

THE AMERICAN ACADEMY  
OF  
CARDIOVASCULAR PERFUSION  
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Summer 2019

# The Academy Newsletter

## STEPPING UP YOUR GAME!

Save the date. Next year's Annual Academy Meeting will be in Reno, February 5-8, 2020 at the newly renovated **Grand** Sierra Resort! The program committee is gearing up and planning what promises to be another outstanding meeting. Oh, and did I forget to mention FUN for all! Stay a few extra days and bring your family. Enjoy the myriad of activities and events the Grand Sierra Resort has to offer... casino, shows, arcade games, laser tag, bowling, ice rink, theater, night life, etc.

I am honored to represent the Academy as this year's president. My professional focus has always been on transparency, engagement, volunteerism, and fellowship while maintaining a sense of humor. With your help, along that of Council and Executive Director, David Palanzo, we are committed towards continuing that theme. Stay tuned for updates on our progress throughout the year.

Work-life balance continues to be a favored topic of discussion these days and everyone has something to say about it. Where do you fit along the work-life spectrum? Do you work too hard, play too much, or are you somewhere in the middle? Each generation

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defines this balance differently. By year of birth, you're either a Boomer, Gen Xer, Millennial, or possibly Gen Y. Stereotypes and strong labels have been attached to these, but no one enjoys being placed in a box. The lines are often blurred, and like me, I expect most of us exhibit traits from all of these generations. For me, work-life balance doesn't have to mean work less *or* work more; it just means work differently with more flexibility. Creating successful engagement among our multi-generational teams can be challenging but it is absolutely possible.

Don't we all share a passion for our profession and desire for meaningful work regardless of our generation? It is up to us to engage each other and our workforce with honor and respect while understanding our strengths and differences.

Giving back, whether it's professionally or personally, has always been important to me. Growing up in a family of 7 children of parents who emigrated from Switzerland, this was instilled in us since early childhood. We had a family band named "The Giacomuzzi Family Musicians" and we would visit and share our love for music with local nursing homes and community centers across Chicago. Yes, we even did a little square dancing and performed yearly at the Museum of Science and Industry or the Daily Center! My mom always said, Carmen, it's often the "little" things we do that can make the biggest difference. So I'm asking for just a "little" more from each of you.



*Carmen (front and center)*

The Academy is looking to recruit more representatives from all years of experience to increase our generational diversity. Everyone has something to offer and with your help we can become a more powerful force that encourages and inspires more perfusionists to become involved. The Academy SEES YOU. We see your value. I challenge each and every one of you to step outside your comfort zone and find a way to volunteer and share your expertise in some fashion. Whether it's moderating, presenting, joining a committee, or offering up suggestions etc, let us hear your voice. Let's seek each other out and develop stronger connections that can improve both our professional and personal lives.

Hope to see you in Reno!

Carmen Giacomuzzi  
President, AACP

Want to learn more on how you can help? Check out our recruitment flier on the next page!

# AACP SEES YOUR VALUE!

Every Perfusionist is valuable and we want to hear from  
**YOU!**

**Not big on public speaking? No problem! There are MANY opportunities to fit your level of commitment for both associate and fellow members:**

- ♥ Committee members: Fireside Chat, Social Media, Program Planning, Membership, Student Liaison, Awards/Manuscript/epublications, & Sponsor's
- ♥ We aim to give you what you want from a meeting. Let your voice be HEARD! Help us deliver by brainstorming ideas for future meetings.

**We are always looking for presenters to keep all levels of experience represented!**

- ♥ Do you want to present but don't feel quite comfortable? Let us team you up with one of our veterans to help you cross the threshold!

## **Benefits:**

- ♥ Networking with experienced perfusionists
- ♥ Build your Resume
- ♥ Gain knowledge and experience
- ♥ Volunteering is good for your health! (Really!)



