EDITORIAL MISSION: The JAPACVS is the official clinical journal of the Association of PAS in Cardiothoracic and Vascular Surgery. The mission of the JAPACVS is to improve Cardiac, Vascular and Thoracic Surgical and CVT Critical Care patient care by publishing the most innovative, timely, practice-proven educational information available for the physician assistant profession.

PUBLISHED CONTENT IN THE JAPACVS: Statements and opinions expressed in the articles and communications herein are those of the authors and not necessarily those of the Publisher or the Association of PAS in Cardiothoracic and Vascular Surgery (APACVS). The Publisher and the APACVS disclaim any responsibility or liability for such material, including but not limited to any losses or other damage incurred by readers in reliance on such content. Neither Publisher nor APACVS verify any claims or other information appearing in any of the advertisements contained in the publication and cannot take responsibility for any losses or other damage incurred by readers in reliance on thereon. Neither Publisher nor APACVS guarantees, warrants, or endorses any product or service advertised in this publication, nor do they guaranty any claim made by the manufacturer of such product or service.

SALES OFFICE
APACVS
1435 Taylor Wood Rd.
Simpsonville, KY 40067
Phone (502) 321-6155
admin@apacvs.org

JAPACVS/Journal of the Association of PAs in Cardiothoracic and Vascular Surgery is published quarterly (4 issues per volume, one volume per year) by APACVS 1435 Taylor Wood Rd., Simpsonville, KY 40067. Volume 1, Number 1, Spring 2019. One year subscription rates: $40 in the United States and Possessions. Single copies (prepaid only): $10 in the United States

© 2019 APACVS, INC. All rights reserved. No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including by photocopy, recording, or information storage and retrieval system, without permission in writing from the publisher.
Contents

Editorial
5 Raison D’etre
David J. Bunnell, MSHS, PA-C – Editor-in-Chief

Prospective Randomized Trial
7 Prospective Evaluation of a Simplified System for Endoscopic Vein Harvest
JoAnn Montecalvo, MPAS, PA-C; Shawn J. Sussman, PA-C; Nona Chen, PA-C; Albert K. Chin, MD; Scott L. Schubach, MD, FACS, FACC

Case Report
17 Peripartum Cardiomyopathy Presenting with Syncope Followed by Cardiac Arrest.
Stephen A. Devries, MPAS, PA-C; Darrell Newman, MD; Casey Clements, MD, PhD

Literature Review
26 Practicing Medicine in the Digital Age: Patient Privacy and Social Media
Kimberly Mackey, MPAS, PA-C

Special APACVS Section
30 APACVS Education Task Force Report
Dustin Bartlett, PA-C; David J. Bunnell, MSHS, PA-C; Karen Calcaño, PA-C; Michael Doll, PA-C; Danica Fascella, PA-S; David E. Lizotte, PA-C; Aaron Morton, PA-C; Kimberly Sweet, PA-C.

35 The Interview
Five Questions for Jonathan Sobel, DMSc, MBA, PA-C, DFAAPA, FAPACVS
2.5 million EVH procedures
23 years of experience
11 generations of products
1 passion

Partnering great technology with great talent.

For over two decades, your commitment to endoscopic vessel harvesting (EVH) has produced more than two and a half million procedures. Through eleven generations, our complete family of Vasoview products have helped create sustainable, reproducible and long-term patient outcomes\textsuperscript{1-5}.


Join us at APACVS booth 24/25
For more information go to getinge.com/us/education/evh/
Editorial

Raison D’être

*Raison d’être* is translated from French as “reason for being”. PAs have had an ongoing need to justify our existence since the first class rolled out in 1968. Frequently the existential questions are external when we describe ourselves to patients or policy makers. Sometimes the angst is internal as we understand who we are and work to create the future of who we will be. It is within this context the Journal of the Association of PAs in Cardiothoracic and Vascular surgery is born. The editorial vision for this work is to inform, improve, and define PA practice in cardiac, thoracic, and vascular surgery as well as surgical critical care.

The editorial vision for this work is to inform, improve, and define PA practice in cardiac, thoracic, and vascular surgery as well as surgical critical care.

In the past we have struggled with barriers of general medicine journals feeling that our work is too specific for their audience and for journals aimed at surgeons to not see the value in scholarship from our profession. This was, for a time, a source of frustration in our community. However, it turns out this barrier is an opportunity. If there was no friction in getting our work noticed then the APACVS Board of Directors would not have had any reason to take steps to create a pathway for scholarship. This decision involves a great deal of consideration, investment, and work.

As I learn the role of Editor-in-Chief I need to confess my anxiety about creating a journal in a space where there is not currently a culture of scholarship. What if nobody submits articles for peer review? What if nobody agrees to be a peer reviewer? What if other journals feel we are a competitor instead of a parallel pathway which compliments their work? What if we are unable to communicate the value of writing for peer reviewed journals to practicing PAs, PA students, and doctoral candidates? What if...? What if...? What if...?
All of this makes me remember my favorite philosopher Fred Rogers:

Anything that’s human is mentionable, and anything that is mentionable can be more manageable.

When we can talk about our feelings, they become less overwhelming, less upsetting, and less scary.

The people we trust with that important talk can help us know that we are not alone.

I trust you with this important talk of mentionable worry because I know in the PA community we are not alone. This is a place for all PAs to inform, improve, and define practice so we can provide excellent care to everyone. What if we created a journal together and had a role in making patients feel better and live longer? Perhaps it might be a worthwhile raison d’etre.

**JAPACVS Editorial Policy**

JAPACVS publishes invited commentary and letters to the editor in response to published articles in which the authors are given the opportunity to respond.
Prospective Evaluation of a Simplified System for Endoscopic Vein Harvesting.

JoAnn Montecalvo¹, MPAS, PA-C; Shawn J. Sussman², PA-C; Nona Chen², PA-C, Albert K. Chin³; M.D., Scott L. Schubach⁴, M.D., FACS, FACC

¹Director of Clinical Operations, NYU Winthrop Hospital, 259 First Street, Mineola, NY 11501, ²Thoracic and Cardiovascular Surgery, NYU Winthrop Hospital, 259 First Street, Mineola, NY 11501, ³Chief Innovation Officer, Saphena Medical Inc., 1100 Industrial Rd., Suite 16, San Carlos, CA 94070, ⁴Chairman of the Department of Thoracic and Cardiovascular Surgery, NYU Winthrop University Hospital, 259 First Street, Mineola, NY 1150

Corresponding Author: JoAnn Montecalvo, MPAS, PA-C, NYU Winthrop University Hospital, 259 First Street, Mineola, NY 11501. E-mail address: Joann.Montecalvo@nyulangone.org Telephone: 516-663-9279

PA Montecalvo is a member of the JAPACVS Editorial Board.

Abstract

Background: Simplified instrumentation has been developed to perform endoscopic vein harvesting (EVH) for coronary revascularization.

Objective: This study was performed to measure differences in conduit properties and technique parameters of simplified versus conventional EVH instrumentation.

Methods: A prospective randomized trial was conducted in 42 coronary bypass patients at NYU Winthrop University Medical Center. Consecutive patients underwent EVH using either a simplified device or conventional instrumentation. Three clinicians each performed fourteen harvests (seven with each device). Recorded parameters included: (1) number of grafts, (2) harvested vein length, (3) number of tributaries, (4) number of graft repairs, (5) presence of char on transected tributaries, (6) incision length, (7) subcutaneous bleeding, (8) drain requirement, (9) intraluminal thrombus, (10) ACT at harvest time, and (11) vein harvest time. Differences were analyzed between individual clinicians, and for overall parameters.

