NOVEMBER 2025 THE VOLUME 57 NO 11

THE SURGICAL TECHNOLOGIST

OFFICIAL JOURNAL OF THE ASSOCIATION OF SURGICAL TECHNOLOGISTS, INC.

Partial Heart Transplant Procedure

Part 2 of 2

SAVE THE DATE

May 31 - June 2, 2026

AST Surgical Technology Conference

BIG IDEAS, FLYING FISH, AND SKY-HIGH CONNECTIONS IN SEATTLE!

Event details and more information coming soon. We can't wait for you to join us in 2026!

AST
Association of Surgical Technologists

AST
Association of Surgical Technologists

6 West Dry Creek Circle ▲ Littleton, CO 80120
Tel 303-694-9130
Member Number (toll free 8-4:30 pm MT, Mon-Fri)
800-637-7433 ▲ www.ast.org

STATEMENT OF EDITORIAL PURPOSE The purpose of the *Journal* is to advance the quality of surgical patient care by providing a forum for the exchange of knowledge in surgical technology and by promoting a high standard of surgical technology performance.

BOARD OF DIRECTORS

Joe Charleman, DBA, CST, CSFA, FAST	PRESIDENT
Dustin Cain, CST, CRCST, CHL, FAST	VICE PRESIDENT
Rob Blackston, MEd, CST, CSFA, FAST	SECRETARY
Rachel Clark, CST, CSFA, ST-R, FAST	TREASURER
Stephanie Austin, EdD, CST, FAST	DIRECTOR
Chris Blevins, BS, AAS-ST, CST, FAST	DIRECTOR
David Blevins, MHA, CST, CSFA, FAST	DIRECTOR
Lisa Day, MA, CST, CSFA, FAST	DIRECTOR
Jaime Lopez, CST, CSFA, RN, FAST	DIRECTOR
Brooke Oliver, MEd, CST, FAST	DIRECTOR
Monica Thulon, CST, CSFA, FAST	DIRECTOR

Contact your Board: *Board@ast.org*

AST STAFF

Jodi Licalzi	CHIEF EXECUTIVE OFFICER
Kelley Reppe	DIRECTOR OF ACCOUNTING
Heather Bieske, CST, FAST, MHA-ED	DIRECTOR OF PERIOPERATIVE EDUCATION AND DEVELOPMENT EDUCATION
Wanda Folsom	DIRECTOR OF STRATEGIC PARTNERSHIPS & DEVELOPMENT

GRAPHIC DESIGN AND PRODUCTION
Cheryl Patrick

EDITOR
Shannon Havekost

MANAGING EDITOR/PUBLISHER
Jodi Licalzi

CONTENT EDITOR
Kevin Frey, CST

THE SURGICAL TECHNOLOGIST (ISSN 0164-4238) is published monthly by the Association of Surgical Technologists, Inc, 6 West Dry Creek Circle, Suite 200, Littleton, CO 80120-8031. Telephone 303-694-9130. Copyright © 2025 Association of Surgical Technologists, Inc. No article, photograph, or illustration may be reproduced in whole or in part without the written permission of the publisher. Information contained herein is believed to be accurate; however, its accuracy is not guaranteed. Periodical postage is paid at Littleton, Colorado, and additional mailing offices. Correspondence to *The Surgical Technologist* can be sent to communications@ast.org.

ADVERTISING Contact: ***exhibits_advertising@ast.org.*** Acceptance of advertising in *The Surgical Technologist* in no way constitutes an endorsement by the Association of the product, organization, or service advertised. Similarly, mention of a commercial product by trade name, organization, program, or individual and that person's statements in any article does not constitute an endorsement by the Association of the product or sanction of the organization, program, or individual. The Association accepts health-related and recruitment advertising and reserves the right to decline ads at its discretion. While the Association takes every precaution against mistakes, it assumes no responsibility for errors or inaccuracies.

SUBSCRIPTIONS A one-year subscription is $40 for nonmembers and $55 (US funds) for foreign. Back issues are available for $5 each (specify date of issue). Written requests for replacement issues will be honored up to 60 days after date of publication only. Please address all requests to the editor.

JOURNAL DEADLINES The deadline for editorial copy is 8 weeks prior to the cover date (eg, the deadline for the July issue is May 1).

POSTMASTER Send address corrections to The Surgical Technologist, 6 West Dry Creek Circle, Suite 200, Littleton, CO 80120-8031.

Connect with AST on LinkedIn, Facebook, Instagram, and Pinterest to grow your professional network!

NOVEMBER 2025 THE VOLUME 57 NO 11

THE SURGICAL TECHNOLOGIST

OFFICIAL JOURNAL OF THE ASSOCIATION OF SURGICAL TECHNOLOGISTS, INC.

Partial Heart Transplant Procedure, Part 2 of 2

Kevin B. Frey, CST

The need to improve surgical methods for children with critical valvular disease is urgent. Current options—bioprosthetic, mechanical valves, and cryopreserved homografts—are inadequate, often requiring multiple surgeries. PHT offers a safer alternative, allowing valves to grow with the patient, and many recipients now live normal lives. Future research should focus on post-operative immunosuppression and storage methods that preserve cellular viability in living partial heart allografts.

In This Issue

In Every Issue

A Day of Honor, Reflection, and Gratitude for Our Veterans

MONICA THULON, CST, CSFA, FAST, AST DIRECTOR AND MILITARY COMMITTEE CHAIR

BOARD MESSAGE

A Legacy Rooted in Military Medicine

Veteran's Day holds a special significance in healthcare, where surgical technologists play a vital role in honoring the legacy of military service through their daily work in the operating rooms. The foundation of surgical technology as a profession can be traced back to the battlefield. During World War II and in subsequent conflicts, medics and corpsmen received intensive training to assist surgeons on the front lines. These individuals developed many of the core skills that became the framework for today's surgical technologists. Their calm under pressure, adaptability in harsh environments, and commitment to patient survival established a culture of excellence that still guides the profession. On Veteran's Day, let's reflect and recognize that our modern role evolved directly from the early medical pioneers of the military.

Professional in the Field and Civic Duty

This day presents an opportunity to reflect on the concepts of service and duty that connect military life and healthcare. Both environments demand teamwork, discipline, and an unwavering focus on the mission. Many military veterans enter civilian life seeking careers that reflect their service background and technical training. They transition into civilian operating rooms as Army medics and Navy corpsmen with a deep understanding of sacrifice, leadership, and resilience.

As a thank you, AST offers continuing education and networking opportunities that ease their transition from military to civilian healthcare. By fostering these pathways, AST not only strengthens the workforce but emphasizes its responsibility to those who served their country.

Supporting Veterans in Today's Operating Rooms

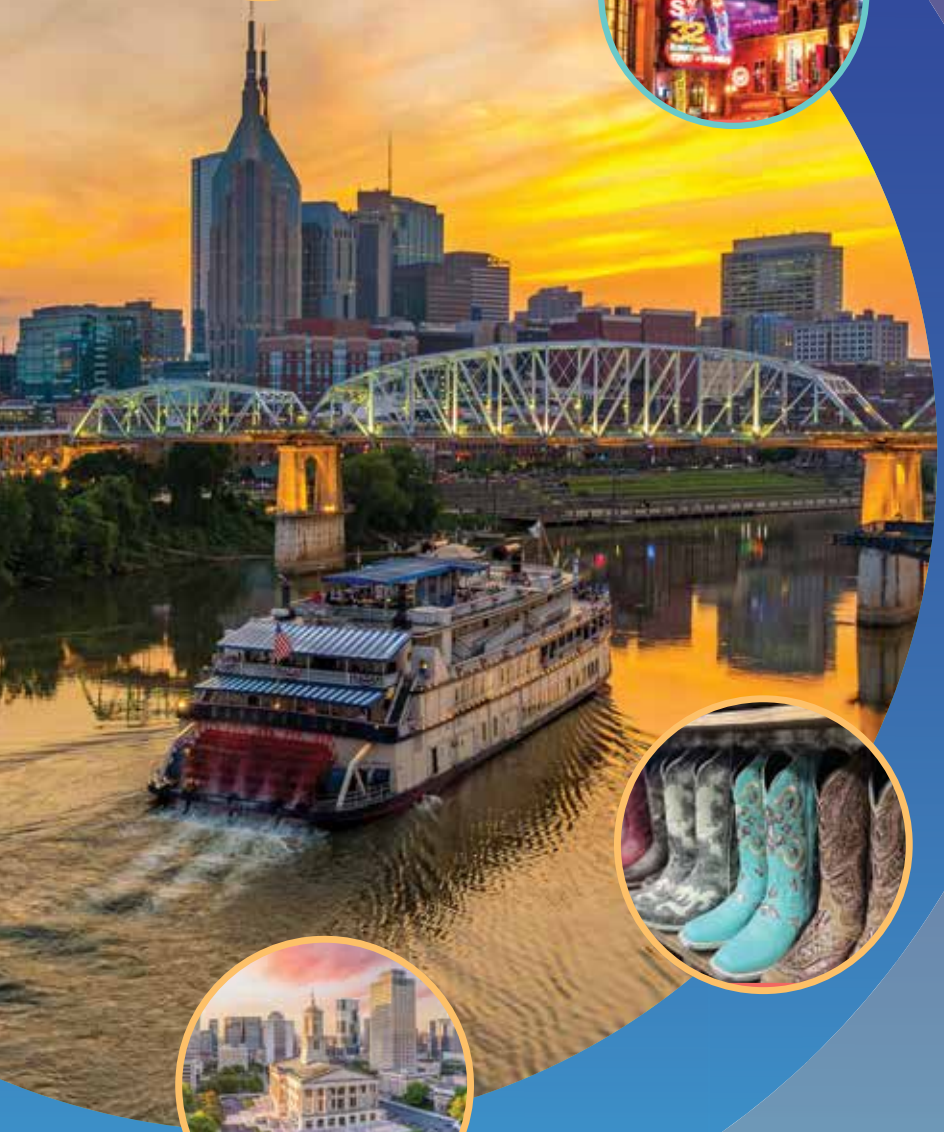
Honoring veterans is not only about remembering the past but also about how we improve the lives of veterans today. Many of them rely on care within the Veterans Affairs health system. We uphold our motto "Aeger Primo" as we bring precision and dedication to ensure the safety and well-being of those who once served. From orthopedic surgeries to repair injuries and cardiovascular procedures addressing long-term health issues, our attention to detail during procedures upholds a standard of care that reflects respect for this patient population.

Advocacy and Community Engagement

AST's mission includes advocacy on behalf of patients, the profession, and the communities its members serve. Supporting veterans is a visible and meaningful extension of this advocacy. We aim to develop initiatives that raise awareness of veterans' needs by encouraging surgical technologists to actively thank, support, and engage with veterans in their community. AST looks to new campaigns, such as "Red Fridays," where we can wear red to remember everyone deployed to express our gratitude throughout the year.

Veteran's Day is not merely a historical observance—it is a living reminder of the values that shaped surgical technology as a healthcare profession. Surgical technologists stand on a legacy built by military service, and they carry that tradition forward by serving those who once served the nation. In recognizing veterans, surgical technologists also reaffirm their own commitment to excellence, teamwork, and compassion. November 11 becomes a day of gratitude for the nation, an acknowledgement of veterans' sacrifices, and appreciation for the ongoing contributions in the field of surgical technology. Honoring the veterans who continue their careers as surgical technologists ensures that this legacy continues to inspire future generations.

AST EDUCATORS CONFERENCE



Registration Opens in November

February 6-7, 2026
Nashville, TN

We are excited to invite educators from across the country to join us at the 2026 AST Educators Conference in Nashville, Tennessee, from February 6-7, 2026, with preconference February 5.

This event will bring together educators for two days of professional development, networking, and innovative sessions designed to support and inspire your work in the classroom and beyond.

New this year: A hands-on surgical simulation training and workshop put on in conjunction with Vanderbilt University! Make sure to watch for more information as space will be limited for this unique experience.

AST
Association of Surgical Technologists

AST News

AT A GLANCE

EDUCATORS

CONSTELLATION AWARD APPLICATIONS ARE DUE DECEMBER 1.

The Constellation Awards presented by the Foundation for Surgical Technology recognizes the profession's hard-working surgical technology educators at three different career levels: early, mid-level, and veteran.

Educators nurture our techs-to-be and mentor practitioners. It is a difficult step to move outside the OR and into the classroom. The Foundation hopes that these recognized professionals will share their successes, provide insights to avoid pitfalls and offer encouragement to other CSTs who are considering making the leap to academia.

Educators can qualify in three categories. One recipient will be selected at each level.

- **RISING STARS** - Educators with 1-5 years of teaching experience
- **SHINING STARS** - Educators with 6-14 years of teaching experience
- **GUIDING STARS** - Educators with 15 or more years of teaching experience

Each award, valued at $1,000, includes a registration for the AST Educators Conference in February and monetary support.

Applications are due December 1.

To view more details and to apply online, visit ffst.org – Constellation Awards.

APPLY FOR FAST

APPLY FOR THE PROFESSION'S HIGHEST HONOR

This prestigious honor began in 2006 as an opportunity to recognize those individuals who have upheld the highest professional, ethical, and moral standards and traditions of the surgical technology profession, and whose professional activity has been devoted to the advancement of the profession toward improving the quality of surgical patient care.

Applications are available online and all applications are due by April 15.

Make sure to thoroughly read the selection criteria and gather all documents and information that are needed to complete the application prior to starting. Please plan ahead and allow for enough time to complete the application. If you close out of your window or browser before hitting submit, you will lose any details you have entered. Once you click submit, it will be submitted to the FAST Selection Panel. All required information must be completed before you are allowed to submit.

To apply for FAST, visit www.ast.org – Members – Fellows of FAST. You will need to use your login information to sign into your AST account. Then look for FAST and click on the application.

STUDENTS

GET READY TO APPLY FOR THE FOUNDATION'S STUDENT SCHOLARSHIPS!

The Foundation for Surgical Technology is committed to helping surgical technology students pay for tuition or pay off their educational debt. If you have the desire and ability to pursue a career in the operating room and need financial assistance, you should apply for a scholarship.

Deadline

Scholarship applications are **due by March 1** annually. Applications for academic scholarships open online during the fall semester. Scholarship award amounts range from

year to year.

Eligibility

To be eligible for the Foundation's academic scholarships, you must demonstrate superior academic ability, have a need for financial assistance and be enrolled in an accredited program, thus making you eligible to sit for the national certification exam through NBSTSA.

Additional Requirements

If you are awarded a scholarship, you must join the national professional organization, the Association of Surgical Technologists (AST). Students' member rates are $45. Scholarships are announced in conjunction with AST's national conference.

MILITARY MEMBERS

ARE YOU A MILITARY MEMBER? APPLY FOR A SCHOLARSHIP TO ATTEND CONFERENCE!

