneself in the audience. “What will get and keep their attention?” “Are the slides being used appropriate in quantity and quality?”

The KISS rule—“Keep it simple, stupid.” The general rule of thumb is not to exceed seven lines or bullet points in a text slide so that a person sitting in the back of the room can easily read it.

Write the Manuscript Before you Prepare the Presentation. There is no way you can convey the entire contents of the paper in your presentation, but you should present the highlights in an orderly manner while giving verbal emphasis to important details or your conclusions, which are the “take home” messages.

Use a Bold Simple Font. Calibri or Arial work well. Sans serif is preferred. (Times New Roman is an example of a serif font.)

Avoid Fancy Backgrounds. These can be distracting to the audience. Using a plain dark blue background with white letters (old-fashioned blue diazo style) is tried and true. Alternatively, a light brown background with black letters also works well. Avoid a white background with black letters so you don’t “blind” the audience in a darkened room with every slide change

(this may also startle or wake up a snoozing person in the audience). Preview your slides to eliminate colored lettering that is indistinct on the background color (for example, red lettering on a blue background is hard to read no matter how spiffy it may look on your computer screen). The use of colors during presentations can evoke audience emotion. A useful simple rule for word slides is no more than seven lines with seven words each and to keep the font greater than 20.

Animations Can be Effective. This allows you to present one point followed by another followed by another instead of displaying everything at once. Using animations this way allows you to effectively lead the audience through your data to make a key point.

Keep Transitions Simple. Avoid the use of cute noises or visual effects that can be annoying when repeated with every slide change. Noises available on PowerPoint include applause, bomb, chime, drum roll, explosion, hammer, or whoosh, among others. Effects include cut, fade, push, wipe, split, reveal, random bar, shape, uncover, or cover.

Use an Oral Text. Using Note Pages in PowerPoint, the oral text can be read verbatim or referred to during the presentation to avoid the jitters when you are at the lectern. The Note Pages containing the oral transcript for all slides should be stapled or clipped together to avoid a paper shuffle at the lectern. Feathering the sheets of paper allows you to turn the pages one at a time without fumbling around.

Humor can Help. Showing a cartoon or delivering a well thought out quip (especially at the start) can engage the au-

**Richard Chan,
Mark Kurusz and
Jeff Riley**

dience so they will become more receptive to the content of your talk. Cartoons, if used, should be used sparingly—remember, you're not a comedian.

Practice. Even if you have memorized the talk or have an oral text, it is extremely helpful to practice the talk several times either by yourself or preferably before some coworkers. You will have the benefits of refining the talk and receiving a critique before the real presentation. It is also extremely important that you time your talk so that it can be completed within the allotted time; if you go over, you run the risk of being cut-off by the moderator, and, at the very least, the audience will become annoyed that you broke the rules.

Go to the Podium Beforehand. You should become familiar with the slide advance/reverse buttons and laser pointer. It's also useful to introduce yourself to the moderator(s) and to confirm your PowerPoint is loaded onto the laptop and easily accessible when the time comes for your presentation. It also helps to introduce yourself to the audio-visual technician who may raise or dim the room lighting or adjust the microphone as needed or help with technical issues if something goes awry. Going up to the podium beforehand also can help relieve some of the anxiety of the actual presentation when you are standing in front of the audience with all attention focused on you. This also will allow you to familiarize yourself with where to stand to view the screen and think about the audience and where you may gaze; it's best to focus on a person or two near the back of the

room but definitely look at the audience from time to time. Avoid the bouncing laser point effect by steadily focusing only on the part of the slide you wish to draw attention to; a bouncing laser point can induce vertigo in the audience and is extremely distracting.

Opening Set. Grab and capture the audience's attention with your first words. Humor, a personal story, asking the audience a challenging question, singing, reciting poetry, acting out, and the use of props are all methods to get attention and creating memories when you start your presentation.

Duplicate Flash Drive. Always hand carry the flash drive and your oral text so they don't get lost in transit. Today you can email your presentation to yourself as a backup plan.

Anticipate Questions. Once again, imagine yourself in the audience and consider what questions you may be asked by the moderator or audience. It's appropriate to have a few backup slides if they will help answer the question; you should also be prepared to go back and display a slide if it is relevant to the question being asked. If you do not know the answer to a question, it's far better to say so than deflecting and rambling on—the audience will not be pleased with your non-response. Be sure to tell moderators if you want to expand your presentation on a certain topic—moderators like to have questions to ask.



