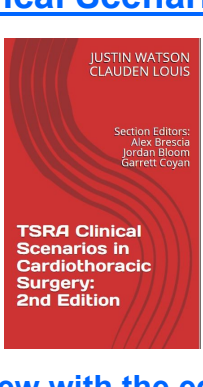
TSRA Newsletter
Thoracic Surgery Residents Association

TSRA Newsletter Archive | September 2020 — Volume 1, Issue 9

Announcements

By: Clauden Louis

Clinical Scenarios



Interview with the editors

TSRA Webinar

"Applying to Cardiothoracic Fellowship in the COVID Era"
Thursday October 8th from 7-8PM EST

Panelist
Ara Vaporciyan, MD MD Anderson Cancer Center
TSDA President

Andrea Carpenter, MD, PhD UT Health San Antonio
TSDA President-Elect

Tony Mozer, MD, MBA Current CT Fellow
Northwestern TSRA Treasurer

Yihan Lin, MD Current CT Fellow Colorado
TSRA Executive Committee

Kunal Patel MD PhD Chief Resident MUSC
Future UVA CT Fellow

Kendall Lawrence MD Chief Resident Cornell
Future Penn CT Fellow

Passcode: 432186

TSRA Webinar

In Case You Missed our last Webinar…
"Finding a Job in the COVID 19 era"
September 8, 2020

Panelist
Thoralf Sundt
Massachusetts General Hospital

Melanie Edwards
St. Joseph Mercy Ann Arbor Hospital

Scott Arnold
Banner Health

Ahmet Kilic
Johns Hopkins University

Christine Lau
University of Maryland

Vinod Thourani
Piedmont Healthcare

We got you covered. See it here

Survey: Statistics knowledge amongst cardiothoracic surgery trainees

The first part is a self-administered test on baseline statistical fluency, We ask that you take this test WITHOUT help (~15min). You will receive a link for a statistics educational video to follow (~30min at normal speed). After reviewing the video, we ask that you complete the post-test to assess improvement in statistics knowledge (~15min).

Study Link

Trainee Opportunities in CT Surgery

By: Evan Rotar

New Edition of SESATS (13), is now available. SESATS is a comprehensive online tool used to study and review the essential aspects of cardiac and thoracic surgery. This latest version features 400 brand new questions with instant access to the items, in-depth critiques, real-time abstracts, and linked references. Visit site to purchase. Coupon code available for trainees.

SickKids HOST program designed to provide surgeons with an opportunity to practice surgical procedures on various congenital heart defects Link

6th Annual CTSNet Resident Video Competition (deadline December 1, 2020). More information available here

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

AATS Scholarship Programs. Applications Available September 1 – December 1 Link

TSRA/STS Global Outreach Fellowship in Cardiothoracic Surgery. December 15, 2020 Link

TSRA/STS Traveling Fellowship in Cardiothoracic Surgery. December 15, 2020. Link

TSRA Mentorship Program
TRSA is looking for mentors to participate in its revamped Mentorship Program. If you or someone you know would be interested in participating, please complete the registration form. Please contact the Membership Committee chair David Blitzer at blitzer.david@gmail.com with any questions or comments.

T32 Training Program in Surgical Oncology Research at University of Pennsylvania. Two year full-time research position with NIH funded sponsor in basic, translational, or clinical research focusing on cancer-related topics. Three openings for the academic year starting July 2021.