The Foundation for Surgical Technology continues to honor the late Jean Carty-Turner, CST, CSFA, FAST – the former AST Secretary and Director on the national Board of Directors who established a fund to benefit military members in honor of her father's service.

The Everett McCreary Military Conference Scholarship offers $1,000 conference scholarships so that AST members who are active, retired, or disabled military and who have never gone to a national conference, can afford to attend AST's Surgical Technology Conference.

Applications are due February 1 each year. Recipients will be notified shortly after.

Scholarship Criteria:

Applicants for this scholarship must:

- Upload documentation of military service (active military ID card or DD Form 214)
- Be active, retired, or disabled members of AST with uninterrupted membership for a minimum of two years prior to the date of the application. (Students are not eligible.)
- Hold current certification (CST) through the NBSTSA.
- Have never attended an AST conference and be willing and available to attend AST's Surgical Technology Conference in Seattle from May 31 - June 2, 2026.
- Write a 300-500-word essay explaining "How I would benefit from attending conference."
- Complete the online form.

The Foundation committee will begin reviewing applications February 1, 2026. Scholarships will not exceed $1,000 each, so recipients will be responsible for costs that exceed the scholarship amount. Scholarship awards may not be transferred to other individuals or used for future conferences (2026 conference only).

MILESTONES

Congratulations to the following state assemblies as they celebrate anniversaries this month! AST appreciates your hard work, dedication and all your years of service for making our state assemblies the backbone of this organization.

- Alabama – 23 years
- North Carolina – 25 years
- South Carolina – 24 years
- West Virginia – 19 years

STATEMENT OF OWNERSHIP, MANAGEMENT, AND CIRCULATION

1. Publication title: **The Surgical Technologist**
2. Publication number: **018-510**
3. Filing date: **October 1, 2025**
4. Issue frequency: **Monthly**
5. No. of issues published annually: **12**
6. Annual subscription price: **$40 (US) $55 (F)**
7. Complete mailing address of known office of publication: **6 West Dry Creek Circle, Littleton, CO 80120**
8. Complete mailing address of the headquarters or general business office of publisher: **6 West Dry Creek Circle, Littleton, CO 80120**
9. Full names and complete mailing addresses of publisher, editor, and managing editor: **Managing Editor/Editor Shannon Havekost, 6 West Dry Creek Circle, Littleton, CO 80120**
10. Owner: **Association of Surgical Technologists, 6 West Dry Creek Circle, Littleton, CO 80120**
11. Known bondholders, mortgages, and other security holders: **none**
12. **The purpose, function and nonprofit status of this organization, and exempt status for federal income tax purposes, have not changed during the preceding 12 months.**
13. Publication Name: **The Surgical Technologist**
14. Issue date for circulation data: **October 1, 2025**
15. Extent and nature of circulation: Average number of copies each issue during preceding 12 months: A. Total number of copies: **55,276**; B. Paid and/or requested circulation: (1) Paid/Requested Outside-County Mail Subscriptions (include advertiser's proof and exchange copies): **54,873**; (2) Paid In-County Subscriptions (include advertiser's proof and exchange copies): **0**; (3) Sales through Dealers and Carriers, Street Vendors, Counter Sales, and Other Non-USPS Paid Distribution: **0**; (4) Other Classes Mailed through the USPS: **0**; C. Total Paid and/or Requested Circulation **54,873**; D. Free Distribution by Mail (samples, complimentary, and other free): (1) Outside-County: **402**; (2) In-County: **0**; (3) Other Classes Mailed through the USPS: **0**; E. Free distribution outside the mail (carriers or other means): **135**; F. Total free distribution: **537**; G. Total distribution: **55,410**; H. Copies not distributed: **362**; I. Total: **55,772**. Percent paid and/or requested circulation: **99%**. Actual number of copies of a single issue published nearest to the filing date: A. Total number of copies: **55,572**; B. Paid and/or requested circulation: (1) Paid/Requested Outside-County Mail Subscriptions (include advertiser's proof and exchange copies): **55,175**; (2) Paid In-County Subscriptions (include advertiser's proof and exchange copies): **0**; (3) Sales through Dealers and Carriers, Street Vendors, Counter Sales, and Other Non-USPS Paid Distribution: **0**; (4) Other Classes Mailed through the USPS: **0**; C. Total Paid and/or Requested Circulation: **55,175**; D. Free Distribution by Mail (Samples, complimentary, and other free): (1) Outside-County: **397**; (2) In-County: **0**; (3) Other Classes Mailed through the USPS: **0**; E. Free distribution outside the mail (carriers or other means): **50**; F. Total free distribution: **447**; G. Total distribution: **55,622**; H. Copies not distributed: **150**; I. Total: **55,772**. Percent paid and/or requested circulation: **99%**.

I certify that the statements made by me above are correct and complete. Shannon Havekost - managing editor.

Partial Heart Transplant Procedure

Part 2 of 2

Kevin B. Frey, CST

In part one, the relevant anatomy and pathology related to truncus arteriosus was discussed as well as surgical options, shortage of donors, and development of the partial heart transplant (PHT) concept and first patient to undergo the procedure. For part two, the discussion will focus on the procedure, brief information regarding the domino and split-root transplants, immunosuppression and the future of the procedure.

PARTIAL HEART TRANSPLANT PROCEDURE

The PHT procedure involves harvesting healthy valves such as the aortic, atrioventricular, or pulmonary valves en bloc with a healthy margin of surrounding tissue and subsequently implanted into a recipient. The procedure begins with a sternotomy and establishing cardiopulmonary bypass just as with any type of open transplant procedure. The key difference from open heart transplant is that the recipient's native heart muscle is preserved, with only the diseased valve(s) excised and the donor valve(s) sutured into place.[1] The procedure is broadly described in three steps – surgeons dissect the existing truncus arteriosus, leaving the branches attached to the lungs; a new ascending aorta and valve are implanted using the donor tissue; and the donor pulmonary artery and valve are implanted and connected to the existing branch. The following description provides the details for implanting the aortic root and valve and pulmonary root and valve that was performed on Owen, the first patient to undergo a PHT that was described in the part one article published in the October 2025 edition of *The Surgical Technologist*. An animated video of the procedure is available on YouTube: youtube.com/watch?v=fiEzw1ECNnU.

LEARNING OBJECTIVES

- Describe the steps of the PHT procedure
- Discuss the concepts regarding the domino and split-root transplant procedures
- Evaluate the role of immunosuppression in PHT
- Discuss key topics that affect PHT including donor pool, logistics, regulation, and future trends

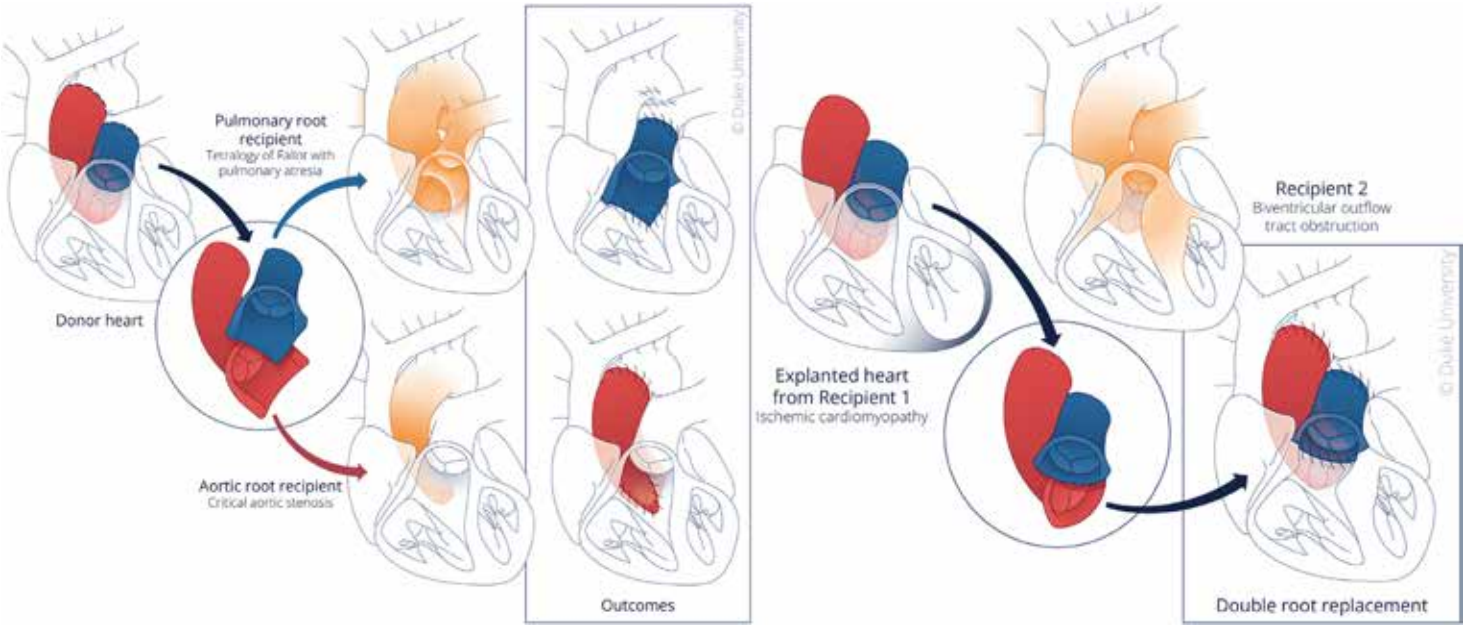


Figure 1 (A) Split root transplant 1 donor heart provides aortic and pulmonary root transplanted into two separate recipients, (B) Domino PHT whereby donor undergoes an open heart transplant, but the native aortic and pulmonary roots from the extracted heart can still function and are transplanted into a single recipient. The images apply to the PHT procedure. (Reproduced from Akykut et al, Partial heart transplantation promotes organ stewardships: domino hearts and split roots, *Annals of Thoracic Surgery Short Reports* (2024), doi: 10.1016.j.atssr.2024.07.033, under the terms of the Creative Commons Attribution 4.0 International License).

KEYWORDS

coronary buttons, domino PHT, immunosuppression, Organ Procurement and Transplantation Network, split-root procurement, truncus arteriosus, vitrification.

DEFINITIONS

Calcineurin inhibitors: A class of immunosuppressant drugs that block the activation of calcineurin, enzyme involved in the immune system, to prevent it from activating T cells, thus inhibiting the production of inflammatory cytokines. Cyclosporine is a calcineurin inhibitor.

Steps of the PHT Procedure (procedural steps derived from Prabhu et al, Partial heart transplantation: early experience with pediatric heart valve replacements that grow, *Circulation* (2025), doi: 10.1161/CIRCULATIONAHA, 124.072626 and Turek et al, Partial heart transplant in a neonate with irreparable truncal valve dysfunction, *JAMA* (2024), doi: 10.1001/jama.2023.23823)

1. The donor heart is extracted by the donor surgical team.
   a. The surgeon harvests the aortic and pulmonary roots and valves, along with the connected arteries, including a margin of ventricular septum and atrial tissue to preserve the delicate tissue structures.
   b. The valves and roots are prepared for grafting by the surgeon.
2. Sternotomy is performed and cardiopulmonary bypass established.
   a. The pulmonary artery ostia and coronary artery buttons are dissected.
   b. The diseased aortic and pulmonary roots and valves are excised from the recipient, essentially excising the truncal valve from the combined outflow tract leaving the branches to the lungs in

place. This is completed in preparation for creating separate pulmonary and systemic circulation.

c. The subvalvular apparatus, including the chordae tendineae that supports the valves, is preserved and the surgeon leaves a small margin of native tissue at the base of the valves to aid in suturing the donor tissue.

3. The first end-to-end anastomosis to be completed is suturing the proximal end of the ascending aorta and valve into place using a circumferential running suture.
4. The distal portion of the donor aortic root with valve is anastomosed.
   a. The distal portion is also placed using a circumferential running suture. A rim of native valvular tissue is left to avoid damage to the conduction tissue and coronary arteries.
   b. The leaflet edges are sutured to the preserved subvalvular tissue to reconstruct the apparatus. The donor tissue at the distal portion also closes the ventricular septal defect.
   c. The coronary artery buttons are reimplanted and attached to the donor aortic root using circumferential running suture.
5. After the ascending aorta and valve are sutured into place, the surgeons enlarge the right ventricular outflow tract.
6. Next, the donor pulmonary root is transplanted by attaching the section of the pulmonary artery and valve tissue to the branch that leads to the lungs and down to the right ventricle. The same circumferential suture technique is used. The right ventricle is connected to the pulmonary arteries during this step of the procedure. (Figure 1, B)
7. The surgeons connect the donor tissue's major blood vessels to the recipient's blood vessels including the coronary arteries, inferior vena cava, left atrium, pulmonary artery and superior vena cava.
8. Both valves are tested in routine fashion to ensure they are properly working and there are no leaks.
9. The heart is restarted, the patient is gradually taken off the cardiopulmonary bypass machine, and the chest is closed.

The prognosis is that the donor vessels and valves will grow as the infant grows, thus avoiding future surgeries.

> The PHT procedure involves harvesting healthy valves such as the aortic, atrioventricular, or pulmonary valves en bloc with a healthy margin of surrounding tissue and subsequently implanted into a recipient.