Results: A highly significant difference in tributary charring was observed (3 versus 18 samples, P < 0.0001). No significant differences were observed in vein graft repairs (P =1.0), incidence of bleeding (P = 0.66), average harvesting time (P ≥ 0.83), or average harvested vein length (P = 1.0).

Conclusion: Based on the results of this study, it appears that adoption of a simplified endoscopic vein harvesting device entails a limited learning curve, and enhanced thermal limitation may be achieved during tributary transection.

Keywords

Endoscopic vein harvest, thermal spread, C-ring, graft quality, char, bipolar energy, high density current
Introduction

Endoscopic harvesting of the greater saphenous vein (EVH) for coronary artery revascularization has been recognized as the standard of care for over a decade. In 2005, the consensus panel of the International Society of Minimally Invasive Cardiothoracic Surgery (ISMICS) stated that “EVH should be the standard of care for patients who require saphenous vein grafts for coronary revascularization”.

Although vein quality and graft patency in endoscopically harvested conduit have been questioned in a retrospective analysis of data from the PREVENT-IV trial, a meta-analysis of 267,525 patients considering only data from randomized trials found no statistical difference in mortality, adverse cardiac events, vein graft stenosis or graft occlusion between EVH and OVH (open vein harvest) at a median follow-up of 2.6 years.

Striving for improved conduit quality should be paramount in the mind of clinicians performing endoscopic vein harvesting for coronary artery revascularization. Simplified instrumentation has been developed to facilitate endoscopic vessel harvesting for both experienced and novice practitioners (Venapax®, Saphena Medical, Inc., West Bridgewater, MA). The instrument reduces the number of moving parts in the device to minimize graft manipulation, and it employs a cautery element that applies localized high density current to the tributary to achieve ligation with limited corresponding adjacent energy conduction. The device utilizes conventional endoscopic guided conical tip dissection under carbon dioxide gas insufflation, with bipolar cautery blades retracted into the cannula body during the dissection process (Figure 1). The blades are extended out of the cannula for tributary cautery and transection (Figure 2), following isolation of the vein from surrounding subcutaneous connective tissue. In lieu of the traditional ring retractor that rides along the adventitial surface of the vein during EVH, the device provides vein retraction with directed placement of the conical tip on the vein trunk during tributary transection. The atraumatic nature of conical tip application to the adventitial surface of the vein was demonstrated by histological and immunohistochemical studies conducted on the first nine patients undergoing tapered tip dissection in the United States. Removal of the ring retractor potentially avoids inadvertent avulsion of unrecognized tributaries, and decreases the exertion of shear force on venous adventitia during axial ring movement. Tributary cautery is performed by forward extension of two elongated blades. The movable blade contains a sharp cutting edge, and it rotates with respect to the stationary anvil blade. As the pair of blades is advanced forward and rotated to close down on the tributary, bipolar cautery is applied to seal the branch vessel (Figure 3). The sharp edge of the movable blade exhibits an exceedingly small surface area of contact with the tributary. The entire energy output of the electrosurgical generator is delivered to this minute contact area, leading to conduction of high density current into tissue that causes instantaneous desiccation and sealing of the tributary. Energy delivery to the cautery blades is governed by the logic programmed into the electrosurgical generator, and energy delivery is interrupted upon a significant rise in tissue impedance. Controlled cessation of delivered bipolar energy avoids prolonged tissue heating leading to tissue charring and lateral thermal spread. Vein dissection and tributary transection are conducted within a closed insufflated tunnel. Gas insufflation is infused via a soft flexible silicone rubber port, to avoid vein compression and venous stasis.
Figure 1. Simplified Device Tip
The bipolar electrocautery blades are retracted into the cannula.

Figure 2. Cutting Blade Extension
The bipolar electrocautery blades are shown in an extended configuration.
Methods

In an attempt to determine whether endoscopic vein harvesting with simplified instrumentation results in observable differences in the harvesting process or graft properties, a prospective randomized trial was conducted in 42 patients undergoing coronary artery revascularization at Winthrop University Medical Center between May 22nd and September 1st 2017. A random number generator was utilized to rank order consecutive patients, with even numbered patients undergoing endoscopic vein harvesting using simplified instrumentation (Venapax® device, Saphena Medical, West Bridgewater, MA), and odd numbered patients undergoing endoscopic vein harvesting using conventional instrumentation (VasoView HemoPro2® device, Maquet Cardiovascular, Wayne, NJ). Three clinical vein harvesters participated in the study, with each participant performing fourteen harvests (seven with each device). Two of the harvesters were very seasoned EVH practitioners, having performed over 5,000 and 3,000 EVH procedures using the conventional device, respectively; while the remaining harvester was less experienced, with a total EVH background of 200 procedures. One experienced EVH operator had previously performed 150 harvests with the simplified instrumentation, while the other two clinicians were novice users of the simplified system, each having performed ten cases with the device prior to initiation of the study. The study was approved by the NYU Winthrop University Hospital Institutional Review Board, NYU Winthrop University Hospital Study Trial Registration Number: 1055915-2, approved May 11, 2017, and patient consent was obtained prior to the procedure. Fisher’s exact tests were conducted on 2x2 contingency tables of the resultant continuous data.

Procedure

Endoscopic vein harvesting was performed in a conventional manner, via a skin incision at or slightly above the knee to isolate the greater saphenous vein. Low dose heparin was not administered prior to vein harvesting. The procedure was performed under carbon dioxide gas insufflation in a closed tunnel at approximately 10 mm Hg of insufflation pressure and a low flow rate of 6 liters per minute. The length of greater saphenous vein harvested was determined by the anticipated number of required coronary grafts. Conical tip dissection was followed by tributary sealing and transection. Following removal of the vein from the lower extremity, transected tributaries were clipped flush with the vein trunk, and needed repairs were performed with 7-0 Prolene monofilament suture upon venous distention with heparinized saline.

Data Collection

Data was collected in this study with the objective of evaluating functional characteristics of the two endoscopic vein harvesting devices, and the resultant gross morphology of the harvested conduits. The following surgical parameters were recorded during each procedure: (1) number of grafts required, (2) length of harvested vein, (3) number of tributaries encountered, (4) number of reparative graft interventions required, (5) presence of charring on transected tributaries, (6) skin incision length, (7) bleeding observed in subcutaneous tunnel, (8) requirement for a subcutaneous drain, (9) presence of intraluminal thrombus, (10) ACT (activated clotting time) at the time of harvest, and (11) vein harvest time.
**Statistical Analysis**

Fisher’s exact tests were conducted on 2x2 contingency tables of the resultant continuous data, performed with software provided by GraphPad Software (La Jolla, CA). Potential significant difference between individual clinicians was analyzed, as well as potential significant differences in overall parameters.

**Results**

The results obtained in this study are summarized in Table 1. A highly significant difference in charring was observed during tributary ligation (P < 0.0001). No significant differences were observed in the number of interventions required to repair the vein graft between the two devices among individual harvesters, or in the overall analysis (P =1.0). The incidence of bleeding associated with endoscopic vein harvesting was not significant (P = 0.66) between the two devices. Average harvesting time and average vein length harvested both did not exhibit significant differences, nor did skin incision lengths. No retained clot was observed in any vein endoscopically harvested with either system in this study. The ACTs measured at time of harvest were all in the normal non-anticoagulated range, between 92 – 117 seconds, with a mean ACT of 102 seconds.