Newsletter Editorial Staff

Clauden Louis — Editor
Evan Rotar — Trainee Opportunities
Jason Han — Young Surgeon's Notes
Jessica Luc — Manuscript of the Month
David Blitzer — Featured Podcast
Parth Patel — Abstract & Conference Dates
Yihan Lin — Global Health
Fatima Wilder — Diagnostic Challenge
Garrett Coyan — TSRA Educational Resources and Multiple Choice Questions

Young Surgeon's Note
Welcome Thoracic Surgery Medical Student Association (TSMA)

By: Edgar Aranda-Michel, Eleanor Gerhard, Connor Magura, Lena Trager

Hi Everyone,

As current medical students pursuing careers in cardiothoracic (CT) surgery, we have already benefitted greatly from the opportunities offered to us by this community. These experiences have allowed us to feel a sense of belonging, not only among faculty and trainees, but also with our fellow students. This encouragement has inspired us to spread this fellowship to any and all medical students across the country that may be considering pursuing a career in CT surgery.

Thus, the Thoracic Surgery Medical Student Association (TSMA) was established to recruit, to engage, and to prepare passionate aspiring CT surgeons. This organization aims to increase early exposure, to provide educational tools, to offer networking opportunities, and to create a community of peer mentorship and collaboration among students across the nation. In collaboration with TSDA and TSRA, we are eager to further facilitate the engagement of and to supplement the experiences of aspiring CT surgeons.

Over the coming years, look out on social media and our newsletters for new resources and opportunities for medical students! Attend our discussion panels to provide career guidance, and student-oriented events at national meetings! Take our surveys, which will help permit member-guided innovation of our practices in recruiting, retaining, and preparing its constituents for a career in CT surgery.

We promise to maintain our core values. Diversity -- institutional, geographic, demographic, and training pathway. Inclusion -- an equitable and just circulation of education and resources. All students, regardless of medical school, background, or specific interests within cardiothoracic surgery should feel welcome as a member of TSMA.

We remain grateful for the opportunities given to us by our mentors, and we hope that through TSMA, we can give back to the field by helping to cultivate the next great generation of CT surgeons. We look forward to engaging with you and the rest of the community in the coming months and years.

Edgar Aranda-Michel, Eleanor Gerhard, Connor Magura, Lena Trager

Thank you and stay well,
TSMA Leadership

If you would like to stay connected to TSMA and be notified of their events, you can follow TSMA on Twitter (@ThoracicStudent), email us at TSMAstudent@gmail.com and sign up for the TSMA email listserv. To help TSMA better understand how to support medical student career development, we encourage all medical students to fill out this survey.

Manuscript of the Month

By: Jessica Luc

Title of Feature Manuscript: The Thoracic Surgery Residents Association: Past Contributions, Current Efforts, and Future Directions

Authors: Alexander A. Brescia, MD, MSc, Xiaoying Lou, MD, Clauden Louis, MD, MS, David Blitzer, MD, Garrett N. Coyan, MD, Jason J. Han, MD, Justin J. Watson, MD, J. Hunter Mehaffey, MD, MSc, on behalf of the Thoracic Surgery Residents Association (TSRA)

Abstract

Objective: The Thoracic Surgery Residents Association (TSRA) is a resident-led organization established in 1997 under the guidance of the Thoracic Surgery Directors Association (TSDA) to represent the interests and educational needs of cardiothoracic surgery residents. We aim to describe the past contributions, current efforts, and future directions of the TSRA within a conceptual framework of the TSRA mission.

Methods: Primary review of educational resources was performed to report goals and content of past contributions. TSRA Executive Committee input was utilized to describe current resources and activities, as well as the future goals of the TSRA. Podcast analytics were performed to report national and global usage.

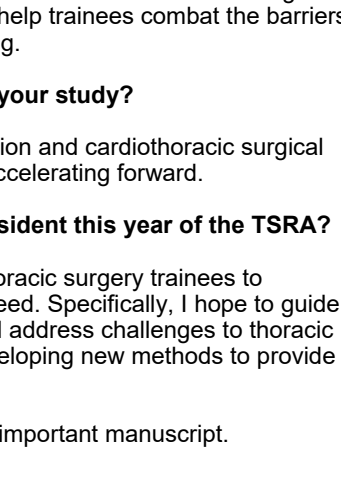
Results: Since 2011, the TSRA has published 3 review textbooks, 5 reference guides, 3 test preparation textbooks, 1 supplementary publication, and 1 multiple choice question bank and mobile application, all written and developed by cardiothoracic surgery trainees. In total 108 podcasts have been recorded by mentored trainees, with over 175,000 unique listens. Most recently, the TSRA has begun facilitating trainee submissions to Young Surgeon's Notes, fostered a trainee mentorship program, developed the monthly TSRA Newsletter, and established a wide-reaching presence on Facebook, Twitter, and Instagram to help disseminate educational resources and opportunities for trainees.