**FOR INFORMATION ABOUT ATTRACTIONS IN THE SAN ANTONIO AREA GO TO :
[HTTP://VISITSANANTONIO.COM/](http://visitsanantonio.com/)**

The Student Section

Alternative Utilization of the New Cardiohelp ECLS Device

Modern day cardiac surgery has made great strides in the techniques developed to achieve correction of complex heart pathologies. The prolific advancement made in the extracorporeal technologies provided the necessary adjunct and made it possible to perform extreme procedures. From the operating room setting to the battlefield, Extracorporeal Life Support (ECLS) devices have entered a new realm of portability, reliability, and function in elective and emergency situations. At the forefront of this movement is a device made by Maquet Getinge Group known as the Cardiohelp System. This device is the world's smallest portable heart-lung support system currently available for use, it is light and compact which greatly enhances patient transfers on ECLS and its availability for use in clinical settings outside of the OR. The system can be set up impressively quick due to its fully integrated pump/oxygenator design. The device's size and full integration are some of its key features in potentially initiating its use for extracorporeal membrane oxygenation (ECMO) therapies for emergency patients in need of heart and lung support or just lung support.

The Cardiohelp ECLS device is essentially a heart-lung machine compacted down into a 22 pound, 1.2ft x .8ft x 1.4ft extraordinary portable unit. Priming volumes are between 570-600 mL depending on which bioline coated integrated pump/oxygenator modules is chosen. There are two to choose from, a 5.0 HLS module and a 7.0 module made of polymethylpentene fibers resistant to the weeping effect that occurs with microporous polypropylene fibers with extended hours of use. Cardiohelp also features a built in

venous probe that measures venous blood saturations, hemoglobin concentration, hematocrit, and venous blood temperature. It also features a built in flow and bubble sensor, integrated arterial blood temperature probe, three pressure sensors (venous, arterial, and system pressure), a touchscreen interface with a rotary knob, and nursing station call system compatibility. Its battery power on a full charge and operation lasts 90 minutes and the disposables have a 6 hour usage period. Quick connection ports from the A-V loop to a priming bag make disconnection and reconnection of the loop easy and clean.

ECMO and patient transport are two obvious areas of use for the Cardiohelp device, however, some institutions have successfully utilized the system in elective coronary artery bypass grafting procedures with excellent patient outcomes. In 2012, a study conducted at the University Medical Center in Regensburg, Germany compared the use of the Cardiohelp ECLS system to a conventional cardiopulmonary bypass circuit as well as a miniaturized extracorporeal bypass circuit during elective CABG procedures on 150 patients, 50 patients per circuit. The miniaturized and Cardiohelp group received a prime of 200 mL 4% modified gelatine solution, 200 mL isotonic electrolyte solution, 100 mL 20% mannitol. A dual stage 32-40 French venous cannula and 21 French aortic cannula served as the access portals to the patients. All patients received a heparin dose of 150 IU/kg and activated clotting times were maintained at 250-300 seconds due to the heparin coated circuit and decreased foreign surface area. Warm Calafiore cardioplegia served as the myocardial protective

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strategy and no cardiotomy suction was available due to the structure of the device; cell-salvage was implemented instead. The conventional bypass group utilized an open system which consisted of non-heparin coated tubing, a dual stage 39-50 French venous and 22 French Aortic cannulae, a Quadrox 2000 membrane oxygenator, and a nonpulsatile HL 30 main roller blood pump. The circuit was primed with 1,200 cc's of a balanced colloid/crystalloid solution and 5,000 IU/kg of heparin. Single-shot crystalloid of HTK Bretschneider cardioplegia (Custodial) or Calafiore's cardioplegia served as the myocardial protective strategy and blood shed at the field was saved in an open cardiotomy reservoir. Initial heparinization dosing was 350 IU/kg after harvesting of the bypass grafts and internal mammary was completed and ACT's were maintained at greater than 450 seconds the entire case. The researchers found significantly decreased time on mechanical ventilation, decreased inotropic support post op, shorter ICU stays, and lower post-op levels of creatinine kinase with the Cardiohelp device when compared to a conventional CPB circuit. Decreased foreign surface area associated with the compact device, elimination of blood to air contact via no open venous reservoir, and low priming volumes of the Cardiohelp ECLS modules, side effects associated with standard CPB such as hemodilution, systemic inflammatory response, hemolysis, and ischemic myocardial damage were reduced significantly. This is good news and perhaps a step forward towards improving patient care in cases that do not require intracardiac access such as coronary artery bypass grafting procedures.

Although the Cardiohelp device has been successfully used during elective CABG procedures, its place in the OR is quite limited at the moment. The closed system design of the device offers no venous reservoir for recirculation of non-activated shed blood from the field, collection of vented blood during intracardiac valve repairs or other complex repair procedures, and offers no means for adequate decompression of the heart during CPB. With an absence of a venous reservoir comes a reduction in reaction time if something catastrophic were to take place. In the case of a module failure or compromise, the entire module would need to be changed out due to the integrated design of the ECLS device. Finally, the cost of the device and its disposables far exceed the cost of a standard CPB circuit and its

disposables.