**Table 1. Parameters Evaluated for Traditional and Simplified EVH Devices**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Traditional Cannula</th>
<th>Simplified Device</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procedures, n</td>
<td>21</td>
<td>21</td>
<td></td>
</tr>
<tr>
<td>Tributary Charring</td>
<td>18</td>
<td>3</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Number of Interventions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harvester 1</td>
<td>2</td>
<td>1</td>
<td>0.61</td>
</tr>
<tr>
<td>Harvester 2</td>
<td>3</td>
<td>1</td>
<td>0.64</td>
</tr>
<tr>
<td>Harvester 3</td>
<td>0</td>
<td>2</td>
<td>0.23</td>
</tr>
<tr>
<td>Overall</td>
<td>5</td>
<td>4</td>
<td>1.0</td>
</tr>
<tr>
<td>Bleeding in Tunnel</td>
<td>4</td>
<td>2</td>
<td>0.66</td>
</tr>
<tr>
<td>Average Harvest Times (min)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harvester 1</td>
<td>43.57</td>
<td>35.71</td>
<td>1.0</td>
</tr>
<tr>
<td>Harvester 2</td>
<td>18.71</td>
<td>17.57</td>
<td>0.83</td>
</tr>
<tr>
<td>Harvester 3</td>
<td>30.71</td>
<td>25.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Average Vein Length (cm)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Harvester 1</td>
<td>40.21</td>
<td>36.07</td>
<td>1.0</td>
</tr>
<tr>
<td>Harvester 2</td>
<td>38.4</td>
<td>35.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Harvester 3</td>
<td>45.7</td>
<td>36.5</td>
<td>1.0</td>
</tr>
</tbody>
</table>
Discussion

The technique of endoscopic vein harvesting during coronary artery revascularization was initially performed with the intention of decreasing the significant morbidity associated with open extraction of the greater saphenous vein. Historically, open saphenous vein harvesting resulted in incisional wound healing complications in as high as 24% to 44% of bypass patients. With EVH, the incidence of lower extremity wound complications has decreased dramatically, and statistically significant decreases in postoperative leg wound infection persist in more recent prospective randomized trials comparing EVH and open vessel harvesting. Efforts to ameliorate saphenous vein harvest site incisional complications must be coupled with advancements in atraumatic conduit procurement, as enhanced graft longevity is the primary objective in vein graft procurement. Thermal and mechanical vein injuries that occur during the course of endoscopic harvest are postulated to be responsible elements that may reduce graft patency. In this study, a highly significant decrease in charring was observed with the simplified system upon tributary sealing and transection (3 samples versus 18 samples, P < 0.0001). Thermal energy has been proposed to cause endothelial injury leading to intimal hyperplasia and graft stenosis. In a study comparing graft patency between EVH and open harvest for lower extremity bypass in critical limb ischemia, Eid found that graft stenosis in the EVH group was more commonly seen in the body of the bypass graft, likely at the site of cautery of large branches; whereas in the open harvest group, it was generally localized to the anastomosis. In this peripheral vascular study, the requirement for long vein graft lengths in lower extremity bypass magnified the importance of even a single compromise to the vein due to thermal conduction or mechanical error. In coronary artery bypass procedures, shorter graft length requirements may allow exclusion of an injury site in the central portion of the vein. Anatomical considerations also affect the propensity for vein graft thermal injury. Krishnamoorthy observes that many side branches are cut very short in two situations—one, near the popliteal area due to superficial leg veins; and two, in patients with thin legs due to surrounding dense fibrous tissue. Short branch transection may lead to thermal injury on the vessel wall. With the simplified harvest cannula, the dot corresponding to the distal conical tip is placed on the lateral aspect of the vein during tributary sealing, ensuring an 8 mm distance between the cautery site and the vein wall. The axially confined movement of the bipolar cautery blades assists with tributary takedown in tight and superficial situations. The C-ring retractor of the traditional device deviates laterally upon extension, and an enlarged harvesting tunnel is required for proper manipulation. In confined spaces with a high number of branch vessels, such as the popliteal region, C-ring retractor use may result in inadvertent tributary avulsion.

Another important finding in this study is the absence of significant difference between the two devices in the following categories: (1) tributary avulsion rate; (2) the incidence of bleeding in the harvest tunnel; (3) the time associated with vein harvesting; and (4) the length of vein harvested. This finding is significant due to the fact that two out of three harvesters were novice users of the simplified device, with each novice user limited to a ten case prior experience with the new cannula. Tributary avulsion and shortened tributary transection sites occur more prominently during the learning curve of novice EVH practitioners. It is estimated a one hundred case learning curve is associated with the traditional system. This extended learning curve is necessitated by the large number of manipulations required to harvest a vein using the conventional cannula. With the traditional endoscopic cannula, tributary ligation and transection encompasses the following steps: (1) Extension of the C-ring retractor up and over each tributary; (2) Rotation of the C-ring to position it onto the vein trunk distal to the tributary; (3) Advancement of the heat sealing device and rotation of the jaws to place them in an orthogonal orientation to the tributary; (4) Activation of the
heating element to seal the tributary; and (5) Rotation and axial translation of the heat sealing device to transect the tributary. Not only the number of manipulations associated with each tributary takedown, but also the mandatory endoscopic hand-eye coordination required to be facile with the technique led to the protracted learning curve associated with the traditional system. The arduous process of EVH assimilation by harvesters in training has been singled out as a relevant factor in the graft quality associated with endoscopic versus open vein harvesting.\textsuperscript{11,14,15} Removal of the C-ring retractor in the simplified harvesting device serves two purposes: One, it decreases the learning curve associated with EVH, as placement of the conventional device within the subcutaneous tunnel is complicated by the lateral deviation of the C-ring as it is extended from the cannula, effectively truncating the endoscopic working cavity. Two, it removes the component of shear force exerted on the graft adventitia as the C-ring is applied to the vein in an axial fashion during the harvesting procedure. With the simplified system, the cannula remains centered within the insufflated subcutaneous tunnel, and required control manipulation is reduced to the following three steps: (1) Extension of the paired cutting blades; (2) Rotation to close the cutting blades while simultaneously apply bipolar cautery energy; and (3) Distal translation of the closed blades to transect the cauterized tributary. Early experience with the simplified system suggests a learning curve reduction from one hundred procedures down to approximately ten procedures.

The primary impetus for a simplified EVH device is to improve graft quality and longevity, not only with harvesters undergoing the learning curve of the technique, but also with experienced clinicians. Decreasing the number of moving parts and control elements in the harvesting cannula correspondingly reduces the number of touch points on the vessel, hopefully leading to consistent, superior graft quality.

Mechanical vein graft injury may have obvious manifestations such as tributary avulsion, vein dissection or graft perforation. Less obvious injury may occur with vein traction or vein torsion sustained during the harvesting procedure. In this study, the incidence of tributary avulsion was not different between the two devices, even with the novice users of the simplified device. It is theorized that a reduction in the degree of mechanical vein manipulation that occurs with the simplified system may translate to a more physiologic conduit; and anecdotally, enhanced vein distention has been observed during graft preparation following endoscopic extraction with the simplified cannula compared with the traditional device. However, verification of this observation awaits future study with microscopic evaluation of graft endothelial morphology.