DOMINO PHT AND SPLIT ROOT PROCUREMENT

Domino PHT and split root procurement are two approaches that contribute to helping to solve the shortage of donor tissue. The valves from the native hearts of many recipients of orthotopic heart transplant (OHT) are structurally normal and therefore, normally function. The domino PHT concept involves excising the aortic and pulmonary roots from the native heart of the donor and implanting into the recipient following the steps of the procedure described above. (Figure 1, B) The domino PHT has been performed multiple times since the first PHT.[3]

The split root procurement concept involves transplanting the aortic root into one patient and the pulmonary root into a second patient. (Figure 1, A) For example, a donor heart that has decreased ventricular function, but normally functioning aortic and pulmonary valves can provide the aortic root for a neonate with aortic stenosis and the pulmonary root for a neonate suffering from tetralogy of Fallot and pulmonary stenosis.[1]

IMMUNOSUPPRESSION

The main disadvantage of PHT is the need for immunosuppression. OHT provides some guidance in regard to the long-term risks from immunosuppression including neurotoxicity, post-transplant lymphoproliferative disease caused by Epstein-Barr virus, post-transplant opportunistic infection, and renal dysfunction caused by calcineurin inhibitors.[1,3] Usually, when the immune system rejects a donor heart, it is rejecting the heart muscle, However, the blood vessels and valves of the heart consist of tissue that does not have as many markers, making the tissue not as reactive.[4] Most OHT patients are required to take two immunosuppressive drugs. At Duke University Medical Center, the surgeons post-operative immunosup-

pression therapy begins with steroids and two immunosuppressive drugs eventually transitioning to one low dose immunosuppressive drug.[1] It was reported that it was only necessary for Owen to take one low-dose immunosuppressive drug and a patient that underwent a PHT remains drug free, indicating an excellent match between the donor and recipient.[4] Researchers acknowledge that ongoing work is needed to determine the optimal level and duration of post-operative immunosuppression with the goal that PHT patients will not have to take an immunosuppressive drug. [1,3]

DONOR POOL

Part one of the article discussed the challenges of donor shortages. The issue to consider is how to increase the donor pool for PHT. The primary source of donor hearts for PHT is the Organ Procurement and Transplantation Network (OPTN).[5] However, because of the limited number of donor hearts, using the OPTN hearts for PHT further decreases the number of hearts needed for OHT. An analysis of the United Network for Organ Sharing (UNOS) database showed that the OPTN does not distribute 30 – 40 infant and 40 – 80 toddler hearts annually.[5] Typical reasons for the donor hearts not being used include donation after cardiac death, logistical issues, and ventricular dysfunction.[5] These hearts could be used for PHT because the valves are structurally and functionally normal. Rajab indicates that donor hearts that are not registered with the OPTN could be used for PHT.[5] He also indicates that donor hearts are not registered with the OPTN if organ procurement organizations (OPOs) determine that the allocation is exceedingly low that often occurs with neonates that weigh less than 5 kg.[5]

LOGISTICS

Another barrier to establishing PHT as a routine procedure is logistics. A nationwide system is lacking for allocating PHT donors to identified recipients. Currently, healthcare facilities with a PHT program independently manage the logistical challenges of obtaining PHT donors including the challenge of addressing distance and time.[1,5] Additional research is needed regarding the viability of partial heart allografts that are placed in cold storage.[1] Until viability has been established through rigorous research methods, the distance and time constraints remain.[1,5] Additionally, establishing a nationwide system would contribute to efficient distribution of partial heart allografts. The distribution system could be organized similar to the processes that the OPTN has in place.[5]

Future directions of PHT are focused on techniques of preserving the tissue including cold storage and vitrification and the development of new operations.

REGULATION

The regulatory environment in regard to the development and use of PHT is key to its success as being recognized as a routine procedure. Beginning 2023, the U.S. Food and Drug Administration (FDA) has regulated PHT as tissue under regulation 21 CFR Part 1271 Human Cells, Tissues, and Cellular and Tissue-Based Products (HCT/Ps).[1] This was selected after meetings between the FDA, Health and Human Services, and OPTN.[1] However, Prabhu et al, suggests there are reasons to change the policy by considering PHT analogous to whole organ transplants because of similar logistical issues.[1] The FDA does not have a national system for procurement and allocation of PHTs, as compared to the OPTN that is effective in identifying and screening organ donors and facilitating the logistics.[1] It is suggested that policy changes are made to reflect PHTs as organs to have a coordinated nationwide system because time is of the essence when identifying critically ill neonate recipients.[1]

FUTURE OF PHT

Future directions of PHT are focused on techniques of preserving the tissue including cold storage and vitrification and the development of new operations. The question in regard to cold storage is if the grafts can be safely stored in this manner that preserves cellular viability. Identifying a safe cold stor-

age method would have an important impact on decreasing the expediency required to identifying a suitable partial heart donor at the time of surgery.[1] Research has shown that PHT allografts placed in cold storage, such as the University of Wisconsin solution, keep cellular viability for up to 48 hours.[6] Valvular tissue may be more resistant to ischemia, but further research is needed to identify the exact point in time when the viability of cells no longer exists.

The research team at Duke University Medical Center discussed another technique for possibly extending the viability of the tissue cells called vitrification that involves using cryoprotective agents and rapid cooling to prevent ice crystal formation, thus preserving the tissue.[1] The technique has been used to keep human embryos alive for more than 13 years. It could therefore be assumed that the technique can be used to preserve cellular viability and the structure of the partial heart allografts.[1] Before this could be considered for use questions to be answered include the cost of the technology, the correct temperature, and the regulation of the technique.

New procedures to be explored include living atrioventricular valve replacement, transplantation of blood vessels, and transplantation of parts of the cardiac chambers. The challenge for living atrioventricular valve replacement involves preserving the subvalvular apparatus.[1] If this is overcome and the technique refined, it could be a major advancement in treating pediatric patients that present with severely dysfunctional atrioventricular valvular disease.

Another possible application of PHT is transplanting donor blood vessels. The primary advantage, as previously stated for PHT, is they would grow with the pediatric patient. This could be another important step forward in treating children with Tetralogy of Fallot or pulmonary atresia who require reconstruction of the branch pulmonary arteries.[1,5]

Lastly, another application of PHT to be explored is transplantation of parts of the cardiac chamber. This would require the surgeon to perform a free grafting of the myocardium that is supplied by a donor coronary artery.[5] The technique could be used to treat single ventricle defects or to replace the infarcted section of the ventricle.

SUMMARY

The need to treat children who are suffering from critical valvular diseases with improved surgical methods is critical. The mainstream methods of using bioprosthetic and mechanical valves as well as cryopreserved homografts are inadequate because they place the patient in the position of having to undergo multiple surgical procedures. PHT has been shown to be a safe surgical option in which multiple patients are living normal lives with the valves growing as they grow. Research needs to focus on post-operative immunosuppression drug therapy and cold storage, or other storage methods for living partial heart allografts that preserve cellular viability.

REFERENCES

1. Prabhu NK, Avkut B, Mensah-Mamfo M, Overbey DM, Turek JW. Partial heart transplantation: early experience with pediatric heart valve replacements that grow. *Circulation*. 2025; 151(20): 1477-1490. doi: 10.1161/CIRCULATIONAHA.124.072626
2. Turek JW, Kang L, Overbey DM, Carboni MP, Rajab TK. Partial heart transplant in a neonate with irreparable truncal valve dysfunction. *JAMA*. 2024; 331(1): 60-64. doi: 10.1001/jama.2023.23823
3. Aykut B, Overbey DM, Medina CK, et al. Partial heart transplantation promotes organ stewardship: domino hearts and split roots. *Ann Thorac Surg Short Rep*. 2025; 3(1): 86-91. doi: 10.1016/jatssr.2024.07.033
4. Goodman B. Groundbreaking procedure allows heart repairs to grow with children, new study shows. January 9, 2024. Accessed April 28, 2025. https://www.cnn.com/2024/01/02/health/partial-heart-transplant-growth
5. Rajab TK. Partial heart transplantation: growing heart valve implants for children. *Artif Organs*. 2024; 48(4): 326-335. doi: 10.111/aor.14664
6. Kwon JH, Hill MA, Gerry B, et al. Cellular viability of partial heart transplant grafts in cold storage. *Front Surg*. 2021; 8. doi: 10.3389/fsurg2021.676739

Partial Heart Transplant Procedure, Part 2

#507 NOVEMBER 2025 1 CE CREDIT $6

1. **Which of the following is the first anastomosis to be completed?**
   a. Distal pulmonary root
   b. Distal aortic root
   c. Proximal pulmonary root
   d. Proximal aortic root

2. **What suture technique is used for the anastomoses?**
   a. Purse-string
   b. Continuous running
   c. Interrupted mattress
   d. Figure-of-8

3. **What is used to close the ventricular septal defect?**
   a. Aortic patch
   b. Synthetic patch
   c. Septal occluder
   d. Aortic root distal tissue

4. **The split root procurement involves excising the valves and transplanting from the heart of a pediatric patient undergoing orthotopic heart transplant.**
   a. True
   b. False

5. **What type of anastomosis is performed for the aortic and pulmonary roots?**
   a. End-to-side
   b. Roux-en-Y
   c. End-to-end
   d. Side-to-side

6. **Which chamber of the heart is attached to the pulmonary arteries after the pulmonary root is transplanted?**
   a. Right ventricle
   b. Left ventricle
   c. Right atrium
   d. Left atrium

7. **The Duke University Medical Center research team indicated the immediate post-operative immunosuppression drug therapy begins with:**
   a. no steroids, two immunosuppressive drugs.
   b. steroids, one immunosuppressive drug.
   c. steroids and two immunosuppressive drugs.
   d. no steroids, two immunosuppressive drugs.

8. **The analysis of the UNOS database showed that OPTN does not distribute _____ - _____ number of infant hearts annually for various reasons.**
   a. 20 - 30
   b. 30 – 40
   c. 40 – 50
   d. 50 – 60

9. **What federal agency currently regulates PHT as tissue?**
   a. U.S. Food and Drug Administration
   b. Agency for Healthcare Research and Quality
   c. U.S. Department for Health and Human Services
   d. National Institutes of Health

10. **Research has indicated that PHT allografts can remain viable in cold storage for up to _____ hours.**
    a. 12
    b. 24
    c. 36
    d. 48

PARTIAL HEART TRANSPLANT PROCEDURE, PART 2
 # 507 NOVEMBER 2025 1 CE CREDIT $6

AST Member No.

☐ My address has changed. The address below is the new address.

Name

Address

City State Zip

Telephone

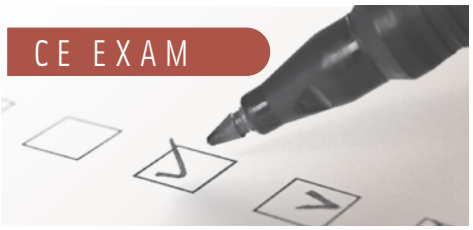
☐ Check enclosed ☐ Check Number

	a	b	c	d
1	☐	☐	☐	☐
2	☐	☐	☐	☐
3	☐	☐	☐	☐
4	☐	☐		
5	☐	☐	☐	☐
6	☐	☐	☐	☐
7	☐	☐	☐	☐
8	☐	☐	☐	☐
9	☐	☐	☐	☐
10	☐	☐	☐	☐

Make It Easy - Take CE Exams Online

You must have a credit card to purchase test online. We accept Visa, MasterCard and American Express. Your credit card will only be charged once you pass the test and then your credits will be automatically recorded to your account.

Log on to your account on the AST homepage to take advantage of this benefit.



Earn CE Credits at Home

You will be awarded continuing education (CE) credits toward your recertification after reading the designated article and completing the test with a score of 70% or better. If you do not pass the test, it will be returned along with your payment.

Send the original answer sheet from the journal and make a copy for your records. If possible use a credit card (debit or credit) for payment. It is a faster option for processing of credits and offers more flexibility for correct payment. When submitting multiple tests, you do not need to submit a separate check for each journal test. You may submit multiple journal tests with one check or money order.

Members, this test is also available online at ***www.ast.org.*** No stamps or checks and it posts to your record automatically!

Members: $6 per credit
(per credit not per test)

Nonmembers: $10 per credit
(per credit not per test plus the $200 nonmember fee per submission)

After your credits are processed, AST will send you a letter acknowledging the number of credits that were accepted. Members can also check your CE credit status online with your login information at ***www.ast.org.***

2 WAYS TO SUBMIT YOUR CE CREDITS

Mail to: AST, Member Services,
6 West Dry Creek
Circle Ste 200, Littleton, CO 80120-8031

E-mail scanned CE credits in PDF format to:
memserv@ast.org

For questions please contact Member Services - ***memserv@ast.org*** or 800-637-7433, option 3.
Business hours: Mon-Fri, 8 am - 4:30 pm MT

Connect to Opportunity

LinkedIn

Build your professional presence and connect to AST.

HONORING MILITARY MEMBERS

The Association of Surgical Technologists is proud to honor and recognize some of our military members for their dedication, courage, and sacrifice in service to our country. We are especially grateful for those who continue that service within the operating room, bringing their skill, discipline, and commitment to excellence to the surgical team. Their contributions not only safeguard our freedoms but also strengthen the profession of surgical technology, ensuring the highest standards of patient care.

Thank You

MATTHEW LADD

Credentials: CST

Length in profession: 10 years

Length in military: 10 years

What's your current role: CST in labor & delivery

Branch of the military: United States Army

How has your military experience set you up for your role as a surgical technologist?

"Having served three years in Iraq and Afghanistan, I learned a lot about the medical field and how to treat my own soldiers as we did not have medics while deployed overseas. When soldiers were injured, my team looked to me to be able to help them when their life was at risk."

CHRIS KAPP

Credentials: CSFA/CST

Length in profession: 38 years

Length in military: 4.5 years

What's your current role: CSFA

Branch of the military: United States Army

How has your military experience set you up for your role as a surgical technologist?

"Being the Phase 2 instructor at Ft. Knox, Kentucky, and teaching those military students allowed me the opportunity to teach in the profession I love, which has kept me in the field for 38 years."

CHARLES SELLARS

Credentials: CST

Length in profession: 41 years

Length in military: 4 years, 4 months active duty, approximately 10 years reserves. Called to active duty for Desert Shield/Desert Storm

What's your current role: Holy Cross Germantown, Maryland

Branch of the military: United States Navy

How has your military experience set you up for your role as a surgical technologist?

"The training I received in the military in San Diego, California, was absolutely priceless. Back then the training was nothing less than serious and the expectation was to be on time, be prepared and perform at a high level. Because of this premium training, it made all my fellow students confident that all could achieve anything in the OR. Three months in the classroom and three intense months in the OR yielded some of the best techs I have worked with. We lived and breathed our craft every day. I am grateful for my military training."

ADELA SANDOVAL

Credentials: CST

Length in profession: 3 years

Length in military: 5 years

What's your current role: CST

Branch of the military: United States Navy

How has your military experience set you up for your role as a surgical technologist?

"I enrolled in the program in 2020, and with the military I have been able to travel and enhance my skills. I have worked in Texas for two years and in Japan for three years as a CST."

MARISSA ESCALANTE

Credentials: CST

Length in profession: 5 years

Length in military: 8 years

What's your current role: Travel surgical technician/68D

Branch of the military: United States Army

How has your military experience set you up for your role as a surgical technologist?

"I found surgical technology thanks to the United States Army Reserves. They paid for all my credentials, and I got paid to do them and keep expanding my career in the medical field debt free. The Army has taught me how to maintain my emotions under hard circumstances."

BRYENA DUNN

Credentials: CST

Length in profession: 8 years

Length in military: 12 years

What's your current role: Surgical technologist on an Austere Resuscitative Surgical Team

Branch of the military: United States Army

How has your military experience set you up for your role as a surgical technologist?

"The military prepares you to work in high-pressure, fast-paced environments which directly translates to the operating room. Our training is not only fast and efficient, but also highly practical. Our program is more accelerated than civilian programs. My military experience has taught me to stay calm under pressure, think critically on my feet, and always stay one step ahead. That mindset allows me to anticipate the needs of the surgical team and keep the flow of the OR running smoothly. Being innovative and adaptable has become second nature, and that's exactly what's needed in surgery."

