Minimizing workflow challenges and cognitive load during staff shortages
Staff shortages and new or rotating O.R. teammates can increase your workload, workflow and cognitive load. Let Bone Mill+ lessen your strain by automating bone tissue stripping and milling start to finish for fast, effortless autograft.

More automation.
Less effort.

**Bone Mill+ and Prep+**
for automated bone tissue removal and milling

**More consistent:**
✓ Bone yield*
✓ Bone quality cleanliness
✓ Time-to-readiness
✓ Performance across users
✓ Protection against sharps

Come learn more at: AORN booth #601

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1. Engineering Notebook Record_D0000220921 Rev. AB, based on average results

*10 minute Bone Mill+ cycle vs 10 minutes of manual soft tissue removal

A surgeon must always rely on his or her own professional clinical judgment when deciding whether to use a particular product when treating a patient and must refer to the instructions for use before using any Stryker product. Stryker or its affiliated entities own, use or have applied for the following trademarks or service marks: Bone Mill+, Prep+ and Stryker. All other trademarks are trademarks of their respective owners or holders.
Minimizing workflow challenges and cognitive load during staff shortages

Lisa O’Sullivan, PhD; Joanna McCarthy, PhD

The surgical technologist’s role and the operating room environment are inherently busy. Demands are high, and time is of the essence. Critical staff shortages across types of OR clinicians have amplified these challenging dynamics. Leveraging automated devices and staff onboarding/communication techniques, as well as influencing purchase decisions to secure supportive equipment, can help minimize the impact of new or revolving staff and help safeguard OR workflow and personal well-being.

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Connect with AST on LinkedIn, Facebook, Instagram, and Pinterest to grow your professional network!
Spring Into a Volunteer Position with AST

PEGGY VARNADO, CST, CSFA, FAST, AST VICE PRESIDENT

BOARD MESSAGE

Spring is my favorite season of the year. After a long, dreary winter season, the grass turns green again, the trees begin to bud out with bright green leaves, gardens are planted, and the flowers begin to bloom again. Besides my favorite color being green, the main reason I love spring is because it is a sign of new life and new growth. Also, within our organization and profession there are many things happening during this time of year. It is the time of year that many of our surgical technology programs are gearing up to graduate a new “crop” of surgical technologists, our state assemblies are holding their annual business meetings and workshops, and the AST board is preparing for our national conference. This is also the time of year the slate of candidates for the national board are announced, as you will see published in this journal.

This year we will be electing a new secretary and four directors. Although the deadline to declare your candidacy has passed, if you are considering running for a position, you still have the option of running from the floor. You will submit your paperwork and run from the floor at the national conference, where you will need to be cleared by the credentials committee and have someone nominate you during the first business session. To qualify for a position on the board of directors, you must either have served a complete term on a national committee or other national board such as the Accreditation Review Council on Education in Surgical Technology and Surgical Assisting (ARC/STSA) or the National Board of Surgical Technology and Surgical Assisting (NBSTSA) or have held a position for a term on a state assembly board of directors and have been a member in good standing for three consecutive years prior to running. For more information on running for an elected position, or for submitting your consent to serve and CV for appointed positions, check out the About tab on the AST website and look under the Elected Offices or the Appointed Offices sections.

We are always looking for volunteers to serve on the national committees too. The three standing committees that are appointed by the board of directors are the Bylaws, Resolutions, and Parliamentary Procedures Committee; the Education and Professional Standards Committee; and the State Assembly Leadership Committee.

These appointments are made each year and are for a two-year term. To be considered for an appointment, the first step is to have your information, such as a consent to serve and a CV, submitted into the portal. After that information is entered, the board of directors will review each submission and then reach out to the individuals to get to know them. This may happen by a phone call or by speaking with them in person at an upcoming meeting. Since the appointments are made following the national conference, many of us on the board take the opportunity to have those conversations in person at the conference.

The number of appointments we have each year varies per committee and by the number of committee members we are replacing. Each consent to serve and CV submitted is good for two years. Committee work can be challenging, involved, and hard work. To be considered for an appointment, you must be willing to commit to the time needed and the work that will be done. You must also have excellent communication skills. The work done on each of these committees is what helps to shape our profession and grow our organization. These positions also help to prepare you to take the next step if you are interested in running for a board of director position in the future.

There are many opportunities to get involved and share your expertise. Take advantage of this spring season by planting a seed of opportunity, and watch it blossom into an exciting and fulfilling experience!
YOUR NEW JOB IS IN SIGHT

AST's Career Center can help you:
Find and apply to hundreds of jobs for surgical technologists, surgical assistants and surgical technology educators
• Post your resume and create a profile so recruiters can find you quickly
• Save your search criteria and sign up to be notified when new jobs are posted
• Watch instructional videos on resume writing, networking, behavioral interviewing and more
• Read “10 Tips for Salary Negotiations” and other helpful articles to better your career

Ready for the next step in your career?
Positions available include Surgical Technologist 2 and Surgical Technologist 3 with up to $20,000* sign-on bonuses!
Visit AST’s career site today to view the latest postings and apply!

*Sign-on bonuses vary from positions and institutions. Applicants should clarify with recruiters regarding their offerings and options.

http://careercenter.ast.org/jobseekers/
APPLY FOR FAST

Interested in being considered for the highest honor of the profession? 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.

Before You Apply: Make sure to thoroughly read the selection criteria and gather all documents and information that are needed to complete the application prior to starting. 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.

Selection Criteria: To see if you meet the criteria to apply to become a FAST, visit www.ast.org – Members – Fellows of FAST – and click on the link selection criteria.

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.

CONTINUING EDUCATION RESOURCES

Earning CE

The vast majority of all CE credits processed by AST for CSTs for CSFAs are earned through one or more of the ways listed below. None of these are subject to a processing fee.

- AST Distance CE (journal tests or CE packages)
- Hospital in-services
- Live lectures at AST state assemblies, national conference and others, such as ACS Congress
- College Courses
- Healthcare Manufacturer’s Events. AST accepts CE credits that are offered at in-person events that have been planned and are sponsored and advertised by healthcare manufacturers - referred to as commercial interest organizations (CIO). However, in order for the CE credits to be accepted by AST, the in-person program must be approved by AST and the program must be relevant to the practice of surgical technology or surgical first assisting. In-person events are standalone events, such as forums or hands-on workshops that are the sole responsibility of the CIO to plan and market as well as offer the CE credits and are held at the location of the CIO’s choice.

CE credit fees

These only apply to a very small percentage of credits earned through commercial providers due to the increased time and resources required to research and assess CE credits earned through those providers, particularly those CE credits offered by commercial businesses that contract with healthcare facilities, and now live events. There are no refunds given for AST online CE tests or CE credit packages.

<table>
<thead>
<tr>
<th>Number of CE Credits</th>
<th>Processing Fee</th>
</tr>
</thead>
<tbody>
<tr>
<td>* 1-10</td>
<td>$15</td>
</tr>
<tr>
<td>*11-20</td>
<td>$30</td>
</tr>
<tr>
<td>*21-30</td>
<td>$45</td>
</tr>
<tr>
<td>*31-40</td>
<td>$60</td>
</tr>
<tr>
<td>*41-50</td>
<td>$75</td>
</tr>
<tr>
<td>*51+</td>
<td>$90</td>
</tr>
</tbody>
</table>

Members: See above for any additional fee for processing CE credits excluding AST tests.
**Nonmembers:** Nonmembers may be subject to a processing fee at the time of submission.

*Money orders, personal checks, institutional checks, Visa, MasterCard and American Express are accepted. Checks payable to AST.*

**Qualifying CE Credits Checklist**

- Are all CE your credits earned while an AST member?
- Are all CE credits earned within your current certification cycle established by the NBSTSA?
- Are all your CE credits relevant to the medical-surgical practice of surgical technology and surgical assisting?
- Have you submitted a CE Reporting Form? CE credits will be returned without a CE Reporting Form.
- Did you list each educational activity on the CE Reporting Form?
- Did you submit proper documentation for each educational activity listed on the CE Reporting Form? Keep originals of documentation and submit copies.
- Is any applicable fee enclosed?

**3 Ways to Submit Your CE Credits**

- Mail to: AST, 6 West Dry Creek Circle, Ste 200, Littleton, CO 80120-8031
- Email scanned CE credits in PDF format to AST Member Services. Do not mail credits that were previously emailed.