*Interested? Contact [giacomuz@ohsu.edu](mailto:giacomuz@ohsu.edu)  
or [office@theaacp.com](mailto:office@theaacp.com)*

Feeling social? Check us out on Facebook  
<https://www.facebook.com/AACP2019/>

and Instagram

[https://www.instagram.com/explore/tags/americanacademyofcardiovascular  
perfusion](https://www.instagram.com/explore/tags/americanacademyofcardiovascularperfusion)

Authored by Ashleigh LeBlanc, associate member

## EFFECTS OF HEMOCONCENTRATION DURING CARDIOPULMONARY BYPASS ON RENAL FUNCTION POST-OPERATIVELY

Currently, the use of hemoconcentration is clinician/perfusionist dependent. However, there should be an algorithm established for appropriate application for types of patients and clinical situations during the surgery. The perfusionist should assess the clinical condition pre-operatively by looking at BUN and creatinine levels, being aware of any edema, and other indicators such as diabetes and kidney failure. It is observed that patients undergoing large amounts of hemoconcentration exceeding the amount of cardioplegia given, showed a slower rate of return to normal renal function. This will impact the morbidity rate resulting from prolonged recovery time. The purpose of this study is to analyze the methods of hemoconcentration and the impact on renal function by data collection of BUN and creatinine levels.

This a retrospective study, hence all patients who went on bypass are included in this study. The values included for this study focus on the amount of cardioplegia given, the amount of hemoconcentration, and the BUN and creatinine level pre and post bypass. The BUN and creatinine levels were recorded for up to 4 days post-operatively. Paired T-tests were used to analyze the data recorded. Two types of cardioplegia were used; High/low solution and Del Nido.

In the results it could be seen that there was a significant rise in BUN levels by post-operative day 4 when compared to the pre-operative BUN, especially when more than 100% of pure crystalloid cardioplegia given, was hemoconcentrated off. There was also a significant rise in BUN levels by post-operative day 4 when high/low cardioplegia was used and no significant rise in BUN levels when Del Nido was used. It seems that excessive hemoconcentration, meaning more than 100% of cardioplegia given, may decrease renal function post-operatively.

**Natasha Povar,**  
*MS degree candidate,*  
*NSUH-LIUP SCVP,*

**Richard Chan,** CCP Emeritus,  
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*NSUH-LIUP SCVP,*

**Martin MacKechnie,** CCP,

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*The full manuscript of this article has been submitted to the journal Perfusion for possible publication.*

	Hemoconcentrated less than 100% of cardioplegia given	Hemoconcentrated more than 100% of cardioplegia given
BUN Pre-op vs BUN Post-op Day 4	P value: 0.1421 Mean Pre-op: 21.58 ± 13.18 Mean Post-op: 23.94 ± 12.23	P value: 0.0098* Mean Pre-op: 19.21 ± 7.22 Mean Post-op: 27.43 ± 13.04
Creatinine Pre-op vs Creatinine Post-op Day 4	P value: 0.8217 Mean Pre-op: 1.100 ± 0.390 Mean Post-op: 1.087 ± 0.495	P value: 0.5445 Mean Pre-op: 0.986 ± 0.271 Mean Post-op: 1.036 ± 0.418

Table 1. BUN & Creatinine Levels Dependent on Percentage of Cardioplegia Hemoconcentrated Off



	Pre-operative Vs. Post-operative D1	Pre-operative Vs. Post-operative D4
Del Nido N =15	P value: 0.0347* Mean pre-op: 22.67 ± 13.94 Mean post-op: 19.07 ± 11.14	P value: 0.3896 Mean pre-op: 22.67 ± 13.94 Mean post-op: 25.93 ± 14.72
Modified High/Low solution N = 30	P value: 0.0669 Mean pre-op: 19.93 ± 10.42 Mean post-op: 18.17 ± 8.70	P value: 0.0003* Mean pre-op: 19.93 ± 10.42 Mean post-op: 24.57 ± 11.39

