TSRA Newsletter
Thoracic Surgery Residents Association

TSRA Newsletter Archive

February 2020 — Volume 1, Issue 2

TSRA Announcements & Deadlines

Cardiothoracic Surgery Training: Awareness of Reimbursement and Compensation Models

If you are an integrated, traditional, or 4+3 cardiothoracic surgery trainee, please complete the following short survey on physician compensation and reimbursement: CLICK HERE TO ACCESS SURVEY

This survey will close on March 5, 2020

New Survey Proposals — Deadline 5/3/2020

We encourage any resident to submit interesting research proposals for a nationwide survey of current trainees.

Examples of previous TSRA research publications can be found here: Bibliography

Eligibility:

1. Must be a TSRA member (i.e., any U.S. cardiothoracic surgery resident enrolled at an ACGME-accredited program).
2. IRB approval from the primary author's home institution is required.

Please submit all application materials using THIS FORM

Deadline: May 3, 2020 at 11:59pm ET

Call for New TSRA Podcast Ideas

We want to expand our popular podcast series with new ideas & topics. Our existing collection is available on Soundcloud & iTunes

If you are interested in recording one of the unclaimed podcast topics **OR** have new topics to propose, please contact Clauden Louis.

Trainee Opportunities in CT Surgery

By: J. Hunter Mehaffey

Click on the links below for more information about these opportunities:

Get Involved!

To get involved with a TSRA committee, contact any of the following Committee Chairs for more details:

Projects Committee: Clauden Louis
Education Committee: Hunter Mehaffey
Membership Committee: Jordan Bloom
Communications Committee: Alex Brescia

General surgery residents, cardiology fellows, and international cardiothoracic surgery residents are eligible for Associate Membership in the TSRA by submitting this application form

No deadline; rolling

The James L. Cox Fellowship in Atrial Fibrillation Surgery

Apply by March 1, 2020

STS/ELSO ECMO Management Symposium

March 12-14, 2020 in Houston

AtriCure Fellows Concomitant Ablation Course

March 20-21, 2020 in Chicago

Register for the 100th AATS Annual Meeting

April 25-28, 2020 in New York City

Highlights from the 56th Society of Thoracic Surgeons Meeting

Congratulations to all of the TSRA Award Winners!

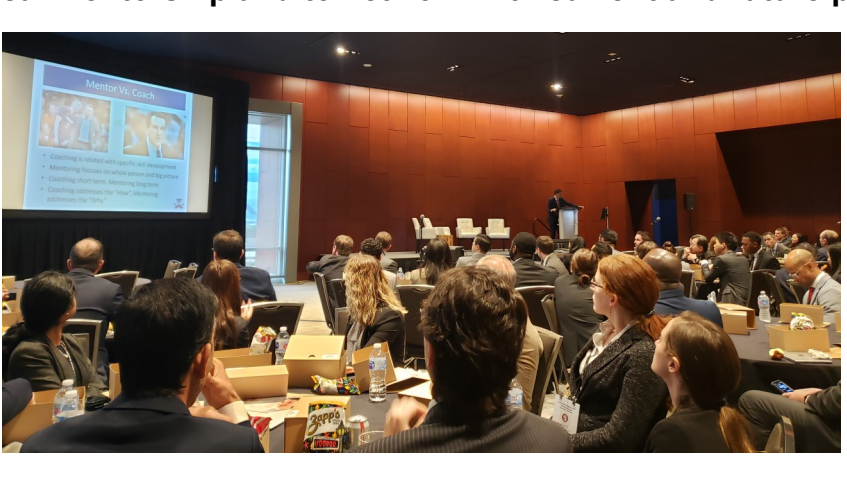
2020 TSRA Socrates Award
David N. Campbell, MD
University of Colorado
Past Socrates Award winners