**Ways to Earn CE**

**State Assembly Meetings**

State assemblies provide CE during meetings, as well as serving as the grassroots organization in regard to state legislative efforts. Announcements of state assembly meetings are published in *The Surgical Technologist*, on the states’ websites, and the AST site, www.ast.org, under the State Assembly tab. State assemblies also contact state members of upcoming meetings through email and mailings.

**Submitting State Assembly CE Credits**

- All state assemblies are required to complete the AST CE program approval prior to the date(s) of the meeting for the CE credits to be approved. The participant should verify that the meeting has been AST approved.
- The state assembly is required to provide a certificate of attendance to the participants even if “auto recorded.”
- Member: Submit a copy of the certificate to AST for processing. The AST CE Reporting Form is not required to be submitted.

**College Courses**

College courses that are relevant to the medical-surgical practice of surgical technology or surgical first assisting can be submitted to AST for CE credits.

- College courses MUST be completed with a minimum grade of “C.”
- The courses MUST be completed at an institution that is accredited by an organization recognized by the US Department of Education.
- Surgical first assistant college courses submitted for CE credits MUST be completed at a CAAHEP-accredited surgical first assistant program.
- General nursing and physician assistant college courses that are not specifically related to the medical-surgical practice of surgical technology or surgical first assisting will not be accepted for CE credits.
- Anatomy & physiology, microbiology, pathophysiology, and pharmacology must be advanced level college courses.

**Determining the Number of CE Credits:**

- College courses are awarded five CE credits for each semester hour completed. For example, a three-semester-credit semester course: 3 x 5 = 15 CE credits.

**Submitting College Courses for CE Credits**

- Member and Nonmember: Submit an unofficial college transcript from the institution where the courses were completed with the AST CE Reporting Form – no exceptions.
- Nonmember: Include the $200 nonmember processing fee.

** Recommendation**

- Provide a copy of the course descriptions from the current edition of the college catalog with the AST CE Reporting Form and transcript(s).
- The descriptions assist in determining the relevancy of the course(s) to the medical surgical practice of surgical technology or surgical first assisting.

**Healthcare Facility Sponsored In-Services**

Healthcare facility sponsored in-services can be submitted to AST for CE credits as long as they are relevant to the medical-surgical practice of surgical technology or surgical...
first assisting. Employers are NOT required to submit healthcare facility in-services to AST for approval.

- AST accepts annual mandatory CE in-services relevant to the medical-surgical practice of surgical technology or surgical first assisting. For example, fire safety.
- Healthcare facility orientation is NOT accepted for CE credits.
- If the employer sponsors or provides funds for an employee(s) to attend a conference, forum, seminar, symposium, or workshop, or complete any other type of CE activity sponsored by an organization other than the healthcare facility, the program MUST be AST approved for the CE credits to count toward certification renewal.
- BLS, ACLS, and PALS are accepted for CE credits. Every 50-60 minutes of activity = 1 CE credit.
  - BLS includes CPR and automated external defibrillator (AED) training.
- CE credits are NOT awarded for on-the-job training, healthcare facility orientation, or work experience that the CST and CSFA completed as an employee of the healthcare facility providing the training.
  - Example: A CST is completing on-the-job training in learning the first scrub role to be a member of the healthcare facility’s cardiovascular team. This training is distinct from attending healthcare facility sponsored in-services as described above.

**Submitting In-Service CE Credits**
- A healthcare facility certificate of attendance, official healthcare facility transcript, or sign-in sheet with an authorized signature (for example, a surgery department supervisor, clinical educator, or other individual authorized by the employer).
- The documentation must also include the name of the healthcare facility, indicate it is an in-service, title of in-service, date of in-service, number of CE credits, and signature of the CST or CSFA attendee. The documentation must be submitted with the AST CE Reporting Form.

**WRITE FOR US**
**Calling All Writers!**

We are always looking for new CE authors and surgical procedures that detail the latest advancements in the surgical arena. We’ll also 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:

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

Ready to get started? Email us at communications@ast.org.

**MEMBER BENEFITS**

Being a member of AST really does have its benefits!

- Automatic transfer of CE credits to the National Board of Surgical Technology and Surgical Assisting (NBSTSA).
- Automatic recording of CE credits earned through AST online offerings and earned at AST events such as the national conference.
- Submittal of CE credits at any time during your membership so you don’t lose the valuable certificates of completion/attendance.
- Maintenance of your CE credit certificates for 5 years.
- Annual CE credit letter – a tally of how many credits you earned throughout the year.
- Low membership fee. AST has kept the low fee a priority while other associations have raised its membership fees.
- Cost savings when registering for AST events, such as the national conference and Educators Event.
- State-specific legislative efforts driven by AST National to further along the profession.
- Legislative updates and support for your state.
- Access to the Map of State Laws.
- Discounted CE opportunities that are offered by AST, including CE Credit Packages.
- Having a say when it comes to your state’s assembly board. Active members get to vote for their state assembly Board of Directors.
• Communications including The Surgical Technologist, monthly e-newsletters, AST social media sites, including special professional groups on LinkedIn, Facebook and more.
• Leadership opportunities to serve on state assembly and national boards as well as state and national committees.
• Scholarship opportunities for students, educators and CSTs.
• The AST Career Center, where you can post your resume and obtain information on job openings.

DISCOUNTS
Member-Get-A-Member

Earn two or more months of FREE membership with the Member-Get-A-Member program. Recruit colleagues and AST will extend your membership by the appropriate number of months. Here’s how:
• Recruit a valid new member at the one-year membership rate of $80.
• Make sure that each person you recruit provides AST with your name and your AST member number when filling out their application.
• After AST receives the recruited member’s application, we will extend your membership by two months for each person you recruit.
• Recruit two members at the $80-level, and we’ll extend your membership by four months! The more people you recruit, the longer your membership gets extended. Bonus membership months are not applicable to members who recruit themselves, students or retired/disabled members. No substitutions will be permitted. Your membership must be current to receive the bonus months. Potential members MUST supply your name and your AST member number in order for you to receive bonus membership months. If a person’s membership has lapsed for more than a year, they are considered a new member. Reach out to our Member Services team at 1-800-637-7433 for more information.

MILESTONES
Happy Anniversary!

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.
• Connecticut – 24 years
• Montana – 20 years
• North Dakota – 9 years
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 CSTs 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 (Eduscator) Awards - December 1
- Medical mission reimbursement - December 31

Learn more at www.ffst.org and give today!
You advocate for your patients – no question. Now it’s time to advocate for the critical role you play as a key member of the surgical team and how important your role is to patient safety.

AST developed a toolkit specifically for surgical technologists to use when you’re explaining just how crucial it is that certified surgical technologists earn education from an accredited program thus making them eligible to sit for the national certifying exam and earn the distinguished CST credential. Scan the QR code to access documents, AST position statements and other resources you need to keep advocating for the profession.
Minimizing workflow challenges and cognitive load during staff shortages

Lisa O’Sullivan, PhD; Joanna McCarthy, PhD

The surgical technologist’s role is inherently dynamic, full of non-stop multitasking, manual tasks and staff interaction, all while serving specific surgeon and patient needs. Today’s staffing shortage can complicate these efforts by increasing daily demands, tangible responsibilities and intangible cognitive load (mental effort/strain). This article discusses techniques to mitigate the effects of working with new or revolving staff to help preserve operating room (OR) workflow and personal well-being.

Emerging from the pandemic, multiple industry, academic and news sources reported critical hospital staff shortages. One study showed US hospital staff shortages ranging from 19% to 52%, including a 30% vacancy rate for surgical technologists and OR nurses. This was echoed by 2021 and 2022 American College of Healthcare Executives (ACHE) annual surveys which cited personnel/workforce shortages as the top concern, displacing financial concerns which topped the list since 2004. Of roughly 300 CEOs surveyed each year, 85% and 83% (respectively, in 2021 and 2022) noted a concerning shortage in technicians, their second staffing problem behind nurses. These OR staff shortages, in turn, have limited hospital OR capacity to serve the public.
This data reflects the ongoing need for perhaps unprecedented reliance on alternative forms of staffing, such as from external recruiting agencies, traveling practitioners and in-house temps or float pools. Alternative sources of clinical staff help provide a vital and valued resource, and their experiences at different hospitals may provide beneficial new ideas or methods worth adopting. However, the addition of any new staff can sometimes disrupt OR routines, potentially increasing intra-operative workload, workflow and cognitive load.

Leveraging automated devices and onboarding/communication techniques that take new staff needs into consideration, as well as influencing purchase decisions to secure supportive equipment, can help minimize job challenges and preserve personal well-being.