Conclusion

In summary, in a prospective, randomized study comparing the morphologic characteristics of greater saphenous vein endoscopically harvested using a simplified system versus the traditional cannula, a significant decrease in the number of thermally induced, charred tributaries was observed with the new system. We believe that this decrease in observed thermal injury translates into enhanced graft quality. The limited learning curve associated with the device will hopefully lead to increased adoption with superior clinical results in terms of conduit quality and graft patency.
References


Declarations

Consent for publication: Not applicable

Data Statement: The datasets used and/or analyzed during the current study are available from JoAnn Montecalvo, MPAS, PA-C, (jmonteca@nyuwinthrop.org) on reasonable request.

Competing interests: JoAnn Montecalvo is a Surgical Advisory Board member of Saphena Medical, Inc. Dr. Chin is the Chief Innovation Officer of Saphena Medical, Inc. The other authors declare that they have no competing interests.

Funding: No sources of funding were obtained for this study.

Authors’ contributions: JoAnn Montecalvo, MPAS, PA-C initiated the study design and performed the procedures. Shawn J. Sussman, PA-C and Nona Chen, PA-C performed the procedures. Albert K. Chin, M.D. was a major contributor in writing the manuscript. Scott L. Schubach, M.D, FACS, FACC directed the study design and managed the study execution. All authors read and approved the final manuscript.

Acknowledgements: Not applicable
Certified PAs follow their hearts. NCCPA is here to support you along the way.

Earn a CAQ in Cardiovascular/Thoracic Surgery

The Cardiovascular/Thoracic Surgery (CVTS) Certificate of Added Qualifications (CAQ) is your chance to set yourself apart from others in your field and to show your dedication to patient care in the specialty.

Why earn a CAQ?

Many CAQ recipients report receiving job promotions, pay increases, cash bonuses and increased recognition from physicians and other health care providers.

Learn more at: www.nccpa.net/cardiothoracicsurgery
Peripartum Cardiomyopathy Presenting with Syncope Followed by Cardiac Arrest.

Stephen A. Devries, MPAS, PA-C; Darrell Newman, MD; Casey Clements, MD, PhD

1Department of Emergency Medicine, Mayo Clinic College of Medicine, Rochester, MI
2Division of Cardiology, Mayo Clinic College of Medicine, Rochester, MI

Introduction

Determining the etiology of syncope can be very challenging due to a very broad differential diagnosis. The spectrum of causes for syncope can range from benign events like a vasovagal response to severe, life-threatening dysrhythmias. According to the Framingham Study, 3% of men and 3.5% of women were reported to have had at least one episode of syncope in their lifetime.1 Syncope accounts for approximately 3% of Emergency Department visits and 6% of hospital admissions annually.2 Herein we report a case of syncope followed by a cardiac arrest with recurrent ventricular fibrillation (VF) and cardiogenic shock secondary to postpartum cardiomyopathy. Peripartum cardiomyopathy (PPCM) is a rare complication of pregnancy affecting approximately one in 1,300 pregnancies annually in the United States.3 Several factors are discussed related to the diagnosis, management, and prognosis.

Case Report

A 33 year-old female was transferred to our large academic Emergency Department after a syncopal event. The patient was gravida 3, para 2, abortus 1, who was 5 months status-post elective Cesarean section at 39 and 0/7 weeks gestation. The pregnancy was complicated by polyhydramnios status-post reduction. The patient was moderately obese (height 165.0 cm, weight 92.3 kg, BMI: 33.9 kg/m2), was taking only oral contraceptive medication, and had other past medical history of gastroesophageal reflux disease. Her symptoms included transient dizziness ongoing for one week and a single episode of syncope from earlier that morning while in the shower. On arrival, she was alert and oriented times three, in no acute distress. Vital signs were as follows: pulse rate 74 beats/min, blood pressure 128/75 mm Hg, respirations 16 breaths/min, and Oxygen saturation 100% on room air.

Physical examination revealed normal S1 and S2, regular rate and rhythm, without murmur, rub, or gallop. Lungs were clear to auscultation bilaterally. No focal weakness or dependent edema. Mucus membranes were pink and moist. Electrocardiogram (ECG) showed sinus rhythm with a single isolated premature ventricular contraction. (Figure 1) Laboratory studies revealed no anemia, leukocytosis, or electrolyte derangement. She was rehydrated with 1 liter of normal saline intravenous (IV) fluid bolus as she did appear mildly dehydrated on physical examination. She was asymptomatic during Emergency Department course and was ambulatory with normal gait. The patient did not endorse symptoms of chest pain or dyspnea to suggest acute coronary syndrome or pulmonary embolism (PE). At that time, findings were consistent with vasovagal syncope and mild dehydration, and the patient was discharged to home.
Figure 1. Sinus rhythm on presentation. This 12-lead electrocardiogram tracing, recorded at 08:12 upon initial presentation to the Emergency Department, features a sinus rhythm at 69 beats/min with a solitary premature ventricular contraction. The corrected QT interval was 396 ms which is within normal limits. There was no previous electrocardiogram for comparison.

Shortly after returning home, she became unresponsive, pulseless, and apneic. Her husband immediately began cardiopulmonary resuscitation (CPR) and activated Emergency Medical Services (EMS). Upon EMS arrival, she was found to be in ventricular fibrillation arrest. The patient was defibrillated once which resulted in return of spontaneous circulation. (Figure 2) She was given epinephrine 1 mg IV and amiodarone 300 mg IV. Paramedics intubated the patient prior to transport back to our Emergency Department for further management. On arrival, the patient was mechanically ventilated and was noted to have strong peripheral pulses. Vital signs were as follows: pulse rate 81 beats/min, blood pressure 128/81 mm Hg, respirations 12 breaths/min mechanically ventilated. She was unresponsive with Glasgow Coma Scale of 6T as she withdrew to pain.

Submit to our new journal!

JAPACVS
Journal of Association of Physician Assistants in Cardiothoracic And Vascular Surgery
Figure 2. Ventricular fibrillation with defibrillation converting to normal sinus rhythm. This prehospital tracing was taken by Paramedics who responded after patient was found unresponsive, pulseless, and not breathing by her husband. This occurred approximately 5.5 hours after her initial Emergency Department presentation. Initially, ventricular fibrillation is shown followed by a single defibrillation which successfully converted back to sinus rhythm with return of spontaneous circulation.
Physical examination revealed bilateral breath sounds with coarse crackles diffusely, heart rate was regular rate and rhythm without murmur rub or gallop, pupils 3 mm equal and reactive. Neurologically, she localized to pain but was otherwise unresponsive. ECG showed a junctional rhythm with ST depression in the inferior and lateral leads. (Figure 3)

Figure 3. Junctional rhythm with marked ST abnormality. This tracing was recorded at 14:16, 6 hours after that seen in Figure 1 and approximately 10 minutes after that seen in Figure 2. Junctional rhythm with ST depression in the inferior (II, III, and aVF) and lateral (I, aVL, V5, and V6) leads has now replaced sinus rhythm. Corrected QT interval remains within normal limits at 341 ms.