Cardiohelp does in fact have a place in the acute care setting and has demonstrated that it can be a workhorse for long or short term ECMO Support to treat patients suffering cardiac failure or respiratory distress, can serve as a "Bridge" to cardiac transplantation, safely help transport patient's to facilities that can properly care for them, and for use as a safe alternative to conventional CPB in CABG cases. However, due to its high cost for the unit, its oxygenators, and other equipment, the device may not be affordable for centers without the budget. The device seems to shorten hospital stays, ICU time periods, and overall trauma to the patient due to its compact size and decreased contribution to hemodilution and SIRS activation. As devices evolve and new and innovative techniques help improve the outcomes associated with cardiac surgery and therapies, the Cardiohelp seems to have pushed the field in a new direction and will be interesting to see the other uses for similar technologies in the future.

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PRE-REGISTRATION FORM

The 2015 Annual Meeting of
The American Academy of Cardiovascular Perfusion



MEMBER	FEE	Amount	FIRESIDE CHAT REGISTRATION (make your first three choices each day)
Registration Fee	\$340.00	_____	Thursday Sessions 1) _____ 2) _____ 3) _____
2015 Annual Dues	\$155.00	_____	
Adult Guest to Workshop	\$25.00	_____	
NON-MEMBER	FEE	Amount	Friday Sessions 1) _____ 2) _____ 3) _____
Registration Fee	\$400.00	_____	
Adult Guest to Workshop	\$25.00	_____	
STUDENT PERFUSIONIST	FEE	Amount	Saturday Sessions 1) _____ 2) _____ 3) _____
Registration Fee	\$30.00*	_____	
Adult Guest to Workshop	\$25.00	_____	
* MUST include a letter from the school director with registration.			
<i>To take advantage of the Student rate of \$30.00, you must be a current Student Member of The Academy.</i>			
FELLOW or SENIOR MEMBER	FEE	Amount	Sunday Sessions 1) _____ 2) _____ 3) _____
Registration Fee	\$400.00	_____	
2015 Annual Dues	\$180.00	_____	
Guest to Induction Dinner	\$100.00	_____	
Adult Guest to Workshop	\$25.00	_____	

PRINT OR TYPE

NAME _____

ADDRESS _____

CITY _____ **STATE** _____ **ZIP** _____

HOME PHONE _____ **WORK PHONE** _____ **FAX** _____

E-MAIL ADDRESS _____ *(Required for confirmation)*

ANTICIPATED ARRIVAL DATE IN SAN ANTONIO _____

Please read all instructions and information before completing this form.

If you have questions completing this form, please call the national office. Hotel Reservations must be made separately through the hotel directly.

Total Amount of Payment \$ _____ **METHOD OF PAYMENT:** Check** ___ Money Order ___ Credit Card ___

VISA/MasterCard # _____ **Exp. Date** _____ **3-digit security code** ___ ___

Credit card billing address if different from above.

ADDRESS _____

CITY _____ **STATE** _____ **ZIP** _____

Signature _____

**** There will be a \$25.00 service charge for any check returned for insufficient funds.**

INSTRUCTIONS and INFORMATION

o Complete each appropriate section of this form by printing or typing.

This form may be copied, but must include both pages.

o Members must pay their 2015 Annual Dues along with their registration fees by completing that portion of the form.

o You will receive acknowledgment of your pre-registration by January 15, 2015--bring it with you to the meeting.

o No pre-registration will be processed after January 5, 2015.

-- **After this date you must register at the meeting.**

o Your receipt and meeting credentials will be available for you at the Pre-Registration desk at the meeting.

o There will be **NO ADMISSION to any Fireside Chat without proper admission credentials.**

o If you are joining The Academy with your registration you must:

1) complete appropriate areas of the form;

2) you **MUST INCLUDE** the membership application form;

3) include the \$25 filing fee;

4) include \$155 for the 2015 Annual Dues;

(Your membership begins with the closing business meeting)

o ONLY VISA/MasterCard credit cards are accepted - with VISA/MasterCard you may FAX your registration to (717) 867-1485

o The AACP Federal Tax ID Number: 63-0776991 (for hospital use only)

o Refund policy: Anyone that is pre-registered for this meeting and is unable to attend will receive a full refund minus \$50.00 for handling, mailing, and processing upon written request before January 12, 2015.

o **Make checks payable to AACP (US dollars). Mail completed pre-registration form and check to:**

**AACP
515A East Main Street
Annville, PA 17003**

IF YOU HAVE QUESTIONS FILLING OUT THIS FORM, PLEASE CONTACT THE NATIONAL OFFICE (717) 867-1485.

o If paying by VISA/MasterCard you may FAX this form to (717) 867-1485 or mail to above address.