**AUTOMATE MANUAL TASKS TO COMBAT BURNOUT AND TURNOVER**

ACHE’s 2022 survey ranked burnout as its number three workforce challenge. This was echoed by a job burnout study of surgical technologists in which 65.6% rated the frequency of emotional exhaustion (overextension and work-associated fatigue) at medium to high levels. Given existing technologist and nurse shortages, protecting against burnout and further staff turnover is prudent. Concerns about personal protective equipment (PPE) was found to be a significant predictor of work-related burnout. Fortunately, in many instances personal protection can be controlled or modified. For example, automated devices with integrated safety features can enhance personal protection by reducing or eliminating clinician exposure to sharps, biohazards or other personal safety risks, instinctively reducing cognitive load.

Additionally, devices that automate traditionally manual tasks can help reduce physical injury, fatigue and workload as well as standardize and simplify tasks. This standardization can mitigate human factors across clinicians from various staffing sources and experience levels, facilitating more consistent performance and predictable workflow. A study on sterile surgical unit workflow also showed that streamlining and automating the work process can reduce instrument processing time and OR surgical supply replenishment times.

The personal protection and workflow benefits of automated devices are reflected in increasing adoption of OR equipment such as automated fluid waste management systems, RFID sponge trackers/counters and electrosurgical pens with on-tip smoke evacuation.

**AUTOMATED TISSUE REMOVAL AND BONE MILLING**

Of particular relevance to surgical techs (STs) who prepare autologous bone are devices for automated tissue removal and bone milling. Use of autologous bone remains the gold standard. But manual tissue removal and bone milling has been found to be dependent on individual scrub tech skill and efficiency, a variance that can be more prevalent with today’s reliance on alternative or rotating staff members.

Manual bone processing can also be an arduous, time-consuming task involving multiple tools and physically repetitive motions which, along with sharps, can cause hand fatigue and injury. And the time and physical effort associated with manual bone processing can intensify in cases such as multilevel spinal fusions, which may also add stress to keep pace with the surgeon. Studies have shown the OR environment to be the highest area of sharps risk in a hospital and that fatigue and rushing are among the most common causes for sharps injuries.

Use of a reusable power base (Bone Mill+) that drives automated tissue removal (Prep+ disposable cartridge) and automated milling (Bone Mill+ fine, medium or large disposable blade cartridge) can convert a manual task into an automated one from start to finish. Prep+ mechanically removes soft tissue from extracted bone within a closed, see-through cartridge on a 10-minute run cycle. Cleaned bone is then placed directly into Bone Mill+, which mills bone in an 8.4-second single pass into the surgeon’s specified particulate size.

A study of 16 experienced STs showed that, compared to...
manual bone processing, automated bone stripping and milling resulted in significantly faster time to readiness (Table 1), consistently higher-quality soft tissue removal (Figure 1), greater bone yield (Table 2) and enhanced personal safety via reduced hand fatigue and sharps punctures* (Table 3).

Of particular note in this study was a significant drop in total bone processing time from 41 (+23) minutes for manual processing to 10.14 (+0.06) minutes for automated processing. This means, depending on the ST’s manual processing speed, they could redeploy up to 40 minutes of time to more strategic or desirable OR endeavors. Additionally, when asked to estimate total manual bone processing time, 50% of STs underestimated their time spent by ~14 minutes, indicating an opportunity to realize and recoup true time lost.

**Table 1.** Compared to 16 STs (avg. 12 yrs experience) who manually processed 25g porcine bone, automated processing resulted in significantly faster bone cleaning, milling and total bone processing time. Automated processing showed repeatable predictable time to readiness across OR staff users.8

![Figure 1](image)

**Figure 1.** Independent STs who were blinded to manual or automated bone cleaning procedures rated the cleanliness quality of tissue stripping on a scale of 10, with 10 being highest quality. The automated examples rated 15% higher than bone processed manually. Manually cleaned samples - 33% - scored <4.8 (A) Randomly Selected Automated Example (B) Randomly Selected Manual Example.

**Table 2.** During 10-minute processing times, automated bone processing resulted in 64% greater bone yield than manual and generated consistent volume across all samples.8

<table>
<thead>
<tr>
<th>Method</th>
<th>Avg time (mins) plus standard deviation (mins)</th>
<th>Total processing time (time to readiness)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual bone cleaning</td>
<td>27 ±14</td>
<td>41 ±23</td>
</tr>
<tr>
<td>Manual bone milling</td>
<td>14 ±9</td>
<td></td>
</tr>
<tr>
<td>Prep+ bone cleaning</td>
<td>10 ±0</td>
<td>10.14 ±0.06</td>
</tr>
<tr>
<td>Bone Mill+ bone milling</td>
<td>0.14 ±0.01</td>
<td>p&lt;0.0001</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Manual cleaning</th>
<th>Automated cleaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bone yield measured after 10 minutes (the time of Prep+ run cycle)</td>
<td>Average 4g of bone (68% of scrub techs cleaned 32% of the total 25g)</td>
</tr>
<tr>
<td></td>
<td>(66% of scrub techs cleaned 32% of the total 25g)</td>
</tr>
<tr>
<td>Additional manual tissue removal time needed to finish cleaning 25g of porcine bone</td>
<td>50% of participants required 20 minutes more</td>
</tr>
</tbody>
</table>
Manual bone processing is associated with a variety of personal safety risks such as hand fatigue, glove puncture and injury.\(^8\)

### Table 3: Personal Safety Assessment

<table>
<thead>
<tr>
<th>Experience of nitrile glove puncture during study(^8)</th>
<th>Manual cleaning</th>
<th>Automated cleaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glove puncture</td>
<td>50%</td>
<td>0</td>
</tr>
<tr>
<td>Past experiences during self-reported survey(^8)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hand fatigue</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ever experienced hand fatigue while manual bone cleaning</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>Ever experienced hand fatigue while manual bone grinding</td>
<td>75%</td>
<td></td>
</tr>
<tr>
<td>Glove puncture</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ever experienced holes in gloves while manually cleaning bone</td>
<td>31%</td>
<td></td>
</tr>
<tr>
<td>Ever experienced holes in gloves while manually grinding bone</td>
<td>13%</td>
<td></td>
</tr>
<tr>
<td>Injury</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ever experienced injury while manual bone cleaning</td>
<td>31%</td>
<td></td>
</tr>
<tr>
<td>Ever experienced injury while manual bone grinding</td>
<td>19%</td>
<td></td>
</tr>
</tbody>
</table>

**Automated Bone Dust Collection**

Bone dust collection (Bone Vac, Figure 2) is another automated means of collecting and processing autologous bone intraoperatively in cases where bone regeneration or fusion is desired. Similar to the automated tissue removal and bone milling device, the bone dust collector can help standardize workflow while minimizing the need for sharps and manual handling. Patient centric, it may also reduce the need for, or extent of, iliac crest (or other bone) harvesting because its 13cc capacity filter can be used multiple times during the case to optimize autologous bone capture.

It functions via attachment to the surgeon’s existing drill and standard surgical suction tubing to capture drilled bone dust during routine procedural bone drilling. When the collection filter is full, one push of the integrated plunger cleanly ejects all bone dust. The putty-like bone plug can then be quickly shaped and reimplanted by the surgeon.

Pre-clinical studies have shown that bone dust generated by high-speed drills can contain viable bone-forming cells and expression markers reflecting the osteogenic, osteoinductive and osteoconductive potential – three fundamentals of bone growth and fusion.\(^{12-17}\) (See Table 4, Figures 3–6)
Figure 2. Bone dust collectors are designed to automate autologous bone capture while limiting manual processing. Device shown operates independent of orientation and replaces traditional basket collectors (which require inversion and scrapping out loose dust) with a plunger method of action.