Conclusions: The TSRA continues to be the leading cardiothoracic surgery resident organization in North America, providing educational resources and networking opportunities for all trainees. Future directions include development of an integrated disease-based resource and continued collaboration within and beyond our specialty to enhance the educational opportunities and career development of cardiothoracic trainees.

Citation: Brescia AA, Lou X, Louis C, Blitzer D, Coyan GN, Han JJ, et al. The Thoracic Surgery Residents Association: Past Contributions, Current Efforts, and Future Directions. J Thorac Cardiovasc Surg [Internet]. 2020 Aug [cited 2020 Sep 9];0(0). Available from: https://linkinghub.elsevier.com/retrieve/pii/S0022522320324776

Click here to read the full manuscript in *The Journal of Thoracic and Cardiovascular Surgery* - https://www.jtcvs.org/article/S0022-5223(20)32477-6/fulltext

Question and answer with lead author Alex Brescia, integrated cardiothoracic surgery resident and TSRA President from University of Michigan:



Alexander Brescia

Question 1: Congratulations on your work and publishing this important article in *The Journal of Thoracic and Cardiovascular Surgery* documenting the TSRA's past contributions, current efforts, and future directions. What was the purpose of this manuscript?

Thank you! Our goal with this manuscript was to demonstrate the purpose and productivity of the TSRA over two decades, provide a conceptual framework for our organization (**Figure 1**), and detail our vision for the future. We specifically describe the educational resources, events, and initiatives that have been undertaken by the TSRA within the conceptual framework of our central mission and areas of focus including education, community, outreach, wellness, and diversity, equity, and inclusion. We further hoped to provide a framework for other resident organizations to use in pursuing similar goals and values.

Question 2: How does the TSRA achieve its goal to meet the needs of cardiothoracic surgery trainees?

The TSRA meets the needs of cardiothoracic trainees by fulfilling its mission to provide peer-based resources and support for residents to succeed in training and beyond. Specifically, the TSRA has published multiple review texts, reference guides, and test preparation resources that have been utilized by numerous trainees. The TSRA has also more recently enhanced its outreach efforts through this monthly Newsletter, international collaborations, many social media accounts, a YouTube channel, and a webinar series, with additional webinar series in development. The TSRA also traditionally builds the cardiothoracic community through networking events and initiatives including the revamped mentorship program, the networking mixer and resident luncheons held at both STS and AATS annual meetings, and traveling and global outreach fellowships in partnership with the STS. Recent efforts have evolved during the COVID-19 pandemic to drastically increase virtual content and help trainees combat the barriers of COVID-19 while still optimizing cardiothoracic surgical training.

Question 3: What are the implications of the findings from your study?

The TSRA's achievements and contributions to resident education and cardiothoracic surgical training have been robust over the past two decades and are accelerating forward.

Question 4: What is your vision for the organization as President this year of the TSRA?

My vision for this year is for our organization to best position thoracic surgery trainees to maximize training and access the resources necessary to succeed. Specifically, I hope to guide the organization as we continue adapting to the COVID era and address challenges to thoracic surgery training by enhancing our current efforts while also developing new methods to provide educational content and career advancement tools to trainees.

Once again, thank you for your time and congratulations on an important manuscript.