CHRISTOPHER SWEEBE

Credentials: CSFA

Length in profession: 19 years

Length in military: 4 years

What's your current role: Certified surgical first assistant and owner/operator of Precision Surgical Resources and Surgical Assistants of Memorial

Branch of the military: United States Air Force

How has your military experience set you up for your role as a surgical technologist?

"My military experience taught me the core values of service before self and excellence in all you do, which continue to guide my work today. Being placed into the operating room as a surgical technologist in the Air Force gave me the discipline, adaptability, and precision needed to succeed in surgery. Even two decades later, I still have the privilege of working alongside some of the surgeons I first met during my service. That foundation set me on the path to becoming a CSFA."

DOROTHY MITCHELL

Credentials: Certified Surgical Assistant, Certified Surgical First Assist, Certified Surgical Technologist

Length in profession: 9 years

Length in military: 6 years

What's your current role: CSFA, CST

Branch of the military: United States Navy

How has your military experience set you up for your role as a surgical technologist?

"During my time as a Hospital Corpsman in the US Navy, I played many medical roles such as dental tech, hospital corpsman, specimen collection and administering vaccines. When you are on a ship in the middle of nowhere and someone gets injured, there is no hospital, clinic, or urgent care, there is only the doctor on board and the hospital corpsman. While assisting the doctor with more complex cases I knew right away, I wanted to be more involved during surgical procedures."

MELISSA SWIFT

Credentials: CST

Length in profession: 32 years

Length in military: 6 years

What's your current role: Surgical technologist

Branch of the military: United States Navy Reserves

How has your military experience set you up for your role as a surgical technologist?

"My time in the military taught me discipline, self-confidence, strong work ethic, and teamwork, to name just a few attributes. All of which prepared me for a career in surgical technology. I had excellent training and education in college for instruments and procedures, but I believe it was my military training that prepared me for situations and personalities that school could not."

BRITTANY WHITWORTH

Credentials: CST

Length in profession: Less than one year

Length in military: 11 years

What's your current role: CST

Branch of the military: Indiana Air National Guard

How has your military experience set you up for your role as a surgical technologist?

"My role in the military taught me discipline and trusting those on my team. I also learned how important it is to be part of something far greater than yourself."

PAUL CRAIG

Credentials: M.A., CST

Length in profession: 15 years

Length in military: 4 years

What's your current role: Surgical technology program coordinator

Branch of the military: United States Air Force

How has your military experience set you up for your role as a surgical technologist?

"The military taught me the discipline to handle any challenge with a clear mind and the determination to see it through no matter what the odds, and to have respect for my country and protect those I love. I still carry those values to this day."

VICTOR SARMIENTO

Credentials: CST

Length in profession: 25 years

Length in military: 5 years

What's your current role: CST

Branch of the military: United States Navy

How has your military experience set you up for your role as a surgical technologist?

"I owe everything to the military. I got so much experience. It was an accelerated program that is usually two years of school, I did it in six months. I was 20 when I got out of surgical technology school and went right to work at my next duty station. I worked for another two years until I decided to separate from the Navy and got a job being a surgical technologist."

KEITH CHILDERS

Credentials: CST
Length in profession: 33 years
Length in military: 10 years
What's your current role: Travel tech
Branch of the military: United States Army
How has your military experience set you up for your role as a surgical technologist?
"My military experience is something that I draw on every day both professionally and personally. Motivation, energy, enthusiasm, knowing that I can be someone that my staff depends on day in and day out. I can say with great confidence that the Army still lives very much inside of me and is reflected in my day-to-day energy."

LINDA EVANS

Credentials: CST, Instructor
Length in profession: 5 years
Length in military: 5 years
What's your current role: Surgical technology teacher
Branch of the military: United States Army
How has your military experience set you up for your role as a surgical technologist?
"It has given me that backbone, barrier, and top skin that you need in the operating room, especially when dealing with various sick patients. I'm tough but in a very nurturing way."

BRET BURNS

Credentials: CST

Length in profession: 4 years

Length in military: 5 years

What's your current role: Hospital Corpsman Third Class L23A Surgical Technologist

Branch of the military: United States Navy

How has your military experience set you up for your role as a surgical technologist?

"In the military, especially in the medical field, we preach excellence, consistency, and precision. The role of a surgical technologist embodies all these elements and are easily applied in our everyday tasks. The operating room is an ever-changing, fast-paced environment that military members thrive in because that is what life in the military is like. Being able to adapt and overcome whatever challenge or task comes your way in the Navy or in the operating room, sets you up for a successful career."

The Association of Surgical Technologists deeply values its military members and honors the sacrifices they have made in service to our country. We are committed to supporting those who may be facing challenges such as post-traumatic stress disorder (PTSD) and want our community to know they are not alone. Whether you are personally navigating these struggles or know someone in need, AST stands ready to provide resources, connection, and support to ensure the well-being of all who serve and have served.

See below for a list of immediate resources available to those in need:

- **VA Veterans Crisis Line**: 1-800-273-8255, Press 1
- **National Center for Post-Traumatic Stress Disorder:** (800) 273-8255 Combat Call Center (877) WAR-VETS – The National Center for PTSD (NCPTSD) aims to advance the clinical care and social welfare of U.S. Veterans through research, education and training on PTSD and stress-related disorders. The PTSD Information Center has fact sheets and videos to answer your questions on trauma, PTSD and related issues.
- **PTSD Foundation of America: Veteran Line:** (877)717-PTSD (7873) Office: (832)912-4429 – A nonprofit organization dedicated to mentoring combat Veterans and their families with post-traumatic stress.
- **PTSD treatment and program options:** An online tool from the VA for managing PTSD symptoms and stress. https://www.ptsd.va.gov

Use the QR code for a list of additional resources always available at ast.org.

Reflections and Hope:

PETER BECKETT, CST, US ARMY VETERAN

A few nights ago, I was awoken by a recalled nightmare that was triggered by the sound of gunfire in my neighborhood. It caused me to write in my journal and reflect on my thoughts and feelings. As some of you know, part of my recovery from my Post Traumatic Stress (PTS) is to share my thoughts and experiences with others. With that in mind: *I am grateful for this opportunity to write to you!*

In 2016, I needed to have a pacemaker implanted to keep my heart beating correctly. During the procedure, my heart completely stopped for 93 seconds. The team worked quickly to shock, pace, and revive me. Unfortunately, it threw a blood clot into my right lung, and I spent several days on a ventilator.

This past year, I have again been faced with my own mortality through both intestinal and cardiac issues. I am coming out of the "…valley of the shadow of death…" (Psalm 23:4). I went through cardiac rehab and am stronger now than I have been in a long time. I'm even shedding a few extra pounds! I'd like to share some of my reflections on how the experience of dying, being revived, and facing my mortality is changing me.

Israel Zangwill, in his play, ***The Melting Pot*** (1908), wrote these lines for the protagonist David Quixano, as he stands in awe of the sun setting behind the Statue of Liberty:

> "It is the Fires of God round His Crucible. There she lies, the great Melting-Pot—Listen! Can't you hear the roaring and the bubbling? There gapes her mouth, the harbor where a thousand mammoth feeders come from the ends of the world to pour in their human freight".

This play brought the term "*Melting Pot*" into the vernacular and propagated the public sentiment of the same to define what it means to be an American. ***We need to return to that sentiment!*** We must look for and then focus on the commonalities rather than the differences of the people around us. This mindset change will change our spheres of influence. (The various worlds of: home, family, friends, schools, teams, workplace, communities, states, nation, etc...) Furthermore, developing and utilizing this mindset is a critical, binary key to building more cohesive, powerful, resilient, and productive societies.

Everyone we meet leaves an impression on our persona. Some are so light and minimal that we scarcely notice their presence or absence. Others are so impactful that their imprint on us changes the fundamental nature of our being.

The job we do is extraordinarily difficult, traumatic, and very personal. If anyone claims or states that it is not, they have never worked in the OR. We spend our days cutting into human beings and running our hands through their inner workings. We take saws and drills to burr into skulls and spines and the marrow of bones of living human beings. We dislocate and replace joints, cut out cancer, transplant organs, amputate limbs, and hold beating and sometimes not beating hearts in our hands. We restore blood flow and mend broken bones. We give hope and solace to the broken hearts of grieving families. Our shoes are stained by the blood and brains, and vomit, and gore of the patients that roll through our "*Theater of Operations*". We shave burned skin off the unfortunate victims of fire and explosives. We dig out bullets and sew up stab wounds of otherwise healthy people. We hold the hands of scared patients of all ages as they go to sleep reassuring them that, "*We are really good at this, and we are going to take really good care of you!*". We improvise, adapt, and overcome when we haven't the supplies or equipment necessary. We switch assignments, skip our lunches, and hold our bladders because the trauma alert is paged overhead. We respond to phone calls and rush to the hospital at all hours of the day and night because we are on call. We sometimes work long hours, almost exclusively on our feet, while wearing 25 pounds of lead or in a 90-degree room with little complaint and even

less relief. What is normal to us could be considered war crimes in different circumstances and would have gotten us burned at the stake in previous centuries. We fight a war against death. It is a war that we cannot win but can only delay the inevitable. We have heard the wails of grief from mothers that morn the loss of their children. They are the screams that echo in our dreams. We base our practice under the mantras of "*Patient First*" and *"Do No Harm"*, whilst we struggle with the knowledge that we separated a patient's sternum and then felt their ribs poke against our hands as we performed chest compressions. We play the game of "*Would've, Could've, Should've*", when we reflect and grapple with our own shortcomings. It too is a battle we cannot win but only hope to improve the outcome the next time we play. Yet, we also get to help bring new life into the world as we watch, and sometimes hold, a newborn baby as it takes its first breath and cries out in his or her discomfort. We have cheered our victories and have wept our losses. Trauma, (emotional, physical, and/or psychological) is real. Our PTS is real. We all have some in our own lives and own ways. We cannot do our jobs without experiencing this on some level. I have learned that the key to overcoming PTS is learning your triggers and then learning to remember, without reliving, those experiences. We are more akin to the first responders and returning warriors that protect and serve our communities and our country, than many will admit. We too are quiet professionals. We too protect and serve. We must embrace both our joys and our sorrows. They are balance in our lives. It is often said, "Struggles make the accomplishments mean more (If it was easy everyone would do it)".

I leave you with a few thoughts:

- The depth of the water in your life does not matter. You only need to swim in the top three feet. So.... never be afraid of the deep end. Go for it!!
- Be quick to sincerely apologize and even quicker to forgive.
- Be slow to anger and even slower to judge.
- Listen with the intent of learning not commenting.
- It is far crueler to crush the spirit of someone than to torture, bruise, and lacerate the innocence of their flesh. The words we say and the actions we do have consequences. Much like a stone tossed in a glassy lake, the ripples of our words and deeds span out in all directions and we can seldom see all of their aftermath. Likewise, our silence and/or passivity can be catastrophic.
- Always remember that integrity can never be stolen. It remains solely to be retained or forfeited. It is vitally important to comprehend the ramifications of either choice. The latter is irreversible and insolvent. The former is inviolable.
- The best place for your ego to show itself is at home in front of your bathroom mirror. Leave it there!
- Thoughtful, intelligent, educated, and spirited debate is healthy as long as those involved realize that it is not personal.
- If it goes in or comes out of your mouth it should be good.
- Beauty is all around us. Take a moment to experience it.
- EVERYONE has an interesting story to tell. Embrace yours and share it with others (yes, even random strangers).
- It is how you act (and often more importantly, react) which will set the tone for each engagement. By choosing to approach each instance as a positive occurrence the probability that it remains so increases exponentially.

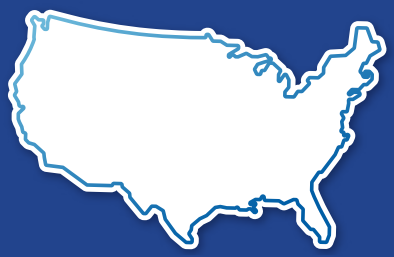
In closing, we are guardians of Zangwill's "human freight" and as such we have the opportunity, honor, and duty to be a shining light, and a glimmer of hope in the lives of the patients that come to us for aid. We cannot forget the truth that sometimes, those that seek our compassion, healing, and understanding are the ones standing next to us at morning huddle or in the operating room. (Yes, surgeons need superheroes too.) They may be beside us as we work, sweat, struggle, and fight to give someone one more minute with their loved ones. Sometimes, it is that person staring back at us in the mirror.

In this time of unrest, turmoil and division, strength can be found in those with whom we endure. We all need to be recognized. Family is not found in blood alone but in the shared joy of a shared life. We CHOOSE to be better people when we choose to act with consideration of how our actions affect the innocent. We often never know how the ripples we create crash into the shore of someone else's life. Make sure you send out good ripples!

I am committed to being a better friend, colleague, mentor, and servant. I am committed to sending out good ripples. I hope that you will join me. It is my desire and prayer that this message will bless you. Thank you for being part of my AST family.

References:

The Project Gutenberg eBook of The Melting-Pot, by Israel Zangwill. (n.d.). Www.gutenberg.org. https://www.gutenberg.org/files/23893/23893-h/23893-h.htm



Meet AST's Bylaws, Resolutions, and Parliamentary Procedures Committee

Tracy Jackson, CST, FAST, CHAIR
tracymjackson@outlook.com
Represents Arizona, Kentucky, Mississippi, Missouri, Nevada

Tracy Jackson has operated in various positions for the Indiana State Assembly since 2015 and delegate since 2017. It has been an honor for her to serve as a certified surgical technologist for 17 years, as a CST educator for 2.5 years, and as a perioperative support service manager, which included the management position of central sterile processing manager for two years. On the national level, she obtained the Fellowship of the Association of Surgical Technologists (FAST) distinction in 2021, and is currently the chair for the Bylaws, Resolutions, and Parliamentary Procedures Committee. Tracy finds enjoyment in serving our profession also through accreditation site visits and participating on the local Surgical Technology Program Advising Committee.

In her free time, she loves to volunteer with Purdue Master Gardening events, botanical garden educational field trips, community gardening initiatives, and church outreach ministries. Amongst her passions, she is most grateful for her family as a wife, mother of four, and as a new grammy!

Erin Baggett, CST, FAST
ebaggettcst@gmail.com
Represents Colorado/Wyoming, Indiana, Nebraska, New Mexico, Ohio, Oklahoma

Erin has been a CST and member of AST since 2011. She graduated with a diploma in surgical technology from Gwinnett Technical College in Lawrenceville, Georgia, and is now privileged to teach as the lead instructor in that same program. She currently serves as the chair of the Surgical Technology Consortium for the Technical College System of Georgia. Erin holds a Bachelor of Arts in Business Administration from Lee University, as well as a Master of Health Science from Saint Francis University.