Table 2. BUN Levels Pre-operative Vs. Post-operative & Type of Cardioplegia Used

BUN	Pre-operative Vs. Post-operative D1	Pre-operative Vs. Post-operative D4
High/low <100 % N = 23	P value: 0.0403* Mean pre-op: 20.83 ± 11.43 Mean post-op: 18.39 ± 9.46	P value: 0.0090** Mean pre-op: 20.83 ± 11.43 Mean post-op: 24.65 ± 12.82
High/Low > 100% N = 7	P value: 0.7573 Mean pre-op: 17.00 ± 5.69 Mean post-op: 17.43 ± 6.08	P value: 0.0044* Mean pre-op: 17.00 ± 5.69 Mean post-op: 24.29 ± 4.92

Table 3. BUN Levels Pre-operative Vs. Post-operative Using High/Low Solution & Percentage Hemoconcentrated Off

*Visit our website's homepage at  
[www.theAACP.com](http://www.theAACP.com) to view the presentations  
from the 2019 meeting in Florida.*



## ***"Inside Perfusion"***

**Webinar Series**

**Wednesday September 18, 2019**

**7PM to 8:15PM EST**

### **"Strategies to Minimize Acute Kidney Injury During Cardiopulmonary Bypass"**

Robert A Baker, PhD, CCP(Aus), Professor  
Director Quality and Outcomes,  
Director of Perfusion,  
Cardiac and Thoracic Surgery Unit,  
Flinders Medical Centre and Flinders University  
Adelaide South Australia

**Please Register Here:**

[https://zoom.us/webinar/register/WN\\_Dn9ACfIJShmaVfaOuDMPOA](https://zoom.us/webinar/register/WN_Dn9ACfIJShmaVfaOuDMPOA)

**ABCP has awarded 1.5 CEUs**

# AACP Social Media:

## Part 1: Facebook

*Authored by Alex Gum*

Social media provide perfusionists with incredible opportunities to share, connect, and learn from one another. While meetings and other events give us the chance to share new research and best practices, social media can serve to bridge the gaps between the times we are able to meet face-to-face. Whether we're looking for new techniques, wanting to see what the last meeting was like, or we're just curious about the latest goings-on, social media supply us with a myriad of ways to connect with other perfusionists and organizations.

The three largest social media companies today are Facebook, a full-featured desktop and mobile platform, Instagram, a mobile photo/video-sharing platform, and Twitter, a mobile text/link-sharing platform. This article will focus on Facebook, stay tuned for parts 2 and 3 to learn more about Instagram and Twitter!



### **Facebook**

#### *What it's good for*

Facebook is a full-featured platform that allows you to communicate with others, share photos/videos/links, participate in open/closed groups, and plan/experience events. Best used on a desktop computer.

#### *How to sign up*

Navigate to [www.facebook.com/r.php](http://www.facebook.com/r.php) in a web browser.

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Enter your first and last names, email or mobile number, a password, your birthday, and your gender.

Click "Sign Up".

You will be asked to verify your mobile number or email, depending on what you used to sign up. Email verification requires that you click on a link in a verification email from Facebook, while mobile verification requires that you receive a code that is texted to your mobile phone and enter it on the website.

When it's time to create a profile, all that's really needed is a photo of yourself and a few identifying details of your choice.

To use Facebook on a phone, download the app and log in using your credentials.

#### *How to use Facebook to engage with the community*

Facebook is the most full-featured social media platform of the "Big 3" platforms, the other two being Instagram and Twitter. In other words, it provides the greatest variety of ways to engage with the perfusion community. You can use your own profile page to make announcements, post photos/videos, share links, and start discussions. You can navigate to others' pages to share or speak with them directly. Furthermore, Facebook hosts a large number of group pages, like the official AACP page. Pages like this provide more direct engagement with perfusionists across the country and world.