Chest X-ray showed no significant cardiopulmonary process with proper endotracheal tube placement. Initial laboratory studies revealed a pH of 7.17 with HCO₃ of 19 mmol/L on arterial blood gas. Lactate was 4.46 mmol/L, D-Dimer was elevated at >2,000 ng/mL, and serum troponin T was undetectable. There was a leukocytosis of 25.8 10³/µL with left shift, hypokalemia of 3.0 mmol/L, sodium of 143 mmol/L, and hemoglobin of 14.6 mg/dL. While in the resuscitation bay of the Emergency Department, she had a second episode of ventricular fibrillation. She was successfully defibrillated back to sinus rhythm after one attempt. At that time, the patient was given epinephrine 1 mg IV and started on an amiodarone infusion at 1 mg/min. A second peripheral IV and intraosseous (IO) lines were established and the patient was given a total of 3 liters of normal saline for volume resuscitation. There was concern for PE given her postpartum state and elevated D-Dimer, although the etiology of her cardiac arrest remained unclear. A limited bedside transthoracic echocardiogram (TTE) did not reveal any evidence of pericardial effusion or tamponade. Head computed tomography (CT) was negative for acute intracranial process. Chest computed tomography angiogram (CTA) was negative for PE but did show evidence of aspiration pneumonitis and biventricular enlargement. There was also no evidence of Aortic dissection on CT. In the later stages of the patient’s resuscitation, she did become hypotensive with a blood pressure of 74/31 mm Hg with a heart rate of 102 beats per minute and required phenylephrine as well as norepinephrine. Hypothermia protocol was initiated. The patient did stabilize enough for transfer to the Coronary Care Unit (CCU), although remained in critical condition.
Upon arrival to CCU, she was tachycardic and hypertensive with blood pressure of 161/92 mm Hg. Norepinephrine and sedation medications were stopped. However, the patient remained unresponsive and hypothermia protocol was continued. Broad spectrum antibiotics were given. Bedside TTE showed moderate decrease in left ventricular systolic function with regional wall motion abnormalities. Once her condition stabilized, she was taken to the cardiac catheterization suite. Coronary angiography showed no evidence of coronary artery disease and an endomyocardial biopsy was negative for myocarditis. Upon returning to the CCU, she became unstable with recurrent episodes of ventricular tachycardia and fibrillation requiring multiple direct current (DC) cardioversions and defibrillations. The patient also required CPR administration. Multiple vasopressor and dysrhythmic medications were initiated. Her condition continued to decline and extracorporeal mechanical oxygenation (ECMO) was initiated emergently. A transesophageal echocardiogram (TEE) was performed and showed biventricular dilation with global dysfunction and a left ventricular ejection fraction (LVEF) of 25%. She was transitioned to the Intensive Care Unit (ICU) postoperatively where she developed recurrent torsades de pointes requiring multiple defibrillations. Bedside TTE done later that evening showed severe decrease in left ventricular systolic function with LVEF of 5%-10%, concerning for noncompaction cardiomyopathy. Inotropic therapy was then initiated. Dysrhythmic medications were continued, none of which satisfactory controlled the dysrhythmias. Given her intractable ventricular dysrhythmias, the patient was taken to the operating room for a Syncardia ® total artificial heart (TAH) transplant on the third day of her hospital course. She was placed on the transplant list with the intent of the TAH acting as a bridge until a match donor heart was available to her for transplantation. Native heart pathology returned patchy interstitial fibrosis.

The patient made remarkable progress post TAH transplant. There was no neurologic compromise with excellent end-organ function. On post-operative day 18 status post TAH implantation, day 21 of hospital course, a donor heart had become available and the patient was taken to the operating room for explantation of the TAH with orthotopic heart transplantation. Coming off bypass, moderate inotropic support was required due to significant right ventricular dysfunction and failure. There was also concern for cytotoxic antibody requiring a temporary dialysis line for urgent plasmapheresis. The post-operative course was complicated by persistent hypotension, renal failure, and fluid overload. Due to her hemodynamic instability and fluid overload, she was taken back to the operating room the next day for implantation of a right ventricular assist device (RVAD).

Postoperatively, her hemodynamics slowly improved. Plasmapheresis and immunosuppression were continued. Inotropic and RVAD support were slowly decreased. Ultimately, the RVAD was removed after 10 days. The patient tolerated this well and remained hemodynamically stable. She did not have any neurologic compromise. On day 80 of hospital course, she was transitioned to a step-down unit for further rehabilitation.
Discussion

Syncope is defined as a transient loss of consciousness with associated loss of postural tone and spontaneous recovery. There are many potential etiologies for syncope which cover a wide range in severity. This makes determining a cause of syncope very challenging. Kapoor et al reported that a cause for syncope was undetermined in 48% of cases. Often times, there is more than one isolated manifestation. Therefore, the San Francisco Syncope Rule was developed to assist with risk stratification. (Table 1) Our patient did not meet any of the criteria giving her a 5% chance or less of a serious outcome within 30 days. When assessing a peripartum female after a syncopal event, PPCM must be considered when no other causes are identified.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Serious Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>History of congestive heart failure</td>
<td>Death</td>
</tr>
<tr>
<td>Hematocrit &lt;30%</td>
<td>Myocardial infarction</td>
</tr>
<tr>
<td>New ECG changes</td>
<td>Dysrhythmia</td>
</tr>
<tr>
<td>Shortness of breath</td>
<td>Pulmonary embolism</td>
</tr>
<tr>
<td>Systolic blood pressure &lt;90 mm Hg</td>
<td>Stroke</td>
</tr>
<tr>
<td></td>
<td>Significant hemorrhage</td>
</tr>
<tr>
<td></td>
<td>Other conditions that result in return to the Emergency Department and hospital admission</td>
</tr>
</tbody>
</table>

Table 1. The San Francisco Syncope Rule was designed as a tool to assist with risk stratification of patients after a syncopal event. Patients that do not meet any inclusion criteria are considered low risk for developing a serious outcome.

PPCM is a rare complication of pregnancy with an estimated annual incidence rate between 1,000 and 3,000 cases in the United States. The incidence varies widely with higher rates in the southeastern US, Africa, and particularly Haiti which has the highest incidence rate worldwide. Of these women, most are obese, multiparous, and over 30 years of age. Gestational hypertension was reported in 43% of cases. Approximately 50% of cases result in complete or almost complete recovery by 6 months. Occasionally, this condition results in clinical deterioration which may lead to heart failure or death. According to a retrospective study done by Mielniczuk et al., total mortality rate was 2.05%. In our case, the patient was obese, multiparous, and over 30 years of age. However, she had no hypertension or history of heart disease.
Management depends on the time of onset. Diuretics, digoxin, nitrates and hydralazine are administered during pregnancy and vaginal delivery is preferred. Post-partum management includes beta-blockers, ACE inhibitors (captopril is recommended if breast feeding is anticipated). Salt and water restriction are important when signs of volume overload are present. On occasion, warfarin is recommended when the LVEF is less than 35% due to the hypercoagulable state postpartum. Mechanical circulatory support or transplant is reserved for refractory cases. The long-term prognosis is variable and is related to the rate of recovery of both left ventricular function and left ventricular dilatation.\(^7\) Left ventricular function normalizes in most women within the first 6 months; however, recovery has been reported as late as 9 years in African American women.\(^{15}\) Among those who fail to recover left ventricular function, the mortality rate has been reported as high as 85%. Recommendations regarding subsequent pregnancy are controversial. However, it is generally discouraged for women with persistent left ventricular dilatation and/or dysfunction.\(^7\)

References

Performance that stands out.