On the national level, Erin received her Fellow of the Association of Surgical Technologists (FAST) designation in 2020. She received AST's Shining Star Constellation Educator's Award in 2024, and the AST Clinical Educator of the Year award in 2015. She is currently serving her second year on the AST Bylaws, Resolutions, and Parliamentary Procedures Committee.

At the state level, Erin has served the Georgia State Assembly since 2013 as director, secretary, treasurer, vice president, and currently as president. She is proud to have been part of the Georgia State Assembly receiving the State Assembly Leadership award in 2013, 2018, and 2024.

Erin and Wayne, her husband of almost 33 years, live in Winder, Georgia with their four very spoiled cats, Gussie Mae, Trixie Lou, Cooper Lee, and Allis Ann. She enjoys playing piano for her church choir, cooking and baking, and cheering on Clemson and UGA football.

Peter Beckett, CST
pdbeckett1430@yahoo.com
Represents New Jersey, North Dakota, South Dakota, Utah, Wisconsin

Peter D. Beckett, CST, is in his second year on ATS's Bylaws, Resolutions, and Parliamentary Procedures Committee. He also serves on the board for the Missouri State Assembly of Surgical Technologists and was recently selected as a conference reviewer for Becker's Healthcare.

With more than 35 years of operating room experience, he currently serves as a lead surgical technologist in vascular and endovascular surgery and the on-call trauma team. He is also a clinical instructor/preceptor and is the department safety officer. Additionally, he is currently working on his Masters of Healthcare Administration through Liberty University.

Peter's path to healthcare began through military service. He served as an independent duty corpsman/combat medic. Recognized for his leadership, he earned an appointment to Officer Candidate School and was commissioned as a lieutenant in the Army Military Police Corps. In this role, he served as both a platoon leader and detachment commander. He deployed in support of Operation Noble Eagle and the Global War on Terror. A proud veteran and life member of the American Legion, Peter currently serves as vice-commander of his local post. He also sits on the board of his family's nonprofit organization, reflecting his commitment to service beyond the operating room.

Peter values balance in life. He supports the Kansas City Ballet, the Kansas City Symphony and Chorus, and his church's halfway house prison ministry. He enjoys golf, playing his piano, and cooking for family and friends. He lives by his personal motto, "If it goes in or out of your mouth, it should be good"—a reminder to nourish others with both healthy food and kind words.

JaLynda Buckingham, CST
jbuckinghamcst@gmail.com
Represents Idaho, Massachusetts, New Hampshire/Vermont, Rhode Island, West Virginia

JaLynda Buckingham has been a certified surgical technologist for 13 years and has proudly been as a member of the Association of Surgical Technologists (AST) for 12 years. Over the course of her career, she has taken on a few roles within the Virginia Commonwealth State Assembly, including director, treasurer, and delegate. In addition, she actively contributes to the profession through her involvement with the VCSA Student Outreach Committee, Government Affairs Committee, and Merchandise Committee.

JaLynda is deeply passionate about the surgical technology profession and finds great fulfillment in teaching and mentoring students. Her professional background includes extensive experience in a wide range of specialties, including labor and delivery, main operating rooms, surgery centers, clinics, and the sterile processing department. She also served as the lab/clinical instructor for Laurel Ridge Community College (formerly Lord Fairfax) at the Vint Hill campus, where she guided and inspired future surgical technologists.

In 2020, JaLynda expanded her career by pursuing traveling assignments, which allowed her to share her expertise while serving a variety of communities. She has embraced these opportunities with enthusiasm and continues to value the connections she has made along the way.

Currently, JaLynda is honored to serve her first term (second year) with the AST Bylaws, Resolutions, and Parliamentary Procedures Committee. She is eager to continue building meaningful relationships with the states she represents and remains enthusiastic about collaborating with colleagues and other professionals dedicated to advancing the surgical technology profession.

Amanda Carrasco, CST
carrascofam10@yahoo.com
Represents Arizona, Kentucky, Mississippi, Missouri, Nevada

Amanda has been a CST and a member of AST since 2005. She graduated from Sussex County Community College with a certificate in surgical technology. She furthered her education graduating from Berkeley College in 2002 with an Associate of Applied Science in Fashion Marketing and Management, a Bachelor of Science in Health Service Administration in 2010 from Berkeley College, New Jersey, and a Master of Science in Health Care Administration in 2011, from New England College, NH.

Amanda was one of the founding members of the New Jersey State Assembly back in 2006, where she served as the first secretary, a term as board of director, second term as secretary in 2022, and vice president 2023-2024. She was honored in 2021 to be appointed to the Bylaws, Resolutions, and Parliamentary Procedures Committee, to where she is currently serving the start of her third term.

Amanda has had a passion for her career as a surgical technologist for 21 years to where 19 of those years has been in education. She loves to teach not only future surgical technologists, but also anyone who is interested in knowing about the "person behind the mask, that assists the surgeons." One of Amanda's favorite things is to go to her children's school to talk to them about the healthcare profession, more specifically surgical technology.

Amanda developed and launched a new surgical technology program at Passaic County Community College (PCCC) in 2022. In 2023, she received the President's Award for successfully establishing the program and leading it toward CAAHEP accreditation, which was officially awarded in May 2025. Her dedication and hard work were recognized early on by the president of the college, who honored her with the President's Award. She also serves on the Curriculum Review Committee and was appointed as a director of the Administrators Union Team.

Amanda lives in Franklin, New Jersey with her husband of 15 years and their three children. She treasures family time, whether it's swimming, watching movies, enjoying outdoors adventures, or simply appreciating life's little moments.

Maricela Chavez, CST, FAST
mchavez3@tstc.edu
Represents Kansas, New York, South Carolina, Tennessee, Virginia

Maricela's professional journey in surgical technology began with the completion of her certification in surgical technology at Trinity Valley Community College in 1999. This credential launched her career as a surgical technologist, where she gained extensive hands-on experience, scrubbing in for numerous procedures and serving as a preceptor to students. During this time, she also advanced her own education, preparing for her transition into teaching.

Today, Maricela holds a master's in hospital administration with a concentration in leadership and serves as the program director at Texas State Technical College. She is an active member of several professional organizations and contributes to advancing the profession through service on the Texas State Assembly Board. In 2024, she was honored with the AST Fellow of the Association of Surgical Technologists (FAST) designation in recognition of her dedication and leadership. Most recently, she was appointed to the AST Bylaws, Resolutions, and Parliamentary Procedures Committee.

Looking ahead, Maricela is committed to continuing her commitment by empowering others, especially students and emerging leaders, through fostering a positive mindset and a passion for professional growth.

Tim Danico, CST, FAST
timothy-danico@uiowa.edu
Represents Maryland/Delaware, Michigan, Minnesota, Montana, Pennsylvania

Tim Danico has been a certified surgical technologist since 2013 and currently works at the University of Iowa Stead Family Children's Hospital (home of the Iowa wave from college football!) since 2016 and serves as an adjunct faculty instructor at Kirkwood Community College since 2024. In the OR, Tim enjoys working with ENT and oral/maxillofacial surgery.

For many years, Tim served as the main preceptor for both surgical technology students and new orientees to his unit, and he has thoroughly developed a passion and love of teaching.

On the state level, Tim has served

on the Iowa State Assembly since 2016 and has held the positions of board member, secretary, and currently serves as the state's president.

Tim has been a member of AST since 2013. On the national level, he was a 2024 recipient of the FAST recognition.

Tim is proud and humbled to be a part of the AST Bylaws, Resolutions, and Parliamentary Procedures Committee. He is looking forward to the continued work of the committee and is looking forward to the future of AST.

Yasmin Gonzalez, CST, CSFA, FAST
gonzalezy412@gmail.com
Represents Connecticut, Illinois, Iowa, Maine, North Carolina

Yasmin Gonzalez is a certified surgical first assistant and has been a proud member of the Association of Surgical Technologists for 25 years. A recipient of the FAST designation, Yasmin is currently serving her second term on the AST Bylaws, Resolutions, and Parliamentary Procedures Committee. She has been actively involved in her state assembly since 2018, holding positions as board member, delegate, and secretary. She has also chaired one of her state assembly's regional meetings.

Throughout her career, Yasmin has worked in a variety of surgical settings, including main operating rooms, ambulatory surgery centers, labor & delivery, and pediatrics. She currently works at a children's hospital, where she has specialized as a CST in general surgery, orthopedics, and urology, and was a member of the kidney and liver transplant team. As a CSFA, her focus includes, but is not limited to, pediatric robotics, general surgery, and urology.

Yasmin is passionate about education and mentorship. She has taught in a surgical technology program and continues to serve as a preceptor for students and new staff at her facility. She also contributed as an advisor on a Program Advisory Committee within her community.

At her institution, Yasmin achieved CST Level 3 on the clinical ladder and served as co-chair of the OR Unit Board. She is honored to be reappointed to the AST Bylaws, Resolutions, and Parliamentary Procedures Committee and looks forward to continuing her work in support of AST and her state assemblies.

Cortney Hartman, CST, FAST
hartman.cortney@gmail.com
Represents Alaska, California, Hawaii, Oregon, Washington

Cortney Hartman MBA, CST, FAST, graduated from Indiana Business College in 2006 as a surgical technologist. She scrubbed on two different Fort Wayne teams specializing in cardiovascular, thoracic, peripheral vascular, robotic lungs, heart transplants, and ventricular assist devices. She worked as an adjunct instructor and sat on three program advisory committees. She previously held HSPA certifications as a certified registered central service technician (CRCST) and certified instrument specialist (CIS).

In 2016, Cortney became the first surgical technology educator for the Parkview Health System, and in 2019, she finished her MBA with a focus in healthcare management and was invited to join the Advanced Medical Simulation Lab at the Parkview Mirro Center for Research and Innovation to develop a surgical simulation program. She was an instrumental part of the team who worked to achieve American College of Surgeons Accredited Education Institute (AEI) accreditation for the Advanced Medical Simulation Lab.

Cortney was awarded the FAST designation in 2021 and was appointed to the AST Bylaws, Parliamentary, and Procedures Committee in 2024. She was a speaker at AST's Surgical Technology Conferences in Denver 2024 and Orlando 2025. On the state level, she served two terms as a director and one term as treasurer for the Indiana State Assembly of AST. She works for Stryker as a portfolio manager on the upstream marketing team for the upper extremities division and started her own company in 2022 (Surgical Tech Educator LLC.)

Cortney has presented at 15 conferences, enjoys serving on professional committees, writing/reviewing abstracts on the topics of surgical safety and simulation, and volunteering in her local community.

Katrina Williams, CST, CSFA, FAST
katrinawilliams89@yahoo.com

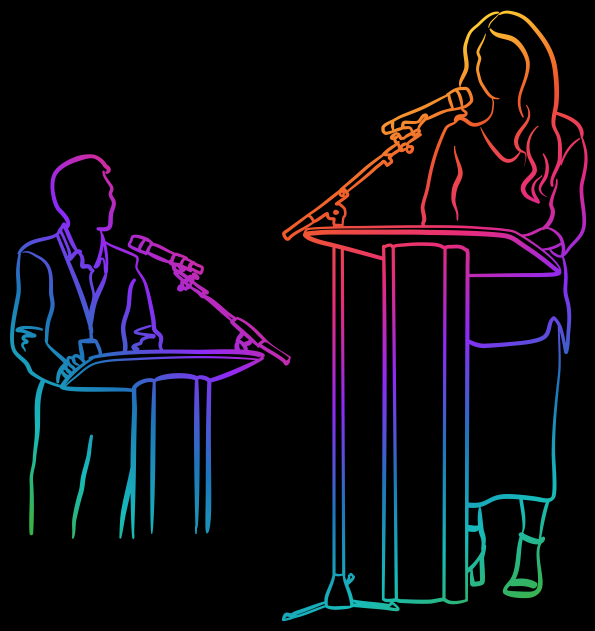
Represents Alabama, Arkansas, Florida, Georgia, Louisiana, Texas

Katrina brings over 25 years of experience in surgical technology and surgical assisting and has been an active member of AST since 2003. On the state level, she has faithfully supported this profession and her peers by serving on the South Carolina State Assembly in the capacity of many distinct positions, such as director (2014-2015), vice president (2015-2019), president (2019-2023), and currently as treasurer.

On the national level, Katrina has represented South Carolina as a delegate at the AST surgical technology conference since 2014 and has served on the State Assembly Leadership Committee from 2019-2021. In 2018, she was designated with the FAST award for her dedication to the profession.

Her passion and commitment for being an advocate for her patients has also allowed her to transition into other areas such as clinical instructor, program director, resource and preceptor for students, new staff members and medical residents, and currently as a certified surgical first assistant for general surgery, specializing in trauma, robotics, and dialysis access. In her newly appointed position to the Bylaws, Resolutions, and Parliamentary Procedures Committee, Katrina will work side by side with the state assemblies to ensure that state bylaws and procedures are implemented and followed and that new board members are oriented for their new role. Katrina is currently employed by the Pee Dee Division of the Medical University of South Carolina in Florence, SC, where she lives with her daughter Kennedy and her son Noah-Michael.

SPEAK UP!
Call for speakers!



AST is currently seeking speakers for our clinical webinar series, AST Educators Event and our national conferences. Have a good topic you'd like to see presented or know of a peer or surgeon who would make a good presenter?

Complete our speaker application and help us provide relevant and timely information to surg techs around the nation!

Visit ast.org - Educators - Events to get started.

FOUNDATION *for* SURGICAL TECHNOLOGY

What is The Foundation for Surgical Technology?

The Foundation is a 501c3 organization comprised of representatives from the Association of Surgical Technologists (AST) and the National Board of Surgical Technology and Surgical Assisting (NBSTSA). This type of organization also means any donation you give to the Foundation is tax deductible.

Who does The Foundation support?