### Table 4: Viable Bone-Building Cells Within Drilled Bone Dust

<table>
<thead>
<tr>
<th>Osteoblasts</th>
<th>Osteoclasts</th>
<th>Osteocytes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Osteoprogenitor/mesenchymal stem cells</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Osteoblast expression markers</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4. Six independent studies using various drills, drill techniques and collection methods identified viable bone-forming cells within the collected bone dust with the potential to generate and form new bone.12-17

Figure 3. Osteoblast-related genes from adherent cells from bone pate fragments.13

Figure 4. Photomicrograph of local autograft demonstrating the presence of viable osteocytes.15

Figure 5. Bone dust has demonstrated the ability to spur a range of bone-growth activities typically associated with osteogenesis, osteoinduction and osteoconduction.14

![Image](ALP_stain.png) ![Image](Collagen_stain.png) ![Image](Calcium_stain.png)

Figure 6. Primary human osteoblast proliferation increased seven-fold in response to bone dust (p<0.05).12

INTEGRATION OF ALTERNATIVE STAFFING FOR IN SYNC WORKFLOW

Rotating or alternative sources of OR staff can have benefits aside from filling a role. Experienced agency, traveling or per diem clinicians may have served a range of patient populations, creating a multipurpose skill set. Their exposure to and technical proficiency across devices and equipment may also be broad. And, after working across healthcare systems, they’re often accustomed to quickly adjusting to new hospitals and OR teams.

But, naturally, differing clinical practices and team unfamiliarity at any experience level has potential to disrupt OR routines, communication and interpersonal dynamics. And with novice, inexperienced staff the hurdles and acclimation needs can be greater.

Many techniques, including those that follow, can help leverage the strengths of new or rotating staff while mitigating undesirable or unintended effects on intra-op workload, workflow and cognitive load.
In-services on the following:
- Civil communication style; giving and receiving constructive feedback
- Conflict negotiation/resolution and consensual decision-making
- Understanding role perspectives, aligning on team goals and sharing responsibility for outcomes
- Rapport and teambuilding exercises or events
- SBAR technique and training; a standardized process for efficiently and predictably sharing information (situation–background–assessment–recommendation)
- Facility policies; review and develop policies that empower and protect team members who suggest quality improvements; make policies, including incident reporting, easy to find and use
- Leader training (e.g., surgeon, anesthesiologist): exercising authority without reliance on power or hierarchy; normalizing team discussion about failures, error-reducing strategies, and converting human fallibility into a positive change agent

Table 5. Equal to communication and teambuilding skills are facility policies and OR leadership that align team goals and create a culture of safety for sharing concerns and suggesting improvements.

Figure 7. Top onboarding methods identified by OR manager and directors
- 100% - Formal onboarding or orientation session or handout
- 92% - Case observation first
- 85% - Equipment tutorial to ensure proper use
- 77% - Checklists of particular OR practices
- 46% - Onboarding tips and guidelines from professional organizations (e.g., AST, AORN, ACS)
- 31% - Teambuilding session or event (for interpersonal acclimation)
- 31% - Tips and suggestions supplied by staff recruiting agency

Communicating and Teambuilding
The Association of Surgical Technologists (AST) views collaborative teamwork as an essential part of the surgical environment and views communication skills as necessary to achieving exceptional team and patient outcomes. This view is supported by an OR study (including STs) by Lin et al., which identified communication and team dynamics as two of six top factors influencing psychological safety in the OR. Impaired psychological safety can stunt one’s ability to speak and act quickly and confidently, attributes essential to safe patient care in a fast-paced, high-demand OR.

Lin et al’s study reveals insights and constructive solutions valuable to any OR team, including those dealing with new or changing team members. Shared are key findings, and it is recommended to read the full article for additional helpful learnings. The study identified team familiarity as a contributor to psychological safety; consistent teams were found to facilitate trust, camaraderie and openness, whereas new or rotating staff can inadvertently add complexity simply because their clinical expertise, personality and communication style is unknown or less known. For example, psychological safety was affected by level of trust in team members’ expertise, which can cause an inability to focus completely on responsibilities if they felt unsure of a team member’s abilities.

Lin et al also found the ability to recognize different communication styles, including the ability to interpret nonverbal cues, affected psychological safety. This was deemed particularly important in OR scenarios with persons working irregular shifts with an unfamiliar team. Rotating staff and ad hoc teams reported lower psychological safety in part from communication problems, which can be exacerbated by lack of team identity, familiarity and trust.

To facilitate integration of new or changing staff and to build strong OR teams, the Lin study and AST offer a number of helpful tactics (Table 5), as did a survey of OR managers and directors (Figure 7).
As presented, automated equipment is one way to help reduce OR team workload and cognitive load. Surgeons often hold inherent power and influence over the equipment purchased. A survey of STs was conducted to determine what methods have proven successful in giving the ST a voice in the decision- and purchase-making process. Figure 8 shows methods STs have used to secure equipment that was beneficial to their personal well-being and work-related needs.²⁴

**Figure 8**

**ST tools to influence equipment purchase**

- 73% - Interpersonal dynamics, friendship and trust
- 73% - Bringing convincing data or marketing materials to OR manager
- 55% - Bringing convincing data or peer review articles to surgeon
- 27% - Participating on hospital value analysis committee

Figure 8. Results show that STs leveraged interpersonal dynamics as much, or more than, clinical data to help secure desired equipment.

**KEY TAKEAWAYS**

In a landscape of ongoing staff shortages, increasing role demands and job burnout, examining approaches to simplify workflow while decreasing work and cognitive load are warranted.

Automated devices have been shown to simplify processes, enhance personal safety, reduce time and – importantly during today’s changing staff – help equalize performance across users. The predictable quality and time to readiness resulting from such devices can add a new layer of security and confidence to the OR team.

Effective integration of new or revolving staff can help reap the benefits of their contributions while mitigating inadvertent disruption that can come with new team members. Thorough onboarding – including goal alignment, communication, team building and supportive leadership/policies – can help achieve strong, cohesive teams.

Collectively, these approaches can help minimize workflow challenges and cognitive load during staff shortages. This, in turn, can help foster well-being and job satisfaction to help turn the tide against further burnout and turnover.

**Full disclosure:** The article described herein may have been supported in full or in part by Stryker.
Minimizing workflow challenges and cognitive load during staff shortages

1. Staffers from external/alternative sources may bring:
   a. A versatile skill set
   b. Knowledge across patient populations
   c. Proficiency on a range of equipment
   d. All of the above

2. Automated devices for autologous bone processing can:
   a. Mitigate human performance variances
   b. Improve quality of bone cleanliness
   c. Reduce sharps injuries and simplify workflow
   d. All of the above

3. Surgical techs underestimated their manual bone cleaning time by:
   a. Nearly 5 minutes
   b. Nearly 10 minutes
   c. Nearly 15 minutes
   d. Nearly 20 minutes

4. Automated bone processing versus manual resulted in a significant reduction in:
   a. Bone cleaning time
   b. Bone milling time
   c. Total bone processing time
   d. All of the above

5. In 10 minutes, automated bone cleaning generated ___% greater bone yield than manual:
   a. 23%
   b. 37%
   c. 52%
   d. 64%

6. The bone dust collection device in this article:
   a. Connects to existing drill and standard surgical suction
   b. Has a collection filter that’s reusable during case
   c. Operates independent of device orientation
   d. All of the above

7. In response to bone dust, human osteoblast proliferation increased by:
   a. 3 times
   b. 5 times
   c. 7 times
   d. 9 times

8. Studies here found which of these to be vital to team function?
   a. Team dynamics
   b. Humor
   c. Communication
   d. Shared interests outside work

9. Unfamiliar staff can inadvertently cause complexity until understanding each other’s:
   a. Clinical experience level
   b. Communication style
   c. Personality
   d. All of the above

10. In-services or attention to the following can foster teamwork and trust:
    a. Facility policies and leader support
    b. Aligned goals
    c. Communication skills building
    d. All of the above

AST Member No.
☐ My address has changed. The address below is the new address.

Name

Address

City  State  Zip

Telephone

☐ Check enclosed  ☐ Check Number

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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.

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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.)

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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.

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• 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.

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SECRETARY (VOTE FOR ONE)

NICOL BATES, CST, FAST
BLUEGRASS COMMUNITY AND
WEST GEORGIA TECHNICAL COLLEGE
WACO, GEORGIA

AST INVOLVEMENT
■ NATIONAL: AST Board of Director, 2021-2024; Military Representative Chair, 2021-2024; Surgical Technology Community Outreach & Medical Mission, 2022: Policy and Procedures Committee, 2021.
■ STATE: Georgia State Assembly, Director, 2017-2021.

CANDIDATE STATEMENT
I have had the honor of holding the position of director on the national board for two terms. I’m now requesting the privilege of serving as secretary. Speaking up for such a wonderful profession and enlightening the public about what we do is incredibly fulfilling. I have always placed a great deal of importance on the idea of servant leadership. I am proud to not only represent but also serve our members. Over the years as AST has expanded, one of my greatest achievements is that I have motivated others to step up and serve. We must develop fresh talent as we expand so that we can support our members as our organization continues to grow. As a new program director, I am aware of my influence on my students. I want to use that influence to help AST continue to grow. I wish to instill in my students a drive to serve while also sharing my passion for surgical technology. Teaching the next generation of CSTs is a privilege. I believe it is critical to have an impact on the new CSTs and teach them how to serve.