THE ACADEMY TO OFFER LIVE WEBCAST

For the first time, the American Academy of Cardiovascular Perfusion will be offering a live webcast of our 2015 Annual Meeting in San Antonio. The General Sessions of the meeting will be broadcast in high quality streaming video. There will also be an opportunity for attendees to ask questions, thus qualifying for Category I CEUs from the American Board of Cardiovascular Perfusion.

More information along with registration details are available on our website (www.TheAACP.com).





Our Host Hotel



The Omni La Mansión del Rio Hotel

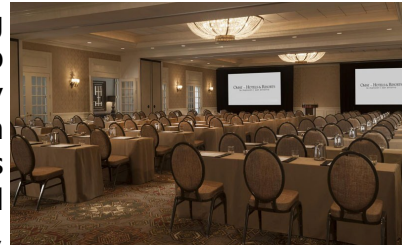
112 College Street
San Antonio, Texas 78205

\$184.00 Single/Double Occupancy
Reservations: 800-THE-OMNI

Please mention that you will be attending the Annual Conference of The American Academy of Cardiovascular Perfusion when making your reservations.



The Omni La Mansión del Rio is ideally nestled along the historic River Walk among the banks of the Paseo del Rio in downtown San Antonio, where it is perfectly situated for any visitor seeking to explore all of San Antonio's extensive range of tourist attractions. It is within easy walking distance of the fabled Alamo, El Mercado, La Villita District, Spanish Governors Palace, San Antonio Convention Center and other well-known landmarks.



Blending Spanish colonial architecture and European style, the four-diamond Omni La Mansión del Rio surrounds guests with the romance, grace and charm of a grand hacienda. Our San Antonio River Walk accommodations provide a haven for guests with graceful service and tranquil surroundings. Built on three levels that descend to San Antonio's festive River Walk, the Las Canarias Restaurant offers a romantic atmosphere of graceful palms, flowing waters and scenic views. This luxury San Antonio hotel located on the San Antonio River Walk, was recognized in the Celebrated Living's Magazine as one of the top hotels in the Nation.



Contact Information for Our Sponsoring Partners

COVIDIEN

Phone: 303-305-2370
Fax: 303-305-2865
Website: www.covidien.com

MAQUET MEDICAL SYSTEMS, USA

Phone: 888-627-8383
Website: www.maquet.com

MEDTRONIC PERFUSION SYSTEMS

Phone: 763-391-9000
Websites: www.medtronic.com
www.perfusionsystems.com

NONIN MEDICAL INC.

Phone: 763-553-9968
Fax: 763-553-0363
Website: www.nonin.com

QUEST MEDICAL, INC.

Phone: 800-627-0226 or 972-390-9800
Fax: 972-390-2881
Website: www.questmedical.com

rEVO BIOLOGICS

Phone: 508-620-9700
Fax: 508-370-3797
Website: www.revobiologics.com

SORIN GROUP USA, INC.

Phone: 800-221-7943 or 303-467-6517
Fax: 303-467-6375
Website: www.soringroup.com

SPECTRUM MEDICAL, INC.

Phone: 800-265-2331
Fax: 803-802-1455
Website: www.spectrummedical.com

TERUMO CARDIOVASCULAR SYSTEMS

Phone: 734-663-4145 or 800-521-2818
Fax: 734-663-7981
Website: terumo-cvs.com

THORATEC CORPORATION

Phone: 800-456-1477
Fax: 925-847-8514
Website: www.thoratec.com

XVIVO PERFUSION INC

Phone: 303-395-9171
Website: www.xvivoperfusion.com

Important Academy Dates

The ACADEMY ANNUAL MEETING DEADLINES

ABSTRACT DEADLINE	October 30, 2014
MEMBERSHIP DEADLINE	December 5, 2014
PRE-REGISTRATION	January 9, 2015
HOTEL REGISTRATION	January 9, 2015
2015 ANNUAL MEETING	February 5-8, 2015

Others Meetings

Update on Perfusion Devices Conference

Medical University of South Carolina
Charleston, South Carolina
October 16-18, 2014
Website: <https://www.musc.edu/chp/cvp/conference/>
Contact Name: Kristina Hill
Contact Phone: 843-792-6505
Contact Email: hilkri@musc.edu

Australian and New Zealand College of Perfusionists 2014 Annual Scientific Meeting

Hilton Hotel
Auckland, New Zealand
November 6-8, 2014
For information contact:
TarynE@adhb.govt.nz or ShujaZ@adhb.govt.nz