### **Professional Use of Social Media**

Working in a medical field often puts us at odds with the main purpose of social media. In general, hospitals craft social media policies to provide employees with a clear understanding of what they can and cannot share - these policies vary among institutions. Some common rules include:

- No HIPAA violations
  - ◊ Posting any kind of information that in any way can be used to identify a patient constitutes a HIPAA violation. This information can be as cursory as a conversation picked up by your phone microphone while you film and share a short video of the pump.
- No misrepresenting yourself or your organization
  - ◊ When sharing on social media, it can be prudent to make clear that what you share is your own opinion, and does not reflect on your institution in any way. Furthermore, take care to disclose your connection to the organization when discussing where you work and what you do - misrepresentation of what you do can reflect poorly on you and your institution/organization.



- Don't speculate

- ◊ As a person associated with a hospital, professional organization, and perfusionists everywhere, using social media to engage in speculation or furthering rumors can have unpredictable and often negative effects on you and your associates.

## Engagement with the Academy

Social media provide an easy way of engaging with fellow perfusionists and organizations like the AACP. Using AACP's Facebook group page, you can pose poll questions to members, engage in discussions, share photos and experiences. Following accounts like the AACP's twitter profile can keep you in the loop with regard to meetings or society business that goes on throughout the year. If you are on Facebook (or about to be!), be sure to join the AACP Facebook page by clicking "Like"!



*This article is Part I of a three article series composed by the AACP Social Media Committee.*



As many of you are aware, the Center for Medicare and Medicaid Services (CMS) reassigned the Diagnostic Related Group codes for patients supported on ECMO using peripheral vessels for fiscal year 2019 (DRG codes are used to determine hospital payment). This decision was based upon the misguided belief that cannulation site was associated with patient acuity and the necessary consumption of hospital resources. ELSO and the Society of Thoracic Surgeons (STS) lead an effort to work with CMS in reversing this decision. Using the ELSO Registry, financial data from several leading centers, as well as projections on the impact to hospitals and patients, we were able to recruit 15 additional specialty societies to join our cause. On Tuesday, April 23rd, CMS publically released the proposed DRG assignments for fiscal year 2020. We are pleased to announce that **THE INJURIOUS PAYMENT CUTS HAVE BEEN REVERSED**. CMS acknowledged the importance of **your** ELSO Registry data which contradicted the presence of any relationship between cannulation site and acuity. We thank you for your tireless efforts and meticulous attention to detail in making our Registry effective in quality assurance, research, education, and patient advocacy. ELSO will continue to represent the ECMO community and most importantly, our patients.

Dr. Jonathan Haft  
ELSO Device & Technique Chairman



**FDA Approved**



## The Quantum Smart Occluders

The Quantum Smart Occluder is a revolutionary new approach to the management of the perfusion circuit. Using high precision closed loop flow control it allows for sophisticated management under a variety of conditions:

- Initiation Mode
- Weaning Mode
- Backflow prevention
- Bubble protection

The Smart Occluders also has the ability to connect 2 Flow/Bubble sensors, 2 Pressures and Level detection integration allowing cabling to be shortened.

USA and Canada Business Inquiries:  
Call 800 265 2331  
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UK, EU and ROW Business Inquiries:  
Call +44 (0) 1242 650120  
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[www.spectrummedical.com](http://www.spectrummedical.com)

## USING A QUALITY IMPROVEMENT INITIATIVE TO REDUCE ACUTE KIDNEY INJURY DURING ON-PUMP CORONARY ARTERY BYPASS GRAFTING

Acute kidney injury (AKI) following surgery utilizing cardiopulmonary bypass (CPB) is an expensive complication with high morbidity and mortality. With a reported prevalence ranging from 2-40%, the incremental costs associated with AKI following cardiac operations are about one billion US dollars annually. In response to a perceived high incidence of AKI following CPB at our institution, a quality improvement initiative consisting of a systematic change to a delivered oxygen ( $\text{DO}_2$ ) goal directed perfusion (GDP) practice was implemented. We sought to maintain  $\text{DO}_2 > 270 \text{ ml/min/m}^2$  to reduce the incidence of AKI.