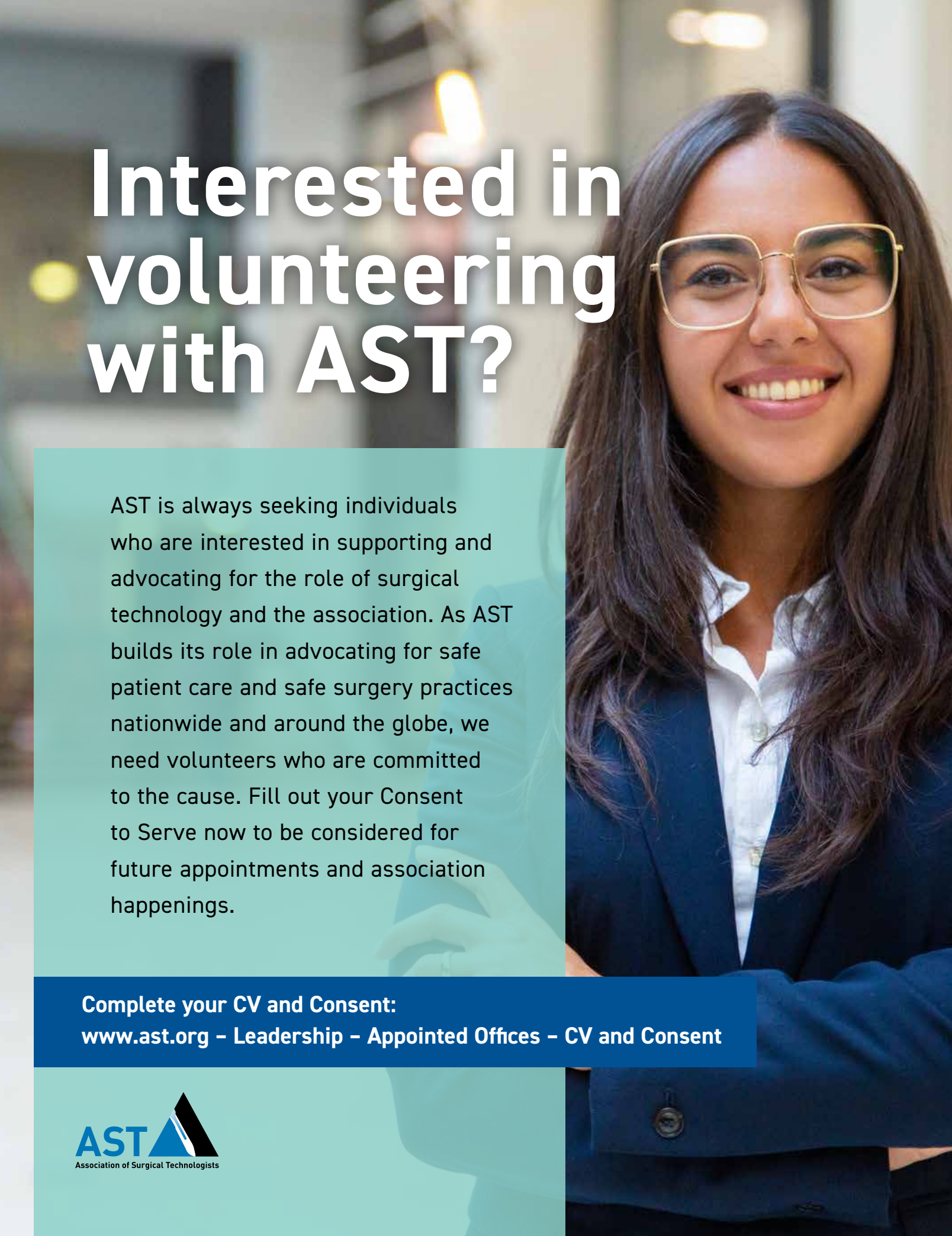
The Foundation provides scholarships to the following:

- Students
- Educators
- Military personnel
- and those who have helped others by serving on medical mission trips

When are the annual deadlines for the scholarships?

- Students scholarships - March 1
- Military scholarships - March 1
- Constellation (Educator) Awards - December 1
- Medical mission reimbursement - December 31

Learn more at www.ffst.org and give today!



Interested in volunteering with AST?

AST is always seeking individuals who are interested in supporting and advocating for the role of surgical technology and the association. As AST builds its role in advocating for safe patient care and safe surgery practices nationwide and around the globe, we need volunteers who are committed to the cause. Fill out your Consent to Serve now to be considered for future appointments and association happenings.

Complete your CV and Consent:
www.ast.org – Leadership – Appointed Offices – CV and Consent

AST
Association of Surgical Technologists

Interested in serving on a medical mission?
Check out our Medical Missions page with details and resources, and start planning your pathway to assist those in need.

Visit www.ast.org - About Us - Medical Missions

AST
Association of Surgical Technologists

Nina Starr Braunwald, MD: Pioneer in Heart Surgery

AST Staff

MEDICAL MARVELS

Constantly facing gender bias daily from personal to professional life, Dr. Braunwald met every challenge head-on. Her philosophy as a woman in the face of adversity was that she must always be better than her male peers often saying, "Unless I am better, I am dead."[1]

Developing an Interest in Medicine and Education

Nina Starr Braunwald, MD (2 March 1928 – 5 August 1992), was born in Brooklyn, New York, to May and Morris Starr, an interior decorator and a cardiac internist, respectively. (Figure 1) During childhood and adolescence, she developed an interest in painting and sculpting that she continued throughout her life. By age 14, she also was interested in biology. She cultured and viewed paramecia with her microscope at home providing her with the opportunity to be a member of the American Society of Amateur Microscopers.[1] When she graduated high school in 1945, she had already decided upon a career as a surgeon.

She completed premedical education in 1949 at New York University's Washington Square College and continued with medical school at New York University School of Medicine, graduating in 1952.[7] During her time at Washington Square College, she met her husband, Eugene Braunwald, who also attended the NYU School of Medicine with her. After medical school, she finished her internship and residency in three years at New York's Bellevue Hospital, later becoming the hospitals first female general surgeon.[1, 7]

When Eugene accepted a fellowship in cardiovascular research at the National Institute of Health (NIH) in 1955, they moved to Bethesda, Maryland. Here she continued residency training at Georgetown University Hospital. At this time, she met Dr. Charles Hufnagel, a cardiac surgeon who had invented the first artificial heart valve in 1947, and completed a postdoctoral fel-

Figure 1: Dr. Nina Braunwald in the laboratory.

lowship in his surgical laboratory, assisting him during procedures.[1]

Becoming a Cardiac Surgeon and the First Mitral Valve Replacement

In 1958, Dr. Braunwald was provided an opportunity at the NIH to begin her lifelong path in cardiovascular surgery. Eugene, who was head of the NIH cardiac catheterization laboratory, introduced her to Dr. Andrew Morrow, chief of the NIH Clinic of Surgery, who presented her with a two-year fellowship.[2] Dr. Morrow would prove to be an invaluable mentor to the couple during their professional lives.

When studying under Dr. Hufnagel, Dr. Braunwald completed research on the mechanisms of artificial valves and biomaterials, as well as completed graduate training in transplantation. This was prompted by caring for patients with mitral valve damage because of rheumatic heart disease, motivating her to begin work on designing a mitral valve prosthesis. By 1959, after spending countless nights working on a prototype prostheses in the kitchen at home, she had developed a mitral valve with flexible polyurethane valve leaflets and Teflon ribbon for chordae tendineae called the Braunwald-Morrow valve.[2] (Figure 2) The prosthesis was tested and fine-tuned in the veterinary surgical theatre on 24 dogs who were suffering from heart damage, and eventually Dr. Braunwald was satisfied that it would work in a human.[1,2]

On March 11, 1960, with the support of Dr. Morrow, Dr. Braunwald performed the first human mitral valve replacement on a 44-year old woman who had end-stage cardiac failure caused by mitral valve regurgitation that was diagnosed at the age of 11.[1,2] She would later have an article published describing the accomplishment titled, "It Will Work: The First Successful Mitral Valve Replacement".[3] She stayed with the patient after the surgery to directly watch the patient during the recovery period and be immediately available to treat any complications that might arise.[1] The patient had normal left atrial pressure and was released from the hospital. However, four months later the patient died from a sudden cardiac arrest because of a cardiac arrhythmia.[1] Dr. Braunwald's fear regarding the artificial valve was that a fatal blood clot would form. The patient's family allowed an autopsy to be performed to determine if the artificial valve was the cause of death. The coroner resolved that the valve had worked as it should and no blood clot(s) were present, and the death was because of the arrhythmia.[1]

Figure 2: Polyurethane in cup shape with edges reinforced by Dacron. A slit for blood flow in the center of the cup. Teflon chords (strings) are attached (four chords sewn into two chords) by purple and green thread. (Courtesy of the Office of NIH History and Stetten Museum, NIH)

During the next three years, Drs. Braunwald and Morrow implanted several flexible Teflon aortic prostheses. The patients did not develop arterial emboli even without the administration of anticoagulants, but Dr. Braunwald observed that the prosthetic leaflets continued to develop stiffness and lose mobility after several months. Working with Cutter Laboratories* she developed the Braunwald-Cutter valve that consisted of a Dacron and polypropylene mesh that covered the valve.[1] This was based on her deduction that a cloth material covering a stronger caged ball would decrease the rate of thromboembolism. The valve worked best when implanted to replace the mitral valve with reports that the artificial valves functioned for 30 - 40 years in many patients.[4-6]

Continuing Research, Developing New Surgical Techniques, and Overcoming Gender Bias

Because of Dr. Morrow's continuous support in Dr. Braunwald's work in surgery, she became the first woman to be certified by the American Board of Thoracic Surgery in 1963.[2] In 1965, she was promoted to deputy chief under Dr. Morrow at the NIH where she continued her research. Another groundbreaking moment occurred when she was the first woman to be elected to the American Association for Thoracic Surgery in 1967.[2]

In 1968, Dr. Braunwald, along with Eugene, joined the faculty at the University of California – San Diego's new medical school as an Associate Professor of Surgery.[2] Having to work in a department under a chairman who discriminated against her to make sure a woman never lead one of his divisions, she never attained full professorship,

Even though she encountered gender bias throughout her professional career, she never let this be a barrier to thinking about and researching new ways to improve the lives of patients who were affected by cardiac diseases.

but this did not prevent her from moving forward with her research and developing new surgical techniques. She started the university's first cardiac surgical program and performed the first successful coronary artery bypass procedure in San Diego.[1] In 1970, collaborating with Dr. Kenneth Moser, a well-known expert in the treatment of pulmonary vascular diseases, they developed the Pulmonary Thromboendarterectomy (PTE) Program to surgically treat chronic thromboembolic pulmonary hypertension.[7]

In addition to her interest in valvular disease, Dr. Braunwald had the desire to help pediatric patients experiencing congenital heart disease. Accordingly, in 1972, Dr. Braunwald moved to Boston and became the first woman on the surgical faculty at Harvard Medical School as an Associate Professor of Surgery.[2] She also performed cardiac surgery at Brigham and Women's Hospital, a teaching hospital of Harvard Medical School, and worked at the Children's Hospital Medical Center.[2] During this time, she continued to develop surgical techniques to treat ventricular septal defects. She observed the use of cardiopulmonary bypass (CPB) was associated with a high mortality rate in pediatric patients. This motivated her to develop a CPB machine for use during neonate and pediatric procedures.[2] During her time at Harvard, she would recall the valuable mentorship she received from Dr. Morrow and was dedicated to providing the same type of mentorship to medical students and surgical residents, of which she gained high respect.

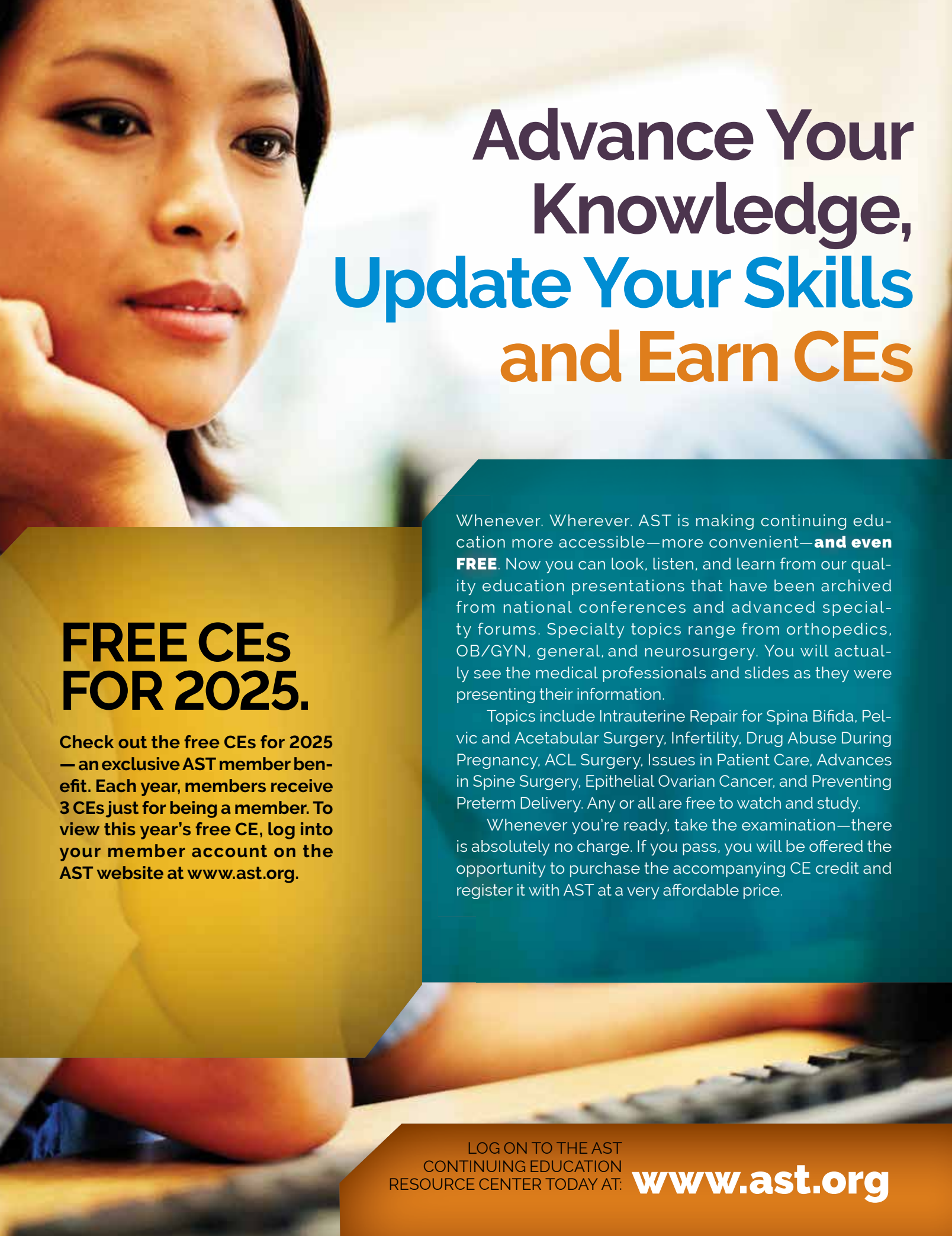
Other firsts achieved by Dr. Braunwald include developing a stented aortic homograft for mitral valve replacement and pioneering techniques for the use of tissue cultures to prevent the formation of blood clots when prosthetic valves were implanted or circulatory devices used.[8]

Even though she encountered gender bias throughout her professional career, she never let this be a barrier to thinking about and researching new ways to improve the lives of patients who were affected by cardiac diseases. She didn't consider herself a feminist, but it was the challenge of working to be better than her peers that drove her to develop skills as a surgeon and a researcher that far exceeded many others in the male-dominated field of surgery at that time.