Serving our members and demonstrating that their ideas are important is what initially motivated me to run. I want every member to feel as if they are important and that they are seen and heard. I want to continue to represent our members and the hard work that they do. It is my goal to bring recognition to the individuals who work so hard behind the Mayo. Surgical technologists seldom receive the recognition they deserve. It is my goal to change that. Education is the key to making that happen. Not only educating the public about the role we play on the surgical team but also teaching our members to advocate for themselves. It would give me great pleasure to continue to represent our members and our profession. If elected as secretary I will keep providing honest service to our members. I will never stop advocating for our members because I am committed to our profession. I respectfully request your vote as secretary.

SHERRIDAN POFFENROTH,
CST, CRCST, FAST
SPOKANE VALLEY ASC
SPOKANE VALLEY, WASHINGTON

AST INVOLVEMENT
■ NATIONAL: AST Board of Director, 2021-2024; Policy and Procedures Committee, 2021-2024; Surgical Technology Community Outreach & Medical Mission Committee, 2021-2022, Chair, 2022-2023; Surgical Technology Medical Mission Committee Chair, 2023-2024; Sunshine Fund 2021; AST State Assembly Leadership Committee, 2015-2021; AST State Assembly Leadership Committee Chair, 2018-2020.
CANDIDATE STATEMENT

My name is Sherridan Poffenroth, and I am happy to announce my candidacy for the office of AST Secretary. It has been an honor to serve the membership as board of director for the last three years. I do not think my time in service to you and the association is complete; therefore, I ask that you consider me as your best candidate for secretary.

Over the last three years I have used my time on the board to learn the complexities of our association and how it runs as a business and professional organization standing for the best interests of more than 55,000 members. I have made it a point to become familiar with our partnering organizations and learn how to foster those relationships to keep the highest dignity for our CST credentials. If chosen, I will continue my personal efforts to master these bonds and cultivate new ones.

Also, over the last three years, our industry and profession has come under many trials combating on-the-job training, the decrease in accredited programs, and public awareness. AST continues to work to develop ideas and pathways that are in align with our strategic plan and goals, that in turn will address these. I believe that solutions can be implemented but these solutions take time and hard work. I am committed to working hard to find these solutions. I am also highly aware of my fiduciary responsibility to the organization and the membership, and to make sure the organization stays on budget and within the bylaws and policies and procedures.

A strong secretary is well versed in communication and accuracy in reporting. I had the opportunity this last year to fill in for our current secretary at the time of her absence. I am confident that I could continue this high-quality work on a regular basis. Last year, per the request of the delegate body, we implemented a board meeting reporting feature in our professional journal. It would be my duty and honor to continue this task supplying our reports to you in this same manner.

Thank you for your time. I look forward to meeting each of you in Denver and discussing more ways the AST Secretary can serve the association’s membership. To be re-elected to the AST Board of Directors as your AST Secretary would be a distinguished privilege. I thank you for your consideration and support.

CANDIDATE STATEMENT

My name is Stephanie Austin, and I am honored to have the opportunity to run for the position of director on the national board of the Association of Surgical Technologists. I have been a surgical technologist for the last 20 years. During this time, I have served my profession at the state level as a director and vice president and on the national level as a representative for the State Assembly Leadership Committee. In addition to serving in these capacities, I have promoted the profession as a practitioner, conference presenter, and surgical technology educator.

As a director, I will work to bring respect to the surgical technology profession, which I believe we are all searching for. Following the COVID-19 pandemic, we have witnessed many changes in healthcare and the work environment. While no one organization or person can redirect healthcare, I believe that as a member of the AST Board, I will be able to provide tools for the state assemblies to better serve the members and promote the profession on the state level. I believe there are resources that can be made available to the state assemblies that may lessen some of the financial burden currently required for daily business. By reducing this financial burden, the state assemblies will have more financial resources to enhance their work, such as seeking legislation in the state, providing community education to promote the profession, and ensuring that CE credits are offered in more than one area of the state throughout the year.

As leaders in surgical technology, we must embrace our members, hear their concerns, and act to ensure those concerns are addressed. I will
work to find solutions to the biggest issues currently facing our members, like low pay, on-the-job training, and mediocre educational options. We have come too far as a profession to resort back to these times. The respect we have gained through educational standards must be protected. Providing education to the leaders of our profession so that we are all speaking with the same voice and the same message is needed to provide a solid, united front.

We have a lot of work ahead of us as professionals, and I want to represent you as a director. I am passionate about this profession and want to be a part of the change needed to take surgical technology to the next level. This is not a fight for one person but a challenge we must all face together. I believe my leadership can take us to new heights in our profession. Please consider me to represent all surgical technologists on the national board of the Association of Surgical Technologists.

LISA DAY, CST, CSFA, FAST, BAS REYNOLDS COMMUNITY COLLEGE RICHMOND, VIRGINIA

AST INVOLVEMENT
■ NATIONAL: State Assembly Leadership Committee, 2018-2024; Chair, 2021-2024; State Assembly Leadership Committee Chair, 2022-2024.

CANDIDATE STATEMENT
My name is Lisa Day, and I am honored to present my candidacy for the position of director on the national board of the Association of Surgical Technologists. With over two decades of dedicated experience in surgical technology, I am deeply committed to advancing our profession and being a fierce patient advocate by being a prominent voice who demands the highest patient care standards. My passion for this profession has inspired me to explore aspects of this field as much as possible, from practicing as a Certified Surgical Technologist and Certified Surgical First Assistant to education and leadership within our organization.

In the last six years of serving on the State Assembly Leadership Com-
I, Jaime Lopez, CST, CSFA, RN, FAST, would like to seek election of Board of Director to help continue in bringing our profession to the forefront of health and medical care and the community.

As the current president of Texas State Assembly, having past presidents and board members set the bar high, I strive to do the same by asking myself, “What can I do for the betterment of our profession? What different dynamic can I bring to the table? What will I leave for the future?” I plan to bring a positive environment, dedication, passion, professionalism, open communication, teamwork, all of us working together for the common goal. What better way than getting involved with the association in charge of my own profession.

Having direct access to AST, to you the members, the direct connection while in the OR, I can serve as a communication tool to the board. While serving on the Texas State Assembly Board as a director, secretary, vice president, and current president along with multiple committees, serving the Association of Surgical Technologists is my next step. Keeping the passion and our profession in the forefront, being the backbone of the operating room.

Jaime Lopez, CST, CSFA, RN, FAST
Texas Surgical Center
Midland, Texas

AST INVOLVEMENT
■ STATE: Texas State Assembly President, 2022-2025; Texas State Assembly Vice President, 2019-2022; Texas State Assembly Secretary, 2018-2019; Texas State Assembly Director, 2015-2018.

Kendra Thompson, CST
Northwest Technical Institute
Springdale, Arkansas

AST INVOLVEMENT
■ STATE: Arkansas State Assembly Secretary, 2022-2024; Arkansas State Assembly Director, 2019-2022.

CANDIDATE STATEMENT
It is with professional pride that I place my name with AST on the 2024 ballot. AST is recognized as a unique, complex organization that needs leaders that ask questions aimed at uncovering possibilities, discovering what worked, what did not work, opening the discussion to a range of perspectives. I am a leader that reflects on integrity and speaks the hard truths, encouraging the membership to speak their truth. As a leader, I will focus on our members even as technology continues to gain prominence, working to perceive the membership’s wants and needs.

Serving as part of our Board, I will generate energy, flow of ideas, and proactively work to maintain a healthy perioperative organization. Leadership is about empowering members to share leadership with the elected Board members for the betterment of
our organization. It is about members collaboratively investing in the perioperative environment, ultimately promoting a positive, self-sustaining culture based on safe perioperative care for nurses, patients, and society. My passion, knowledge, and motivation will work as a catalyst to design individual membership experiences, growing through continued membership, leadership, education, and publications. You can depend on me to envision and design individualized memberships with a sustained professional culture that assists the navigation of safe clinical decisions.