The study population included all patients receiving isolated, non-emergent, on-pump coronary artery bypass grafting from January 2015 through December 2018, excluding

patients requiring preoperative hemodialysis.  $\text{DO}_2$  GDP was instituted in February 2017, consisting of efforts to maintain adequate cardiac index and hemoglobin (Figure 1). Outcomes included AKI incidence, postoperative change in serum creatinine, and mortality.



**Mitchell A. Katona**

MSIII

Long School of Medicine  
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San Antonio, Texas

*The full manuscript of this article has been submitted to the journal Perfusion for possible publication.*

The pre-GDP cohort included 257 patients, and the post-GDP cohort included 226 patients (Table 1). While there were more Hispanic and male patients in the post-GDP group, neither significantly influenced the risk of AKI (OR = 1.01, 95% CI: 0.70 – 1.47,  $p = 0.962$  and OR = 0.91, 95% CI: 0.60 – 1.40,  $p = 0.677$ , respectively). While the post-GDP group had higher preoperative SCr and lower eGFR, suggesting worse renal function in the post-GDP group, these differences did not represent an independent risk factor for AKI in our sample ( $p = 0.159$  and  $p = 0.171$ , respectively). The  $\text{DO}_2$  was significantly higher in the post-GDP group ( $p < 0.001$ ). Postoperative change in serum creatinine and incidence of AKI were significantly lower in the post-GDP group ( $p < 0.001$ ,  $p = 0.001$ , respectively, Figure 2).

This initiative confirms previous assertions that  $\text{DO}_2$  is a critical intraoperative parameter and should direct perfusion interventions accordingly.



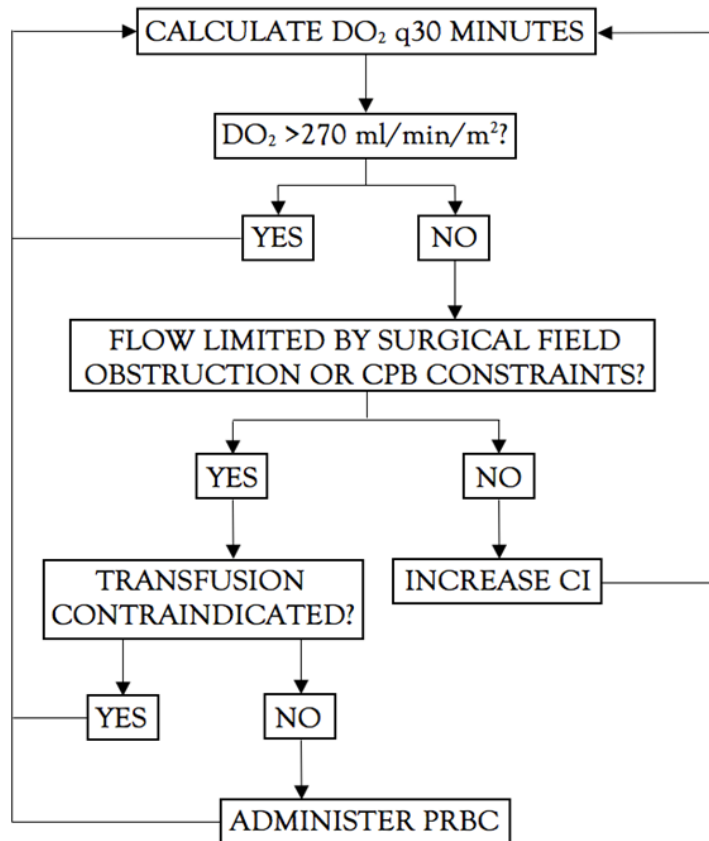


Figure 1.