Harvesters are making the smart move to the VirtuoSaph® Plus Endoscopic Vessel Harvesting System

The VirtuoSaph Plus System integrates key design features that deliver a higher standard for patient safety and efficiency in the operating room.

- Reduced CO₂ embolism risk with open CO₂ system and distal insufflation
- Clinical evidence shows preservation of structural and functional viability of saphenous vein endothelium
- Bipolar electrosurgical energy targets energy away from conduit
- Low resistance two-pass dissection, one-pass harvesting
- Exceptional visibility using unique endoscopic lens wiper

To learn more, visit terumo-cvgroup.com/evh

Practicing Medicine in the Digital Age: Patient Privacy and Social Media.
Kimberly Mackey, MPAS, PA-C

PA Mackey practices in Cardiac Surgery at Children’s Healthcare of Atlanta and is a member of the JAPACVS Editorial Board. She is APACVS Communications Chair and manages social media for the association.

In the modern day of digital data, patients’ surgical and diagnostic images have become more prevalent on the internet, especially within social media. Images of intraoperative surgical findings are posted to social media by medical professionals, specifically surgeons, physician assistants, nurse practitioners, and online medical journals. As this information becomes more available online, it is important to consider the healthcare profession’s ethical and legal responsibilities in posting patients’ surgical data to social media.

Literature Search

Social media traces its roots to the early 2000s when LinkedIn was created in 2003, Facebook in 2004, YouTube in 2005, Twitter in 2006, and lastly Instagram in 2010. Since its conception, social media has experienced exponential growth and how the medical community utilizes social media continues to evolve. An online medical search of “social media patient images surgery” in PubMed reveals only seven studies, suggesting the lack of well-established clinician practice guidelines. The majority of the PubMed literature relates to posting surgical images pertaining to plastic surgery. No studies were found that regard sharing cardiothoracic or vascular surgical images. Expanding the literature search to Google further reveals a limited amount of publications detailing social media in cardiovascular and thoracic surgery.

Individual Use

However, searching social media, there is a growing prevalence of radiologic surgical data and surgical procedures available that highlights social media’s educational benefits for medical professionals. A commentary published in the Journal of Thoracic and Cardiovascular Surgery, describes how resident physicians use YouTube to augment their training in the placement of central lines. The commentary provides an example of a thoracic surgeon live tweeting a video-assisted right lower lobectomy, publicly sharing video content of the operation. In addition to procedures, a significant aspect of surgery includes radiological surgical data. Despite such educational advantages, a review article, “Social media for radiologists: an introduction,” mentions a limitation of social media – it is not technically peer-reviewed. In contrast to the traditional peer review process, the article notes that social media utilizes an “open review process” whereby the online community can comment and facilitate scholarly discussion.
Organizational Use

Expanding beyond clinicians posting patient content online, there is a newer trend of scholarly printed journals and organizations sharing publications online as well. In 2015, The Annals of Thoracic Surgery and The Journal of Thoracic and Cardiovascular Surgery created the Thoracic Surgery Social Media Network to bring attention to the online publications in the field. The American College of Radiologists utilizes Twitter’s “TweetChat” during professional meetings so radiologists can collaborate on scholarly topics in a free online forum. The New England Journal of Medicine first posted online medical content to Instagram in 2018, highlighting the prevalence of online pictorial patient data. As medical providers and academic entities increasingly utilize social media, it is important to stay abreast of the professional, legal, and ethical obligations of sharing content on social media. Below are some key highlights for medical providers to consider before sharing medical content on social media.

HIPAA

One of the most important factors to consider is being compliant with all applicable legal rules and regulations. The Health Insurance Portability and Accountability Act (HIPAA), passed in 1996, prohibits sharing identifiable medical health information. HIPAA applies to sharing medical information on social media and medical providers must ensure any surgical data is deidentified in accordance with the current HIPAA standards before posting to social media. Identifiable health information includes 18 identifiers, the most common of which are a patient’s name, medical record numbers, phone number, social security numbers, account numbers, and geographical identifiers smaller than a state. In regards to sharing surgical images, a full facial photograph is considered as one of the 18 identifiers.

Serious repercussions exist for individuals and organizations that violate HIPAA. HIPAA violations are divided into four categories depending on severity of the violation. Category 1, the least severe, constitutes a violation in which the entity was unaware of, and could not have reasonably avoided, the violation. The most severe violation, Category 4, occurs when an entity demonstrates willful neglect. The financial penalty for a Category 1 violation ranges from $100 - $50,000 whereas a Category 4 violation exceeds $50,000.

Violating HIPAA by disclosing identifiable health information without patient consent has grave penalties beyond the statutorily imposed penalties. There are reports of a patient suing a physician in-training and the hospital for $1.5 million because the physician allegedly posted an identifiable patient picture to Facebook without the patient’s consent. On an organizational level, a hospital system allegedly disclosed the name of a patient without the proper consent to a media press release, which resulted in a $2.4 million-dollar settlement.
In addition to consequences with regulations such as HIPAA, hospitals and employers may establish, and enforce, their own standards regarding employees sharing patient data. Hospitals may have policies with more stringent regulations than HIPAA, forbidding the sharing of even deidentified data on social media. In one case, a nurse was terminated after posting patient information to Facebook. Even though the patient’s name was omitted, because the Facebook profile included the city, the geographic identifier made the data potentially identifiable as the area was smaller than a state. For more information regarding the laws of information technology, the U.S. Department of Health & Human Services provides a Social Media Policies Checklist.

**Informed Consent**

Abiding by applicable informed consent policies is also required prior to sharing deidentified medical content on social media. These policies often required both written and verbal patient consent.

An American Medical Association Journal of Ethics article states that patients must understand that once photographs are posted online, they are disseminated to a large audience and this process cannot be reversed. Sharing content should be done respectfully and honoring the patient-physician relationship.

**Copyright**

Copyright laws provide that a person who takes a photograph owns the copyright to the photograph unless such person is a photographer for hire and under an employment contract, in which case the photographer’s employer owns the copyright. It is important to credit the source of an image. If you are the source, credit yourself to protect the image.

There are sensitive considerations, such as strict adherence to HIPAA laws, compliance with hospital policies, and patient consent that are important to be aware of while sharing medical content to social media. Sharing deidentified surgical images and videos, with proper patient consent, on social media provides vital medical education among surgeons, physician assistants, and the professional medical community. An overwhelming educational benefit exists among medical professionals, patients, and the public in sharing medical educational content. While there is always a place for publication in medical journals, the immediate publication and free usage of social media present specific advantages. As the medical community adapts to the digital age, the opportunities within social media to connect and educate, ethically and legally, are, and will continue to be, invaluable.
References


Association of PAs in Cardiothoracic and Vascular Surgery
Education Task Force Report

Dustin Bartlett, PA-C; David J. Bunnell, MSHS, PA-C; Karen Calcaño, PA-C; Michael Doll, PA-C; Danica Fascella, PA-S; David E. Lizotte, PA-C; Aaron Morton, PA-C; Kimberly Sweet, PA-C.

Authors are members of the APACVS Education Task Force. The report was reviewed and accepted by the APACVS Board of Directors.