I promise to serve AST membership with diligence and dedication, serving as a liaison to members, committees, task forces, specialty assemblies, and the community. As a new member of the Board, I will first seek to understand on an administrative level our current business initiatives and ventures, product lines, future projections, policy agendas, and how each element aligns with our core focus of meeting membership needs. I will then pursue the best opportunities to collaborate with my peers and fellow Board members to integrate my experience and skill sets for the promotion of our professional association and meeting membership needs.

I am passionate and committed to AST. I value and appreciate the opportunity you have provided me to be a candidate for our national board of directors, and now ask that you allow me the opportunity to be your advocate; I seek your support and vote as a member of AST’s Board of Directors. Thank you.

Over the last two years I have had the honor and privilege to represent you the members at the board table working with some of the most dedicated CSTs from around the United States. Along with being at the board table, I have had the privilege of serving on several committees including the Foundations for Surgical Technology, Policy and Procedure Committee, Sunshine Fund Committee, Medical Missions/Outreach Committee and Association of Surgical Technologist Student Association (ASTSA). My time working with these committees has helped to enhance my leadership and I look forward to continuing to serve.

For our organization to move forward we must all work together. During this last year, the board worked together to create a new strategic plan that will help AST move into the future. During our work we have looked at all aspects of AST and created a plan for growth, visibility in the community and support for the membership. I feel extremely proud of the work we did together to make AST better.

I promise you dedication, hard work, being open-minded and listening to all ideas to bring them back to the board table. I am running for another term as director because I feel that the experience I have gained over the past two years has given me a better understanding of what I can contribute to the board. I look forward to the challenges ahead and I know that my passion and integrity will help me be committed to be the member’s voice.

Thank you for your consideration and I look forward to seeing you in Denver!
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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!

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Join us in our headquarters’ home city in May as we come together to promote the surgical technology profession, highlight the latest and greatest surgical techniques and connect you to supporting organizations from across the country.

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Enjoy the nice spring weather with endless outdoor patios, and great live music or explore the vibrant neighborhoods surrounding downtown including RiNo and LoHiHigh.
THURSDAY, MAY 30TH, 2024

**FS101**
11:30 – 12:20 pm
Yanik Babaekov, MD
*Pushing the boundaries of DCD liver transplant*

**FS102**
11:30 – 12:20 am
Daniel Weaver, MD
*The eyes have it: The vital roles of the CST in ophthalmic surgery*

**FS103**
12:30 – 1:20 pm
Gabrielle Whitmore, MD
*Minimally invasive gyn: management of fibroids*

**FS104**
12:30 – 1:20 pm
Fraser Leversedge, MD
*Surgical techniques and other considerations for nerve surgery*

**FS105**
1:30 – 2:20 pm
Brett Reece, MD
*Evolution of cerebral protection in aortic arch surgery*

**FS106**
1:30 – 2:20 pm
Ann Kulungowski, MD
*The team approach for pediatric surgery*

**FS107**
2:30 – 3:30 pm
Thomas Bak, MD
*Surgical abdominal transplant; past, present, and future*

**FS108**
2:30 – 3:20 pm
Michael Handler, MD
*Updates in pediatric and fetal neurosurgery*
### FRIDAY, MAY 31, 2024

<table>
<thead>
<tr>
<th>Session</th>
<th>Time</th>
<th>Speaker</th>
<th>Title</th>
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<tbody>
<tr>
<td>FS201</td>
<td>Noon - 12:50 pm</td>
<td>Christopher Lobst, MD</td>
<td>Solutions to surgical stress</td>
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<tr>
<td>FS202</td>
<td>Noon – 12:50 pm</td>
<td>Josephine Colacci, Esq.</td>
<td>AST government affairs updates</td>
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<td>FS203</td>
<td>1:00 – 1:50 pm</td>
<td>Marci Bowers, MD</td>
<td>Gender affirmation surgery</td>
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<td>FS204</td>
<td>1:00 – 1:50 pm</td>
<td>Gary Onik, MD</td>
<td>Intratumoral immunotherapy, the next great breakthrough in immune-oncology</td>
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<td>FS205</td>
<td>2:00 – 2:50 pm</td>
<td>Andrea Bischoff, MD</td>
<td>Pediatric colorectal surgery: When an amazing CST meets a great surgeon, magic happens</td>
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<td>FS206</td>
<td>2:00 – 2:50 pm</td>
<td>Rachel Reitan, MD</td>
<td>The important role of the CST in GYN surgeries</td>
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<td>FS207</td>
<td>3:00 – 3:50 pm</td>
<td>Mohammad Aftab, MD</td>
<td>Contemporary approaches to the brain protection with hypothermic circulatory arrest in aortic arch surgery</td>
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<td>FS208</td>
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<td>Jodi Widner, MD</td>
<td>Decision making for lumpectomy vs mastectomy-when axillary staging is needed</td>
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<td>FS209</td>
<td>4:00 – 4:50 pm</td>
<td>Veronica Alaniz, MD</td>
<td>Congenital anomalies of the reproductive tract</td>
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<td>FS210</td>
<td>4:00-4:50pm</td>
<td>Angela Downes</td>
<td>Basics of spine surgery and why we do what we do</td>
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<td>Joint preservation of the knee</td>
<td>Rachel Frank, MD</td>
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<td>FS302</td>
<td>Motion preservation technologies in spine surgery</td>
<td>Vikas Patel, MD</td>
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<td>FS303</td>
<td>A CST guide to understanding sterile packaging</td>
<td>Malinda Elammari, CST</td>
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<td>FS304</td>
<td>Gender affirming surgeries</td>
<td>Christodoulos Kaotzanis, MD</td>
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<td>FS305</td>
<td>Epilepsy surgery and use of robotic surgery in epilepsy</td>
<td>Fabio Grassia, MD</td>
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<td>FS306</td>
<td>How to maintain excellent surgical conscience throughout your career</td>
<td>Megan Dunegan, CST</td>
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<td>FS307</td>
<td>Breast reconstruction and lymphedema surgery</td>
<td>Julian Winocour, MD</td>
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<td>FS308</td>
<td>Reconstructive surgery: The other side of plastics</td>
<td>Jason Yu, MD</td>
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<td>FS309</td>
<td>Advancing your career beyond the Mayo</td>
<td>Eboni Saurage, Phd, CST</td>
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<td>Cortney Hartman, CST</td>
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<td>FS310</td>
<td>Broader application of robotic platform in training in GI surgery</td>
<td>Akshay Chauhan, MD</td>
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Saturday, June 1, 2024  5.5 CEs
SATURDAY, JUNE 1, 2024

FS311
Nicholas Westfall, MD
1:10 – 2:00 pm
Urology-TBA

FS312
Arnisa Wilson, CST
1:10 – 2:00 pm
Work-life balance, burn-out, and finding peace in the profession

FS313
Jeniann Yi, MD
2:10 – 3:00 pm
Advanced surgical techniques for endovascular aortic aneurysm repair

FS314
Bennie Lindeque, PhD
2:10 – 3:00 pm
How orthopedic oncology differs from orthopedics

FS315
Peggy Varnado, CST, CSFA, FAST, AST Vice President, and other AST Leaders
2:10-3:30pm
Embracing the call to lead: A deep dive into surgical technology leadership and how to jump in!
MEET OUR KEYNOTE

Jennifer Arnold, MD, MSc, FAAP, a pediatrician, neonatologist, medical school professor, and expert in medical simulation at Boston Children’s Hospital. She is a newly minted member of Harvard’s faculty and recently became the namesake of the Dr. Jennifer Arnold Endowed Professorship in Medical Simulation and Innovative Education at Johns Hopkins All Children’s Hospital. She’s also a wife, the mother of two kids with medical complexities, and has personally overcome extraordinary physical and health obstacles. Dr. Arnold, along with her husband Bill and their children Will and Zoey, created more than a decade of television with their show, The Little Couple, which ran for 14 seasons before ending during COVID.

Dr Jen is a social media star with a decade of highly-rated reality television experience who has also written a NYT best-seller (Life is Short, No Pun Intended). Dr. Jen loves science. All of it, from the human aspects to the most technical, because she herself has benefited from it.

Dr Jen will kick off our conference as she is AST’s 2024 Keynote. Catch her session at 9 am Thursday, May 30.

GET SOCIAL ... OR JUST COME FOR THE GRUB

• Welcome Reception
  530-6:30 pm | Wednesday, May 29
  AST welcomes you to our home state with a salute to all our favorite practitioners and for all your hard work. Join us for a reception as you get settled in the Mile High City.