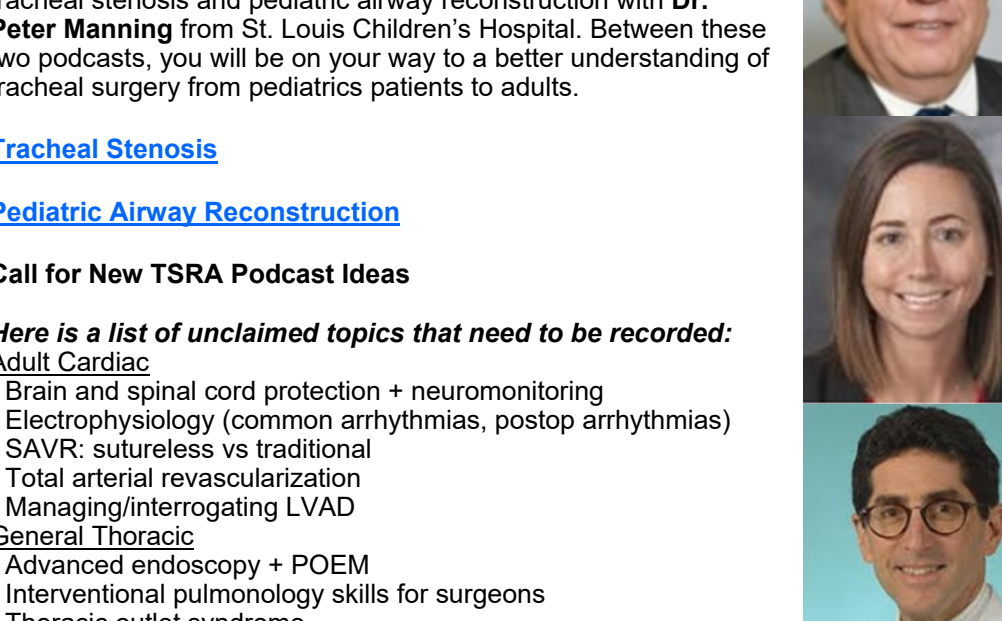


Figure 1

Featured TSRA Podcast

By: David Blitzer

A is for Airway, so this month we are featuring 2 podcasts on the topic. In the first, Amy Fiedler interviews **Dr. Douglas Mathisen** from the Massachusetts General Hospital on the topic of tracheal stenosis. In the second podcast, Jacob Miller discussed congenital tracheal stenosis and pediatric airway reconstruction with **Dr. Peter Manning** from St. Louis Children's Hospital. Between these two podcasts, you will be on your way to a better understanding of tracheal surgery from pediatrics patients to adults.

Tracheal Stenosis

Pediatric Airway Reconstruction

Call for New TSRA Podcast Ideas

Here is a list of unclaimed topics that need to be recorded:

Adult Cardiac
- Brain and spinal cord protection + neuromonitoring
- Electrophysiology (common arrhythmias, postop arrhythmias)
- SAVR: sutureless vs traditional
- Total arterial revascularization
- Managing/interrogating LVAD

General Thoracic
- Advanced endoscopy + POEM
- Interventional pulmonology skills for surgeons
- Thoracic outlet syndrome
- Esophageal motility disorders

Congenital
- Interventional congenital heart procedures
- Congenital mitral valve disease
- Ozaki procedure

Career
- Residents as teachers
- Innovation in cardiac surgery
- Quality improvement and outcomes
- Ethics education in CT surgery: where are we now and where are we headed?
- Ethical research practice in CT surgery
- Imperative care vs. futility

If you are interested in recording one of the unclaimed podcast topics -OR- have new topics to propose, please contact Garret Coyan @ coyangn@upmc.edu

Communications and Social Media

TSRA Executive Committee (2020-2021)