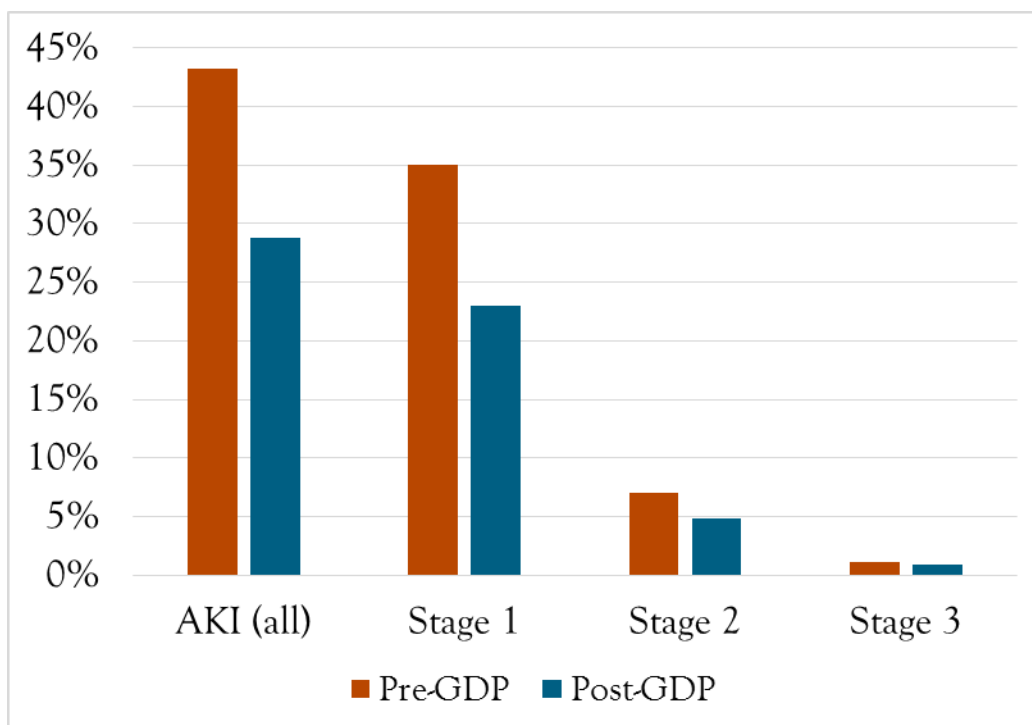


Figure 2.

Table 1.

Variables	Pre-GDP (n = 257)	Post-GDP (n = 226)	p Value
Male gender	182 (71)	179 (79)	0.034
Age (years)	60.9 ± 9.7	60.5 ± 10.0	0.803
Hispanic ethnicity	131 (51)	139 (62)	0.020
BMI (kg/m <sup>2</sup> )	30.7 ± 5.8	30.7 ± 5.5	0.968
Anemia	121 (47)	100 (44)	0.535
Diabetes	172 (67)	141 (62)	0.298
HbA <sub>1c</sub> (%)	7.72 ± 2.10	7.43 ± 2.05	0.072
Preoperative SCr	1.01 ± 0.53	1.10 ± 0.43	<0.001
eGFR	80.9 ± 23.2	75.5 ± 23.4	0.013
Pump time (min.)	96.6 ± 29.2	98.4 ± 33.5	0.542
Prime volume (mL)	1535 ± 228	1563 ± 253	0.529
RAP used	222 (86)	204 (90)	0.187
RBC prime	24 (9.3)	23 (10.1)	0.757
Transfused	109 (42)	115 (51)	0.063
Min. DO <sub>2</sub> (L/min/m <sup>2</sup> )	238 ± 37.3	278 ± 43.9	<0.001
Min. CPB Hb (g/dL)	7.55 ± 1.25	8.47 ± 1.38	<0.001
Min. CI (L/min/m <sup>2</sup> )	2.04 ± 0.15	2.12 ± 0.17	<0.001
Postoperative ΔSCr (%)	135 ± 47.7	125 ± 41.2	<0.001
AKI incidence	111 (43)	65 (29)	0.001
AKI Stage 1	90 (35)	52 (23)	0.004
AKI Stage 2	18 (7.0)	11 (4.9)	0.322
AKI Stage 3	3 (1.2)	2 (0.9)	0.757
Mortality (30-day)	4 (1.6)	1 (0.5)	0.238

Values are mean ± SD or n (%).