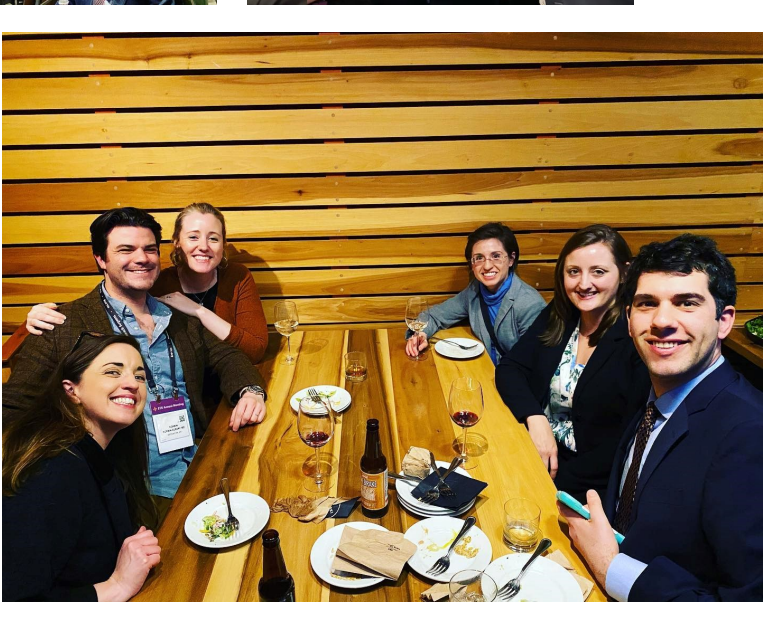
2020 TSRA Dwight C. McGoon Award
Natalie S. Lui, MD
Stanford University
Past McGoon Award winners

2020 TSRA/STS Traveling Fellowship
Chetan Pasrija, MD
University of Maryland
Project: Working with Dr. Shaf Keshavjee (University of Toronto) for experience in lung transplantation
Past Traveling Fellowship Recipients

2020 TSRA/STS Global Outreach Fellowship
Clauden Louis, MD, MS
University of Rochester
Project: Cardiostart International with Dr. Aubyn Marath to provide access to cardiac surgery to those in need
Past Global Outreach Fellowship Recipient

Trainees from around the world attended both the annual TSRA Resident Luncheon and the TSRA Resident Mixer to hear the featured speaker Dr. Gorav Ailawadi from UVA on surgical mentorship and to network with current and future peers!





Christina Costantino, MD

Tessa Watt, MD, MSc

Alison Halpern, MD

Jessica Luc, MD

Women in Thoracic Surgery Elect New Trainee Officers at the STS Annual Meeting

Congratulations to trainees & TSRA members Dr. Christina L. Costantino (@CLCostantino_MD) from MGH, Dr. Tessa M.F. Watt (@TessaMFWatt) from University of Michigan, and Dr. Alison Halpern (@ahalpernunc) from Colorado University on their elections as Resident Liaisons and to Dr. Jessica Luc (@JessicaLuc1) for her election as Junior Website Editor/Social Media Director.

Check out the full 2020 Women in Thoracic Surgery Leadership Roster here...

Click here to check out the Women in Thoracic Surgery Residents Corner...

Congratulations to the 2020 North American Jeopardy Champions for defeating Europe in the International CT Surgery Jeopardy Finals

After defeating North American competition at the 66th Annual Southern Thoracic Surgical Association meeting in November, the team from the University of Michigan went through two rounds plus Final Jeopardy in a closely-contested match against EACTS champions Jaime-Jurgen Eulert-Grehn, MD and Mir Timo Nazari-Shafti, MD, from the Deutsches Herzzentrum Berlin to take home the International Championship!

University of Michigan Jeopardy team
Alexander A. Brescia, MD, MSc & Curtis S. Berquist, MD

TSRA Op-Ed: Sometimes the Easiest Thing to Forget During Surgical Training is to Have Fun

By: Jason Han

Jason J. Han, MD
TSRA Executive Committee
Young Surgeons' Notes Editor

I still remember the first time I performed a sternotomy or cannulated the aorta. I was overwhelmed with the concern that my novice hands may severely harm someone else for the first time. There was more anxiety than excitement in the room. I could hardly steady my hands from the adrenaline coursing through my veins.

Even after I had gotten through it successfully a few times, it was hard to ease up for a while. I thought to myself, I may have gotten away with it this time, but there would be no guarantees for the future. All I could think about on my way home that evening was how I needed to become better in so many ways...

Click here and scroll to the bottom of the page to read the full article

If you would like to submit an article for the TSRA blog or suggest a topic for an advice column, please reach out to jason.han@uphs.upenn.edu *or* blitzer.david@gmail.com

Manuscript of the Month

By: Jordan Bloom

Correlation of cardiopulmonary bypass duration with acute renal failure after cardiac surgery

Andrea L. Axtell, MD, Amy G. Fiedler, MD, Serguei Melnitchouk, MD, MPH, David A. D'Alessandro, MD, Mauricio A. Villavicencio, MD, MBA, Arminder S. Jassar, MD, and Thoralf M. Sundt III, MD