Alex Brescia
University of Michigan
President

J. Hunter Mehaffey
University of Virginia
Vice President

Clauden Louis
University of Rochester
Secretary and Communications Chair

Anthony Mozer
Northwestern University
Treasurer

Xiaoying Lou
Emory University
Immediate Past President

Garrett Coyan
University of Pittsburgh
Projects Chair

Jason Han
University of Pennsylvania
Education Chair

David Blitzer
Columbia University
Membership Chair

Jordan Bloom
Massachusetts General Hospital

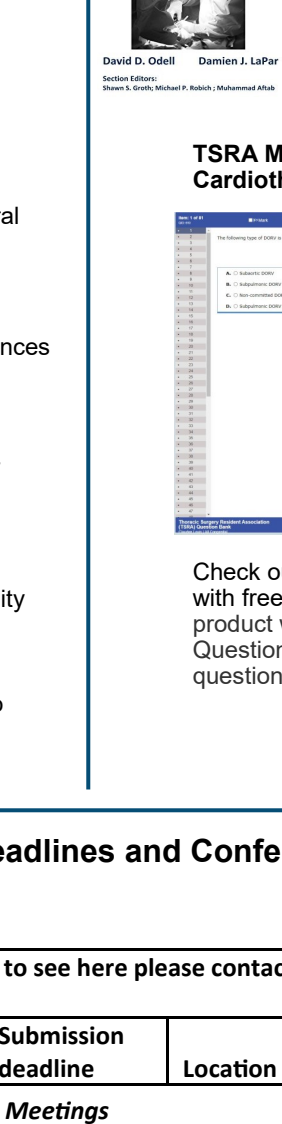
Justin Watson
Oregon Health & Sciences University

Jessica Luc
University of British of Columbia

Fatima Wilder
John Hopkins University

Yihan Lin
University of Colorado Hospital

TSRA Education Resources



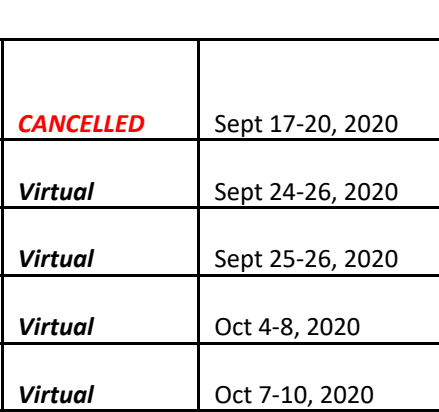
TSRA Clinical Scenarios in Cardiothoracic Surgery (2nd Ed)
Kindle & print available **NOW!!!**
1. As a print book on Amazon.
2. As a Kindle e-book on Amazon.

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.
Stay tuned 3rd edition first quarter 2021!!!

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

TSRA Multiple Choice Review of Cardiothoracic Surgery



Check out the official website with free registration. Open collaboration product with free content questions. Questions updated frequently. 588 questions. Authentic feel.

Abstract Deadlines and Conference Dates

By: Parth Patel

If there are meetings you would like to see here please contact Parth M. Patel, parth.mukund.patel@emory.edu