***Cutter Laboratories:** Family-owned pharmaceutical company located in Berkely, California, founded by Edward Cutter in 1897. Bayer pharmaceutical business bought the company in 1974.

References

1. Singh SS, DiGiacoma JC, Angus LDG. "It Will Work": the story of Nina Starr Braunwald and the first successful mitral valve replacement. *Ann Thorac Surg*. 2021; 112(3): 1023-1028. doi: 10.1016/j.athoracsur.2021.03.096
2. Sabharwal N, Dev H, Smail H, McGriffin DC, Saxena P. Nina Braunwald: a female pioneer in cardiac surgery. *Tex Heart Inst J*. 2017; 44(2): 96-100. doi: 10.14503/THIJ-16-6048
3. Braunwald N. It will work: the first successful mitral valve replacement. *Ann Thorac Surg*. 1989; 48(3): S1-S3. doi: 10.1016/0003-4975(89)90615-2
4. Blackstone EH, Kirklin JW, Pluth JR, Turner MC, Parr GVS. The performance of the Braunwald-Cutter aortic prosthesis valve. *Ann Thorac Surg*. 1977; 23(4): 302-318. doi: 10.1016/s0003-4975(10)64130-6
5. Luk A, Lim KD, Siddiqui R, et al. A Braunwald-Cutter valve: a mitral prosthesis at 33 years. *Cardiovasc Pathol*. 2020; 19(2): e39-e42. doi: 10.1016/jcarpath.2008.10.003
6. Jiménex-Rodruguez GM, Criales-Vera, S, Juárez-Peñaloza MA, González-Tapia LA, Chaire-Hernández M. Normal function of a 43-year-old Braunwald-Cutter heart valve. *Oxf Med Case Reports*. 2018; 2: omx107. doi: 10.1093/omcr/omx107
7. Brubaker M. 4,000th lifesaving heart and lung surgery at UC San Diego Health. 2019. Accessed September 8, 2025. https://www.youtube.com/watch?v=wRb_HaBNwho&list=RDO6knBBpWIPg&index=6
8. National Library of Medicine. Biography: Dr. Nina Starr Braunwald. Accessed September 3, 2025. https://www.nlm.nih.gov/exhibition/changing-the-face-of-medicine-V2/physicians/biography_nina_braunwald.html?id=item-41



Advance Your Knowledge, Update Your Skills and Earn CEs

FREE CEs FOR 2025.

Check out the free CEs for 2025 — an exclusive AST member benefit. Each year, members receive 3 CEs just for being a member. To view this year's free CE, log into your member account on the AST website at www.ast.org.

Whenever. Wherever. AST is making continuing education more accessible—more convenient—**and even FREE**. Now you can look, listen, and learn from our quality education presentations that have been archived from national conferences and advanced specialty forums. Specialty topics range from orthopedics, OB/GYN, general, and neurosurgery. You will actually see the medical professionals and slides as they were presenting their information.

Topics include Intrauterine Repair for Spina Bifida, Pelvic and Acetabular Surgery, Infertility, Drug Abuse During Pregnancy, ACL Surgery, Issues in Patient Care, Advances in Spine Surgery, Epithelial Ovarian Cancer, and Preventing Preterm Delivery. Any or all are free to watch and study.

Whenever you're ready, take the examination—there is absolutely no charge. If you pass, you will be offered the opportunity to purchase the accompanying CE credit and register it with AST at a very affordable price.

LOG ON TO THE AST CONTINUING EDUCATION RESOURCE CENTER TODAY AT: **www.ast.org**

FDA Commissioner Marty Makary, M.D., Announces IV Saline Shortage Resolved

OF INTEREST IN THE MEDICAL ARENA

In February 2025, AST reported on the IV saline shortage that was occurring because of the Hurricane Helene damage to the Baxter International facility located in Marion, North Carolina that produces 60% of the IV and peritoneal solutions in the United States. The damage caused the facility to be temporarily closed.

On August 8, 2025, Commissioner Makary announced that the nationwide shortage of IV sodium chloride 0.9% has ended. "This marks a significant milestone for public health and reinforces the FDA's commitment to ensuring Americans have consistent access to life-saving medical products", Commissioner Makary said in the statement. He continued in the statement that the success of resolving the shortage was because of the "close collaboration between the FDA, the Administration for Strategic Preparedness and Response, and our industry partners."

Commissioner Makary indicated that the FDA would continue to work closely with manufacturers as well as monitor the supply of other IV fluids, which are still in short supply with some IV solutions in shortage for up to 10 years. "The availability of reliable medical products is essential to patient care and the overall resilience of our healthcare system. Addressing the shortage has been a top priority for the FDA", said Commissioner Makary.

Reference

U.S. Food and Drug Administration. A statement from FDA Commissioner Marty Makary, M.D., M.P.H.: announcing resolution of the IV saline solutions shortage. August 8, 2025. Accessed August 20, 2025. https://www.fda.gov/news-events/press-announcements/statement-fda-commissioner-marty-makary-md-mph-announcing-resolution-iv-saline-solutions-shortage#:~:text=FDA%20Statement-,A%20Statement%20from%20FDA%20Commissioner%20Marty%20Makary%2C%20M.D.%2C%20M.P.H.%3A,the%20IV%20Saline%20Solutions%20Shortage&text=Statement%20From%3A,Martin%20A%20Makary%2C-%20M.D.%2C%20M.P.H.&text=I%20am%20pleased%20to%20announce,IV)%20saline%2C%20has%20officially%20ended

International Consensus Statement on Preventing and Managing Complications of Laser Resurfacing

Lasers in Surgery and Medicine

Topline: Full-face, fully ablative laser resurfacing has long been an effective treatment for photodamaged skin. However, guidance for preventing and managing adverse events has been deficient. A recently published international consensus statement intends to resolve the issue by providing laser practices with guidance based on expert experience and opinion.

Importance of the Publication: Fully ablative CO_2 and Er:YAG remain the primary laser systems for treating photodamaged skin including pigmentation, rhytides, and photoaging by vaporizing the epidermis and stimulating collagen remodeling. However, the treatment has its downsides including an increased risk of complications when compared to fractional and non-ablative resurfacing lasers. The risks include infection, increased time of erythema, pigmentation changes, and scarring. The current lack of guidance regarding prevention and management of complications that has contributed to inconsistency in patient care led the authors to gather laser experts to develop the consensus statement that provides a standardized approach on counseling and treating patients.

Methodology, Objective, and Results of the Consensus Process: A steering committee of expert laser dermatologists was organized who provided input on a draft set of eight categories that the authors developed. The next step involved 34 members of a panel, composed of the steering committee and U.S. and international laser surgeons, completing two rounds of a Delphi survey*. In both rounds, the participants scored statements based upon a Likert scale of 1 (strongly disagree) to 9 (strongly agree) as well as providing comments. The results from the first round were analyzed and statements revised. In the second round, the participants re-scored each statement. A statement that achieved a minimum of 70% of the participants

rating it between 7 and 9 and no more than 15% scoring it between 1 and 3 was included in the final draft. 96 statements met the requirements for inclusion; they are listed in Table 2 of the report.

The consensus provides step-by-step approaches for laser clinicians to follow to reduce the risk of patient complications. The consensus statements were placed under one of the eight categories.

- Defining adverse events: List of common adverse events as well as serious or permanent adverse events that should be preoperatively discussed with a patient.
- Contraindications to treatment: List of contraindications in which to counsel the patient. The authors stated that treatment would not be beneficial for patients with a history of vitiligo or active skin infection.
- Preoperative care and antimicrobial prophylaxis: The authors recommended antiviral prophylaxis to initiated at least 12 – 24 hours before treatment for all patients undergoing full-face resurfacing, including patients being treated in only the perioral and periocular areas. The authors recommended valacyclovir as the preferred agent unless otherwise indicated such as patient allergies. The consensus panel also stated that oral and topical antibacterial prophylaxis could be beneficial for high-risk patients, including those with MRSA risk or patients with diabetes.
- Intraoperative precautions: Statements address preventing the risk of fire, methods for reducing the risk of eye injury, and intraoperative anesthesia.
- Postoperative care: The authors emphasized three important postoperative instructions that should be given to patients – avoiding sun exposure, performing soaks, and initially applying a topical ointment. "Immediately postprocedure, it is beneficial to apply a lanolin-free topical ointment or other appropriate posttreatment topical product," the authors stated. Care during and after re-epithelialization includes avoiding direct contact with animals and humid environments, avoiding direct sun exposure as much as possible, and frequently performing soaks such as with distilled water.
- Infection: The authors listed the signs and symptoms of infection, such as drainage, erythema, fever, and increasing pain, to be shared with patients who should immediately report to the physician any abnormalities. The authors wrote, "Early intervention is crucial, as disruption of the skin barrier due to laser resurfacing increases the risk of infection spreading systemically, potentially leading to severe complications."
- Pigmentation changes: The authors noted that hyperpigmentation may occur and usually resolves in 6 – 12 months. However, the panel also noted that the use of topical lightening or bleaching agents, laser-based systems, or oral tranexamic acid in patients ruled out for clotting risks may improve the appearance of hyperpigmentation.
- Scar management: The authors listed a variety of methods for managing scars according to the characteristics of the scar, including intralesional corticosteroids, intralesional injections with 5-fluoruracil, vascular lasers, or "laser-assisted drug delivery of corticosteroid and/or 5-fluoruracil."

Non-Consensus Topics

The process produced a strong set of near-unanimous statements within the eight categories discussed above. However, achieving consensus on adverse events to be discussed during patient education proved more of a challenge. For instance, milia, delayed ulceration, and eruptive keratoacanthomas did not meet consensus as "potential adverse events on which to counsel patients before treatment."

The risk for new-onset vitiligo after laser resurfacing as a treatment contraindication is still a question mark and did not reach consensus. Even though not an absolute contraindication, the authors proposed "practitioners might consider incorporating family history assessments into pretreatment consultation" to identify patients at risk.

The panel noted that darker Fitzpatrick skin types** are not a contraindication to fully ablative laser resurfacing of the face, though these patients have a higher risk of post-inflammatory hyperpigmentation. The treatment strategies to reduce the risk provided by the panelists include skin cooling, stringent sun protection, and topical corticosteroids.

Even though the panel agreed that antimicrobial prophylaxis is a foundation of infection prevention in fully ablative lasers and valacyclovir is the preferred drug of choice, some panelists commented that famciclovir may also be used. The authors noted additional research is needed.

Conclusions: "This consensus statement provides a foundation for optimizing the safety of fully ablative laser resurfacing, and highlights areas for further research, including the management of less common complications and strategies for tailoring care to individual patient characteristics."

Funding/Support: No funding was provided.

Conflict of Interest Disclosure: Multiple authors disclosed financial relationships with healthcare businesses and manufacturers, serving as editor for professional healthcare journals, and serving on the board of directors for non-profit healthcare associations.

***Delphi survey:** A multi-round process that is used to gather and analyze expert opinions to achieve consensus on a topic. Round 1 involves sending an anonymous questionnaire to the experts who submit their responses. The responses are compiled, analyzed, and results summarized. The results are sent back to the participants who review the summary and can revise their initial response to items or agree. The process leads to consensus statements as well as eliminating items that the expert panel cannot agree upon.

****Fitzpatrick skin types:** Classification system widely used for categorizing skin tones and their reactions to ultraviolet (UV) radiation developed by the dermatologist Thomas B. Fitzpatrick, MD, in 1975. It assists healthcare professionals assess skin color, sunburn sensitivity, skin cancer risk, and response to UV-based treatments such as laser therapy. The Fitzpatrick scale consists of six types, I to VI, with Type I fair skin, always burns, never tans to Type VI dark brown or black skin, never burns, deeply tans. The scale is a general guideline and other factors, such as age, genetics, and medications, should be taken into consideration because they can affect skin sensitivity.

Reference

Kang YB, Cohen JL, Geronemus R, et al. Consensus statement on the prevention and management of complications of fully ablative laser resurfacing of the face. *Lasers Surg Med*. 2025; 57(6): 479-555. doi: 10.1002/lsm.70035

Cardiorespiratory Fitness May Help Reduce Risk for Colorectal Cancer

New England Journal of Medicine

According to a study published by the *New England Journal of Medicine* graded* and inverse** associations were found between cardiorespiratory fitness (CRF) and decreasing the risk for developing colorectal cancer (CRC) in both men and women and across all races.

CRC is the third most commonly diagnosed cancer, third-leading cause of cancer-related deaths in men, and fourth-leading cause in women.[1] However, when the numbers for women and men are combined, it is the second most common cause of cancer deaths.[1] The American Cancer Society's estimates for 2025 include:

52,900 deaths[1]

Approximately 107,320 new cases of colon cancer (54,510 men, 52,810 women)[1]

Approximately 46,950 new cases of rectal cancer (27,950 men, 19,000 women)[1]

The rate of colon and rectal cancer diagnoses has decreased overall since the mid-1980s. From

2012-2021, the incidence rates decreased by approximately 1% each year. However, this downward trend is primarily in older adults. For people younger than 50 years of age, rates have increased by 2.4% per year in the same time period.[1]

The objective of the study was to evaluate the association between CRF, objectively measured by participants completing a standardized exercise treadmill test (ETT), and CRC incidence.[2] The study involved 643,583 U.S. veterans from across the nation (601,615 men, 41,968 women).[2] None had a cancer diagnosis prior to completing the ETT or had cancer other than CRC after the ETT. The participants were ranked according to peak metabolic equivalents (METs)*** that were achieved.

"When assessed across the CRF categories, there was a progressive decline in risk with higher CRF," as noted by the research team lead by Aamir Ali, MD, Veterans Affairs Medical Center, Washington, D.C.[2] CRC risk was 9% lower for each 1-MET increase in CRF for men and women across all races.[2] Compared with the least fit participants (METs 4.8), the CRC risk was 14% lower for those participants in the low fit category (METs 7.3), 27% lower for moderately fit participants (METs 8.6), and 57% lower for high-fit participants (METs 13.6).[2]

The results of this study reflect findings in other recent studies such as the World Cancer Research Fund and American Institute of Cancer Research meta-analysis study. They listed being physically active as convincing evidence towards lower risk for CRC combined with a healthy diet of consuming whole grains, foods containing dietary fiber, dairy products, and taking calcium supplements.[3] The study found these various dietary and active lifestyle factors associated with a 16% lower risk of CRC.[3]

The CHALLENGE Trial (Colon Health and Lifelong Exercise Change) results provided strong support for exercise in patients who have had CRC and wish to avoid recurrence. The randomized trial was completed at 55 centers. Participants with resected stage II or III colon cancer who had completed adjuvant chemotherapy were randomized to receive healthcare education materials alone (444 patients) or an exercise group (445 patients).[4] The goal of the exercise group was increasing the aerobic activity by at least 10 METs, equivalent to 45 – 60 minutes of vigorous waling or 25 – 30 minutes of jogging three to four times a week.[4] The study's authors concluded that a three-year structured exercise program begun soon

after adjuvant chemotherapy resulted in "significantly longer disease-free survival and findings consistent with longer overall survival."[4]

As stated by the Dr. Ali research team, "The lower risk was evident in those with peak CRF of approximately 8.5 to 10.5 METs, a relatively moderate CRF status attainable by most middle-aged and older individuals."