There continues to be debate on the impact of cardiopulmonary bypass (CPB) duration. Many believe with adequate myocardial protection, the length of CPB is not an important issue. Axtell and colleagues performed an interesting analysis examining the dose effect of time on bypass stratified by preoperative renal function. This retrospective analysis of almost 4000 patients over a 6-year period found that 2% of patients suffered from acute renal failure (ARF) after cardiac surgical cases. In patients with estimated GFR <30mL/min/1.72m2, 22% developed ARF and 16 of them progressed to require renal replacement. Using CPB time as a continuous variable, the authors found a near linear relationship between time and the probability of ARF (Figure 2). The significance of the findings was greatly increased in patients with a GFR <30. This relationship persisted in a multivariable model. Not surprisingly, there was a striking difference in mortality in patients with postoperative ARF (31% vs. <1%, p=0.01). The major conclusions of this study are that longer CPB times increases the risk of ARF in all patients. Although the rate of rise for patients with normal or mild dysfunction is relatively gradual, for those with an eGFR <30 the risk increases exponentially with time. They further conclude that surgeons should be cognizant about reducing CPB times in patients with low GFR. This study is important because it highlights a cohort of patients where additional procedures such as ablations, PFO closures, etc. as well as resident education may need to be withheld to optimize outcomes.

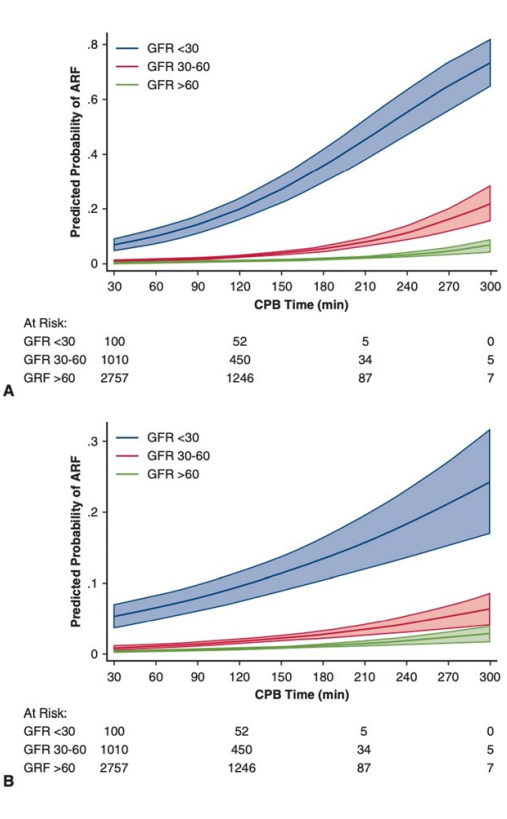


FIGURE 2. Association between continuous time on cardiopulmonary bypass (CPB) and predicted probability of postoperative acute renal failure (ARF) stratified by preoperative estimated glomerular filtration rate (GFR). A, Unadjusted association. B, Adjusted for additional risk factors, including patient age, body mass index classification, urgent/emergency status, Society of Thoracic Surgeons score, and transfusion status. Shaded regions represent an unwound standard error (corresponding to a 68% confidence interval).

Question and answer with lead author Dr. Andrea Axtell

Q: Dr. Axtell, congratulations on an interesting and important study. We noticed that only 72 (2%) of patients in your study had postoperative acute renal failure. This seems low for cardiac surgery. Is this consistent with other series? If not, can you please explain?

A: "Thank you for your comments and interest in our study. The 2% incidence of postoperative acute renal failure (ARF) in our paper is consistent with other series that use the same STS definition of ARF and report rates from 1-4% [1]. The variability in rates of renal dysfunction across studies may be due to differences in how acute kidney injury and renal failure are defined.

[1] Crawford TC, et al. Renal Failure After Cardiac Operations: Not All Acute Kidney Injury is the Same. Ann Thorac Surg. 2017;104:760-66."

Q: There was a striking difference in mortality in patients with ARF in your study (31% vs. <1%). Clearly one cannot determine causality from observational research, but this seems surprising. ARF is a risk factor for death but again, this effect seems exaggerated. Did you perform any multivariable analysis to examine whether ARF is a strong independent predictor of mortality in your cohort?

A: "Our study was designed to investigate the relationship between cardiopulmonary bypass time as a continuous variable and the risk of developing ARF stratified by preoperative renal function. Mortality was not the primary outcome of interest and with an overall mortality rate of only 1%, the study was not powered to examine risk factors for mortality using multivariable models. This difference in mortality, however, is striking, and is consistent with prior studies which have reported ARF to be a predictor of postoperative mortality with mortality rates reaching 40-60% in patients who developed ARF."

Andrea Axtell, MD

Q: Did you specifically look at mortality in the renal replacement cohort? We commonly quote a 200% mortality increase if RRT is initiated. It would be interesting to know how the data looked in your study.