Meeting	Submission deadline	Location	Dates
Cardiovascular and Thoracic Specific Meetings			
World Society of Pediatric and Congenital Heart Society (WSPCHA)	CLOSED	CANCELLED	Sept 17-20, 2020
STS Annual Perioperative and Critical Care Conference	CLOSED	Virtual	Sept 24-26, 2020
Extracorporeal Life Support Organization (ELSO)	CLOSED	Virtual	Sept 25-26, 2020
American College of Surgeons (ACS)	CLOSED	Virtual	Oct 4-8, 2020
Eastern Cardiothoracic Surgical Society (ECTSS)	CLOSED	Virtual	Oct 7-10, 2020
European Association for Cardio-Thoracic Surgery (EACTS)	CLOSED	Virtual	Oct 8-10, 2020
Transcatheter Cardiovascular Therapeutics (TCT)	CLOSED	Virtual	Oct 14-18, 2020
International Thoracic Surgical Oncology Summit	CLOSED	Virtual	Oct 16-17, 2020
CHEST Annual Meeting	CLOSED	Virtual	Oct 17-21, 2020
Congenital Heart Surgeons' Society (CHSS)	CLOSED	Virtual	Oct 22-24, 2020
Surgical Treatment for Arrhythmias and Rhythm Disorders	Sep 11, 2020	Virtual	Oct 30-31, 2020
Southern Thoracic Surgical Association (STSA)	CLOSED	CANCELLED	Nov 4-7, 2020
American Heart Association (AHA)	CLOSED	Virtual	Nov 14-16, 2020
Resuscitation Science Symposium	CLOSED	Virtual	Nov 14-16, 2020
Society of Thoracic Surgeons (STS)	CLOSED	Austin, TX	Jan 30 - Feb 2, 2021
Annual Update on Pediatric & Congenital CV Disease Conference	Nov 18, 2019*	Huntington Beach, CA	Feb 10-14, 2021
American College of Cardiology (ACC)	Oct 20, 2020	Atlanta, GA	Mar 20-22, 2021
International Society for Heart and Lung Transplantation (ISHLT)	Oct 13, 2020	Toronto, Canada	Apr 27-30, 2021
AATS Mitral Conclave	"Early January 2021"	New York, NY	Apr 29-30, 2021
American Association of Thoracic Surgery (AATS) & Aortic Symposium	Oct 15, 2019*	Seattle, WA	May 1-4, 2021
Transcatheter Valve Therapy (TVT) Structural Heart Summit	April 15, 2020*	Chicago, IL	June 9-12, 2021
Western Thoracic Surgical Association (WTSA)	Jan 13, 2020*	Victoria, BC, Canada	June 23-26, 2021
General Surgery Meetings of Interest			
American Surgical Association (ASA)	Nov 25, 2019*	Seattle, WA	Apr 15-17, 2021
Southeastern Surgical Congress (SESC)	Sep 13, 2019*	Atlanta, GA	Feb 13-16, 2021
Southern Surgical Association (SSA)	CLOSED	CANCELLED	Dec 6-9, 2020
Academic Surgical Congress (ASC)	CLOSED	Virtual	Feb 2-4, 2021
American Transplant Congresss (ATC)	Dec 15, 2019*	Seattle, WA	June 5-9, 2021
American Society for Artificial Internal Organs (ASAIO)	Feb 3, 2020*	Washington, D.C.	June 9-12, 2021

Global Cardiac Surgery: How fellows, residents, and medical students can engage in Global Cardiac Surgery