• Opening Night Party – Wild Wild West
  7-9:30 pm | Thursday, May 30
  Whether you want to show off your line-dancing, country-smackin’ cowboy boots (and dance skills!), your best saloon garb or you’d rather take a modern Western approach and come fitted in your best camping getup, join us as we celebrate being in the Wild Wild West. (Horses not for purchase.)

• Closing Night Reception
  5-6:30 pm | Saturday, June 1
  Say howdy to all your new and old friends alike as we giddy up from the wonders of the West and prepare for the wonder of Disney (Orlando 2025).
WANTED

YOU

to attend AST’s Surgical Technology Conference

May 30 - June 1, 2024
Denver, Colorado

REWARD
For each new member you recruit at the $80-membership level, you will receive a two-month extension on your membership!

**HERE’S HOW:**

> Recruit a valid new member at the one-year membership rate of $80.

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77 Procedures
12 Surgical Specialties

Check out AST’s Procedures PowerPoint Surgical Series

Teaching surgical procedures takes time and ingenuity. Images to illustrate the various steps in a procedure are difficult to find but are crucial to students’ comprehension and retention. Enter AST’s Surgical Procedures PowerPoint Series as it puts teaching procedures at your fingertips!

And in this time of remote learning, AST’s Surgical Procedures PowerPoint Series is exactly the tool you need to teach your students. Not only do they present procedural steps, the series includes information such as patient presentation and pathophysiology, case preparation tips, and built-in tools to highlight and engage critical thinking skills.

AST’s Procedure PowerPoint Series includes access to 77 procedures spanning 12 surgical specialties included in the 6th edition of the Core Curriculum for Surgical Technology.

Specialties include:
- Cardiothoracic
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- Genitourinary
- Gynecological
- Miscellaneous
- Neurosurgery
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- Orthopedic
- Otorhinolaryngology
- Peripheral Vascular
- Plastic
- Trauma

The entire AST Procedures PowerPoint Series can be purchased for $1200/year in an annual subscription.

Get started!
Connect to Opportunity

Build your professional presence and connect to AST.
**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](http://www.ast.org). You may also live chat at [www.ast.org](http://www.ast.org) or contact Member Services at [memserv@ast.org](mailto:memserv@ast.org) or call 1-800-637-7433. AST business hours are Monday-Friday, 8 am - 4:30 pm, MST.

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**Alabama State Assembly**

Program Type: Annual Meeting/Elections  
Date: March 9, 2024  
Title: Learning on The Lake  
Location: Guntersville Parks & Recreation Center, 1500 Sunset Dr, Guntersville, AL 35976  
Contact: Jessica Sirmon, 4208 Idlewood Dr, Pensacola, FL 32506, 850-525-5369, alabamaastinfo@gmail.com  
CE Credits: 6

---

**Arizona State Assembly**

Program Type: Annual Meeting/Elections  
Date: March 2, 2024  
Title: Robotics & More Workshop, Annual Business Meeting  
Location: HonorHealth - Network Support Services Center (NSSC), 2500 W Utopia Road, Phoenix, AZ 85027  
Contact: Cecilia Sheridan, 623-337-7967, azsasa.assembly@gmail.com  
CE Credits: 4 Live

---

**Arkansas State Assembly**

Program Type: Workshop  
Date: April 27, 2024  
Title: Spring Into Surgery  
Location: CHI St. Vincent Infirmary Main Auditorium, 2 Saint Vincent Circle, Little Rock, AR 72205  
Contact: Tamara Morgan, PO Box 15772, Little Rock, AR 72231, 479-414-6720, tamara.morgan@uafs.edu  
CE Credits: 6-7

---

**Colorado/Wyoming State Assembly**

Program Type: Webinar (approved only Colorado/Wyoming State Assembly members)  
Date: September 7, 2024  
Title: Getting Groovy  
Location: TBA  
Contact: Julie Beard, 700 North Colorado Blvd, Denver, CO 80206, information@coloradoast.com  
CE Credits: 3

Program Type: Annual Meeting/Elections  
Date: October 26, 2024  
Title: Getting into Some Spooky Business  
Location: TBA  
Contact: Julie Beard, 700 North Colorado Blvd, Denver, CO 80206, information@coloradoast.com  
CE Credits: 8

---

**Georgia State Assembly**

Program Type: Annual Meeting/Elections  
Date: March 9, 2024  
Title: Spring Forward into Learning  
Location: Northeast Georgia Medical Center - Walters Auditorium, 743 Spring St, Gainesville, GA 30501  
Contact: Erin Baggett, PO Box 216, Lawrenceville, GA 30046, 678-226-6943, gasawebmaster@gmail.com  
CE Credits: 7

Program Type: Workshop  
Date: September 14, 2024  
Title: West Georgia Autumn Workshop  
Location: West Georgia Technical College - Murphy Campus, 176 Murphy Campus Blvd, Waco, GA 30182  
Contact: Erin Baggett, 678-226-6943, gasawebmaster@gmail.com  
CE Credits: 8

---

**Illinois State Assembly**

Program Type: Annual Meeting/Elections  
Date: March 9, 2024  
Title: Annual Business Meeting, Elections, & Seminar  
Location: Illinois Central College Peoria Campus Student Center, 5407 N University St, Peoria, IL 61635  
Contact: Sonya Conton, PO Box 2254, Decatur, IL 62524, 309-690-7568, illinois-stateassembly.com, sonya.conton@icc.edu  
CE Credits: 8 Live