A: "Yes, of the patients who developed ARF requiring renal replacement therapy, there was a 51% mortality rate."

Q: Finally, do you have any thoughts as to why obesity was such a strongly significant risk predictor for ARF (OR 3.03, P<0.01)?

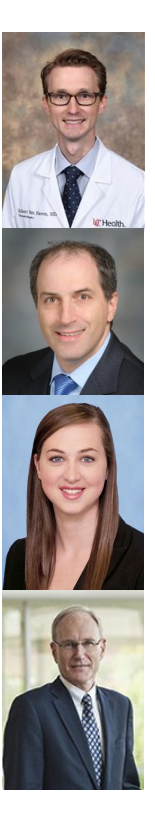
A: "It is possible that obesity is a surrogate for metabolic syndrome (hypertension and diabetes have been shown to be risk factors for postoperative ARF in previous studies). In addition, obesity increases the technical complexity of some cases and could contribute to longer bypass times which was shown to be a significant predictor of ARF in this study."

Again, thank you for an interesting study. We chose to feature this manuscript because of its high quality and potential application for choosing appropriate cases in teaching institutions.

Click here to read the full manuscript and click here for the accompanying video of Dr. Axtell discussing this study's findings

Featured TSRA Podcast

By: Garrett Coyan



It's that time of year for cardiothoracic surgery residents: the TSDA In-Service Training Exam is upon us! For those of you looking to pick up some bonus points on some of those less common topics, try out a few of our excellent TSRA podcasts to enhance your study plan. As always, please let us know if you have ideas for additional podcast topics, or would like to help with existing podcast topic recordings. Good luck studying for the exam, and here are a few particularly high-yield offerings for your preparation!

Dr. Van Haren interviews Dr. Vaporciyan covering the hot exam topic of Chest Wall Tumors:

TSRA Podcast: Thoracic - Chest Wall Tumors

Next, a great review of degenerative mitral valve disease and the anatomical and pathological considerations of the mitral valve are explored in Dr. Ward's interview with Dr. Bolling:

TSRA Podcast: Cardiac - Degenerative Mitral Valve Disease

If you have any ideas for new podcast topics or would like to help us record an existing topic in our line-up (found HERE), please contact us and we will get you involved with this exciting continuing TSRA project!

TSRA Executive Committee

(2019-2020)

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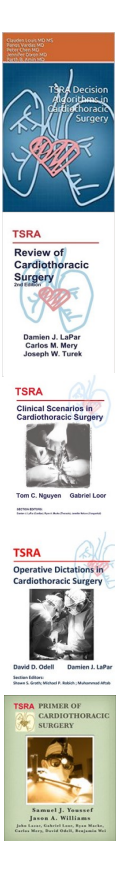
TSRA Educational Resources



TSRA Decision Algorithms in Cardiothoracic Surgery
1. As a print book on Amazon.
2. As a Kindle e-book on Amazon.

TSRA Review of Cardiothoracic Surgery (2nd Ed)
1. As a print book on Amazon.

TSRA Clinical Scenarios in Cardiothoracic Surgery
1. As a print book on Amazon.
2. As a Kindle e-book on Amazon.
3. As an iPad & iPhone app on iTunes.

TSRA Operative Dictations in Cardiothoracic Surgery
1. As a print book on Amazon.
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Check out the official website with free registration.

TSRA Newsletter Editorial Team

Alex Brescia — Editor
Hunter Mehaffey — Trainee Opportunities
Jason Han — TSRA Advice Blog and Young Surgeon's Notes
Jordan Bloom — Manuscript of the Month
Garrett Coyan — Featured Podcast
Clauden Louis — TSRA Educational Resources and Multiple Choice Questions
Zachary Spigel — Abstract & Conference Dates
Tariq Sohail Babar — Diagnostic Challenge
Parth Patel — Graphic Support