Yihan Lin MD MPH, Clauden Louis MD MS, Dominique Vervoort MD

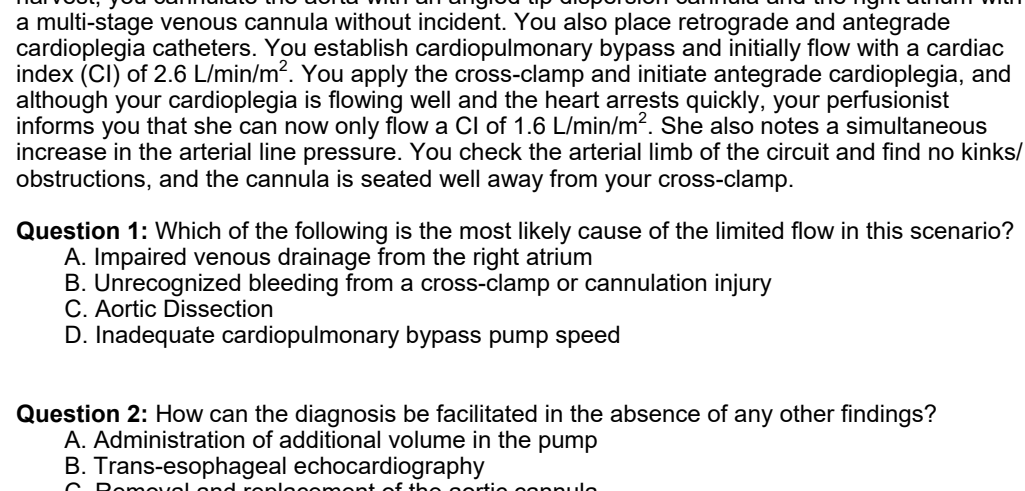
SERVICE	
NGOs	There almost 100 NGOs focused on providing cardiothoracic surgery to underserved populations worldwide. Here, we name a few that we have had direct experience with. These NGOs continue to mentor volunteers that are in medical school, residency, and cardiothoracic fellowship. **Team Heart -** Team Heart has partnered with the Rwandan Ministry of Health and Rwanda Heart Foundation to provide cardiac care since 2007. **Novick Cardiac Alliance -** The William Novick Global Cardiac Alliance has treated children with heart disease in more than 32 countries since 1993. **CardioStart -** Founded in 1987, CardioStart International Inc educates and assists local teams in providing cardiac care to adults and children. There are many more NGOs in this field. The following list is by no means extensive, but hopefully will give you some other opportunities to consider: Chain of Hope, Children's HeartLink, Magdi Yacoub Global Heart Foundation, EMERGENCY, Gift of Life International, Healing Little Hearts, Heart to Heart, International Children's Heart Foundation
TSRA	The Thoracic Surgery Residents Association (TSRA) and Society of Thoracic Surgeons (STS) offers an annual Global Outreach Fellowship. This fellowship allows cardiothoracic residents and fellows to participate in an established cardiac surgery outreach trip while being paired with a known global surgery mentor in the field.
RESEARCH	
Global Surgery Fellowships	If you are a resident interested in a long term (1-2 year) dedicated global surgery fellowship, many institutions are now offering opportunities within their own residency programs. If you are a medical student or resident looking for opportunities outside your home institution, here are just a few to consider: **Harvard Program in Global Surgery and Social Change -** Paul Farmer Global Surgery Fellowship **University of Utah -** Global Surgery Research Fellowship **Rutgers -** Global Surgery Fellowship In Social Equity and Responsibility **UCSF -** Global Surgery and Public Health Pathways
Research scholarship awards	If you require funding for your research, here are some options to consider: **Association for Academic Surgery** (AAS) - offers a global surgery research fellowship award, which provides salary support for a resident interested in global surgical research. **Fogarty Fellowship -** The Fogarty Global Health Program for Fellows and Scholars provides US-based trainees with mentored global health research training opportunities on the ground.
LEADERSHIP	
Centers for Global Surgery	Multiple institutions are realizing the importance of surgery and global health, and have now created dedicated institutes and centers for global surgery. These present excellent opportunities to find mentors and engage in global surgery leadership. **USA**: UCSF, Harvard, Univ. of Utah, Univ. of Michigan, Univ. of Minnesota, Rutgers, Northwestern, Univ. of Tennessee, Baylor, and others **Canada**: McGill, Univ. of Toronto, UBC Branch for International Surgery **UK**: King's College London, Univ.of Edinburgh, Univ. of Birmingham, Oxford **Sweden**: Lund University **South Korea**: JW Lee Center at Seoul National University **South Africa:** Wits University, Univ. of Stellenbosch, Univ. of Cape Town
GSSA and InciSioN	The Global Surgery Student Alliance (GSSA) is the US' national student-run global surgery working group, affiliated with InciSioN (the International Student Surgical Network). The GSSA serves to provide early exposure to the field by education, collaboration and mentorship to help students build their surgical careers with global surgery in mind. InciSioN spans a membership of over 80 countries, including over 50 dedicated National Working Groups.
For our colleagues and partners outside the US	
Traveling Fellowships	The **Thoracic Surgery Foundation** (TSF) offers a variety of traveling fellowships, including the TSF Latin America CT Surgery Conference Travel Scholarship and the TSF Saha scholarship. The **AATS** offers the Evarts A. Graham Memorial Traveling Fellowship, a 1 year fellowship for an academic cardiothoracic surgeon from outside the region to study within North America. Visit aats.org for more information. The **American College of Surgeons** also provides ACS travel scholarships.