BMI = body mass index; HbA<sub>1c</sub> = glycated hemoglobin; SCr = serum creatinine; eGFR = estimated glomerular filtration rate; RAP = retrograde autologous priming; RBC = red blood cell



## Contact Information for Our Sponsoring Partners

### **CARDIOQUIP**

Phone: 979-691-0202 or 888-267-6700  
Website: [www.CardioQuip.com](http://www.CardioQuip.com)

### **INVOSURG**

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Website: [www.invosurg.com](http://www.invosurg.com)

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Phone: 800-221-7943 or 303-467-6517  
Fax: 303-467-6375  
Website: [www.soringroup.com](http://www.soringroup.com)

### **MEDTRONIC PERFUSION SYSTEMS**

Phone: 763-391-9000  
Websites: [www.medtronic.com](http://www.medtronic.com)  
[www.perfusionsystems.com](http://www.perfusionsystems.com)

### **QUEST MEDICAL, INC.**

Phone: 800-627-0226 or 972-390-9800  
Fax: 972-390-2881  
Website: [www.questmedical.com](http://www.questmedical.com)

### **SPECTRUM MEDICAL, INC.**

Phone: 800-265-2331  
Fax: 803-802-1455  
Website: [www.spectrummedical.com](http://www.spectrummedical.com)

### **TERUMO CARDIOVASCULAR SYSTEMS**

Phone: 734-663-4145 or 800-521-2818  
Fax: 734-663-7981  
Website: [terumo-cvs.com](http://terumo-cvs.com)

## Important Academy Dates

### The ACADEMY ANNUAL MEETING DEADLINES

**ABSTRACT DEADLINE**      **October 15, 2019**

**MEMBERSHIP DEADLINE**   **December 5, 2019**

**PRE-REGISTRATION**        **January 9, 2020**

**HOTEL REGISTRATION**     **January 9, 2020**

**2019 ANNUAL MEETING**   **February 5-8, 2020**

### *Others Meetings*

#### **18th European Congress on Extracorporeal Circulation Technology**

Grand Hotel

Salerno, Italy

June 12-14, 2019

*Sponsored by the Foundation European Congress on Extracorporeal Circulation Technology (FECECT)*

Website: <http://www.fecect.org>

Contact Phone: +31104527004 / +31629229655

Contact E-mail: [office@fecect.org](mailto:office@fecect.org)

**Who: Hemetech, Inc ([dwholt@hemetech.com](mailto:dwholt@hemetech.com))**

**What: Perfusion Technology Review (PTR) Program**

**When: Late Summer, 2019**

**Why: To BEST prepare those seeking to pass the Perfusion Boards in Fall 2019**

**Where: LIVE Webinar and details at [www.hemetech.com](http://www.hemetech.com)**

# ***2020 Annual Meeting***



***Reno, Nevada  
February 5-8, 2020***



## **Our Host Hotel Grand Sierra Resort**

**[www.GrandSierraResort.com](http://www.GrandSierraResort.com)  
Reservations: 800-648-5080**

**Single/Double Occupancy:**

**Sunday-Thursday: \$121.50 (includes daily resort fee)**

**Friday & Saturday: \$161.50 (includes daily resort fee)**

***Remember to mention that you will be attending the Annual Conference  
of The American Academy of Cardiovascular Perfusion (AACP).***

### ***AACP 2019 Officers and Council***

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*Carmen Giacomuzzi  
Portland, OR*

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S. Weymouth, MA*

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