Abstract Deadlines and Conference Dates

By: Zachary Spigel

Meeting	Submission deadline	Location	Dates
American College of Cardiology (ACC)	CLOSED	Chicago, IL	Mar 28-30, 2020
American Surgical Association (ASA)	CLOSED	Washington, D.C.	Apr 16-18, 2020
International Society for Heart and Lung Transplantation (ISHLT)	CLOSED	Montreal, Canada	Apr 22-25, 2020
AATS Aortic Symposium	CLOSED	New York, NY	Apr 23-24, 2020
American Association of Thoracic Surgery (AATS)	CLOSED	New York, NY	Apr 25-28, 2020
American Society for Artificial Internal Organs (ASAIO)	CLOSED	Chicago, IL	Jun 10-13, 2020
Transcatheter Valve Therapy (TVT) Structural Heart Summit	Apr 15, 2020	Chicago, IL	Jun 17-20, 2020
Western Thoracic Surgical Association (WTSA)	CLOSED	Vail, CO	Jun 24-27, 2020
Transcatheter Cardiovascular Therapeutics (TCT)	May 28, 2019*	Miami, FL	Sep 23-27, 2020
American College of Surgeons (ACS)	Mar 2, 2020	Chicago, IL	Oct 4-8, 2020
Eastern Cardiothoracic Surgical Society (ECTSS)	Aug 1, 2019*	Manalapan, FL	Oct 7-10, 2020
CHEST Annual Meeting	Mar 31, 2020	Chicago, IL	Oct 17-21, 2020
Congenital Heart Surgeons' Society (CHSS)	May 28, 2019*	Boston, MA	Oct 22-24, 2020
Southern Thoracic Surgical Association (STSA)	Apr 5, 2020	Orlando, FL	Nov 4-7, 2020
American Heart Association (AHA)	Jun 6, 2019*	Dallas, TX	Nov 14-16, 2020
Southern Surgical Association (SSA)	Jul 1, 2019*	Palm Beach, FL	Dec 6-9, 2020
Society of Thoracic Surgeons (STS)	Aug 13, 2019*	Austin, TX	Jan 30 - Feb 2, 2021
Academic Surgical Congress (ASC)	Aug 26, 2019*	Houston, TX	Feb 2-4, 2021
Southeastern Surgical Congress (SESC)	Sep 13, 2019*	Atlanta, GA	Feb 13-16, 2021
American College of Cardiology (ACC)	Oct 31, 2019*	Atlanta, GA	Mar 20-22, 2021
American Surgical Association (ASA)	Nov 25, 2019*	Seattle, WA	Apr 15-17, 2021
International Society for Heart and Lung Transplantation (ISHLT)	Oct 15, 2019*	Sydney, Australia	Apr 21-24, 2021
AATS Mitral Conclave	Jan 6, 2019*	New York, NY	Apr 29-30, 2021
American Association of Thoracic Surgery (AATS)	Oct 15, 2019*	Seattle, WA	May 1-4, 2021
Western Thoracic Surgical Association (WTSA)	Jan 6, 2020*	Victoria, British Columbia	Jun 23-26, 2021

*** Designates previous year's deadline, if current deadline not yet available.**

Sample Questions from the TSRA Multiple Choice Question Bank

By: Clauden Louis

1. A 35-year-old man presents to your ER after a stab wound to the epigastrium. He is awake, tachycardic, and diaphoretic. As you are performing a FAST exam, he loses consciousness and becomes pulseless. You note moderate fluid in the pericardial space. The most appropriate next step is:

A. Pericardiocentesis
B. Subxiphoid pericardial window
C. Left anterior thoracotomy
D. Transfer to the OR for median sternotomy

Answer and Explanation
Answer C. This patient is in extremis and has evidence of pericardial tamponade.

2. A superior sulcus tumor demonstrates possible involvement of the subclavian artery with the abutment of the vessel on MRI. The best management strategy includes:

A. Immediate surgery with reconstruction to prevent progressive involvement of her artery
B. Definitive chemotherapy and radiation
C. Neoadjuvant chemoradiation, then restaging and surgery
D. Immediate surgical debulking with adjuvant high-dose radiation to the artery and tumor bed

Answer and Explanation
Answer C. The treatment of superior sulcus tumors involves induction (neoadjuvant) chemoradiation followed by surgical resection.

3. In a patient deemed to be appropriate for DT LVAD, intraoperative TEE on the morning of surgery shows PFO and moderate tricuspid regurgitation. The most appropriate sequence of operation (assuming ascending aortic cannulation and outflow graft anastomosis) of the following options is:

A. Dual-stage venous cannulation, commence CPB, repair PFO, tricuspid annuloplasty, implant LVAD
B. Dual-stage venous cannulation, commence CPB, implant LVAD
C. Bicaval venous cannulation, commence CPB, repair PFO, tricuspid annuloplasty, implant LVAD
D. Bicaval venous cannulation, commence CPB, implant LVAD, repair PFO, tricuspid annuloplasty

Answer and Explanation
Answer C. Intra-atrial communications should be closed at the time of LVAD implantation. With the RA open, TR greater than moderate should be addressed to optimize the RV to avoid post-op RV dysfunction. Opening the RV necessitates bicaval cannulation with snares for adequate visualization and avoidance of airlock. These maneuvers should be completed prior to LVAD implantation for ease of de-airing the left heart before separating from bypass.