Abstract

PAs are versatile clinicians in cardiac, thoracic, vascular, and critical care specialties. Transitioning new providers to practice is important as the specialties rise to meet increasing demand for services. Experienced PAs need solutions to maintain knowledge and skills as well as ways to adapt with changes in a dynamic field in a way that fits demanding professional schedules. This paper reviews what it means to be an experienced PA, a pathway to regain competency after time away from practice, a recommended transition to practice, recommendations on remaining current, and the role of the Association of PAs in Cardiothoracic and Vascular Surgery in supporting education needs of these PAs.

Introduction

The Association of Physician Assistants in Cardiothoracic and Vascular Surgery (APACVS) is the leader in education for PAs in these specialties and is dedicated to providing resources for association members to constantly improve care for our patients. 3,282 PAs identified their practice as cardiothoracic and vascular surgery in 2017 which is an increase of 124 PAs from the year prior. By the year 2030 every member of the Baby Boomer generation will have reached the age of 65 and by 2035 older adults will outnumber children. In 2016 the United States Health Services and Resources Administration (HRSA) projected a national shortage of 1,810 cardiothoracic surgeons as well as a shortage of 510 vascular surgeons by 2025. HRSA also estimated a surplus of surgical specialty PAs in 2025 overall with 520 surplus vascular surgery PAs and no estimates of cardiothoracic PAs due to lack of data. In recognition of the increasing patient population that requires our services and the increasing numbers of PAs practicing cardiothoracic and vascular surgery, APACVS President Steven Gottesfeld, PA-C commissioned the APACVS Education Task Force to evaluate the needs of new PAs as they transition to practice, experienced PAs as they seek to keep their knowledge and skills current, the best ways to accomplish these goals, and the role of the association supporting our members.
What does it mean to be an experienced and educated PA in Cardiothoracic Surgery, Vascular Surgery, and Surgical Critical Care?

There is a diversity of practice within Cardiac, Thoracic, Vascular, and Surgical Critical Care practices. Defining one specific pathway that defines experience in all practice is limited by this variance. However, there are commonalities that can be used to suggest experience and education. This list is not intended to be absolutely required, however, it is a reasonable starting point for PAs to consider as achievement and for practices to consider as they build and maintain standards for their team. It was generally agreed that pathway to initial competency, while different for individuals, requires two years of focused study and practice.

1. Achieve the basic requirements for all PAs which are graduation from an Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) approved PA program, passing the National Commission on Certifying Physician Assistants (NCCPA) PA National Certifying Exam (PANCE), and state licensure.

2. Familiarity with all areas of the NCCPA Cardiovascular and Thoracic Certificate of Added Qualifications educational blueprint as it applies to a particular clinical practice.

3. Completion of a class for common procedures which includes didactic and hands-on practice that covers what is performed in that individual PA’s practice.

4. Demonstration of clinical procedural proficiency by preceptors at the bedside.

5. Practicing in the specialty as defined by 200 patient encounters within the past five years. (A patient encounter is defined by the Fellow of the APACVS application as acting as a first or second assistant in the operating room—including harvesting conduit, acting as the primary operator in performing any diagnostic or therapeutic procedure, or active participation in the bedside management of a patient.)

6. Completion of 150 category 1 CME credits in cardiac, vascular, thoracic, cardiology, pulmonary, or critical care medicine within the past six years with 50 of these hours within the past two years as specified by NCCPA CVT CAQ requirements.

7. FAPACVS and CVT CAQ designations are not required to be considered an experienced PA but are helpful in demonstrating knowledge and experience.
Pathway to regaining clinical competency after time away from the specialty.

PAs may occasionally change specialties and find themselves outside of cardiac, vascular, thoracic, or surgical critical care medicine. If a PA is not practicing in these specialties for the previous five years the following pathway is suggested to return to the specialty.

1. Completion of 50 category 1 CME credits in cardiac, vascular, thoracic, cardiology, pulmonary, and surgical critical care medicine.
2. Completion of a procedural skills course that can be either in-person or on-line education.
3. Demonstration of clinical procedural proficiency by preceptors at the bedside.
4. This list is not exhaustive in recognition that reintegration to the specialty needs to be tailored to the practice for which the PA is entering. It is recommended that practices have a defined onboarding process for transitions into practice.

What do new PAs need to Transition to Practice?

The American College of Surgeons recognized the need for transition to practice (TTP) programs for physicians transitioning from residency to practice as an attending physician and developed a TTP program that included formal mentoring, proctoring by senior surgeons, and objective review outcomes. There has been a recognized need for senior providers to have key roles for supporting junior providers and for professional societies to play a key role in outlining national standards for TTP programs. The Cleveland Clinic describes an onboarding process for PAs and Advance Practice Registered Nurses (APRN) that includes working with another provider four days per week with didactic classes on the fifth day. This allows a provider to gradually increase autonomy over time with the support of a senior provider.

A meta-analysis of procedural instruction for bedside clinical skills concluded the evidence was strongest for simulation and competency-based education and recommended this should be the focus of education. A research group proposed that William Hallstead’s “Learn One, See One, Do One” method of instruction be amended to “Learn” cognitive concepts and psychomotor skills, “See” skills demonstrated by an instructor, “Practice” through simulation, “Prove” by objective skills assessment, “Do” initially under direct supervision, and “Maintain” through clinical practice or simulation, for infrequently practiced procedures, as a framework for procedural skills training.

What do experienced PAs need to stay current?

A 2011 paper examining the “Challenges and Opportunities in Medical Education” reported that an internist in 1950 could expect that all medical knowledge would double in 50 years. By 2020 a clinician can expect that medical knowledge will double every 73 days. To stay current on what is known about medicine and surgery can feel like an impossible task. This is why PAs need an intentional plan to ensure their knowledge base is updated to ensure the best, evidence-based practice is available for patients.
It is the aim of the Task Force to consider the questions in the context of the literature. However, there is no specific data on this question so the recommendations are based on the expert opinion of experienced PAs. The members stressed the importance of practice in maintaining expertise in complex specialties. The reality of practice requires that PAs continue to hone their vocation by constantly refreshing and furthering their knowledge and by practicing their skills. The culture of being expert professionals in cardiac, thoracic, vascular, and critical care specialties is central to the identity of APACVS members.

Adult learners have the benefit of having access to different learning methods that fit their learning style. PAs need to develop a personal plan to utilize technology and live events in order to have the working knowledge to provide excellent care.

Point of care internet resources are helpful when asking specific questions in which the answers incorporated current literature which are available at a cost. There are also medical websites which cover recent literature and professional meetings that are free to users. A recent trend is the advent of medical podcasts whose mission is both primary education and review of journal content. Reading peer reviewed journals continues to be central to maintain expertise in the practice of medicine.

Professional conferences are the mainstay of gaining and maintaining specific knowledge and skills. APACVS is the only organization that provides this education with the specific goal of creating training experiences for PAs in these specialties. Local education programs in the form of journal clubs, grand rounds, as well as morbidity and mortality conferences are useful in connecting practice to current medical literature. Teaching students, presenting at conferences, and developing articles for peer reviewed journals are useful activities because developing the content is a form of continuing education.

What Role Does the APACVS Have in This Process?