Diagnostic Challenge

By: Fatima Wilder

45-year-old female with progressive shortness of breath and decreasing stamina

PMHx: Prior admission with aspiration pneumonia
CC: Patient presents with SOB and decreasing stamina



Workup/Imaging: CT Chest with dilated, non-functional esophagus
Diagnosis: Raynaud's
Learning Points/management:
- Patients with advanced Raynaud's may present with evidence of chronic aspiration due to extensive disease resulting in dilated esophagus.
- Management would include treatment of Raynaud's as well as consideration of a prophylactic laparoscopic fundoplication to prevent aspiration after lung.
- Ultimately patient would need to be evaluated for lung transplant.

TSRA Multiple Choice Question Bank

By: Garrett Coyan

Scenario: A 64 y/o patient with past history of diabetes and 3-vessel coronary artery disease with a recent NSTEMI presents for coronary artery bypass grafting. After sternotomy and LIMA harvest, you cannulate the aorta with an angled tip dispersion cannula and the right atrium with a multi-stage venous cannula without incident. You also place retrograde and antegrade cardioplegia catheters. You establish cardiopulmonary bypass and initially flow with a cardiac index (CI) of 2.6 L/min/m^2. You apply the cross-clamp and initiate antegrade cardioplegia, and although your cardioplegia is flowing well and the heart arrests quickly, your perfusionist informs you that she can now only flow a CI of 1.6 L/min/m^2. She also notes a simultaneous increase in the arterial line pressure. You check the arterial limb of the circuit and find no kinks/obstructions, and the cannula is seated well away from your cross-clamp.

Question 1: Which of the following is the most likely cause of the limited flow in this scenario?
A. Impaired venous drainage from the right atrium
B. Unrecognized bleeding from a cross-clamp or cannulation injury
C. Aortic Dissection
D. Inadequate cardiopulmonary bypass pump speed

Question 2: How can the diagnosis be facilitated in the absence of any other findings?
A. Administration of additional volume in the pump
B. Trans-esophageal echocardiography
C. Removal and replacement of the aortic cannula
D. Increase in the cardiopulmonary bypass pump speed

Answers to 1-2: The sudden increase in arterial line pressure and significant decrease in bypass flow should carry a high index of suspicion for iatrogenic aortic dissection (Answer C, Q1). Impaired venous drainage would not result in line pressure increases, nor would unrecognized bleeding from a cross-clamp or cannulation injury. Given the adequate CI at initiation of bypass, inadequate pump speed would not cause this scenario. In the absence of clinical findings of expanding ascending/arch/descending aorta in the field or color change to the media/adventitia, trans-esophageal echocardiography (Answer B, Q2) can facilitate the confirmation of dissection and help determine the extent of injury.
Scenario Continued: TEE confirms an aortic dissection originating near the distal ascending aorta at your cannulation site extending into the arch and proximal descending thoracic aorta. Urine output has ceased, and flows continue to decrease.

Question 3: What is the next most appropriate step in management?
A. Cool the patient to 15°C
B. Place an arterial cannula in the femoral artery
C. Open the ascending aorta and evaluate the dissection/injury site
D. Clamp the venous line and terminate cardiopulmonary bypass

Answer to 3: The first action is to immediately cease perfusion to limit the extent of the dissection (Answer D). The surgeon would then re-site the arterial cannula to re-establish true-lumen perfusion (most commonly femoral artery emergently). The patient should be cooled for deep hypothermic circulatory arrest, and finally the injury site evaluated for either primary repair or more likely aortic replacement.