Let's get out there CSTs and set an example for a healthy lifestyle! Lead the way by doing group walks, running, biking, playing recreational sports, or hitting the gym!

***Graded association:** Important factor in determining a causal relationship between variables. In research, strong evidence of a graded association provides proof that the exposure is directly causing the outcome rather than being a coincidence.

****Inverse association:** Also called negative association or correlation, a relationship between two variables where an increase in one variable is associated with a decrease in the other. For example, regular exercise might be associated with a lower body mass index.

*****Metabolic equivalent (MET):** Unit used to measure the intensity of physical activity. It is the ratio of metabolic rate during a specific activity to the resting metabolic rate (MET = activity metabolic rate) / (resting metabolic rate). A MET value of 1 indicates that the activity is equivalent to resting metabolism, where a MET value of greater than 1 indicates the activity is more intense than resting metabolism. For example, walking at a moderate pace typically has a MET value of around 3, but running at a strong pace typically has a value of around 10.

Reference

1. American Cancer Society. Key statistics for colorectal cancer. April 28, 2025. Accessed September 9, 2025. https://www.cancer.org/cancer/types/colon-rectal-cancer/about/key-statistics.html
2. Ali A, Howard DE, Samuel IBH, et al. Cardiorespiratory fitness and colorectal cancer incidence in US veterans: a cohort study. Mayo Clinic Proceedings. July 28, 2025. Accessed September 2, 2025. https://www.mayoclinicproceedings.org/article/S0025-6196(25)00155-7/fulltext
3. World Cancer Research Fund/American Institute of Cancer Research. Diet, nutrition, physical activity and colorectal cancer. 2018. Accessed September 11, 2025. https://www.wcrf.org/wp-content/uploads/2024/10/Colorectal-cancer-report.pdf
4. Courneya KS, Vardy JL, O'Callaghan CJ. Structured exercise after adjuvant chemotherapy for colon cancer. *N Engl J Med*. 2025; 393(1): 13-25. doi: 10.1056/NEJMoa2502760

UPCOMING PROGRAMS

AST MEMBERS: *Keep your member profile updated to ensure that you receive the latest news and events from your state. As an AST member you can update your profile by using your login information at* ***www.ast.org.*** *You may also live chat at* ***www.ast.org*** *or contact Member Services at* ***memserv@ast.org*** *or call 1-800-637-7433. AST business hours are Monday-Friday, 8 am - 4:30 pm, MST.*

ARIZONA STATE ASSEMBLY

Program Type: Workshop
Date: November 15, 2025
Title: Tucson Time!
Registration: azsaofast.org
Location: Pima Medical Institute – Tucson, 2121 N Craycroft Road, Building 1, Tucson, AZ 85712
Contact: Teresa Sochacki, azsa.assembly@gmail.com
CE Credits: 4 Live approved by AST

CONNECTICUT STATE ASSEMBLY

Program Type: Workshop
Date: November 1, 2025
Title: My Neck My Back
Location: Norwalk Hospital, 34 Maple St, Norwalk, CT 06856
Contact: Sharkia Bookert, PO Box 581, Monroe, CT 06468, 203-503-7900, bookertsharkia@yahoo.com
CE Credits: 6 Live approved by AST

FLORIDA STATE ASSEMBLY

Program Type: Workshop
Date: February 28, 2026
Title: Spring into 2026!
Location: St. Joseph's Hospital, 3001 W Dr Martin Luther King Jr Blvd, Tampa, FL 33607
Contact: Stephanie Hurst, flsastateassembly@gmail.com
CE Credits: 8 Live Planned

GEORGIA STATE ASSEMBLY

Program Type: Annual Meeting/Elections
Date: March 14, 2026
Title: Spring Forward: Advancing Surgical Technology Education
Registration: ast-gasa.com/spring-2026-meeting
Location: Chattahoochee Technical College - North Metro Campus, 5198 Ross Road SE, Acworth, GA 30102
Contact: Erin Baggett, PO Box 109, Auburn, GA 30011, 678-226-6943, gasawebmaster@gmail.com
CE Credits: 7 Live Planned

IOWA STATE ASSEMBLY

Program Type: Workshop
Date: April 18, 2026
Title: IASA Spring Workshop
Registration: ia.ast.org
Location: WinnMed - formerly Winneshiek Medical Center, 901 Montgomery St, Decorah, IA 52101
Contact: Tim Danico, 319-540-6008, timothy-danico@uiowa.edu
CE Credits: 8 Live Planned

SOUTH CAROLINA STATE ASSEMBLY

Program Type: Annual Meeting/Elections
Date: November 1-2, 2025
Title: SCSA Fall Business Meeting and Workshop
Registration: scsaast.org
Location: Southeastern Institute of Manufacturing Technology (SIMT Building), 1951 Pisgah Road, Florence, SC 29501
Contact: Katrina Williams, 843-615-7454, katrinawilliams89@yahoo.com
CE Credits: 12 Live Planned

TENNESSEE STATE ASSEMBLY

Program Type: Workshop Cruise
Date: October 2-5, 2026
Title: CE's at SEA
Location: Carnival Glory, 1492 Charles M. Rowland Dr, Cape Canaveral, FL 32920
Contact: Ellen Wood, 1344 Copperstone Lane, Knoxville, TN 37922, 865-283-5901, ellenwoodtnast@gmail.com
CE Credits: 6 Live Planned

TEXAS STATE ASSEMBLY

Program Type: Workshop
Date: January 24, 2026
Title: Port Arthur Workshop
Location: Lamar State College, 1800 Lake Shore Dr, Port Arthur, TX 77640
Contact: Kristie Cole, 806-787-8298, kcole@southplainscollege.edu
CE Credits: 8 Live Planned

Program Type: Annual Meeting/Elections
Date: March 7-8, 2026
Title: Best Little Workshop in Texas
Registration: https://www.texasstateassembly.org/
Location: Radisson Hotel North Fort Worth-Fossil Creek, 2540 Meacham Blvd, Fort Worth, TX 76106
Contact: Kristie Cole, 806-787-8298, kcole@southplainscollege.edu
CE Credits: 15 Live Planned

STATE ASSEMBLY ANNUAL BUSINESS MEETINGS

Members interested in the election of officers & the business issues of their state assembly should ensure their attendance at the following meetings.

GEORGIA
Acworth
March 14, 2026
Annual Meeting
2026 BOD Elections
& 2026 Delegate
Elections

SOUTH CAROLINA
Florence
November 1-2, 2025
Annual Meeting
2025 BOD Elections
& 2026 Delegate Elections

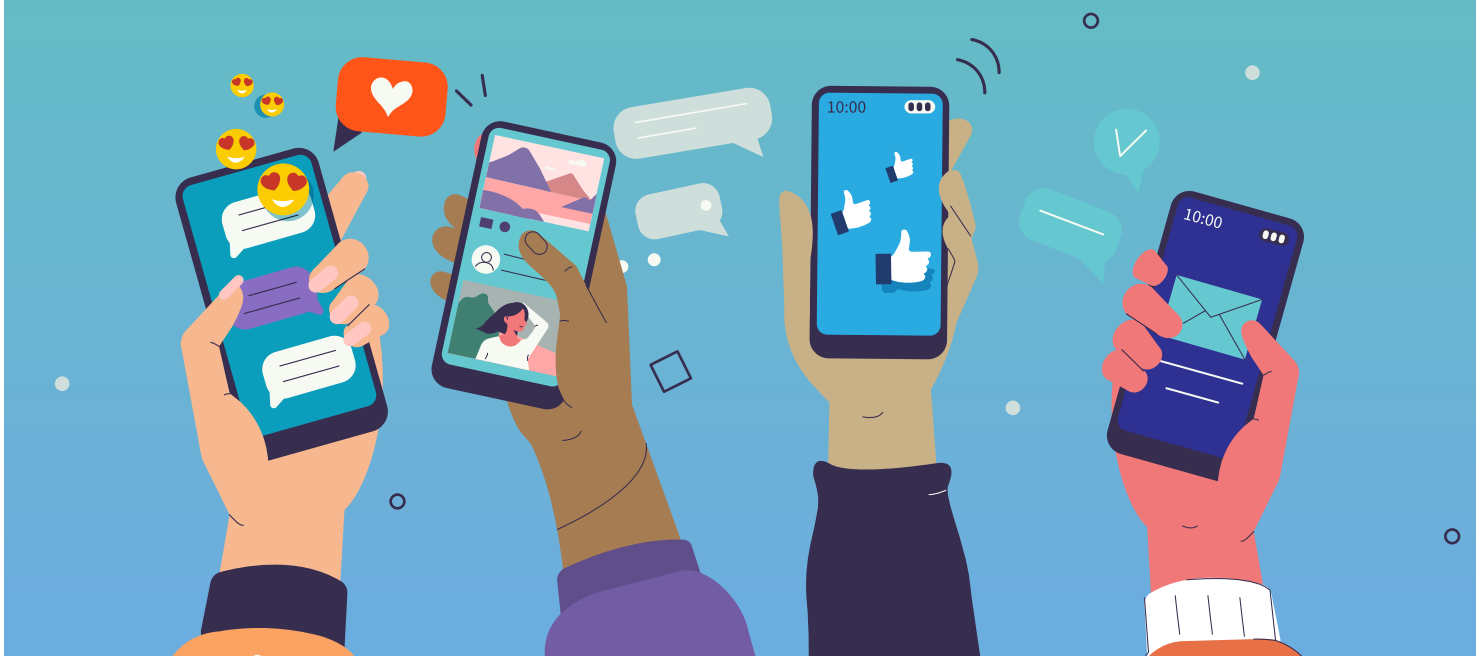
TEXAS
Fort Worth
March 7-8, 2026
Annual Meeting
2026 BOD Elections
& 2026 Delegate
Elections

Program Approvals: Submit the State Assembly Program Date Request Form A1 no less than 120 days prior to the date(s) of the program for AST approval. The form must be received prior to the first (1st) of the current month for program publication in the next month of the AST monthly journal ,The Surgical Technologist. The Application for State Assembly CE Program Approval A2 must be received at least thirty (30) days prior to the date(s) of the program for continuing education credit approval. An application submitted post-program will not be accepted; no program is granted approval retroactively.

Contact stateassembly@ast.org or 800.637.7433, ext. 2547.

AST Follow Us

Connect with the AST online community



WRITE FOR US!

We are always looking for CE authors and surgical procedures that haven't been written about or the latest advancements on a commonplace surgery. You don't have to be a writer to contribute to the Journal. We'll help you every step of the way, AND you'll earn CE credits by writing a CE article that gets published! Here are some guidelines to kick start your way on becoming an author:

1. An article submitted for a CE must have a unique thesis or angle, and be relevant to the surgical technology profession.
2. The article must have a clear message and be accurate, thorough, and concise.
3. It must be in a format that maintains the Journal's integrity of style.
4. It must be an original topic (one that hasn't been published in the Journal recently).

How to Get Started

The process for writing a CE can be painless. We are here to assist you every step of the way and make sure that you are proud of your article.

- Write to **communications@ast.org,** and state your interest in writing, and what topic you would like to author.
- Submit an outline of your proposed topic for review. Once the outline is returned to you for approval, begin writing your manuscript. Getting your outline approved will save you time and effort of writing a manuscript that may be rejected.
- Submit your manuscript, as well as any art to illustrate your authored topic. You will be notified upon receipt of receiving the manuscript and as well as any changes, additions, or concerns.

Things to Remember:

- **Length:** Continuing education articles should run a minimum of 2,000 words and a maximum of 5,000 words.
- **References:** Every article concludes with a list of ALL references cited in the text. All articles that include facts, history, anatomy, or other specific or scientific information must cite sources.
- **Copyright:** When in doubt about copyright, ask the AST editor for clarification.
- **Author's Responsibility:** All articles submitted for publication should be free from plagiarism, should properly document sources and should have attained written documentation of copyright release when necessary. AST may refuse to publish material that they believe is unauthorized use of copyrighted material or a manuscript without complete documentation.

Don't delay! **Become an author today. Write to us at communications@ast.org**

Empower YOURSELF

YOUR VOICE, YOUR POWER

- The Workforce Shortage: A Message from AST
- Turning the Workforce Chute into a Ladder
- CSTs Many Lifesaving Roles
- Education and Certification as an Appropriate Minimum
- Standard for Surgical Technology and Patient Safety
- AST Position Statement on Minimum Education for Surgical Technologists
- AST Position Statement on Accreditation, Certification, Official Title of the Profession, and OJT Training
- ACS Statement Supporting Surgical Technology Accredited Education and the CST
- AORN Job Description Supporting Surgical Technology Accredited Education and the CST
- AST Encourages Healthcare Facility Leaders to Support Local, Accredited Surgical Technology Educational Programs
- AST Recommendations for CSTs, Program Directors, and State Assemblies when Addressing OTH Training with a Healthcare Facility
- Message to Surgical Technology Program Directors Regarding Alternative Certification Credentials from the AST, ARC/STSA, and NBSTSA
- Should Healthcare Facilities Require CST Certification for Surgical Technologists? Yes...Here's Why

AST
Association of Surgical Technologists
Your Voice IS Your Power
ADVOCATING FOR THE PROFESSION

JOIN AST

Now it pays even more to be a member of AST—especially for students.

Students - Your savings begin right away when you apply for the special student membership rate, $45 (a $35 savings). Save with the member discounted price of the examination study guide.

Enjoy the benefits of membership in the premier national professional organization for surgical technologists. Join online at *www.ast.org;* by phone at 800-637-7433; or by mail.

Benefits include:

- ✔ scholarship opportunities
- ✔ access to the most up-to-date information about the profession
- ✔ insurance discounts
- ✔ education and employment opportunities
- ✔ access to resources that connects you to nearly 60,000 other surgical technology professionals
- ✔ student rate discounts

Apply

Become a member in minutes by completing the Join Form online at www.ast.org