The APACVS as a specialty organization plays a key role for new and experienced PAs alike by:

1. Providing conferences that teach basic concepts for initial learning and refreshing knowledge, identifying emerging trends, as well as teaching procedural and surgical skills.
2. Creating online resources for PAs to learn throughout the year in the form of video lectures and online live participation lectures and journal clubs.
3. Maintaining relationships with similar organization to ensure that education and opportunities remain available and relevant to the practicing PA.
4. Publishing the Journal of the Association of PAs in Cardiothoracic and Vascular Surgery to be a source for research of practice and periodic review articles to maintain a PAs knowledge base.
Conclusion

PAs are versatile clinicians in cardiac, thoracic, vascular, and critical care specialties. Creating and maintaining a workforce of PAs with expertise in this high-level work is vital to continuing to provide access to excellent care for everyone. It is imperative that APACVS continues to lead in defining PA practice and creating pathways for education to enable them to maintain expertise.

References


9. Learn, See, Practice, Prove, Do, Maintain: An Evidence-Based Pedagogical Framework for Procedural Skill Training in Medicine Sawyer, Taylor DO, MEd; White, Marjorie MD, MPPM, MEd; Zaveri, Pavan MD, MEd; Chang, Todd MD; Ades, Anne MD; French, Heather MD; Anderson, JoDee MD, MEd; Au-erbach, Marc MD, MSCI; Johnston, Lindsay MD; Kessler, David MD, MSCI Academic Medicine: August 2015 - Volume 90 - Issue 8 - p 1025–1033
Five Questions for Jonathan Sobel, DMSc, MBA, PA-C, DFAAPA, FAPACVS.

Dr. Sobel is the first APACVS President to go on to become AAPA President. He took time from a busy schedule of being both the Senior Administrative Director of PA Services at Northwell Health and President of AAPA to answer five questions so we can better understand what is it like for one of our own to represent the entire profession.

You have had a busy year as AAPA President with lots of travel throughout the country as well as a great deal of time in Washington DC representing the profession. What have you learned about the PA profession that perhaps you didn’t know before you were handed the gavel in May 2018?

While I always knew that there were PAs working outside of Cardiovascular and Thoracic Surgery and other specialties, I have learned that PAs are doing incredible things especially in rural primary care areas. Many serve as the only health care provider for great distances and take care of patients throughout the entire lifespan. Some are mission driven to care for the homeless, taking the clinic to the patient in the streets rather than the usual approach. Some are innovating new ways to tackle the opioid crisis. PAs are brave, creative, resilient, caring
individuals who make amazing contributions to the health of our nation.

The pillars of Optimal Team Practice (OTP) that were passed by the AAPA House of Delegates which is now AAPA policy looms large as our profession evolves. (OTP pillars are eliminating requirement for PAs to have an agreement with a specific physician, creation of separate majority-PA board to regulate PAs, and authorization for PAs to be directly reimbursed by all public and private insurers. All while acknowledging that PAs practice with teams.) Can you help PAs in cardiac, thoracic, vascular, and critical care specialties understand how this may affect their practice if passed by their state legislature?

Dave, thank you for asking this important question. It is vitally important that PAs understand that they practice in a highly autonomous fashion in these specialties and others, and that outdated statutes and regulations don’t reflect this reality. OTP will recognize these realities and remove artificial barriers and misconceptions to our practice. PAs are no longer an experiment or pilot project—we have proven in the literature over 52 years that we provide safe and effective care and no longer require the vestigial concept of “supervision”. We must be responsible for our own practice decisions and actions while working alongside other members of the care team. If the surgeon is in the operating room and I am in the ICU caring for our other patients, should I not be responsible for the decisions I make? If I decide to extubate a patient who is not quite ready, and they aspirate with subsequent pneumonia that was my decision based upon my assessment. Every other profession is responsible for their practice, it is time we are as well. New graduates do not need additional schooling, they will continue to need mentoring and development with gradually increasing responsibility. This is no different than what is done by all other professions when bringing on new entrants to the field.

For many years PAs have struggled with public misperceptions about our training, experience, and capabilities. AAPA and NCCPA have jointly undertaken a marketing campaign to address this problem. How did the years of PAs calling for such a campaign finally get approved and have you seen early results from the campaign?

This was as a direct result of listening to what our Constituent Chapter (CO) leaders were telling us would help them move legislation forward in their states. A lack of understanding about the profession was viewed as a significant impediment in effecting changes. It is also a major component of our OTP strategy in addition to lobbying funding that our AAPA BOD has made available for state chapters who request such assistance. Our communications team did an amazing job putting together multiple versions of TV ads, print ads, billboards, and fact sheets about the profession for use in the campaign.

We were extremely grateful that NCCPA saw the value in these efforts and offered to match our initial contributions to the campaign. With their support, we have run full page color nationwide ads in USA Today, and secured several radio advertising spots in
national markets.

Additionally, we have written local and national Op Ed pieces in strategic markets, and advertised in “The Hill” a publication circulated in Washington and frequently read by legislators.

While feedback from PAs had been excellent, the true measure of success will be when we see the results of 2019 and future legislative sessions in passing legislation to remove barriers to practice.

You have completed more education since you have been APACVS President. Help us understand why you chose to pursue a doctoral degree and how you see doctoral degrees evolving the profession moving forward.

PAs are lifelong learners, and I am no different. I recognized back in 2008 that I was only in possession of a Bachelor degree and most PAs were graduating with a Masters. I decided to pursue an MBA at that time so that I could better understand the business side of medicine. I was able to rewire my thinking through this degree, because business brings an entirely different perspective on the world, but both are vital to caring for patients. I finished that degree in 2012 and was content for a few years.

I chose to pursue the DMSc degree at the University of Lynchburg, because the curriculum added additional pieces to my formal education that I felt would be helpful. Courses such as EBM were not part of PA training when I was a student in the late 80’s. Learning to accurately perform a literature search after forming a research question, and how to integrate the results into a patient informed decision process was important. A course in Health Law was not only interesting, but useful to me in better understanding the law around peer review and anti-trust laws. Learning how to read case law and interpret legal precedent was another important skill set.

I believe that doctoral degrees should be available to those PAs who elect to pursue this level of education. It is no secret that most of the other professionals around the table in a healthcare organization have evolved these degrees into the mainstream of their profession. I do not believe that it is or should be required for practice, as I feel that our PA Education programs are doing a great job producing highly capable PA professionals at the current Masters level. Increasing the length of PA education is contrary to the concept of a rapidly trained health care provider. If PA training and medical school durations start to converge, it will be counterproductive to society.
I remember listening to your APACVS Leadership Fellow presentation discussing the creation of the Fellow of the APACVS program that was notably before the AAPA created their Distinguished Fellow designation. Can you help us understand how you were formed as a PA leader in APACVS and give advice for those reading who think they may want to follow your path?

I was fortunate to be in the right place at the right time when a thought-provoking question was asked at an APACVS meeting. It identified a problem that needed a solution and I felt that I had an answer. I was also lucky that those in charge believed that someone outside of the leadership circle could contribute and gave me a chance to work on my idea.

This opportunity opened my eyes to the fact that those leading the organization were no different than I was. There was nothing exalted or reverent going on here. We all wanted to improve our profession and the care we delivered to patients. Rather, they were impressive because they were going above and beyond the role of a PA, they were volunteering their time to make it better for everyone else. Once I saw this, I knew I could contribute too, there was no reason not to do so.

Hence my advice is simply “jump on in, the water is fine!” Get involved, join a committee, and make your own contributions to our profession. It can be hard work, but it is very rewarding.

This interview took place by e-mail.
David J. Bunnell, MSHS, PA-C
Editor-in-Chief