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**Indiana State Assembly**

Program Type: Workshop  
Date: March 2, 2024  
Title: ISA Spring Conference 2024  
Location: University of Saint Francis, 2701 Spring St, Fort Wayne, IN 46808  
Contact: Brittany Chipules, PO Box 421673, Indianapolis, IN 46242, indiana-stateassembly.org/events  
CE Credits: 6
<table>
<thead>
<tr>
<th>State Assembly</th>
<th>Program Type</th>
<th>Date</th>
<th>Title</th>
<th>Location</th>
<th>Contact</th>
<th>CE Credits</th>
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<tr>
<td>IOWA STATE ASSEMBLY</td>
<td>Workshop</td>
<td>March 13, 2024</td>
<td>Iowa State Assembly Spring 2024 Workshop</td>
<td>University of Iowa Hospitals and Clinics, 200 Hawkins Dr, Iowa City, IA 52242</td>
<td>Tim Danico, 319-540-6008, <a href="mailto:timothy-danico@uiowa.edu">timothy-danico@uiowa.edu</a></td>
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<tr>
<td>KANSAS STATE ASSEMBLY</td>
<td>Annual Meeting/Elections</td>
<td>March 9, 2024</td>
<td>KSAST Annual Business Meeting, Elections, and Workshop</td>
<td>University of Kansas Health System - Health Education Building, 2146 W 39th Ave, Kansas City, KS 66103</td>
<td>Sarah Handley, 1427 Tamarisk Ct, Eudora, KS 66025, 308-830-2992, <a href="mailto:ks.st.assembly@gmail.com">ks.st.assembly@gmail.com</a></td>
<td>5 Live</td>
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<tr>
<td>MARYLAND/DELWARE STATE ASSEMBLY</td>
<td>Workshop</td>
<td>April 13, 2024</td>
<td>Maryland Delaware State Assembly Workshop</td>
<td>Atlantic Sands Hotel &amp; Conference Center, 1 Baltimore Ave, Rehoboth Beach, DE 19971</td>
<td>Karen Jones, 29890 A K Lane, Laurel, DE 19956, 302-542-3179, <a href="mailto:mddestateassembly@gmail.com">mddestateassembly@gmail.com</a></td>
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<tr>
<td>MASSACHUSETTS STATE ASSEMBLY</td>
<td>Annual Meeting/Elections</td>
<td>April 6, 2024</td>
<td>It’s Brain Surgery, Not Rocket Science</td>
<td>St John of Damascus, 300 West St, Dedham, MA 02026</td>
<td>Kristen Urbanek, 187 Riverside Ave, Medford, MA 02155, 617-257-5384, <a href="mailto:mastateassembly@gmail.com">mastateassembly@gmail.com</a></td>
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<tr>
<td>MICHIGAN STATE ASSEMBLY</td>
<td>Webinar [approved only Michigan State Assembly members]</td>
<td>April 13, 2024</td>
<td>Roll into Spring with MSA</td>
<td>Hackensack Medical Center, 30 Prospect Ave, Hackensack, NJ 07601</td>
<td>Monica Pelaez, 189 Concord St, New Milford, NJ 07646, 201-618-7398, <a href="mailto:monicalpelaez_39@hotmail.com">monicalpelaez_39@hotmail.com</a></td>
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<tr>
<td>MISSOURI STATE ASSEMBLY</td>
<td>Annual Meeting/Elections</td>
<td>March 1-3, 2024</td>
<td>2024Annual MOSA Spring Business Meeting, Elections, and Workshop</td>
<td>Benefis Health System, 1101 26th St South, Great Falls, MT 59405</td>
<td>Marsha Lyles, 406-670-8376, <a href="mailto:mnmncst@yahoo.com">mnmncst@yahoo.com</a></td>
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<tr>
<td>MONTANA STATE ASSEMBLY</td>
<td>Annual Meeting/Elections</td>
<td>September 7, 2024</td>
<td>MTSA Annual Business Meeting/ Elections and Workshop</td>
<td>CHI Lakeside Hospital, 16901 Lakeside Hills Ct, Omaha, NE 68130</td>
<td>Castin Martin, PO Box 67034, Lincoln, NE 68506, 402-217-7735, <a href="mailto:nebrastateassembly@gmail.com">nebrastateassembly@gmail.com</a></td>
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<td>NEBRASKA STATE ASSEMBLY</td>
<td>Annual Meeting/Elections</td>
<td>March 9, 2024</td>
<td>Winter Workshop and Annual Business Meeting</td>
<td>CHI Lakeside Hospital, 16901 Lakeside Hills Ct, Omaha, NE 68130</td>
<td>Michael Pickering, PO Box 163351, Columbus, OH 43216, 614-439-3428, <a href="mailto:ohiostate@gmail.com">ohiostate@gmail.com</a></td>
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<tr>
<td>NEW JERSEY STATE ASSEMBLY</td>
<td>Workshop</td>
<td>April 13, 2024</td>
<td>New Jersey Spring 2024 Workshop</td>
<td>Hackensack Medical Center, 30 Prospect Ave, Hackensack, NJ 07601</td>
<td>Monica Pelaez, 189 Concord St, New Milford, NJ 07646, 201-618-7398, <a href="mailto:monicalpelaez_39@hotmail.com">monicalpelaez_39@hotmail.com</a></td>
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<tr>
<td>NEW MEXICO STATE ASSEMBLY</td>
<td>Annual Meeting/Elections</td>
<td>March 23, 2024</td>
<td>New Mexico Spring Conference, Business Meeting, and Elections</td>
<td>UNMH North Campus; Domini-ci Center Auditorium, 1001 Stanford Drive NE, Albuquerque, NM 87193</td>
<td>Ruth Borah, PO Box 66496, Albuquerque, NM 87193, 848-391-3661, <a href="mailto:ruth.kerrjusinski@gmail.com">ruth.kerrjusinski@gmail.com</a></td>
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<tr>
<td>NORTH CAROLINA STATE ASSEMBLY</td>
<td>Annual Meeting/Elections</td>
<td>March 16, 2024</td>
<td>NCSA Spring Workshop and Business Meeting: Spring into Action</td>
<td>Duke Regional Hospital, 3643 N Roxboro St, Durham, NC 27704</td>
<td>Christine Anderson, PO Box 902, Mooresville, NC 28115, 919-798-8755, <a href="mailto:ncsaaast@gmail.com">ncsaaast@gmail.com</a></td>
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<tr>
<td>OHIO STATE ASSEMBLY</td>
<td>Annual Meeting/Elections</td>
<td>April 5-7, 2024</td>
<td>Best in the Midwest</td>
<td>Nationwide Hotel and Conference Center, 100 Green Meadows Drive South, Lewis Center, OH 43035</td>
<td>Monica Pelaez, 189 Concord St, New Milford, NJ 07646, 201-618-7398, <a href="mailto:monicalpelaez_39@hotmail.com">monicalpelaez_39@hotmail.com</a></td>
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<tr>
<td>OKLAHOMA STATE ASSEMBLY</td>
<td>Annual Meeting/Elections</td>
<td>April 20, 2024</td>
<td>Spring Conference and Elections</td>
<td>Canadian Valley Technology Center, 1701 S Czech Hall Road, Yukon, OK 73099</td>
<td>Miguel Agosto, 1800 Caribou Circle, Altus, OK 73521, 580-301-1648, <a href="mailto:miguelagosto100@gmail.com">miguelagosto100@gmail.com</a></td>
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<tr>
<td>OREGON STATE ASSEMBLY</td>
<td>Annual Meeting/Elections</td>
<td>March 2, 2024</td>
<td>2024 OAST Business Meeting</td>
<td>Salem Hospital, 890 Oak St SE, Salem, OR 97301</td>
<td>Christa Hagenauer, PO Box 1461, Wilsonville, OR 97070, 503.400-8872, <a href="mailto:oast.oregon@gmail.com">oast.oregon@gmail.com</a></td>
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</table>
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## 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.

<table>
<thead>
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<th>State/Region</th>
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<td>Guntersville</td>
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<td>ARIZONA</td>
<td>Phoenix</td>
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<td>COLORADO/WYOMING</td>
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<td>October 26, 2024</td>
<td>Annual Meeting</td>
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<td>GEORGIA</td>
<td>Gainesville</td>
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<td>ILLINOIS</td>
<td>Peoria</td>
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<td>2024 BOD Elections &amp; 2024 Delegate Elections</td>
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<td>KANSAS CITY</td>
<td>Kansas City</td>
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<td>Annual Meeting</td>
<td>2024 BOD Elections &amp; 2024 Delegate Elections</td>
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<td>MASSACHUSETTS</td>
<td>Dedham</td>
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<td>2024 BOD Elections &amp; 2024 Delegate Elections</td>
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<td>MICHIGAN</td>
<td>Frankenmuth</td>
<td>September 28, 2024</td>
<td>Annual Meeting</td>
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<td>MISSOURI</td>
<td>Columbia</td>
<td>March 1-3, 2024</td>
<td>Annual Meeting</td>
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<tr>
<td>MONTANA</td>
<td>Great Falls</td>
<td>September 7, 2024</td>
<td>Annual Meeting</td>
<td>2024 BOD Elections &amp; 2025 Delegate Election</td>
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<td>NEBRASKA</td>
<td>Omaha</td>
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<td>Annual Meeting</td>
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<td>OREGON</td>
<td>Salem</td>
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<td>TENNESSEE</td>
<td>Sevierville</td>
<td>March 1-3, 2024</td>
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<td>TEXAS</td>
<td>Fort Worth</td>
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<td>UTAH</td>
<td>Salt Lake City</td>
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<td>VIRGINIA</td>
<td>Richmond</td>
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<td>Annual Meeting</td>
<td>2024 BOD Elections &amp; 2024 Delegate Elections</td>
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</tbody>
</table>

**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 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.
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To order please visit: http://ceonline.ast.org/articles/index.htm or contact Member Services at memserv@ast.org or fax requests to 303-694-9169 or call Member Services at 800-637-7433.

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AST has even more continuing education opportunities available in print and online. We will be adding more continuing education credits on a continual basis, and the lists that are published in the Journal will be rotating on a quarterly basis so that we can provide more CE credits in a range of specialties.
CONTINUING EDUCATION OPPORTUNITIES

- #381 2 CEs
- #406 1 CE
- #405 1 CE
- #365 1 CE
- #425 1.5 CEs
- #405 1 CE
- #365 1 CE
- #425 1.5 CEs
- #389 1 CE

ORDER FORM

- Surgical Rib Fixation 1 CE
- Butterfly Graft in Functional Rhinoplasty 1 CE
- Micromotion at the Tibial Plateau in Total Knee Arthroplasty 1.5 CEs
- Disc Battery Ingestion in Pediatric Patients 1 CE
- Partial Nephrectomy 2 CEs
- Emotional Intelligence and the Surgical Technologist 2.5 CEs
- Cervical Arthroplasty 1.5 CE
- Treating Glioblastoma Multiforme 1 CE

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Title (please print) Title (please print) Title (please print) Title (please print)

- Membership No. ______________________________
- Name _______________________________________
- Address _____________________________________
- City _________________ State _____ ZIP _________
- Telephone _________________________________

- Membership No. ______________________________
- Name _______________________________________
- Address _____________________________________
- City _________________ State _____ ZIP _________
- Telephone _________________________________

- Member ❑ Nonmember ❑
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For a comprehensive conference guide, visit ast.org and learn about all the speakers, including our keynote Dr Jennifer Arnold, vendor connections and new highlights for 2024.